

Uploaded Date	Channel	Video URL	Video Title	Description
2023 06 29	NASA Astrobiology	<a href="https://youtu.be/L59SS-YAgZc">https://youtu.be/L59SS-YAgZc</a>	AbGradCon23 Universal Biology & the First Billion Years of Life on Earth by Dr. Nigel Goldenfeld	AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology.  <a href="https://www.abgradcon.org">https://www.abgradcon.org</a>  What is AbGradCon?  The Astrobiology Graduate Conference is dedicated to early-career scientists who study the complex and diverse topics that the astrobiology field encompasses. The goal of AbGradCon, organized entirely by graduate students, is to promote the scientific research of young astrobiologists, while promoting collaboration, practical training, and camaraderie. This conference has been an integral part of the astrobiology community for nearly two decades by providing a setting for graduate students and postdocs where small group discussions, presentations, and social activities promote long-term professional relationships. In essence, AbGradCon seeks to create a more interdisciplinary and inclusive astrobiology community, foster collaboration, and provide practical training for young scientists. AbGradCon2023 will mark the 20th anniversary of this unparalleled conference that has continued to grow in interest and participation since its inception.
2023 06 29	NASA Astrobiology	<a href="https://youtu.be/5uUXh82dzMw">https://youtu.be/5uUXh82dzMw</a>	AbGradCon 2023 Earth detecting Earth Human Baselines for Technosignatures by Macy Huston	AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology.  <a href="https://www.abgradcon.org">https://www.abgradcon.org</a>  What is AbGradCon?  The Astrobiology Graduate Conference is dedicated to early-career scientists who study the complex and diverse topics that the astrobiology field encompasses. The goal of AbGradCon, organized entirely by graduate students, is to promote the scientific research of young astrobiologists, while promoting collaboration, practical training, and camaraderie. This conference has been an integral part of the astrobiology community for nearly two decades by providing a setting for graduate students and postdocs where small group discussions, presentations, and social activities promote long-term professional relationships. In essence, AbGradCon seeks to create a more interdisciplinary and inclusive astrobiology community, foster collaboration, and provide practical training for young scientists. AbGradCon2023 will mark the 20th anniversary of this unparalleled conference that has continued to grow in interest and participation since its inception.

2023 06 28 NASA Astrobiology <https://youtu.be/gQd31jpsJbs> AbGradCon 2023 Exploring the Molecular Limits of Life Using Assembly Theory by John Malloy AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [0](#)

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2023 06 28 NASA Astrobiology <https://youtu.be/TZY6ix3Q8iE> AbGradCon 2023 Characterization & Automated Detection of Palimpsest Ripples by Rachel Surprenant AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [0](#)

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2023 06 28 NASA Astrobiology <https://youtu.be/amLtOZF-FvM> AbGradCon 2023 Direct Measurements of Mesoproterozoic Atmosphere via Halite Analysis by Justin Park AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org>

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2023 06 27 NASA Astrobiology [https://youtu.be/qRwgv\\_mco\\_Ec](https://youtu.be/qRwgv_mco_Ec) AbGradCon 2023 Solid-state Nanopore Analysis of Biomolecules & Life Detection by Jordan McKaig AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org>

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2023 06 27 NASA Astrobiology <https://youtu.be/I6NuRriPjuA> AbGradCon 2023 Methylated Biosignatures with Low False Positive Potential by Michaela Leung <https://www.abgradcon.org> AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org>

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2023 06 27 NASA Astrobiology [https://youtu.be/Rz-VpEUS3\\_k](https://youtu.be/Rz-VpEUS3_k) AbGradCon 2023 Lipid-assisted Synthesis of Nucleic Acids Under Wet-Dry Cycling by Povilas Simonis <https://www.abgradcon.org> AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org>

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2023 06 26 NASA Astrobiology <https://youtu.be/Lk1WERlzzjE> AbGradCon 2023 Water Uptake & Release by Salt Mixture & the Atacama Desert by Marium Fernanders

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2023 06 26 NASA Astrobiology <https://youtu.be/7Gr8m2sEpzU> AbGradCon 2023 Microbial Mediated Carbonate Mineralization from Brazil by Fernanda Jamel

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2023 06 26 NASA Astrobiology <https://youtu.be/mhsLgQCyTEw> AbGradCon 2023 Evolutionary History of Great Salt Lake Extremophile Nematodes by Madelyn Purnell AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [Q](#)

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2023 06 23 NASA Astrobiology <https://youtu.be/989MN7-dVw0> AbGradCon 2023 Arabidopsis thaliana Response to the Spaceflight Environment by Gbolaga Olanrewaju AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [Q](#)

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2023 06 23	NASA Astrobiology	<a href="https://youtu.be/JKkWWUww--8">https://youtu.be/JKkWWUww--8</a>	AbGradCon 2023 AXE A New Frontiers Enceladus Astrobiology Mission Concept Study by Marshall Seaton	AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology.  <a href="https://www.abgradcon.org">https://www.abgradcon.org</a>  What is AbGradCon?	<a href="#">Q</a>
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2023 06 23	NASA Astrobiology	<a href="https://youtu.be/8KTCL43gKOW">https://youtu.be/8KTCL43gKOW</a>	AbGradCon 2023 Microscopy Methods for Life Detection on Icy Ocean Worlds by Pavel Klier	AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology.  <a href="https://www.abgradcon.org">https://www.abgradcon.org</a>	<a href="#">Transcript Link</a>
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2023 06 22 NASA Astrobiology <https://youtu.be/DlZJLwKP3z0> AbGradCon 2023 Modeling a Subsurface Biosphere on Europa by Sam Nasreldine AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [Transcript Link](#)

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2023 06 22 NASA Astrobiology <https://youtu.be/lko8amatGbg> AbGradCon 2023 A Model of Europa's Ice Shell & its Effect on Ocean Circulation by Sara Miller AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [0](#)

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2023 06 22 NASA Astrobiology <https://youtu.be/r1xonSWHjVs> AbGradCon 2023 Machine Learning of Chemistry & Isotopologues of IRAS 16293-2422B by Zachary Fried

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2023 06 21 NASA Astrobiology <https://youtu.be/raA1yDBlyUY> How to Detect Life on Ocean Worlds & Become a Viral Sensation with Dr. Lena Vincent

Our guest is Dr. Lena Vincent, a NASA Astrobiology Postdoctoral Fellow at NASA's Jet Propulsion Laboratory. Dr. Vincent got her PhD at the University of Wisconsin-Madison as a NASA FINESST fellow, where she researched prebiotic chemistry and the origins of life. She currently is studying the preservation of biosignatures on ocean worlds, and became a viral sensation on social media (@astrobiolena) through her incredible science communication videos.

[Transcript Link](#)

<https://astrobiology.nasa.gov/ask-an-astrobiologist/>

What is Ask An Astrobiologist?

Once a month, the NASA Astrobiology Program host a one-hour program where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video.

Ask An Astrobiologist: Episode 59

How to Detect Life on Ocean Worlds & Become a Viral Sensation Featuring Dr. Lena Vincent (NASA Jet Propulsion Laboratory) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)

Production Assistants:

Sarah Treadwell (Blue Marble Space Institute of Science)  
Anurup Mohanty (Blue Marble Space Institute of Science)  
Mariam Naseem (Blue Marble Space Institute of Science)

2023 06 21 NASA Astrobiology <https://youtu.be/9u1ml-gd51g> AbGradCon 2023 Differences in Climates & Transit Spectra of Habitable Planets by Evelyn Macdonald

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2023 06 21 NASA Astrobiology <https://youtu.be/N43pF5-pL6c> AbGradCon 2023 The Climates of G1514 b by Héctor Delgado Díaz

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2023 06 21 NASA Astrobiology <https://youtu.be/B66dUmq8eO8> AbGradCon 2023 Long Period Seismology on Titan by Andrea Bryant

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2023 06 20 NASA Astrobiology <https://youtu.be/t9SFQIEjX8w> AbGradCon 2023 Follow the Salt Detecting Biosignature Molecules in Brines by Chad Pozarycki

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2023 06 20 NASA Astrobiology <https://youtu.be/yTs6Y5NqgFg> AbGradCon 2023 Mineralogy of Evaporites & Sediments in Phosphate Rich Lakes by Kimberly Sinclair <https://www.abgradcon.org> AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org>

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2023 06 20 NASA Astrobiology <https://youtu.be/XWojg3BabnM> AbGradCon 2023 Examining Microbes & Biosignatures with Acidic Mars Analog Gypsum by Zoë Havlena <https://www.abgradcon.org> AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org>

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2023 06 19 NASA Astrobiology <https://youtu.be/8p3PH1IZxWc> AbGradCon 2023 Microbial Metabolism in Acidic Brines of Western Australia by Emily Paris AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [Transcript Link](#)

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2023 06 19 NASA Astrobiology [https://youtu.be/rV\\_rLA1jmTE](https://youtu.be/rV_rLA1jmTE) AbGradCon 2023 Starting an Astrobiology Network in India by Siddharth Pandey AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [Transcript Link](#)

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2023 06 19 NASA Astrobiology <https://youtu.be/VYcQ020ErA> AbGradCon 2023 Martian Metabolism Evolution of Biotic Perchlorate Reduction by Colin Robinson AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org>

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2023 06 16 NASA Astrobiology <https://youtu.be/82gMZXCSDIg> AbGradCon 2023 New Microbial Sources of Methylhopanoids from Hydrothermal Springs by Marisa Mayer AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org>

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2023 06 16 NASA Astrobiology <https://youtu.be/ZMhjXEs6zaY> AbGradCon 2023 Active Respiration & Oxygen Sensing by Ancestor of Protomitochondria by Claire Elbon AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [0](#)

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2023 06 16 NASA Astrobiology <https://youtu.be/kLswkQf9MVA> AbGradCon 2023 Cellular Differentiation Within Obligate Multicellular Bacteria by George Schaible AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [0](#)

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2023 06 15	NASA Astrobiology	<a href="https://youtu.be/l7xv5maZO1w">https://youtu.be/l7xv5maZO1w</a>	AbGradCon 2023 Scaling of Protein Function Across the Tree of Life by Riddhi Gondhalekar	AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology.  <a href="https://www.abgradcon.org">https://www.abgradcon.org</a>	<a href="#">Transcript Link</a>
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2023 06 15	NASA Astrobiology	<a href="https://youtu.be/gk_eViZ_Svg">https://youtu.be/gk_eViZ_Svg</a>	AbGradCon 2023 Xeno Amino Acids A Look into Biochemistry as we Don't Know It by Sean Brown	AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology.  <a href="https://www.abgradcon.org">https://www.abgradcon.org</a>	<a href="#">0</a>
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2023 06 15 NASA Astrobiology <https://youtu.be/b7TqgKG-g9A> AbGradCon 2023 Pescadero Basin Hydrothermal Vents a Window into Extremophiles by Manet Peña <https://www.abgradcon.org> AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology.

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2023 06 14 NASA Astrobiology <https://youtu.be/cA5F75cpSIU> AbGradCon 2023 Life in Hell Toxin-Antitoxin Systems & Virus-Host Co-Evolution by Jonathan Abshier <https://www.abgradcon.org> AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology.

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2023 06 14 NASA Astrobiology <https://youtu.be/-RVU8fkWE8> AbGradCon 2023 Modulating Lipid Packing & Solute Permeability of Model Protocells by Lauren Lowe AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [0](#)

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2023 06 14 NASA Astrobiology <https://youtu.be/aG4ObAGEt6U> AbGradCon 2023 Proton Irradiation Effects on Stable Chiral Amino Acid Radicals by Máté Szarka AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [0](#)

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2023 06 13 NASA Astrobiology <https://youtu.be/hvcp-EPdUjw> AbGradCon 2023 Autocatalytic Chemical Ecosystems in Spatial Settings by Alex Plum AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [Transcript Link](#)

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2023 06 13 NASA Astrobiology <https://youtu.be/9DQAUOtVTXY> AbGradCon 2023 String Assembly by Gage Siebert AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology. <https://www.abgradcon.org> [Transcript Link](#)

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2023 06 13	NASA Astrobiology	<a href="https://youtu.be/Rj8_JJV9xhM">https://youtu.be/Rj8_JJV9xhM</a>	AbGradCon 2023 Keynote Mysterious Life Deep Within Earth's Crust by Dr. Karen Lloyd	AbGradCon 2023 was hosted at the Scripps Institution of Oceanography in La Jolla, CA, and featured posters, talks, and discussion groups of up and coming scientists in the field of astrobiology.  <a href="https://www.abgradcon.org">https://www.abgradcon.org</a>	<a href="#">Transcript Link</a>
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2023 05 31	NASA Astrobiology	<a href="https://youtu.be/wulgSDrSjgU">https://youtu.be/wulgSDrSjgU</a>	2023 Lassen Astrobiology Intern Recognition Night & Presentation	Lassen Astrobiology Intern Recognition Night & Presentation Wednesday, May 17, 2023  The NASA Astrobiology Institute Ames Team, Lassen Volcanic National Park and Red Bluff High School have formed a mutually beneficial partnership that engages high school students in the collection of scientific data for NASA astrobiologists, the National Park Service and university researchers.	<a href="#">Transcript Link</a>
For more information on this program, go to <a href="https://www.nasa.gov/content/astrobiology-student-intern-high-school-program-completes-tenth-year">https://www.nasa.gov/content/astrobiology-student-intern-high-school-program-completes-tenth-year</a>					

2023 05 25 NASA Astrobiology [https://youtu.be/1ys\\_T5hJIGg](https://youtu.be/1ys_T5hJIGg) The Origin of Life & Unearthing a Treasure Trove of Fossils with Dr. Mary Droser

Our guest is Dr. Mary Droser, a professor of geology and paleoecology at the University of California, Riverside! Dr. Droser's research addresses questions about animal-environment interactions including the form and ecology of the Ediacaran period. Her fieldwork in this realm has led to the opening of a new National Park in South Australia, the Niplena Ediacara National Park, where over 40 different species of ancient fossils have been discovered.

[Transcript Link](#)

<https://astrobiology.nasa.gov/ask-an-astrobiologist/>

What is Ask An Astrobiologist?

Once a month, the NASA Astrobiology Program host a one-hour program where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video.

Ask An Astrobiologist: Episode 58

The Origin of Life & Unearthing a Treasure Trove of Fossils  
Featuring Dr. Mary Droser (University of California, Riverside)  
Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)

Production Assistants:

Sarah Treadwell (Blue Marble Space Institute of Science)  
Anurup Mohanty (Blue Marble Space Institute of Science)  
Mariam Naseem (Blue Marble Space Institute of Science)

Directed by Mike Toillion (NASA Astrobiology Program)

2023 05 02 NASA Astrobiology <https://youtu.be/J5srXQ6u6M0> Unlocking the Secret Life of Viruses with Dr. Gary Trubl

Our guest is Dr. Gareth (Gary) Trubl, a microbiologist and research staff scientist at the Lawrence Livermore National Laboratory in the Biosciences and Biotechnology Division. Gary has characterized viruses in Arctic permafrost and subzero soils, and uses multiple approaches in metagenomics to better understand the mechanisms viruses use to control microbial physiology and quantify nutrient exchanges in soils. Are viruses alive? What can they tell us about the search for life in the Universe?

[Transcript Link](#)

<https://astrobiology.nasa.gov/ask-an-astrobiologist/>

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Once a month, the NASA Astrobiology Program hosts a one-hour program where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video.

Ask An Astrobiologist: Episode 57

Unlocking the Secret Life of Viruses  
Featuring Dr. Gary Trubl (Lawrence Livermore National Laboratory)  
Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)

Production Assistants:

Sarah Treadwell (Blue Marble Space Institute of Science)  
Anurup Mohanty (Blue Marble Space Institute of Science)  
Mariam Naseem (Blue Marble Space Institute of Science)

2023 03 30	NASA Astrobiology	<a href="https://youtu.be/4CMmwZOsXwY">https://youtu.be/4CMmwZOsXwY</a>	Soaring Through the Clouds of Titan with Dragonfly's Dr. Elizabeth 'Zibi' Turtle	NASA's Ask an Astrobiologist is back with a new look, a new sound, and a brand new lineup of amazing astrobiologists! Tune-in this Friday, March 24, 2023 to get the answers to your questions about the search for life in the Universe.	<a href="#">Transcript Link</a>
				Our guest is Dr. Elizabeth 'Zibi' Turtle, a planetary scientist at the Johns Hopkins Applied Physics Laboratory and principal investigator (PI) of NASA's Dragonfly mission. This exciting mission from NASA's New Frontiers Program is a dual-quadcopter, rotorcraft lander that will travel to Titan, the largest moon of Saturn, to explore its strange environment: methane clouds, salty oceans, and seas of liquid ethane and methane.	
				<a href="https://astrobiology.nasa.gov/ask-an-astrobiologist/">https://astrobiology.nasa.gov/ask-an-astrobiologist/</a>	
				<p>What is Ask An Astrobiologist?</p> <p>Once a month, Blue Marble Space and the NASA Astrobiology Program host a one-hour program where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video.</p>	
				<p>Ask An Astrobiologist: Episode 56</p> <p>Soaring Through the Clouds of Titan with Dragonfly</p> <p>Featuring Dr. Elizabeth 'Zibi' Turtle (Johns Hopkins Applied Physics Laboratory)</p> <p>Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p>	
2023 03 29	NASA Astrobiology	<a href="https://youtu.be/taRFKvir4">https://youtu.be/taRFKvir4</a>	Welcome to the JOIDES Resolution, a Floating Laboratory to Study the Seafloor and Beyond	Welcome aboard the JOIDES Resolution, a research vessel that drills into the ocean floor to collect and study core samples, which offer glimpses into the secrets of the history of our planet.	<a href="#">Transcript Link</a>
				Join 15 students from the JR Academy as they take you on a tour of this incredible floating laboratory, and learn how scientific ocean drilling can actually inform NASA's search for life beyond Earth!	
				<p>Shot &amp; Edited by Mike Toillion</p> <p>Featuring the JR Academy Class of 2023</p>	
				<p>Special Thanks to Laurel Childress, Sharon Cooper, Carol Cotterill, Lisa White, and the entire crew of the JOIDES Resolution.</p>	
				<p><a href="https://joidesresolution.org/">https://joidesresolution.org/</a></p> <p><a href="https://astrobiology.nasa.gov/">https://astrobiology.nasa.gov/</a></p>	

2023 03 15	NASA Astrobiology	<a href="https://youtu.be/OhgbSP1QVYA">https://youtu.be/OhgbSP1QVYA</a>	How to Survive on Mars with Dr. Andrew Schuerger	Our guest is Dr. Andrew Schuerger, a scientist at the department of Plant Pathology at the University of Florida. Dr. Schuerger worked for 18 years at the Land, a hydroponic research and education facility at Disney's Epcot Center, as well as NASA's Kennedy Space Center. His research includes studying the effects of martian conditions on the survival, growth, and adaptation of microorganisms, as well as investigating methane on Mars as a potential biosignature.	<a href="#">Transcript Link</a>
<p><a href="https://astrobiology.nasa.gov/ask-an-astrobiologist/">https://astrobiology.nasa.gov/ask-an-astrobiologist/</a></p>					
<p>What is Ask An Astrobiologist? Once a month, Blue Marble Space and the NASA Astrobiology Program host a one-hour program where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video.</p>					
<p>Ask An Astrobiologist: Episode 55 How to Survive on Mars Featuring Dr. Andrew Schuerger (University of Florida) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p>					
<p>Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Anurup Mohanty (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)</p>					
2023 02 13	NASA Astrobiology	<a href="https://youtu.be/36C1ubKsxI8">https://youtu.be/36C1ubKsxI8</a>	Bringing Passion to Science, Communication, & Entrepreneurship with Dr. Sanjoy Som!	Our guest is Dr. Sanjoy Som, a scientist, engineer, and social entrepreneur passionate about space exploration, astrobiology, and science communication. Dr. Som is the founder and CEO of the nonprofit Blue Marble Space and the original host of NASA's Ask an Astrobiologist!	<a href="#">Transcript Link</a>
<p><a href="https://astrobiology.nasa.gov/ask-an-astrobiologist/">https://astrobiology.nasa.gov/ask-an-astrobiologist/</a></p>					
<p>What is Ask An Astrobiologist? Once a month, Blue Marble Space and the NASA Astrobiology Program host a one-hour program where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video.</p>					
<p>Ask An Astrobiologist: Episode 54 Bringing Passion to Science, Communication, &amp; the Search for Life Featuring Dr. Sanjoy Som (Blue Marble Space Institute of Science) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p>					
<p>Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Anurup Mohanty (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)</p>					
<p>Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Melissa Flower (<a href="https://melissaflower.com">https://melissaflower.com</a>) Music &amp; Animation by Mike Toillion (NASA Astrobiology Program)</p>					

2023 01 27	NASA Astrobiology	<a href="https://youtu.be/V0-My3WbAgY">https://youtu.be/V0-My3WbAgY</a>	NASA's Ask an Astrobiologist Returns with a New Look & Sound! (4K Trailer 2023)	NASA's Ask an Astrobiologist is back for another season of incredible astrobiologists answering YOUR questions about life in the Universe!	<a href="#">Transcript Link</a>
				It's a new year with brand new artwork by Melissa Flower ( <a href="https://melissaflower.com">https://melissaflower.com</a> ) and new music and animation by Mike Toillion (NASA Astrobiology). Check it out, let us know what you think, and start sending us your burning questions about astrobiology today!	
				How to Ask an Astrobiologist: Use the hashtag #AskAstroBio and tweet your question to @NASAAstroBio, or use the comment section under the latest episode on YouTube : <a href="https://youtu.be/9LPHgsUMagw">https://youtu.be/9LPHgsUMagw</a>	
				<a href="https://astrobiology.nasa.gov/ask-an-astrobiologist/">https://astrobiology.nasa.gov/ask-an-astrobiologist/</a>	
2022 11 30	NASA Astrobiology	<a href="https://youtu.be/GVNw85UpUt8">https://youtu.be/GVNw85UpUt8</a>	Star and Planetary System Formation from Sq' Baa Hane' – Story of the Stars"	Star and Planetary System Formation from "Sq' Baa Hane' – Story of the Stars" an educator guide of the NASA and the Navajo Nation Partnership	<a href="#">Transcript Link</a>
			Sq' Baa Hane' – Story of the Stars"	This video provides an explanation from the Westernized scientific perspective of the process of star and planetary system formation.	
				For more information on the NASA Astrobiology/Navajo partnership, visit: <a href="https://astrobiology.nasa.gov/education/nasa-and-the-navajo-nation/story-of-the-stars/">https://astrobiology.nasa.gov/education/nasa-and-the-navajo-nation/story-of-the-stars/</a>	
2022 10 26	NASA Astrobiology	<a href="https://youtu.be/LLKGosGMTIs">https://youtu.be/LLKGosGMTIs</a>	Defining Life, Biosignatures, & the Science of Star Trek with Dr. Michael Wong!	Our guest is Dr. Michael Wong, a NASA Sagan Postdoctoral Fellow at Carnegie Science's Earth & Planets Laboratory! Dr. Wong studies planetary atmospheres, habitability, biosignatures, and the emergence of life. In his spare time, Michael hosts a podcast called Strange New Worlds, which examines science, technology, and culture through the lens of Star Trek.	<a href="#">Transcript Link</a>
				<a href="https://astrobiology.nasa.gov/ask-an-astrobiologist/">https://astrobiology.nasa.gov/ask-an-astrobiologist/</a>	
				What is Ask An Astrobiologist? Once a month, SAGANet ( <a href="https://www.saganet.org">https://www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video. Each session lasts about an hour.	
				Ask An Astrobiologist: Episode 53 Defining Life, Biosignatures, & the Science of Star Trek Featuring Michael Wong (Carnegie Science's Earth & Planets Laboratory) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Anurup Mohanty (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)	

2022 10 06	NASA Astrobiology	<a href="https://youtu.be/A2z-dgChINw">https://youtu.be/A2z-dgChINw</a>	Hot Springs & the Science of Comedy with Luke Steller!	Our guest is Luke Steller, a PhD research candidate at the Australian Centre for Astrobiology and an affiliate research scientist at the Blue Marble Space Institute of Science! Luke explores the geochemistry of ancient (i.e. fossilized) and modern hot springs systems, studying their potential to promote environments favorable for the origin of chemical life on Earth and beyond. Luke is also a science communicator, recently creating and performing in The STEAM Room, where seven scientists were trained by comedians to perform stand-up comedy, selling out shows at the Sydney Comedy Festival and performing at music festivals (including Splendour in the Grass).	<a href="#">Transcript Link</a>
				<a href="https://astrobiology.nasa.gov/ask-an-astrobiologist/">https://astrobiology.nasa.gov/ask-an-astrobiologist/</a>	
				<p>What is Ask An Astrobiologist?</p> <p>Once a month, SAGANet (<a href="https://www.saganet.org">https://www.saganet.org</a>) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video. Each session lasts about an hour.</p>	
				<p>Ask An Astrobiologist: Episode 52 Hot Springs &amp; the Science of Comedy Featuring Luke Steller (Australian Centre for Astrobiology) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p>	
				Production Assistants:	
2022 09 09	NASA Astrobiology	<a href="https://youtu.be/go2FCouhJTY">https://youtu.be/go2FCouhJTY</a>	AbSciCon 2022 The Search for Life in the Universe with your Students!	<p>#AbSciCon22 - Origins and Exploration: From Stars to Cells</p> <p>AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.</p>	<a href="#">Transcript Link</a>
				<p>All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.</p>	
				More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	
2022 09 09	NASA Astrobiology	<a href="https://youtu.be/h1enXkuZArA">https://youtu.be/h1enXkuZArA</a>	AbSciCon 2022 Plenary Dr. Aomawa Shields, A Path to Thriving on the Earth & Other Planets	<p>#AbSciCon22 - Origins and Exploration: From Stars to Cells</p> <p>AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.</p>	<a href="#">0</a>
				<p>All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.</p>	
				More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	

2022 09 09	NASA Astrobiology	<a href="https://youtu.be/-vGcEm7xTEY">https://youtu.be/-vGcEm7xTEY</a>	AbSciCon 2022 519, From Amino Acids to the First Proteins II	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">Transcript Link</a>
2022 09 09	NASA Astrobiology	<a href="https://youtu.be/ScTfbgxcarw">https://youtu.be/ScTfbgxcarw</a>	AbSciCon 2022 512, PCE3 Presents From Prebiotic Chemistry to Contemporary Biochemistry III	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">0</a>
2022 09 09	NASA Astrobiology	<a href="https://youtu.be/vfZMsC5Zp-k">https://youtu.be/vfZMsC5Zp-k</a>	AbSciCon 2022 The Venus Dialogues Getting to Know Our Neighbor	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">Transcript Link</a>
2022 09 09	NASA Astrobiology	<a href="https://youtu.be/y7aqyv7qnQc">https://youtu.be/y7aqyv7qnQc</a>	AbSciCon 2022 Realizing Pathways to Discovery A Town Hall on Astro2020's Astrobiology Goals	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">0</a>

2022 09 09 NASA Astrobiology [https://youtu.be/z-K8zW\\_9wb0](https://youtu.be/z-K8zW_9wb0) AbSciCon 2022 Titan's Prebiotic Chemistry & Astrobiological Potential with the Dragonfly Mission #AbSciCon22 - Origins and Exploration: From Stars to Cells

AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.

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More information: <https://www.agu.org/AbSciCon>

2022 09 09 NASA Astrobiology <https://youtu.be/tXR9Z6ZaBlw> AbSciCon 2022 432, PCE3 Origins, Inventories & Geologic Settings of the Building Blocks of Life IV #AbSciCon22 - Origins and Exploration: From Stars to Cells

AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.

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2022 09 09 NASA Astrobiology [https://youtu.be/NMG\\_MhTIOcfA](https://youtu.be/NMG_MhTIOcfA) AbSciCon 2022 418, Astrobiology & the NASA Mars 2020 Mission & Sample Return I #AbSciCon22 - Origins and Exploration: From Stars to Cells

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[Transcript Link](#)

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More information: <https://www.agu.org/AbSciCon>

2022 09 09 NASA Astrobiology <https://youtu.be/NDIVBiraVA4> AbSciCon 2022 405, Alien Ecosystems Integrating Ecology into Astrobiology IV #AbSciCon22 - Origins and Exploration: From Stars to Cells

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[Transcript Link](#)

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More information: <https://www.agu.org/AbSciCon>

2022 09 08 NASA Astrobiology <https://youtu.be/2VJaNIMVUw> AbSciCon 2022 330, Co-Evolution of the Geosphere & Biosphere Life's Origins & Evolution III #AbSciCon22 - Origins and Exploration: From Stars to Cells [0](#)

AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.

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2022 09 08 NASA Astrobiology <https://youtu.be/BYcMz4AwW8s> AbSciCon 2022 - Keynote Jovian Safari by Dr. Tracy Drain Tracy Drain presents Jovian Safari (Keynote presentation). [Transcript Link](#)

Tracy Drain is a Systems Engineer at NASA's Jet Propulsion Laboratory. Her interest in space grew from an early love of science fiction – she soaked up Star Trek, Star Wars, Battlestar Galactica, and various sci-fi books by the armload. She earned degrees in Mechanical Engineering at the University of Kentucky and Georgia Tech and landed a full-time position at JPL in 2000.

In her 20 years at the lab, she has participated in the development and/or operation of the Mars Reconnaissance Orbiter (a science/relay orbiter at Mars), the Kepler mission (an exoplanet hunter), the Juno mission to Jupiter and the Psyche mission (to study an asteroid). She is currently the Lead Flight Systems Engineer for the Europa Clipper mission, which is slated to launch in 2024 to explore one of the most scientifically exciting icy moons of Jupiter. Tracy relishes playing a role in helping scientists expand our understanding of the universe and loves sharing her passion for space with people of all ages.

#AbSciCon22 - Origins and Exploration: From Stars to Cells

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2022 09 08 NASA Astrobiology [https://youtu.be/V\\_AxlpS-Mic](https://youtu.be/V_AxlpS-Mic) AbSciCon 2022 503, From Autocatalysis to Evolution III #AbSciCon22 - Origins and Exploration: From Stars to Cells [Transcript Link](#)

AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.

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More information: <https://www.agu.org/AbSciCon>

2022 09 08	NASA Astrobiology	<a href="https://youtu.be/kRe9E3efRpk">https://youtu.be/kRe9E3efRpk</a>	AbSciCon 2022 Life is Groovy Astrobiology in the Sixties	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">Transcript Link</a>
2022 09 08	NASA Astrobiology	<a href="https://youtu.be/Nw-hTm7AqJA">https://youtu.be/Nw-hTm7AqJA</a>	AbSciCon 2022 Plenary Dr. Betül Kaçar, Life's Early Evolution & Molecular Paleobiology	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">Transcript Link</a>
2022 09 08	NASA Astrobiology	<a href="https://youtu.be/N-k59SRq8ik">https://youtu.be/N-k59SRq8ik</a>	AbSciCon 2022 Mars Sample Return Planning Considerations for Searching for Biosignatures	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">0</a>
2022 09 08	NASA Astrobiology	<a href="https://youtu.be/GxAEX34TXKc">https://youtu.be/GxAEX34TXKc</a>	AbSciCon 2022 318, Astrobiology & the Future of Life Evidence, Analogy & Prediction I	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">Transcript Link</a>

2022 09 08	NASA Astrobiology	<a href="https://youtu.be/84aHOMLEZY">https://youtu.be/84aHOMLEZY</a>	AbSciCon 2022 305, Geochemistry & Habitability of Alkaline Hydrothermal Vents on Earth & Beyond I	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.	<a href="#">0</a>
2022 09 08	NASA Astrobiology	<a href="https://youtu.be/1GR8zZixdM">https://youtu.be/1GR8zZixdM</a>	AbSciCon 2022 The Life Detection Forum Project Status and Next Steps	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.	<a href="#">Transcript Link</a>
2022 09 08	NASA Astrobiology	<a href="https://youtu.be/7sgRgHz1nBw">https://youtu.be/7sgRgHz1nBw</a>	AbSciCon 2022 205, Exoplanet Biosignatures the 2020s & Beyond I	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.	<a href="#">Transcript Link</a>
2022 09 08	NASA Astrobiology	<a href="https://youtu.be/Qb9UPAFT0Sc">https://youtu.be/Qb9UPAFT0Sc</a>	AbSciCon 2022 When Worlds Collide Science & the Arts Hosted by Tahira Allen & Heather Graham	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.	<a href="#">0</a>
				More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	

2022 09 08	NASA Astrobiology	<a href="https://youtu.be/S-qLPagFJ90">https://youtu.be/S-qLPagFJ90</a>	AbSciCon 2022 227, Adaptation & Evolution of Earth Organisms to Extraterrestrial Environments I	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">0</a>
2022 09 08	NASA Astrobiology	<a href="https://youtu.be/W9yzus_KELM">https://youtu.be/W9yzus_KELM</a>	AbSciCon 2022 Plenary Dr. Kathryn Stack-Morgan & Dr. Meenakshi Wadhwa on Astrobiology & Mars	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">0</a>
2022 09 08	NASA Astrobiology	<a href="https://youtu.be/Z4GADQY7g7c">https://youtu.be/Z4GADQY7g7c</a>	AbSciCon 2022 217, Thinking Beyond LUCA Stem Life and Primordial Diversity I	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">Transcript Link</a>
2022 09 08	NASA Astrobiology	<a href="https://youtu.be/vHOvdbjsJuk">https://youtu.be/vHOvdbjsJuk</a>	AbSciCon 2022 Music Of The Spheres with Tim Griffin	#AbSciCon22 - Origins and Exploration: From Stars to Cells  AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.  All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.  More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a>	<a href="#">Transcript Link</a>

2022 09 08 NASA Astrobiology <https://youtu.be/xBDxzzOQ89U> AbSciCon 2022 DEI & the Geosciences Lessons Learned Based on a Decade of AGU Geoscience Experience #AbSciCon22 - Origins and Exploration: From Stars to Cells [Q](#)

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More information: <https://www.agu.org/AbSciCon>

2022 09 07 NASA Astrobiology <https://youtu.be/Lnlc6AYAoUw> Unfolding the Universe Using Webb to Explore Exoplanets with Dr. Alex Lockwood! Our guest is Dr. Alex Lockwood, a former Project Scientist for NASA's Webb Space Telescope at the Space Telescope Science Institute in Baltimore, MD. She received bachelor's degrees in Physics and Astronomy from the University of Maryland and a Masters and PhD from Caltech in Planetary Sciences. Her research focused on understanding planetary systems and characterizing exoplanets. She discovered water on a planet – funnily named Tau Boo b. During graduate school Alex also starred in The PhD Movie, a live action film based off the popular webcomic <https://www.phdcomics.com>. Before joining the Webb team, she worked on the NOAA/NASA Joint Polar Satellite System mission and at the King Abdullah University of Science and Technology in Saudi Arabia. Alex believes in maximizing both personal happiness and service to others. Outside of work she loves running, yoga, and laughing with her kids. [Transcript Link](#)

Our guest is Dr. Alex Lockwood, a former Project Scientist for NASA's Webb Space Telescope at the Space Telescope Science Institute in Baltimore, MD. She received bachelor's degrees in Physics and Astronomy from the University of Maryland and a Masters and PhD from Caltech in Planetary Sciences. Her research focused on understanding planetary systems and characterizing exoplanets. She discovered water on a planet – funnily named Tau Boo b. During graduate school Alex also starred in The PhD Movie, a live action film based off the popular webcomic <https://www.phdcomics.com>. Before joining the Webb team, she worked on the NOAA/NASA Joint Polar Satellite System mission and at the King Abdullah University of Science and Technology in Saudi Arabia. Alex believes in maximizing both personal happiness and service to others. Outside of work she loves running, yoga, and laughing with her kids.

<https://astrobiology.nasa.gov/ask-an-astrobiologist/>

What is Ask An Astrobiologist?

Once a month, SAGANet (<https://www.saganet.org>) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video. Each session lasts about an hour.

Ask An Astrobiologist: Episode 51

Unfolding the Universe: Using Webb to Explore Exoplanets

2022 09 06 NASA Astrobiology <https://youtu.be/XEj8AIKpda8> AbSciCon 2022 NASA Town Hall #AbSciCon22 - Origins and Exploration: From Stars to Cells [Transcript Link](#)

#AbSciCon22 - Origins and Exploration: From Stars to Cells

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More information: <https://www.agu.org/AbSciCon>

2022 09 06 NASA Astrobiology <https://youtu.be/qF7IGCh7Yu4> AbSciCon 2022 127 Crossing the Divides Joint Earth History Exoplanet Solar System Research II #AbSciCon22 - Origins and Exploration: From Stars to Cells AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.

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2022 09 06 NASA Astrobiology <https://youtu.be/l5CIN31pxBk> AbSciCon 2022 105 Priorities and Strategies for Technosignature Detection #AbSciCon22 - Origins and Exploration: From Stars to Cells AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.

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More information: <https://www.agu.org/AbSciCon>

[Transcript Link](#)

2022 09 06 NASA Astrobiology <https://youtu.be/idNQEFeg7s0> AbSciCon 2022 Origins, Worlds, and Life A Decadal Strategy for Planetary Science & Astrobiology #AbSciCon22 - Origins and Exploration: From Stars to Cells AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.

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More information: <https://www.agu.org/AbSciCon>

[Q](#)

2022 09 06 NASA Astrobiology <https://youtu.be/fD8m1EIRDOQ> AbSciCon 2022 Plenary Dr. Reva Kay Williams, From Supermassive Stars to Quasars #AbSciCon22 - Origins and Exploration: From Stars to Cells AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.

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[Transcript Link](#)

2022 09 06	NASA Astrobiology	<a href="https://youtu.be/oxayB4LGRLM">https://youtu.be/oxayB4LGRLM</a>	AbSciCon 2022 Panel Discussion We Discovered Alien Life, Now What	<p data-bbox="927 194 1385 222">We Discovered Alien Life, Now What?</p> <p data-bbox="927 277 1753 570">How will the media and their audiences respond to the discovery of evidence of extraterrestrial life? Will it be a galvanizing event, or a catastrophic paradigm shift? How long will it take for astrobiologists to prove that what they've found is real, and how will varying standards of evidence between science and journalism impact the global public's response to this discovery? Who would you trust to tell you the truth? And what do we do with that truth, once we have it?</p> <p data-bbox="927 625 1753 998">Our panel of experts for this program are Lisa Yaszek, professor of science fiction studies at Georgia Tech, where she researches and teaches science fiction as a global language crossing centuries, continents, and cultures; Andre Brock, Georgia Tech professor and leading scholar of Black cyberculture; and Tony Harris, broadcast journalist and host of the History Channel's "The Proof is Out There." This panel will be moderated by Caitlin McShea, InterPlanetary Project Director and Program Manager of an NSF-funded research coordination network on Life's Origins, for the Santa Fe Institute.</p> <p data-bbox="927 1053 1753 1190">These experts will offer their views on how we think about extraterrestrial life – imagined representations across fiction, microbial life in our solar system, and intelligent life beyond -- and how we might respond to its discovery."</p>	<a href="#">Transcript Link</a>
2022 09 06	NASA Astrobiology	<a href="https://youtu.be/ZV0rrH2qRc">https://youtu.be/ZV0rrH2qRc</a>	AbSciCon 2022 Plenary Dr. Nicole King, A History of Hypothesis on the Origin of Animals	<p data-bbox="927 1251 1630 1278">#AbSciCon22 - Origins and Exploration: From Stars to Cells</p> <p data-bbox="927 1333 1753 1517">AbSciCon, the conference brings the astrobiology community together every two years to share research, collaborate, and plan for the future. Join NASA and the American Geophysical Union as we facilitate a robust gathering of scientists in Atlanta and in an online capacity 15 - 20 May 2022.</p> <p data-bbox="927 1572 1753 1671">All talks and presentations that take place in the Plenary room will be broadcast to all registered participants. Keynotes, town halls, and evening events will be broadcast here to the general public.</p> <p data-bbox="927 1725 1540 1742">More information: <a href="https://www.agu.org/AbSciCon">https://www.agu.org/AbSciCon</a></p>	<a href="#">Transcript Link</a>

2022 07 07	NASA Astrobiology	<a href="https://youtu.be/Nbk2lC8Ld_I">https://youtu.be/Nbk2lC8Ld_I</a>	To Mars & Back Again A Rock's Tale with Dr. Meenakshi Wadhwa!	Our guest is Dr. Meenakshi “Mini” Wadhwa, professor and the Director of the School of Earth and Space Exploration at Arizona State University (ASU). She's a planetary scientist and isotope cosmochemist interested in the time scales and processes involved in the formation and evolution of the Solar System and planets, and she was also a recent keynote speaker for the Astrobiology Science Conference (AbSciCon). Beyond being an expert in planetary materials like meteorites, Dr. Wadhwa is also the Principal Scientist for NASA's Mars Sample Return (MSR) program.	<a href="#">Transcript Link</a>
<p>What is Ask An Astrobiologist? Once a month, SAGANet (<a href="https://www.saganet.org">https://www.saganet.org</a>) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video. Each session lasts about an hour.</p>					
<p>Ask An Astrobiologist: Episode 50 To Mars &amp; Back Again: A Rock's Tale Featuring Dr. Meenakshi Wadhwa (Arizona State University) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p>					
<p>Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Anurup Mohanty (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)</p>					
2022 06 22	NASA Astrobiology	<a href="https://youtu.be/5YdjN63ZNWg">https://youtu.be/5YdjN63ZNWg</a>	Exploring Outer Space & the Inner Self with Reverend Dr. Lucas Mix!	Our guest is Reverend Dr. Lucas Mix from Harvard University, who studies life-concepts across disciplines and wonders, “what is it about life that makes us look for more of it in space?” Lucas is the 9th NASA/Blumberg Chair in Astrobiology at the Library of Congress, holds a doctorate in evolutionary theory, and works to facilitate science outreach to religious leaders. Reverend Dr. Mix also co-hosts the new limited-series podcast, Space on the Page, connecting authors of science fiction and nonfiction with astrobiologists to discuss the search for life throughout the Universe.	<a href="#">Transcript Link</a>
<p>What is Ask An Astrobiologist? Once a month, SAGANet (<a href="https://www.saganet.org">https://www.saganet.org</a>) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video. Each session lasts about an hour.</p>					
<p>Ask An Astrobiologist: Episode 49 Exploring Outer Space &amp; the Inner Self Featuring Reverend Dr. Lucas Mix (ECLAS Project, Durham University) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p>					
<p>Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Anurup Mohanty (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)</p>					

2022 06 15	NASA Astrobiology	<a href="https://youtu.be/Nc3C1GeaElw">https://youtu.be/Nc3C1GeaElw</a>	Introducing the LIFE Research Coordination Network	<p>LIFE is a research coordination network focused on the co-evolution of life and the environment on Earth.</p> <p>We are a network of astrobiologists with diverse interests and expertise, aligned around a single goal: to understand how life evolves. We welcome scientists from all disciplines to pursue this goal with us!</p> <p>We are exploring the coevolution of Earth and life. Together, we study key innovations in the transition from early cells to multicellularity, to inform our search for life on other worlds.</p> <p><a href="https://www.lifercn.org/">https://www.lifercn.org/</a></p>	<a href="#">Transcript Link</a>
2022 05 25	NASA Astrobiology	<a href="https://youtu.be/ZV15m77nA4A">https://youtu.be/ZV15m77nA4A</a>	2022 Lassen Astrobiology Intern Recognition Night & Presentation	<p>Lassen Astrobiology Intern Recognition Night &amp; Presentation Monday, May 23, 2022</p> <p>The NASA Astrobiology Institute Ames Team, Lassen Volcanic National Park and Red Bluff High School have formed a mutually beneficial partnership that engages high school students in the collection of scientific data for NASA astrobiologists, the National Park Service and university researchers. For more information on this program, go to <a href="https://www.nasa.gov/content/astrobiology-student-intern-high-school-program-completes-tenth-year">https://www.nasa.gov/content/astrobiology-student-intern-high-school-program-completes-tenth-year</a></p>	<a href="#">Transcript Link</a>
2022 04 04	NASA Astrobiology	<a href="https://youtu.be/f2lKKl8fQc4">https://youtu.be/f2lKKl8fQc4</a>	Developing Scientific Instruments in the Search for Life with Drs. Stephanie Getty & Richard Quinn!	<p>Our guests are Dr. Stephanie Getty from the NASA Goddard Space Flight Center and Dr. Richard Quinn from the NASA Ames Research Center. This week we will be discussing the process of developing scientific instruments for the search for life beyond Earth. Drs. Getty and Quinn have been on numerous instrument and mission development teams ranging from the Mars Science Laboratory to future missions like Europa Clipper and DAVINCI. They are also on the organizing committee of an ongoing workshop from NASA called the Future of the Search for Life (FoSL), which has brought together researchers and technologists to talk about the synergies in technology development and life detection science.</p> <p>What is Ask An Astrobiologist? Once a month, SAGANet (<a href="https://www.saganet.org">https://www.saganet.org</a>) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video. Each session lasts about an hour.</p> <p>Ask An Astrobiologist: Episode 48 Developing Scientific Instruments for Astrobiology Featuring Dr. Stephanie Getty (NASA Goddard Space Flight Center) &amp; Dr. Richard Quinn (NASA Ames Research Center) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p> <p>Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science)</p>	<a href="#">0</a>

2022 03 08	NASA Astrobiology	<a href="https://youtu.be/JZMzoqXdoXc">https://youtu.be/JZMzoqXdoXc</a>	Exploring Alien Worlds with NASA's James Webb Space Telescope Transit Techniques	<p>The James Webb Space Telescope will spend much of its mission looking at exoplanets to characterize their atmospheric composition, measure their size, and even their climates! But how does it work?</p> <p>Join astrobiologist Dr. Giada Arney from the NASA Goddard Space Flight Center as she breaks down two of Webb's transit techniques: transit spectroscopy and the phase curve technique. These methods creatively analyze the reflected and absorbed light of an exoplanet's star to determine a wealth of planetary information. Webb will also use direct imaging along with the above techniques to characterize exoplanets and other stellar objects.</p>	<a href="#">Transcript Link</a>
				<p>Learn more about Webb's mission: <a href="http://webb.nasa.gov/">http://webb.nasa.gov/</a>  Learn more about the search for life: <a href="http://astrobiology.nasa.gov">http://astrobiology.nasa.gov</a></p>	
				<p>Music by Coma-Media from Pixabay  <a href="https://pixabay.com/?utm_source=link-attribution&amp;utm_medium=referral&amp;utm_campaign=music&amp;utm_content=12215">https://pixabay.com/?utm_source=link-attribution&amp;utm_medium=referral&amp;utm_campaign=music&amp;utm_content=12215</a></p>	
2022 03 01	NASA Astrobiology	<a href="https://youtu.be/QlvzCGR90_Q">https://youtu.be/QlvzCGR90_Q</a>	Exploring Alien Worlds with NASA's James Webb Space Telescope Searching for Biosignatures	<p>One of the many goals of the James Webb Space Telescope is to help characterize the atmospheres of exoplanets using a technique called spectroscopy, which splits light into different wavelengths allowing scientists to determine the elemental makeup of a distant object.</p> <p>Astrobiologists like Dr. Giada Arney from the NASA Goddard Space Flight Center are excited about this capability because it allows scientists to continue collecting evidence for possible biosignatures, or remotely observable signs of life. Some important biosignatures on Earth include oxygen and methane, which are direct results of biological processes of plants and animals. However, when looking at exoplanets, scientists must rule out other non-life methods of creating those signatures, like volcanism and atmospheric processes.</p> <p>Extraordinary claims, such as finding life on another planet, must have extraordinary evidence, and while Webb will help contribute to that effort, it alone will not be enough to truly detect life on an exoplanet.</p>	<a href="#">0</a>
				<p>Learn more about Webb's mission: <a href="http://webb.nasa.gov/">http://webb.nasa.gov/</a>  Learn more about the search for life: <a href="http://astrobiology.nasa.gov">http://astrobiology.nasa.gov</a></p>	
				<p>Music by Coma-Media from Pixabay  <a href="https://pixabay.com/?utm_source=link-attribution&amp;utm_medium=referral&amp;utm_campaign=music&amp;utm_content=12327">https://pixabay.com/?utm_source=link-attribution&amp;utm_medium=referral&amp;utm_campaign=music&amp;utm_content=12327</a></p>	

2022 02 22	NASA Astrobiology	<a href="https://youtu.be/t-DE5vmAytA">https://youtu.be/t-DE5vmAytA</a>	Exploring Alien Worlds with NASA's James Webb Space Telescope TRAPPIST-1 System	During its first operating cycle, the James Webb Space Telescope will set its sights on the TRAPPIST-1 system, an incredible collection of seven rocky exoplanets 41 light years away from Earth.	<a href="#">Transcript</a> <a href="#">Link</a>
				Astrobiologists like Dr. Giada Arney from the NASA Goddard Space Flight Center are excited about this system because TRAPPIST-1 is a perfect laboratory for studying habitability! It consists of seven rocky planets, distributed across the system's habitable zone, or the area around a star where it is not too hot and not too cold for liquid water to exist on the surface of surrounding planets. Webb will characterise the atmospheres of these planets and help scientists learn more about planetary formation and habitability.	
				Learn more about Webb's mission: <a href="http://webb.nasa.gov/">http://webb.nasa.gov/</a> Learn more about the search for life: <a href="http://astrobiology.nasa.gov">http://astrobiology.nasa.gov</a>	
				Music by Coma-Media from Pixabay <a href="https://pixabay.com/music/?utm_source=link-attribution&amp;utm_medium=referral&amp;utm_campaign=music&amp;utm_content=12099">https://pixabay.com/music/?utm_source=link-attribution&amp;utm_medium=referral&amp;utm_campaign=music&amp;utm_content=12099</a>	
2022 02 15	NASA Astrobiology	<a href="https://youtu.be/yrOOCg4KJS8">https://youtu.be/yrOOCg4KJS8</a>	Exploring Alien Worlds with NASA's James Webb Space Telescope featuring Dr. Giada Arney	The James Webb Space Telescope is taking exoplanet studies to the next level, helping us characterize the atmospheres of Earth-sized alien worlds for the first time. By utilizing transit techniques and spectroscopy, Webb will study planetary atmospheres to search for the building blocks of life elsewhere in the universe.	<a href="#">Transcript</a> <a href="#">Link</a>
				In the "Exploring Alien Worlds with NASA's James Webb Space Telescope" series, Research Space Scientist Dr. Giada Arney from the NASA Goddard Space Flight Center introduces Webb's scientific capabilities as they relate to the field of astrobiology and our search for life in the universe.	
				In this series, we'll touch on Webb's exploration of the TRAPPIST-1 system (a planetary system of seven rocky exoplanets), its search for atmospheric biosignatures (scientific evidence of past or present life), and the techniques Webb will use in its quest to #UnfoldTheUniverse.	
				Learn more about Webb's mission: <a href="http://webb.nasa.gov/">http://webb.nasa.gov/</a> Learn more about the search for life: <a href="http://astrobiology.nasa.gov">http://astrobiology.nasa.gov</a>	
				Music by Lesfm from Pixabay <a href="https://pixabay.com/?utm_source=link-attribution&amp;utm_medium=referral&amp;utm_campaign=music&amp;utm_content=5806">https://pixabay.com/?utm_source=link-attribution&amp;utm_medium=referral&amp;utm_campaign=music&amp;utm_content=5806</a>	

2022 02 04	NASA Astrobiology	<a href="https://youtu.be/-Clco67SGaY">https://youtu.be/-Clco67SGaY</a>	Cool Life Exploring the Habitability of Glacial Systems with Dr. Mark Skidmore!	<p>Our guest is Dr. Mark Skidmore, professor in the Department of Earth Sciences at Montana State University! Dr. Skidmore conducts research on the biogeochemistry and geomicrobiology of glacial systems, examining the cycling of elements such as carbon, sulfur, nitrogen and iron. His research also considers the habitability of icy terrestrial environments, especially subglacial systems, and how this can guide the search for habitable environments elsewhere in the Solar System. Dr. Skidmore has field research experience in numerous glaciated systems in Arctic, alpine, and Antarctic settings from over 25 years of exploration and study.</p> <p>What is Ask An Astrobiologist? Once a month, SAGANet (<a href="https://www.saganet.org">https://www.saganet.org</a>) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter and YouTube comment questions live on video. Each session lasts about an hour.</p> <p>Ask An Astrobiologist: Episode 47 Cool Life: Exploring the Habitability of Glacial Systems Featuring Dr. Mark Skidmore (Montana State University) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p> <p>Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Anurup Mohanty (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)</p>	<a href="#">Transcript</a> <a href="#">Link</a>
2021 12 20	NASA Astrobiology	<a href="https://youtu.be/QlPyuy6mF7Y">https://youtu.be/QlPyuy6mF7Y</a>	The Legacy of Kepler & the Bright Future of Webb with Dr. Natalie Batalha	<p>Our guest is Dr. Natalie Batalha, astrophysicist and professor of Astronomy and Astrophysics at UC Santa Cruz, specializing in detecting and characterizing exoplanets, including potentially habitable alien worlds! Dr. Batalha was the Co-Investigator and Mission Scientist for the Kepler Space Telescope, and today uses the world's most powerful ground-based telescopes to identify planets suitable for further study with the upcoming James Webb Space Telescope.</p> <p>What is Ask An Astrobiologist? Once a month, SAGANet (<a href="http://www.saganet.org">www.saganet.org</a>) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video. Each session lasts about an hour.</p> <p>Ask An Astrobiologist: Episode 46 The Legacy of Kepler &amp; the Bright Future of Webb Featuring Dr. Natalie Batalha (University of California, Santa Cruz) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p> <p>Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Anurup Mohanty (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)</p> <p>Directed by Mike Toillion (NASA Astrobiology Program)</p>	<a href="#">Transcript</a> <a href="#">Link</a>

2021 11 30 NASA Astrobiology <https://youtu.be/QoiZec-A-M> NExSS & NfoLD SOE Workshop History of the Viking Biology Experiments by Dr. Richard Quinn Viking Biology Experiments: A Historical Background Dr. Richard Quinn (NASA Ames Research Center) [Q](#)

The NFOLD and NEXSS research coordination networks are hosting a joint virtual workshop on biosignature standards of evidence and reporting protocols from July 19-22, 2021. The workshop will include 3 working days of discussion, and 1 break day during this time frame. Workshop attendees will discuss the process needed to increase scientific confidence in biosignature detections, and how to best convey this continuum of confidence to a broader audience. The workshop will also initiate a discussion on community biosignature detection reporting protocols.

The overall goal of the workshop will be to produce community guidelines for biosignature detection, which will be submitted for publication. Attendance is open to the broader scientific research, publishing and journalism communities.

<https://www.nexss.info>  
<https://www.nfold.org>

2021 11 30 NASA Astrobiology <https://youtu.be/bnmBhda-0-E> NExSS & NfoLD SOE Workshop Phosphine on Venus by Dr. Victoria Meadows Phosphine on Venus: An Overview Dr. Victoria Meadows (University of Washington) [Transcript Link](#)

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<https://www.nexss.info>  
<https://www.nfold.org>

2021 11 30 NASA Astrobiology <https://youtu.be/7eYBjoOUk> NExSS & NfoLD SOE Workshop Remote Detection of Biosignatures by Dr. Shawn Domagal-Goldman

Biosignatures Detection Via Remote Sensing  
Dr. Shawn Domagal-Goldman (NASA Goddard Space Flight Center)

The NFOLD and NExSS research coordination networks are hosting a joint virtual workshop on biosignature standards of evidence and reporting protocols from July 19-22, 2021. The workshop will include 3 working days of discussion, and 1 break day during this time frame. Workshop attendees will discuss the process needed to increase scientific confidence in biosignature detections, and how to best convey this continuum of confidence to a broader audience. The workshop will also initiate a discussion on community biosignature detection reporting protocols.

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<https://www.nexss.info>  
<https://www.nfold.org>

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2021 11 30 NASA Astrobiology <https://youtu.be/z-t9Y2NUN1w> NExSS & NfoLD SOE Community Workshop In Situ Biosignatures by Dr. David Des Marais

In Situ Biosignatures: An Overview  
Dr. David Des Marais (NASA Ames Research Center)

The NFOLD and NExSS research coordination networks are hosting a joint virtual workshop on biosignature standards of evidence and reporting protocols from July 19-22, 2021. The workshop will include 3 working days of discussion, and 1 break day during this time frame. Workshop attendees will discuss the process needed to increase scientific confidence in biosignature detections, and how to best convey this continuum of confidence to a broader audience. The workshop will also initiate a discussion on community biosignature detection reporting protocols.

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<https://www.nexss.info>  
<https://www.nfold.org>

[Transcript Link](#)

2021 11 24	NASA Astrobiology	<a href="https://youtu.be/K3ZxQ1aOaOY">https://youtu.be/K3ZxQ1aOaOY</a>	The Secret World of Hydrothermal Systems with Dr. Geoff Wheat!	Our guest is Dr. Geoff Wheat, professor of geological oceanography at the University of Alaska, Fairbanks! Dr. Wheat studies processes that influence the cycles of elements in the oceans, following the transport of materials through the oceanic crust in a variety of settings, including hydrothermal systems. Geoff has also participated in 79 ocean expeditions, including 49 submersible/ROV based endeavors.	<a href="#">Transcript Link</a>
<p>What is Ask An Astrobiologist? Once a month, SAGANet (<a href="http://www.saganet.org">www.saganet.org</a>) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video. Each session lasts about an hour.</p>					
<p>Ask An Astrobiologist: Episode 45 The Secret World of Hydrothermal Systems Featuring Dr. Geoff Wheat (University of Alaska, Fairbanks) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p>					
<p>Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Anurup Mohanty (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)</p>					
<p>Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program)</p>					
2021 11 23	NASA Astrobiology	<a href="https://youtu.be/xSiGpnY3ykU">https://youtu.be/xSiGpnY3ykU</a>	Astrobiology in the Field, Episode 2 Greenland	Astrobiology in the Field, Episode 2: Greenland Created by Mike Toillion.	<a href="#">Transcript Link</a>
<p>This expedition is the second installment of the NASA Astrobiology video documentary series Astrobiology in the Field. This series aims to showcase the amazing analogue environments and the interesting field work being conducted all over the world by NASA scientists; work that directly informs NASA missions to discover extraterrestrial life in the Universe.</p>					
<p>This episode follows an expedition led by Dr. Abigail Allwood from the NASA Jet Propulsion Laboratory into the wilderness of Greenland to investigate claims of biosignatures, or signs of life, within rocks that are over 3.7 billion years old. Accompanying the team are members of Project OnSight, a virtual reality tool used by the NASA Mars mission teams to reconstruct 3D environments from Mars rover data. Follow the entire team as they investigate the remote field site and use state-of-the-art technology to ascertain whether life is present.</p>					
<p>For more information, visit <a href="https://astrobiology.nasa.gov/news/astrobiology-in-the-field-greenland">https://astrobiology.nasa.gov/news/astrobiology-in-the-field-greenland</a>.</p>					
<p>Music Credits: Ben Sound - "Adventure" (<a href="http://bensound.com/royalty-free-music">bensound.com/royalty-free-music</a>) BD Productions - "Inspiring Technology"</p>					

2021 11 18	NASA Astrobiology	<a href="https://youtu.be/PnJqEcytwC4">https://youtu.be/PnJqEcytwC4</a>	Astrobiology in the Field, Episode 2 Greenland (Teaser Trailer)	Astrobiology in the Field Episode 2: Greenland Teaser Trailer Created by Mike Toillion	<a href="#">Transcript Link</a>
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This expedition is the second installment of the NASA Astrobiology video documentary series Astrobiology in the Field. This series aims to showcase the amazing analogue environments and the interesting field work being conducted all over the world by NASA scientists; work that directly informs NASA missions to discover extraterrestrial life in the Universe.

This episode follows an expedition led by Dr. Abigail Allwood from the NASA Jet Propulsion Laboratory into the wilderness of Greenland to investigate claims of biosignatures, or signs of life, within rocks that are over 3.7 billion years old. Accompanying the team are members of Project OnSight, a virtual reality tool used by the NASA Mars mission teams to reconstruct 3D environments from Mars rover data. Follow the entire team as they investigate the remote field site and use state-of-the-art technology to ascertain whether life is present.

For the full episode, visit <https://youtu.be/xSjGpnY3ykU>

For more information, visit <https://astrobiology.nasa.gov/news/astrobiology-in-the-field-greenland>.

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/1x2Yix9icTY">https://youtu.be/1x2Yix9icTY</a>	Elegado, Aljon Francis Koji Biogeochemistry of iron-rich shallow hydrothermal vent sediments	AbGradCon 2021  This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">0</a>
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AbGradCon Organizing Team:  
ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim

External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu

Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)

[abgradcon.org](http://abgradcon.org)  
[astrobiology.nasa.gov](https://astrobiology.nasa.gov)

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/3XxsYiBfmbQ">https://youtu.be/3XxsYiBfmbQ</a>	Eguchi, James Supercontinent break-ups as driver for Proterozoic oxygenation events	AbGradCon 2021	This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">Transcript Link</a>
				AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim		
				External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu		
				Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)		
				abgradcon.org astrobiology.nasa.gov		
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/4_3FMFQ0HUI">https://youtu.be/4_3FMFQ0HUI</a>	Herbort, Oliver On the Comparative Complexity of Cells	AbGradCon 2021	This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">Transcript Link</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/5Hp-OG8YQQ">https://youtu.be/5Hp-OG8YQQ</a>	Broz, Adrian Mineralogy and organic preservation of Mars-analog paleosols	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/5kMWwcZwlaw">https://youtu.be/5kMWwcZwlaw</a>	Buckner, Denise Assessment of electron beam irradiation as a potential technique for life detection	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/61BUvzwYYhY">https://youtu.be/61BUvzwYYhY</a>	Machineni, Prathyushasai Understanding Pathways For Perchlorate Reduction In Mars Environments	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/62qK5IwgPQI">https://youtu.be/62qK5IwgPQI</a>	Joshi, Manesh Spontaneous emergence of membrane-forming protoamphiphiles under wet-dry cycles	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27 NASA Astrobiology <https://youtu.be/7g6lgZZWcxY> Dobson, Michaela AbGradCon 2021 [Q](#)  
The first 3D image from a drill core of the oldest evidence of life on record

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2021 10 27 NASA Astrobiology [https://youtu.be/8R\\_HSI6nb2Y](https://youtu.be/8R_HSI6nb2Y) DasGupta, Saurja AbGradCon 2021 [Transcript Link](#)  
Prebiotic RNA assembly Chemistry, catalysis, & compartmentalization

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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/9DWoWPX4hT0">https://youtu.be/9DWoWPX4hT0</a>	Jones, Gabrielle Detectability of Surface Biosignatures for Directly Imaged Exoplanets	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/9_HZHntsgsQ">https://youtu.be/9_HZHntsgsQ</a>	Phillips, Caprice Constraining Detection Limits for Potential Biosignatures with JWST	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/AtbhzzzSqb8">https://youtu.be/AtbhzzzSqb8</a>	Macey, Michael Colour Peak An analogue environment for the waters of late Noachian Mars	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/IuB42wyoPMs">https://youtu.be/IuB42wyoPMs</a>	Fisher, Luke ALE of Halobacterium salinarum NRC-1 & Escherichia coli MG1655 under MgCl2 stress	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/NEOFQLjNoYY">https://youtu.be/NEOFQLjNoYY</a>	DiGiacomo, Juliana The Environment as a Driving Force in the Coevolution of Ferredoxin Termini	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/PNVfyOUd4q0">https://youtu.be/PNVfyOUd4q0</a>	Jia, Tony Liquid Crystal Peptide DNA Coacervates in the Context of Prebiotic Molecular Evolution	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/WbYE GUjbi8M">https://youtu.be/WbYE GUjbi8M</a>	Collins, Maxwell Modelling Titan Using ROCKE-3D GCM	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/Yjq47LYckc">https://youtu.be/Yjq47LYckc</a>	Biswas, Sudipta Invitro reconstitution of protocellular divisionary mechanism	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/ZDco0mV0h3Q">https://youtu.be/ZDco0mV0h3Q</a>	Gonçalves, Gabriel Biogenicity influences in Fe <sup>2+</sup> minerals by extreme acidophilic bacterium	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/aWDA6Yw2cBs">https://youtu.be/aWDA6Yw2cBs</a>	He, Yuanyuan Search for life on Mars detection of DNA with TMAH thermochemolysis on SAM & MOMA	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/bXbTUsgsNLM">https://youtu.be/bXbTUsgsNLM</a>	Kreusch, Marianne UVC resistance in non-pigmented yeasts isolated from the Atacama Desert	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/d4owH7OUeA">https://youtu.be/d4owH7OUeA</a>	Fernandes Martins, Maria Clara Fluid mixing on early Earth & analog hydrothermal environments	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/fw5BjlSgYKc">https://youtu.be/fw5BjlSgYKc</a>	Gusmão, Ana Carolina Chemosynthetic production in extreme temperatures & implications for life	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/hnAINuuJDls">https://youtu.be/hnAINuuJDls</a>	Kahana, Amit High Probability Emergence by Chemical Kinetics & Molecular Dynamics Simulations	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/xBskRZu1L3w">https://youtu.be/xBskRZu1L3w</a>	Borowska, Ewa Red algae as source of photosynthesis under gamma radiation during space exploration	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/y8bpXdTBHjk">https://youtu.be/y8bpXdTBHjk</a>	Athanasopoulos, Dimitrios Ancient asteroid families & the first glimpse of our early Solar System	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27 NASA Astrobiology <https://youtu.be/D0TT6RoZ4uA> Hirakawa, Yuta Abiotic selective synthesis of ribose 5'-phosphate in borate-rich environments AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27 NASA Astrobiology <https://youtu.be/VRyQV4n1V1k> Lichtenberg, Tim Molten exoplanets as a window into the earliest Earth AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/YyQH1KQsWHk">https://youtu.be/YyQH1KQsWHk</a>	Jonnalagedda, Padmaja Automated Detection & Characterization of Biosignatures & Origins of Life	AbGradCon 2021	<a href="#">0</a>
<p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p>					
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/y000WwkMmuo">https://youtu.be/y000WwkMmuo</a>	Fulford, Avery Comparative genomic analysis of halophilic archaeon Halosimplex carlsbadense	AbGradCon 2021	<a href="#">0</a>
<p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p>					
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/1fsJg7NJxKk">https://youtu.be/1fsJg7NJxKk</a>	Dobson, Michaela, Flashtalk The first 3D image from drillcore of the oldest evidence of life...	AbGradCon 2021  This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/2mLusKHA6Po">https://youtu.be/2mLusKHA6Po</a>	DasGupta, Saurja, Flashtalk Prebiotic RNA assembly Chemistry, catalysis, and compartmentalization	AbGradCon 2021  This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">0</a>
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2021 10 27 NASA Astrobiology <https://youtu.be/7ZMyrlgu8Wc> Elegado, Aljon Francis Koji, Flashtalk Biogeochemistry of iron-rich hydrothermal vent sediments... AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27 NASA Astrobiology [https://youtu.be/DScDvb\\_iYrM](https://youtu.be/DScDvb_iYrM) Squicciarini, Vito Searching for the oxygen footprint of light-harvesting organisms AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/EJcAnI_srmSk">https://youtu.be/EJcAnI_srmSk</a>	Biswas, Sudipta, Flashtalk Invitro reconstitution of protocellular divisionary mechanism	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/FAv1vFjmbZw">https://youtu.be/FAv1vFjmbZw</a>	Nekola Novakova, Julie Life Beyond Us Astrobiology Outreach Through Science Fiction	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/JZ-mQNn90ng">https://youtu.be/JZ-mQNn90ng</a>	Thelen, Alexander Exploring Titan's Atmospheric Chemistry and Dynamical State with ALMA	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/M_cQnnAEXAM">https://youtu.be/M_cQnnAEXAM</a>	Peng, Zhen A mechanism of abiogenesis based on shared principles of complex autocatalytic systems	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27 NASA Astrobiology <https://youtu.be/MbMijWTzi8A> Nozaki, Shunsuke AbGradCon 2021 [0](#)  
Icy Satellite Habitability Subsurface Ocean Viscosity of Aqueous MgSO4 Solutions  
This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27 NASA Astrobiology <https://youtu.be/NOg4FAKD5dg> Vervoort, Pam AbGradCon 2021 [Transcript Link](#)  
The influence of Jupiter on the Earth's astronomical cycles implications  
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/NykpjXITDEQ">https://youtu.be/NykpjXITDEQ</a>	Mullikin, Ella Metal-sulfides & complex coacervate biomolecule compartments in hydrothermal vents	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/Q6e1UVpE2FE">https://youtu.be/Q6e1UVpE2FE</a>	Schaible, George Cellular differentiation within multicellular magnetotactic bacteria implications	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/R1WZ4gxkig0">https://youtu.be/R1WZ4gxkig0</a>	Swaminathan, Lakshmipriya Mathematical measures of environmental complexity as a marker of life	AbGradCon 2021	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/WQRXPSLekCg">https://youtu.be/WQRXPSLekCg</a>	Phillips, Daniel An expanded phylogeny of Cyanobacteria with a focus on intein distribution	AbGradCon 2021	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/XUNfo0SOCS">https://youtu.be/XUNfo0SOCS</a>	Sharma, Siddhant Computational modeling of autocatalytic prebiotic reaction networks	AbGradCon 2021	This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">Transcript Link</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/bQnRVIK_mN0">https://youtu.be/bQnRVIK_mN0</a>	DiGiacomo, Juliana, Flashtalk The Environment as a Driving Force in Coevolution of Ferredoxin...	AbGradCon 2021	This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/f8rGoGV2vz4">https://youtu.be/f8rGoGV2vz4</a>	Tran, Quoc Towards a Two-Phase Silica-Borate Mediated Formose Reaction	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/h9TObBuew-4">https://youtu.be/h9TObBuew-4</a>	Malloy, John Universal Life Detection Revealed By Small Molecule Chemistry	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/juorja1-yCw">https://youtu.be/juorja1-yCw</a>	Vincent, Lena A chemical ecosystem selection framework for studying lifelike chemical systems	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/l-hjFUOfrGM">https://youtu.be/l-hjFUOfrGM</a>	Napoleoni, Maryse Analog experiments for the detection of bacterial biosignatures in ice grains	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/ploQb1mo6rA">https://youtu.be/ploQb1mo6rA</a>	Clodoré, Laura, Flasktalk Identifying biosignatures in a Mars-analogue volcanic rock	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/pMSvbj0et90">https://youtu.be/pMSvbj0et90</a>	Smith, Harrison Seeding Biochemistry on Other Worlds Enceladus as a Case Study	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>

2021 10 27 NASA Astrobiology <https://youtu.be/remzKL7XiA0> Takagi, Yuta Using Digital Life Sims to Examine the Evolutionary Origin of Cellularity & Metabolism AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27 NASA Astrobiology <https://youtu.be/t1sc4n5k-Q> Plum, Alex Spatial Structure in Autocatalytic Chemical Ecosystems at the Origin of Life AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27 NASA Astrobiology <https://youtu.be/u-mysIjGqGU> Walton, Craig Probing the Dehydration Features of Gypsum from Cold to High Temperature Settings AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the NASA-sponsored astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27 NASA Astrobiology <https://youtu.be/x2-2fn6Egsg> Dujardin, Alix, Flashtalk How did first life emerge on terrestrial planets AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/e90QLf4OGw">https://youtu.be/e90QLf4OGw</a>	Govinda Raj, Chinmayee, Flashtalk Contactless conductivity detector for an icy ocean world impactor	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/09PXL2v81A">https://youtu.be/09PXL2v81A</a>	Jones, Gabrielle, Flashtalk Detectability of Surface Biosignatures for Directly Imaged Exoplanets	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/217gOhJhHaE">https://youtu.be/217gOhJhHaE</a>	Nekola Novakova, Julie, Flashtalk Life Beyond Us Astrobiology Outreach Through Science Fiction	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/3joh-IXJfiA">https://youtu.be/3joh-IXJfiA</a>	Nan, Jingbo, Flashtalk Abiotic organic synthesis in serpentinites from the subduction zone	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/46pgMNxE7WE">https://youtu.be/46pgMNxE7WE</a>	Lalande, Florian, Flashtalk Shedding Light on the Exoplanet Population with Machine Learning	AbGradCon 2021  This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/5Z8XIEMp0vI">https://youtu.be/5Z8XIEMp0vI</a>	Elkassas, Sabrina Subseafloor chemolithoautotrophs as models for potential life on Ocean Worlds	AbGradCon 2021  This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/65gijVTrw0c">https://youtu.be/65gijVTrw0c</a>	Peng, Zhen, Flashtalk Abiogenesis mediated by seed- dependent autocatalytic systems	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/6OTfgVh6Bkc">https://youtu.be/6OTfgVh6Bkc</a>	Ni, Ziqin Making Prebiotic Organics from Hadean Crust via Hypervelocity Impacts	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/HvOaFV1BSWM">https://youtu.be/HvOaFV1BSWM</a>	Herriman, Teddy On the Comparative Complexity of Cells	AbGradCon 2021	<a href="#">Transcript Link</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/JQe5gG2D9Ks">https://youtu.be/JQe5gG2D9Ks</a>	Ehreiser, Anouk Raman spectroscopy of Mars analogue samples relevant to the ExoMars 2022 mission	AbGradCon 2021	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/LPYFw2ku0wI">https://youtu.be/LPYFw2ku0wI</a>	Sharma, Siddhant, Flashtalk In-Silico modeling of reaction networks involved in prebiotic chemistry	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27 NASA Astrobiology <https://youtu.be/MYeWRYYsE-c> Jia, Tony, Flashtalk Liquid Crystal Peptide DNA Coacervates in the Context of Prebiotic... AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27 NASA Astrobiology <https://youtu.be/PPyH87Lr8g0> Takagi, Yuta, Flashtalk Simulating the Origin of Cellularity & Metabolism AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/RiwxDMr0ev4">https://youtu.be/RiwxDMr0ev4</a>	Deal, Alexandra Water-Air Interfaces & ester-mediated peptide bond formation	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/VphGiWkDv1c">https://youtu.be/VphGiWkDv1c</a>	Vissapragada, Shreyas The Evolving Atmospheres of Young Planets Revealed in Metastable Helium	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27 NASA Astrobiology <https://youtu.be/WY-iuehHMul> Seo, Kaito Solubility & distribution of organics & inorganics to liquid CO2 & the origin of life AbGradCon 2021 [Q](#)

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2021 10 27 NASA Astrobiology <https://youtu.be/XESzOgCuieA> Payne, Devon, Flashtalk Reductive Dissolution of Pyrite by Primitive Methanogens AbGradCon 2021 [Transcript Link](#)

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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/YIU0tJ1jRz8">https://youtu.be/YIU0tJ1jRz8</a>	Macey, Michael, Flashtalk Colour Peak An analogue environment for the waters of late Noachian Mars	AbGradCon 2021  This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/c2LUTTX9tLQ">https://youtu.be/c2LUTTX9tLQ</a>	Stolar, Tomislav Mechanochemical prebiotic peptide bond formation in the absence of water	AbGradCon 2021  This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/ij5STRHqijM">https://youtu.be/ij5STRHqijM</a>	Naseem, Mariam, AbGradCon 2021 Flashtalk The NASA's Ask An Astrobiologist An Avenue for Science Communication	AbGradCon 2021  This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/kphn0L-wlwc">https://youtu.be/kphn0L-wlwc</a>	Klempay, Benjamin Flexible haloarchaeal genomes stretch the limits of life in hypersaline brines	AbGradCon 2021  This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/m6AYTvMmdQ">https://youtu.be/m6AYTvMmdQ</a>	Prondzinsky, Paula Single-Cell & Genomically Resolved Analytical Techniques & Methanogenic Archaea	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p>	<a href="#">0</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/niTX6ai2Jgc">https://youtu.be/niTX6ai2Jgc</a>	Jonnalagedda, Padmaja, Flashtalk Automated Detection & Characterization of Biosignatures...	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p>	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/rwlZO86_dLU">https://youtu.be/rwlZO86_dLU</a>	Joshi, Manesh, Flashtalk Spontaneous emergence of membrane- forming protoamphiphiles. ..	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/vy12CZsaqvA">https://youtu.be/vy12CZsaqvA</a>	Fulford, Avery, Flashtalk Comparative genomic analysis of 250-million- year-old halophilic...	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27 NASA Astrobiology <https://youtu.be/ygmmapEcwpw> Schaible, Micah Formation of large amino acid enantiomeric excesses on magnetized surfaces AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27 NASA Astrobiology <https://youtu.be/AOQ6D7IDunQ> Iakubivskiy, Iaroslav, Flashtalk OPIC instrument on Comet Interceptor mission AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27 NASA Astrobiology [https://youtu.be/LL5XEs\\_YgK8](https://youtu.be/LL5XEs_YgK8) AbGradCon 2021 Welcome to GatherTown! This video gives a quick overview of the AbGradCon virtual conference space within GatherTown, including tips & tricks for moving around and interacting in the space, as well as some best practices for a good conference experience.

Still have questions? Leave a note on the #gathertown-help discord channel!

[Transcript Link](#)

2021 10 27 NASA Astrobiology <https://youtu.be/VB7Uw4cBLVo> Li-Hau, Fatima, Flashtalk Thermodynamics, kinetics, and the importance of functional guilds... AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/cGh7m mEHnQU">https://youtu.be/cGh7m mEHnQU</a>	Penev, Petar, Flashtalk ProteoVision web server for advanced visualization of ribosomal proteins	AbGradCon 2021	<a href="#">0</a>
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/d Vnu Yu0VVI">https://youtu.be/d Vnu Yu0VVI</a>	Fifer, Lucas, Flashtalk Gas and isotopic fractionation in the Enceladus ocean-plume system	AbGradCon 2021	<a href="#">0</a>
<p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p>					
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2021 10 27 NASA  
Astrobiology <https://youtu.be/fVZaOfYDK7Q> Roche, Tyler,  
Flashtalk Ketoses  
& the nature of  
Prebiotic Sugar-  
Forming Reactions

[Transcript  
Link](#)

2021 10 27 NASA  
Astrobiology <https://youtu.be/vXNW B3H7taU> Matange, Kavita, AbGradCon 2021  
Flashtalk  
Characterization  
of the Minimum  
Ribosome  
This year marks the first all-virtual Astrobiology Graduate  
Conference, the first astrobiology conference for and by early  
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2021 10 27 NASA Astrobiology <https://youtu.be/vwQ-Kci7UNA> Nadeem, Mian Behzad, Flashtalk Proliferation and Survival Analysis of Rhizosphere Soil Bacteria... AbGradCon 2021

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2021 10 27 NASA Astrobiology [https://youtu.be/7lkb7eK\\_XgQ](https://youtu.be/7lkb7eK_XgQ) Watanabe, Yasuto Behavior of Earth-like planets with marine biosphere AbGradCon 2021

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2021 10 27 NASA Astrobiology <https://youtu.be/T0dKBzVoFRI> Yesilbas, Merve, Flashtalk Probing Dehydration Features of Gypsum from Cold to High Temperature... AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim

External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu

Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)

[abgradcon.org](http://abgradcon.org)  
[astrobiology.nasa.gov](http://astrobiology.nasa.gov)

[Q](#)

2021 10 27 NASA Astrobiology <https://youtu.be/4acUkXra9o> Poudel, Saroj, Flashtalk Reconstructing primordial hydrogenase AbGradCon 2021 This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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[Transcript Link](#)

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/estwHtAdb08">https://youtu.be/estwHtAdb08</a>	Roussel, Anais Biomarker Preservation on the Irradiated Martian Surface	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">Transcript Link</a>
2021 10 27	NASA Astrobiology	<a href="https://youtu.be/uoNllr17qEM">https://youtu.be/uoNllr17qEM</a>	Pir Cakmak, Fatma Prebiotically- relevant low polyion multivalency & membraneless compartments	<p>AbGradCon 2021</p> <p>This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.</p> <p>AbGradCon Organizing Team: ELSI Organizing Committee: Tony Z. Jia (Chair), Kristin N. Johnson-Finn (Co-chair), Irene Bonati, Kosuke Fujishima, Paula Prondzinsky, Harrison B. Smith, Natsumi Noda, Yamei Li, Kang Wei Lim</p> <p>External Organizers: Alma Ceja, Julia McGonigle, Lena Vincent, Natalie Grefenstette, Niraja V. Bapat, Petar Penev, Shreyas Vissapragada, Tyler Roche, Osama Alian, Wataru Takahagi, Marc Neveu</p> <p>Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)</p> <p>abgradcon.org astrobiology.nasa.gov</p>	<a href="#">0</a>

2021 10 27 NASA Astrobiology <https://youtu.be/zgsbtfuEnk8> Plattner, Taylor Potential Biomarkers in Planetary-Analog Brine Environments Implications for Mars AbGradCon 2021

This year marks the first all-virtual Astrobiology Graduate Conference, the first astrobiology conference for and by early career scientists interested in the field of astrobiology. AbGradCon will be conducted entirely within Gather Town, a virtual 2D conference space, along with pre-recorded talks on YouTube, and messaging via Discord.

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Gather Town Design and Media Management by Mike Toillion (NASA Astrobiology Program)

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2021 10 27 NASA Astrobiology <https://youtu.be/lmzCAIkOnoE> NASA Workshop Without Walls Serpentinizing Systems Science (Day 3)

NASA Workshop Without Walls: Serpentinizing Systems Science  
 Date: January 31, 2017  
 Compelling terrestrial evidence records active and ancient serpentinization, the process that occurs when ultramafic rocks come into contact with water. This process may have been active on the surface and subsurface of Mars, beneath the surface of icy satellites such as Enceladus and Europa, and beyond. On Earth, these geochemical interactions support distinct microbial ecosystems.

[Transcript Link](#)

The purpose of this workshop is to highlight recent advances in understanding how Serpentinizing Systems function chemically and biologically within our Solar System.

AGENDA  
 Day 1  
 0900 Introduction by Alexis Templeton  
 0915 Topic overview by Billy Brazelton  
 0930 Invited Speaker: Susan Lang, Carbon in serpentinite-hosted systems  
 0955 Invited Speaker: Everett Shock, Geochemical Bioenergetics of Serpentinizing Systems  
 1020 Break  
 1035 Invited Speaker: Matt Schrenk, Serpentinization in Continental Settings: Insights into Subsurface Biogeochemistry  
 1100 Invited Speaker: Beth Orcutt, Life in serpentinizing systems

2021 10 27	NASA Astrobiology	<a href="https://youtu.be/Pb1YTzQcNI">https://youtu.be/Pb1YTzQcNI</a>	NASA Workshop Without Walls Serpentinizing Systems Science (Day 1)	NASA Workshop Without Walls: Serpentinizing Systems Science Date: January 31, 2017	<a href="#">Transcript Link</a>
				<p>Compelling terrestrial evidence records active and ancient serpentinization, the process that occurs when ultramafic rocks come into contact with water. This process may have been active on the surface and subsurface of Mars, beneath the surface of icy satellites such as Enceladus and Europa, and beyond. On Earth, these geochemical interactions support distinct microbial ecosystems.</p>	
				<p>The purpose of this workshop is to highlight recent advances in understanding how Serpentinizing Systems function chemically and biologically within our Solar System.</p>	
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2021 10 27	NASA Astrobiology	<a href="https://youtu.be/UWx4NeUnbSs">https://youtu.be/UWx4NeUnbSs</a>	NASA Workshop Without Walls Serpentinizing Systems Science (Day 2)	NASA Workshop Without Walls: Serpentinizing Systems Science Date: January 31, 2017	<a href="#">Transcript Link</a>
				<p>Compelling terrestrial evidence records active and ancient serpentinization, the process that occurs when ultramafic rocks come into contact with water. This process may have been active on the surface and subsurface of Mars, beneath the surface of icy satellites such as Enceladus and Europa, and beyond. On Earth, these geochemical interactions support distinct microbial ecosystems.</p>	
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2021 10 20	NASA Astrobiology	<a href="https://youtu.be/HR7IB4Dho4I">https://youtu.be/HR7IB4Dho4I</a>	NASA Workshop Without Walls Astrovirology (Day 2)	NASA Workshop Without Walls: Astrovirology Dates: Wed, Sept 18 8:00AM – 12:00PM PDT & Thurs, Sept 19 1:00PM – 5:00PM PDT	<a href="#">Transcript Link</a>
<p>The National Aeronautics and Space Administration (NASA) Astrobiology Institute (NAI) is hosting a virtual Workshop Without Walls on Astrovirology to review and advance the science of understanding what a virus is, their origin, ecology, impact on evolution, and their role in exobiology as a biosignature.</p>					
<p>This virtual workshop will be over two half-days to enabled global scientific exchange with no attendance costs or travel required. Topics covered will presented in a manner to reach a range of scientific understanding including students, researchers, educators, science writers, and members of the general public.</p>					
<p>This virtual workshop will consist of presentations and time for questions or discussion periods, facilitated through an online multi-user video-conferencing system hosted by the technical facilities of the NAI.</p>					
<p>Science Organizing Committee: Gareth (Gary) Trubl, Lawrence Livermore National Lab, Trubl1@llnl.gov Kathryn Bywaters, NASA Ames/SETI, kathryn.f.bywaters@nasa.gov Kenneth Stedman, Portland State University, kstedman@pdx.edu Penelope Boston, NASA Ames, penelope.j.boston@nasa.gov</p>					
2021 10 20	NASA Astrobiology	<a href="https://youtu.be/pG5lQvciGpo">https://youtu.be/pG5lQvciGpo</a>	NASA Workshop Without Walls Astrovirology (Day 1)	NASA Workshop Without Walls: Astrovirology Dates: Wed, Sept 18 8:00AM – 12:00PM PDT & Thurs, Sept 19 1:00PM – 5:00PM PDT	<a href="#">Transcript Link</a>
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<p>Science Organizing Committee: Gareth (Gary) Trubl, Lawrence Livermore National Lab, Trubl1@llnl.gov Kathryn Bywaters, NASA Ames/SETI, kathryn.f.bywaters@nasa.gov Kenneth Stedman, Portland State University, kstedman@pdx.edu Penelope Boston, NASA Ames, penelope.j.boston@nasa.gov</p>					

2021 10 04	NASA Astrobiology	<a href="https://youtu.be/xw9C5OaW4Pk">https://youtu.be/xw9C5OaW4Pk</a>	Cataloguing Habitable Worlds & the Future of Arecibo with Prof. Abel Mendez!	Our guest is Prof. Abel Méndez, a planetary astrobiologist and Director of the Planetary Habitability Laboratory at the University of Puerto Rico at Arecibo! His research focuses on the habitability of Earth, the Solar System, and extrasolar planets. Prof. Méndez is best known for developing the Earth Similarity Index, the Visible Paleo-Earth Project, and maintaining the Habitable Exoplanets Catalog, a database of potentially habitable worlds.	<a href="#">Transcript</a> <a href="#">Link</a>
<p>What is Ask An Astrobiologist? Once a month, SAGANet (<a href="http://www.saganet.org">www.saganet.org</a>) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video. Each session lasts about an hour.</p>					
<p>Ask An Astrobiologist: Episode 44 Cataloguing Habitable Worlds &amp; the Future of Arecibo Featuring Prof. Abel Méndez (University of Puerto Rico at Arecibo) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p>					
<p>Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Anurup Mohanty (Blue Marble Space Institute of Science)</p>					
<p>Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music &amp; Animation by Mike Toillion (NASA Astrobiology Program)</p>					
2021 09 02	NASA Astrobiology	<a href="https://youtu.be/FMKPz1tuv10">https://youtu.be/FMKPz1tuv10</a>	Universal Life Detection Astrobiology & Assembly Theory	Universal Life Detection: Astrobiology & Assembly Theory  Featuring Stuart Marshall, Dr. Cole Mathis, Dr. Heather Graham, and Professor Lee Cronin	<a href="#">Transcript</a> <a href="#">Link</a>
<p>Directed &amp; Edited by Mike Toillion Music by Bensound &amp; bdProductions</p>					
<p>How do we search for life as we don't know it?  A team of NASA-funded astrobiologists and theoreticians have devised a new method for life detection that applies molecular assembly theory to the search for biosignatures. Rather than look for biological features, the team uses chemical complexity to measure the probability that a scientific sample contains signs of life.</p>					
<p>This novel technique will help current and future astrobiology missions to discover life beyond Earth.</p>					
<p><a href="http://astrobiology.nasa.gov">astrobiology.nasa.gov</a></p>					

2021 08 28	NASA Astrobiology	<a href="https://youtu.be/Hl7_pdn2MBY">https://youtu.be/Hl7_pdn2MBY</a>	From Fieldwork on Earth to Drilling on Mars with Dr. Alfonso Davila	Our guest is Dr. Alfonso Davila, an astrobiologist at NASA Ames Research Center! His research focuses on the biological and biosignature potential of terrestrial environments considered to be analogous to extraterrestrial environments, and using that knowledge to develop strategies to search for evidence of life beyond Earth. His current research involves instrument testing in the Atacama desert and Antarctica to inform drilling techniques for the icy regions of Mars.	<a href="#">Transcript Link</a>
				Check out Dr. Davila's latest publication: Life on Mars: Independent Genesis or Common Ancestor? <a href="https://www.liebertpub.com/doi/10.1089/ast.2020.2397">https://www.liebertpub.com/doi/10.1089/ast.2020.2397</a>	
				What is Ask An Astrobiologist? Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video. Each session lasts about an hour.	
				Ask An Astrobiologist: Episode 43 From Fieldwork on Earth to Drilling on Mars Featuring Dr. Alfonso Davila (NASA Ames Research Center) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science)	
2021 06 23	NASA Astrobiology	<a href="https://youtu.be/9sbiGlvrp1c">https://youtu.be/9sbiGlvrp1c</a>	Asteroids, Agnostic Biosignatures, & Experimental Rock Opera with Dr. Heather Graham	Our guest is Dr. Heather Graham, organic geochemist and research associate from the NASA Goddard Space Flight Center. Dr. Graham's research focuses on the scientific development of tools and techniques that can help us identify "agnostic biosignatures" – evidence of living systems that may not share common biochemistry with life on Earth. Dr. Graham is also involved in studying the asteroid samples returned by the Hayabusa 2 mission. In addition to her work as an astrobiologist, she also co-wrote and directed an experimental rock opera about "Hidden Figures" Katherine Johnson, Mary Jackson, and Dorothy Vaughn, more than 2 years before Hollywood.	<a href="#">Transcript Link</a>
				What is Ask An Astrobiologist? Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video. Each session lasts about an hour.	
				Ask An Astrobiologist: Episode 42 Asteroids, Agnostic Biosignatures, & Experimental Rock Opera Featuring Dr. Heather Graham (NASA Goddard Space Flight Center) Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)	

2021 05 21	NASA Astrobiology	<a href="https://youtu.be/TxVlh5mhGRQ">https://youtu.be/TxVlh5mhGRQ</a>	Everything You Wanted to Know About the OSIRIS- REx Mission to Bennu & Back	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.	<a href="#">Transcript</a> <a href="#">Link</a>
Each session lasts about an hour.					
Ask An Astrobiologist: Episode 41 Special Panel Episode: OSIRIS-REx Mission to Bennu and Back Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)					
Featured Guests: Dr. Eve Berger (Senior Research Scientist, Texas University - Jacobs JETS at NASA Johnson Space Center) Dr. Jason Dworkin (Senior Scientist, NASA Goddard Space Flight Center) Dr. Scott Sandford (Research Scientist, NASA Ames Research Center)					
Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)					
Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)					
2021 04 23	NASA Astrobiology	<a href="https://youtu.be/WH8vs4EzbYc">https://youtu.be/WH8vs4EzbYc</a>	Connected By Earth NASA Earth Day 2021 Animation	To celebrate #EarthDay is to celebrate the connection between life and Earth – how it emerged, evolved, and flourishes today. Today and every day, the field of astrobiology recognizes how all life as we know it is intimately connected on our home planet. #ConnectedByEarth	<a href="#">Transcript</a> <a href="#">Link</a>
Artwork by Dr. Aaron Gronstal Animation & Editing by Mike Toillion					
Music: Wash Out by Broke For Free License: <a href="https://creativecommons.org/licenses/by-nc-nd/4.0/">https://creativecommons.org/licenses/by-nc-nd/4.0/</a>					

2021 04 21	NASA Astrobiology	<a href="https://youtu.be/g1xQY0qiRig">https://youtu.be/g1xQY0qiRig</a>	Ask An Astrobiologist Robotic Exploration of Caves & Lava Tubes with Dr. Jen Blank	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">Transcript</a> <a href="#">Link</a>
Ask An Astrobiologist: Episode 40 Robotic Exploration of Caves & Lava Tubes with Dr. Jen Blank Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)					
Featured Guest: Dr. Jen Blank (NASA Ames Research Center)					
Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)					
Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)					
2021 03 29	NASA Astrobiology	<a href="https://youtu.be/Tsy_E7fR84">https://youtu.be/Tsy_E7fR84</a>	Ask An Astrobiologist The Europa Clipper Mission & Europa Lander Concept with Dr. Cynthia Phillips	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">0</a>
Ask An Astrobiologist: Episode 39 The Europa Clipper Mission & Europa Lander Concept with Dr. Cynthia Phillips Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)					
Featured Guest: Dr. Cynthia Phillips (NASA Jet Propulsion Laboratory)					
Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)					
Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)					

2021 02 08	NASA Astrobiology	<a href="https://youtu.be/6YW5b2KWHal">https://youtu.be/6YW5b2KWHal</a>	NASA Astrobiology's Countdown to the Perseverance Mars Rover Landing	Find out why astrobiologists are excited for NASA's Mars 2020 Perseverance Rover mission! Watch the whole series: <a href="https://astrobiology.nasa.gov/countdown-to-mars/">https://astrobiology.nasa.gov/countdown-to-mars/</a>  Featuring Dr. Stephanie Getty, Dr. Heather Graham, Dr. David Des Marais, Dr. Parag Vaishampayan, Dr. Melissa Rice, Dr. Prabhakar Misra, Dr. Jennifer Glass, Dr. Rakesh Mogul, Dr. Amy Williams, Dr. Edgard Rivera-Valentín, Dr. Alexis Templeton, Dr. Ruben Michael Ceballos, Dr. Nathalie Cabrol, Dr. Justin Filiberto, Tessa Fisher, Dr. Paula Welander, Dr. Kennda Lynch, Dr. Sarah Stewart Johnson, and Dr. Mackenzie Day.	<a href="#">Transcript</a> <a href="#">Link</a>
				Join us at NASA Astrobiology as we celebrate Mars 2020.	
				Created by Mike Toillion Music by Mike Toillion & Sam Doshier	
2021 02 04	NASA Astrobiology	<a href="https://youtu.be/FYpxArtb6pU">https://youtu.be/FYpxArtb6pU</a>	Everything You Need to Know About the Mars 2020 Perseverance Mission	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.  Each session lasts about an hour.  Ask An Astrobiologist: Episode 38 Special Panel Episode: NASA's Mars 2020 Perseverance Rover Mission Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)  Featured Guests: Dr. Kennda Lynch (Staff Scientist, Lunar & Planetary Institute, USRA) Dr. Frances Rivera-Hernandez (Assistant Professor, Georgia Tech) Dr. Svetlana Shkolyar (Postdoctoral Fellow, NASA Goddard Space Flight Center, USRA)  Production Assistants: Sarah Treadwell (Blue Marble Space Institute of Science) Mariam Naseem (Blue Marble Space Institute of Science)  Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	<a href="#">Transcript</a> <a href="#">Link</a>

2020 11 25	NASA Astrobiology	<a href="https://youtu.be/F4Os67j7gNs">https://youtu.be/F4Os67j7gNs</a>	Ask An Astrobiologist NASA's Dragonfly Mission to Titan with Dr. Melissa Trainer	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.	<a href="#">Transcript</a> <a href="#">Link</a>
				Each session lasts about an hour.	
				Ask An Astrobiologist: Episode 37 NASA's Dragonfly Mission to Titan Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Melissa Trainer (Deputy PI, Dragonfly Mission, NASA Goddard Space Flight Center)	
				Production Assistant: Sarah Treadwell (Blue Marble Space Institute of Science)	
				Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	
2020 10 30	NASA Astrobiology	<a href="https://youtu.be/NpWY CgTms94">https://youtu.be/NpWY CgTms94</a>	Ask An Astrobiologist Early Career Reflections on the Astrobiology Graduate Conference	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.	<a href="#">Transcript</a> <a href="#">Link</a>
				Each session lasts about an hour.	
				Ask An Astrobiologist: Episode 36 Early Career Reflections on the Astrobiology Graduate Conference Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Featured Guests: Dr. Sandra Siljeström (Research Scientist, RISE Research Institutes of Sweden) Dr. Marc Neveu (Research Scientist, NASA Goddard Space Flight Center) Dr. Lena Noack (Professor & Researcher, Freie Universität Berlin) Dr. Vlada Stamenković (Research Scientist, Blue Origin)	
				Production Assistant: Sarah Treadwell (Blue Marble Space Institute of Science)	
				Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	

2020 10 14	NASA Astrobiology	<a href="https://youtu.be/HCrwF4oBCvk">https://youtu.be/HCrwF4oBCvk</a>	OSIRIS-REx & the Origin of Life	A historic moment is on the horizon for NASA's first asteroid sample return mission, OSIRIS-REx. On Oct. 20, the spacecraft will descend to asteroid Bennu's surface, touch down for a few seconds and collect a sample of the asteroid's rocks and dust, which will be returned to Earth for study.	<a href="#">Transcript</a> <a href="#">Link</a>
				NASA astrobiologists Dr. Jason Dworkin and Dr. Scott Sandford explain the importance of the OSIRIS-REx mission in the quest to understand the role that asteroids and other small bodies play in the origins of life on Earth.	
				#ToBennuAndBack asteroidmission.org astrobiology.nasa.gov	
				Featuring Dr. Jason Dworkin (NASA Goddard Space Flight Center) Dr. Scott Sandford (NASA Ames Research Center)	
				Video & images are courtesy of NASA and its affiliates. Music by Bensound.com (License certificate #1999293)	
				Directed & Edited by Mike Toillion	
2020 10 01	NASA Astrobiology	<a href="https://youtu.be/wYFSFZlIPo">https://youtu.be/wYFSFZlIPo</a>	Ask An Astrobiologist Next Generation Space Telescopes & Technosignatures with Dr. Ravi Kopparapu	About OSIRIS-REx: NASA's Origins, Spectral Interpretation, Resource Identification, Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.	<a href="#">0</a>
				Each session lasts about an hour.	
				Ask An Astrobiologist: Episode 35 Next Generation Space Telescopes & Technosignatures Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Ravi Kopparapu (NASA Goddard Space Flight Center)	
				Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	

2020 08 12	NASA Astrobiology	<a href="https://youtu.be/znSwg4PE77Y">https://youtu.be/znSwg4PE77Y</a>	Ask an Astrobiologist Searching for Technosignatures Beyond Radio Signals with Dr. Jacob Haqq-Misra	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video. Each session lasts about an hour.	<a href="#">Q</a>
<p>Ask An Astrobiologist: Episode 34          Searching for Technosignatures Beyond Radio Signals          Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p>					
<p>Featured Guest: Dr. Jacob Haqq-Misra (Blue Marble Space Institute of Science)</p>					
<p>Directed by Mike Toillion (NASA Astrobiology Program)          Illustrations by Aaron Gronstal (NASA Astrobiology Program)          Music &amp; Animation by Mike Toillion (NASA Astrobiology Program)</p>					
2020 07 29	NASA Astrobiology	<a href="https://youtu.be/9IDU4JAQjuA">https://youtu.be/9IDU4JAQjuA</a>	Countdown to Mars Dr. Stephanie Getty	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Stephanie Getty discusses the importance of a multi-pronged approach to exploring Mars and how Perseverance is both building on its predecessors and helping future missions like ExoMars.	<a href="#">Transcript Link</a>
<p>Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.</p>					
<p>Created by Mike Toillion          Music by Mike Toillion &amp; Sam Doshier</p>					
2020 07 28	NASA Astrobiology	<a href="https://youtu.be/a10ldbEMVJO">https://youtu.be/a10ldbEMVJO</a>	Countdown to Mars Dr. Heather Graham	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Heather Graham discusses some scientific "extras", known as witness tubes and drillable blanks, that the rover is bringing along to increase the accuracy of its experiments.	<a href="#">Transcript Link</a>
<p>Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.</p>					
<p>Created by Mike Toillion          Music by Mike Toillion &amp; Sam Doshier</p>					
<p>#CountdownToMars</p>					

2020 07 28 NASA Astrobiology <https://youtu.be/nQZsdux58Bk> Countdown to Mars Dr. David Des Marais Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. David Des Marais breaks down the importance of studying the geology and chemistry of early Earth in order to understand the possibilities for ancient life on Mars. [Transcript Link](#)

Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.

Created by Mike Toillion  
Music by Mike Toillion & Sam Doshier

#CountdownToMars

2020 07 27 NASA Astrobiology [https://youtu.be/FEDAcwKPe\\_Q](https://youtu.be/FEDAcwKPe_Q) Countdown to Mars Dr. Parag Vaishampayan Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Parag Vaishampayan explains how his planetary protection team is creating a genomic inventory of any possible microbial life that could be stowing away onboard Perseverance, and how they're protecting the red planet from contamination. [Transcript Link](#)

Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.

Created by Mike Toillion  
Music by Mike Toillion & Sam Doshier

#CountdownToMars

2020 07 24 NASA Astrobiology <https://youtu.be/ykTWB6030gs> Countdown to Mars Dr. Prabhakar Misra Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Prabhakar Misra reflects on the 30-year history of Mars exploration and how it strives to answer key questions in Astrobiology: are we alone in the Universe? is there, or was there ever life on Mars? [Transcript Link](#)

Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.

Created by Mike Toillion  
Music by Mike Toillion & Sam Doshier

#CountdownToMars

2020 07 23	NASA Astrobiology	<a href="https://youtu.be/NC2qPzxtHRw">https://youtu.be/NC2qPzxtHRw</a>	Countdown to Mars Dr. Melissa Rice	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Melissa Rice discusses the ins and outs of MASTCAM-Z, Perseverance's vision system and her excitement of the unexpected.	<a href="#">Transcript Link</a>
<p>Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.</p> <p>Created by Mike Toillion Music by Mike Toillion &amp; Sam Doshier</p> <p>#CountdownToMars</p>					
2020 07 21	NASA Astrobiology	<a href="https://youtu.be/pQdRenWQzwc">https://youtu.be/pQdRenWQzwc</a>	Countdown to Mars Dr. Jennifer Glass	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Jennifer Glass discusses the importance of methane, a possible biosignature on Mars, and her hope of Perseverance discovering stromatolites, which are geologic structures that are signs of past life.	<a href="#">Transcript Link</a>
<p>Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.</p> <p>Created by Mike Toillion Music by Mike Toillion &amp; Sam Doshier</p> <p>#CountdownToMars</p>					
2020 07 20	NASA Astrobiology	<a href="https://youtu.be/XVx-BU2GFLI">https://youtu.be/XVx-BU2GFLI</a>	Countdown to Mars Dr. Rakesh Mogul	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Rakesh Mogul from Cal Poly Pomona discusses how studying the microbial environment of NASA's spacecraft production facilities can inform Planetary Protection policies and the search for life on Mars.	<a href="#">Transcript Link</a>
<p>Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.</p> <p>Created by Mike Toillion Music by Mike Toillion &amp; Sam Doshier</p> <p>#CountdownToMars</p>					

2020 07 17	NASA Astrobiology	<a href="https://youtu.be/cTZlBjv1k4g">https://youtu.be/cTZlBjv1k4g</a>	Countdown to Mars Dr. Amy Williams	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Amy Williams discusses the 3 astrobiology goals of this mission: determining the habitability of Jezero crater, searching for geology with the highest potential for biosignature preservation, and searching for evidence of ancient life.	<a href="#">Transcript Link</a>
Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.					
Created by Mike Toillion Music by Mike Toillion & Sam Doshier					
#CountdownToMars					
2020 07 16	NASA Astrobiology	<a href="https://youtu.be/Wzqliodr8Xc">https://youtu.be/Wzqliodr8Xc</a>	Countdown to Mars Dr. Edgard Rivera-Valentín	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Edgard Rivera-Valentín discusses how learning more about the Martian water cycle could reveal its potential for supporting life.	<a href="#">Transcript Link</a>
Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.					
Created by Mike Toillion Music by Mike Toillion & Sam Doshier					
#CountdownToMars					
2020 07 15	NASA Astrobiology	<a href="https://youtu.be/xlTds9Hd00">https://youtu.be/xlTds9Hd00</a>	Countdown to Mars Dr. Alexis Templeton	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Alexis Templeton from the University of Colorado, Boulder, discusses the importance of Perseverance's landing site, Jezero Crater, and how it relates to her fieldwork here on Earth!	<a href="#">Transcript Link</a>
Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.					
Created by Mike Toillion Music by Mike Toillion & Sam Doshier					
#CountdownToMars					

2020 07 14	NASA Astrobiology	<a href="https://youtu.be/yIBsUwVJjMk">https://youtu.be/yIBsUwVJjMk</a>	Countdown to Mars Dr. Ruben Michael Ceballos	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Ruben Michael Ceballos from the University of Arkansas discusses NASA's long history of space exploration and the search for extremophiles: organisms that can live under extremely harsh conditions.	<a href="#">Transcript</a> <a href="#">Link</a>
<p>Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.</p>					
<p>Created by Mike Toillion Music by Mike Toillion &amp; Sam Doshier</p>					
<p>#CountdownToMars</p>					
2020 07 13	NASA Astrobiology	<a href="https://youtu.be/sTBHcOaPlkM">https://youtu.be/sTBHcOaPlkM</a>	Countdown to Mars Dr. Nathalie Cabrol	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Nathalie Cabrol, the Director of the Carl Sagan Center at the SETI Institute, who discusses how this mission to Mars is the culmination of years of field work and study on Earth.	<a href="#">Transcript</a> <a href="#">Link</a>
<p>Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.</p>					
<p>Created by Mike Toillion Music by Mike Toillion &amp; Sam Doshier</p>					
<p>#CountdownToMars</p>					
2020 07 10	NASA Astrobiology	<a href="https://youtu.be/QRs5r0-TFE0">https://youtu.be/QRs5r0-TFE0</a>	Countdown to Mars Dr. Justin Filiberto	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Justin Filiberto discusses Jezero crater, the landing site of Perseverance, and how it relates to his field work in geologically similar places on Earth.	<a href="#">Transcript</a> <a href="#">Link</a>
<p>Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.</p>					
<p>Created by Mike Toillion Music by Mike Toillion &amp; Sam Doshier</p>					
<p>#CountdownToMars</p>					

2020 07 09	NASA Astrobiology	<a href="https://youtu.be/uEi6G7OPpDM">https://youtu.be/uEi6G7OPpDM</a>	Countdown to Mars Tessa Fisher	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Tessa Fisher, a PhD candidate from the School of Earth & Space Exploration at Arizona State University, discusses her research on the potential habitability of the Martian subsurface, particularly at its icy pole.	<a href="#">Transcript</a> <a href="#">Link</a>
<p>Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.</p>					
<p>Created by Mike Toillion Music by Mike Toillion &amp; Sam Doshier</p>					
<p>#CountdownToMars</p>					
2020 07 08	NASA Astrobiology	<a href="https://youtu.be/QUoo1d3bnZ4">https://youtu.be/QUoo1d3bnZ4</a>	Countdown to Mars Dr. Paula Welander	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Paula Welander discusses the importance of returning samples from Mars and the symbol of hope that this mission provides in difficult times.	<a href="#">Transcript</a> <a href="#">Link</a>
<p>Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.</p>					
<p>Created by Mike Toillion Music by Mike Toillion &amp; Sam Doshier</p>					
<p>#CountdownToMars</p>					
2020 07 07	NASA Astrobiology	<a href="https://youtu.be/H-FC-s4MXvE">https://youtu.be/H-FC-s4MXvE</a>	Countdown to Mars Dr. Kennda Lynch	Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Kennda Lynch discusses the importance of the Perseverance landing site, Jezero crater, and if paleolake basins like it could harbor signs of ancient life.	<a href="#">Transcript</a> <a href="#">Link</a>
<p>Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.</p>					
<p>Created by Mike Toillion Music by Mike Toillion &amp; Sam Doshier</p>					
<p>#CountdownToMars</p>					

2020 07 06 NASA Astrobiology <https://youtu.be/Q-ik0pxjoXE> Countdown to Mars Dr. Sarah Stewart Johnson Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Sarah Stewart Johnson discusses the importance of getting samples back from Mars and the search for what she calls "agnostic biosignatures"! [Transcript Link](#)

Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.

Created by Mike Toillion  
Music by Mike Toillion & Sam Doshier

#CountdownToMars

2020 07 06 NASA Astrobiology <https://youtu.be/-d1OGKahk4g> Countdown to Mars Dr. Mackenzie Day Find out why astrobiologists are excited for the launch of NASA's Mars 2020 Perseverance Rover! In this episode, Dr. Mackenzie Day from UCLA discusses Martian wind and the rare opportunity presented to study its effects without the usual weather conditions on Earth. [Transcript Link](#)

Join us at NASA Astrobiology as we countdown to Mars 2020: the launch of the Perseverance rover! Each weekday from July 1st, 2020 until launch day, we'll be showcasing some of our favorite astrobiologists who study the red planet and share why they are so excited for this upcoming mission.

Created by Mike Toillion  
Music by Mike Toillion & Sam Doshier

#CountdownToMars

2020 07 02 NASA Astrobiology <https://youtu.be/FTZl9BFwitU> Countdown To Mars Series Teaser NASA Astrobiology is kicking off a new short web series starting on July 1st, 2020! We will be releasing a video a day until the launch of Perseverance, showcasing some of our favorite astrobiologists and their perspective on why this mission is so important. [Transcript Link](#)

Stay tuned!

Music & Animation by Mike Toillion (NASA Astrobiology)  
#CountdownToMars

2020 06 18	NASA Astrobiology	<a href="https://youtu.be/Mis8Hxk1hkU">https://youtu.be/Mis8Hxk1hkU</a>	Ask an Astrobiologist Exoplanets and Defining the Habitable Zone with Dr. Eddie Schwieterman	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">Q</a>
				Ask An Astrobiologist: Episode 33 Exoplanets and Defining the Habitable Zone Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Eddie Schwieterman (University of California, Riverside)	
				Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	
2020 05 22	NASA Astrobiology	<a href="https://youtu.be/OgvjwiKA FA">https://youtu.be/OgvjwiKA FA</a>	2020 Lassen Astrobiology Intern Recognition Night & Lecture	Lassen Astrobiology Intern Recognition Night & Lecture Wednesday, May 20, 2020  Program: 0:00: Welcome, Dave Michael, Science Instructor/Lassen Mentor 0:05: "The Lassen Astrobiology Student Intern Program," Tammy Boyd, LVNP Education Specialist 0:10: "Mars Exploration, Lassen and Life," Dr. David Des Marais, Space Scientist, NASA Ames Research Center 0:15: Presentation by Lassen Astrobiology Student Interns 0:45: Questions and answers fielded by Interns, Dr. David Des Marais, Dr. Niki Parenteau 1:00: Student recognition and certificate presentation, Mike Kubo, NASA Ames Research Center	<a href="#">Transcript Link</a>
				The NASA Astrobiology Institute Ames Team, Lassen Volcanic National Park and Red Bluff High School have formed a mutually beneficial partnership that engages high school students in the collection of scientific data for NASA astrobiologists, the National Park Service and university researchers. For more information on this program, go to <a href="https://www.nasa.gov/content/astrobiology-student-intern-high-school-program-completes-tenth-year">https://www.nasa.gov/content/astrobiology-student-intern-high-school-program-completes-tenth-year</a>	

2020 05 21	NASA Astrobiology	<a href="https://youtu.be/2LzGdkQurd0">https://youtu.be/2LzGdkQurd0</a>	Ask an Astrobiologist Deep-sea Diving and Searching for Life on Ocean Worlds with Dr. Kevin Hand	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">0</a>
				Ask An Astrobiologist: Episode 32 Deep-sea Diving and Searching for Life on Ocean Worlds Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science) Featured Guest: Dr. Kevin Hand (NASA Jet Propulsion Laboratory)	
				Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	
2020 04 16	NASA Astrobiology	<a href="https://youtu.be/jJJJoHpJuXc">https://youtu.be/jJJJoHpJuXc</a>	Ask an Astrobiologist Ancient Genes, Evolution, and the Origin of Life with Dr. Betül Kaçar	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">0</a>
				Ask An Astrobiologist: Episode 31 Ancient Genes, Evolution, and the Origin of Life Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Betül Kaçar (University of Arizona)	
				Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	
2020 04 16	NASA Astrobiology	<a href="https://youtu.be/G1chiN8CJA0">https://youtu.be/G1chiN8CJA0</a>	Astrobiology The NASA Graphic History Series	A behind-the-scenes look at the making of Astrobiology, the NASA Graphic History Series, featuring Dr. Aaron Gronstal!	<a href="#">Transcript Link</a>
				Astrobiology is a graphic novel series that explores the many facets of astrobiology: the study of the origin, evolution, and distribution of life in the Universe.	
				You can download and read all the issues of Astrobiology here: <a href="https://astrobiology.nasa.gov/graphic-histories/">https://astrobiology.nasa.gov/graphic-histories/</a>	
				Featuring Dr. Aaron Gronstal (NASA Astrobiology Program) Shot & Edited by Mike Toillion (NASA Astrobiology Program) Music by BD Productions	
				<a href="http://astrobiology.nasa.gov">astrobiology.nasa.gov</a>	

2020 04 09 NASA Astrobiology [https://youtu.be/Nl7\\_XlQvrE](https://youtu.be/Nl7_XlQvrE) Astrobiology Graphic History Series Trailer Watch the premiere of the full-length behind-the-scenes video of the making of Astrobiology: the Graphic History Series on Thursday, April 16th: <https://youtu.be/G1chiN8CJA0> [Transcript Link](#)

Astrobiology is the study of the origin, evolution, and distribution of life in the entire Universe. Take a special behind-the-scenes look at how Dr. Aaron Gronstal creates Astrobiology, NASA's Graphic History Series that uses the storytelling and imagery of comics to bring this exciting field to life!

Visit [astrobiology.nasa.gov/graphic-histories/](https://astrobiology.nasa.gov/graphic-histories/) to download all seven issues of Astrobiology.

Astrobiology: The NASA Graphic History Series  
Featuring Dr. Aaron Gronstal (NASA Astrobiology)  
Shot & Edited by Mike Toillion (NASA Astrobiology)  
Music by BD Productions

For more information on NASA's search for understanding life, visit [astrobiology.nasa.gov](https://astrobiology.nasa.gov).  
Follow us on Twitter: @NASAastrobio.

2020 03 31 NASA Astrobiology [https://youtu.be/l\\_odfWOJsQo](https://youtu.be/l_odfWOJsQo) Ask an Astrobiologist Atmospheres and the Search for Life with Dr. Colin Goldblatt Once a month, SAGANet ([www.saganet.org](http://www.saganet.org)) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video. [Transcript Link](#)

Each session lasts about an hour.

Ask An Astrobiologist: Episode 30  
Atmospheres and the Search for Life  
Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)

Featured Guest: Dr. Colin Goldblatt (University of Victoria, British Columbia)

Directed by Mike Toillion (NASA Astrobiology Program)  
Illustrations by Aaron Gronstal (NASA Astrobiology Program)  
Music & Animation by Mike Toillion (NASA Astrobiology Program)

2020 02 21	NASA Astrobiology	<a href="https://youtu.be/kT-h2vCLxwU">https://youtu.be/kT-h2vCLxwU</a>	Ask an Astrobiologist JAXA's Hayabusa Mission and the Origin of Life with Dr. Hiroyuki Kurokawa	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">0</a>
				Ask An Astrobiologist: Episode 29 JAXA's Hayabusa Mission and the Origin of Life Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science) Featured Guest: Dr. Hiroyuki Kurokawa (Researcher, Earth-Life Science Institute)	
				Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	
2020 01 23	NASA Astrobiology	<a href="https://youtu.be/T509m_uwOO0s">https://youtu.be/T509m_uwOO0s</a>	Ask An Astrobiologist SOFIA, the Flying Telescope with Dr. Daniel Angerhausen	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">Transcript Link</a>
				Ask An Astrobiologist: Episode 28 SOFIA, the Flying Telescope Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science) Featured Guest: Dr. Daniel Angerhausen (Astrophysicist & Astrobiologist, Bern University)	
				Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	
2019 12 11	NASA Astrobiology	<a href="https://youtu.be/ADr6M_ggcq0">https://youtu.be/ADr6M_ggcq0</a>	Ask An Astrobiologist Artificial Intelligence and the Nature of Life with Dr. Susan Schneider	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">0</a>
				Ask An Astrobiologist: Episode 27 Artificial Intelligence and the Nature of Life Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Susan Schneider (Baruch S. Blumberg NASA/Library of Congress Chair in Astrobiology)	
				Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	
				<a href="http://www.astrobiology.nasa.gov/ask-an-astrobiologist">www.astrobiology.nasa.gov/ask-an-astrobiologist</a>	

2019 11 13	NASA Astrobiology	<a href="https://youtu.be/o_G8aeA3wCI">https://youtu.be/o_G8aeA3wCI</a>	Communicating Science Through the Art of Comics with Dr. Aaron Gronstal	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.	<a href="#">Transcript</a> <a href="#">Link</a>
				Each session lasts about an hour.	
				Ask An Astrobiologist: Episode 26 Communicating Science Through the Art of Comics Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Aaron Gronstal (NASA Astrobiology Program)	
				Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	
2019 10 24	NASA Astrobiology	<a href="https://youtu.be/UTILCOvHux8">https://youtu.be/UTILCOvHux8</a>	Ask An Astrobiologist Understanding Icy Worlds by Growing Chemical Gardens with Dr. Laurie Barge	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to Twitter, Facebook, and chat questions live on video.	<a href="#">Q</a>
				Each session lasts about an hour.	
				Ask An Astrobiologist: Episode 25 Understanding Icy Worlds by Growing Chemical Gardens Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Laurie Barge (NASA Jet Propulsion Laboratory)	
				Directed by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program)	
2019 09 25	NASA Astrobiology	<a href="https://youtu.be/L_oz6J4i8HI">https://youtu.be/L_oz6J4i8HI</a>	Ask An Astrobiologist Designing Spaceships and Modeling the Origin of Life with Dr. Bruce Damer	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) and the NASA Astrobiology Program host a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.	<a href="#">Q</a>
				Each session lasts about an hour.	
				Ask An Astrobiologist: Episode 24 Designing Spaceships and Modeling the Origin of Life Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Bruce Damer ( <a href="http://www.damer.com">www.damer.com</a> )	
				Directed by Mike Toillion (NASA Astrobiology Program) Music & Animation by Mike Toillion (NASA Astrobiology Program) Illustrations by Aaron Gronstal (NASA Astrobiology Program)	

2019 09 09 NASA Astrobiology <https://youtu.be/cDSbz-2PKL8> ExoClimes V - Day 1 Emily Rauscher Hot Jupiters: Dynamics, Chemistry, & Clouds Presented by Emily Rauscher [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/PsUDRjL7u7U> ExoClimes V - Day 1 Yamila Miguel Juno & Jupiter Presented by Yamila Miguel [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/Byg2Ci9iO6g> ExoClimes V - Day 2 Allison Wing Convective Self-Aggregation Presented by Allison Wing [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/lyt2KoWOhqk> ExoClimes V - Day 2 Caroline Morley Clouds on Terrestrial Planets, Prospects for Observation Presented by Caroline Morley [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/jbCCwVenQHs> ExoClimes V - Day 2 Colin Goldblatt Clouds Stabilize Earth's Long-Term Climate Presented by Colin Goldblatt [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/9nGlpQiPwDs> ExoClimes V - Day 2 Denis Sergeev Simulations of Moist Convection on Tidally-Locked Rocky Exoplanets Presented by Denis Sergeev [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/limt8qB1YE> ExoClimes V - Day 2 Jasmina Blečić Presented by Jasmina Blečić [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/ggRh67R1bqE> ExoClimes V - Day 2 Jeremy Leconte Presented by Jeremy Leconte [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/KAiOfpzIWRY> ExoClimes V - Day 2 Maxence Lefevre Three-Dimensional Turbulence-Resolving Modeling of Proxima Centauri B Exoplanetary Atmosphere Presented by Maxence Lefevre [Transcript Link](#)

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2019 09 09 NASA Astrobiology [https://youtu.be/s-MRGs7\\_S2g](https://youtu.be/s-MRGs7_S2g) ExoClimes V - Day 2 Pascal Tremblin Thermo-Compositional Diabatic Convection in the Atmospheres of Brown Dwarfs & Earth's Atmosphere & Oceans Presented by Pascal Tremblin [Transcript Link](#)

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2019 09 09 NASA Astrobiology [https://youtu.be/5B8pb\\_cHFKEo](https://youtu.be/5B8pb_cHFKEo) ExoClimes V - Day 2 Sarah Horst Photochemical Hazes Presented by Sarah Horst [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/NJLpv73QiTQ> ExoClimes V - Day 2 Yui Kawashima Effect of UV Irradiation Intensity, Metallicity, and Eddy Diffusion on Transmission Spectra of Hazy Exoplanet Atmospheres Presented by Yui Kawashima [Transcript Link](#)

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2019 09 09 NASA Astrobiology [https://youtu.be/bUQk\\_egUHw](https://youtu.be/bUQk_egUHw) ExoClimes V - Day 3 Antonija Oklopic Atmospheric Dynamics & Escape: Insights From HE I 1083 NM Observations Presented by Antonija Oklopic [Transcript Link](#)

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2019 09 09 NASA Astrobiology [https://youtu.be/4x1QF\\_yuav-g](https://youtu.be/4x1QF_yuav-g) ExoClimes V - Day 3 Hilke Schlichting Radius Valley Via Core-Powered Mass-Loss Mechanism Presented by Hilke Schlichting [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/mYdhtNks6Tk> ExoClimes V - Day 3 James Owen Atmospheric Escape From Highly Irradiated Exoplanets Presented by James Owen [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/4jf84wj8NHk> ExoClimes V - Day 3 Jonathan Fortney The Atmosphere/Interior Connection for Transiting Giant Planets Presented by Jonathan Fortney [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/yICaIWfTbXQ> ExoClimes V - Day 3 Laura Schaefer (Exo)planets Feeling Hot, Hot, Hot! Magma Ocean Evolution on Rocky Planets Presented by Laura Schaefer [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/07QqWjNV64I> ExoClimes V - Day 3 Maggie Thompson Meteorite Outgassing Experiments to Inform Chemical Abundances of Super Earth Atmospheres Presented by Maggie Thompson [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/idQNYpIlgKNo> ExoClimes V - Day 3 Michael Way Climatic Importance of Rotation Rate Presented by Michael Way [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/ZkZ1qJs7XDA> ExoClimes V - Day 3 Paul Molliere The Hunt for Isotop(ologu)es in Exoplanet Atmospheres Presented by Paul Molliere [Transcript Link](#)

The Exoclimes conference series is one of the original conferences devoted to exoplanets, and still the only one to focus on their climates and climate evolution. The goal of the series is to bring together exoplanet observers, modelers and theorists with researchers on fundamental atmospheric and planetary interior processes in the Solar System and Earth Science communities, so that the communities can learn from one another. Exoplanets are a source of new problems to be treated by methods developed for the Earth and other Solar System planets, while work in Earth and Solar System disciplines provides a storehouse of fundamental advances which can be generalized to a broader planetary context. The motto of the conference is "Long talks and even longer breaks," with the idea that there should be ample opportunities for informal discussion and striking up new collaborations. Exoclimes does not seek to comprehensively cover all developments related to exoplanet climate, but picks a few themes to emphasize for each meeting. Invited keynote talks, which generally have a considerable pedagogical component, are supplemented by a number of contributed talks on related themes.

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2019 09 09 NASA Astrobiology <https://youtu.be/O-DsXRhVJng> ExoClimes V - Day 4 Benjamin Hayworth Impact of Space Weather on Habitability & Biosignatures Presented by Benjamin Hayworth [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/koAo05aAIYA> ExoClimes V - Day 4 Hannah Wakeford Giants, Rocks, & Giant Rocks? Observing Terrestrial Exoplanet Targets Presented by Hannah Wakeford [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/m5jJhcwbD4> ExoClimes V - Day 4 Jade Checlair Presented by Jade Checlair [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/pBt59KGOfeU> ExoClimes V - Day 4 Joseph Harrington Presented by Joseph Harrington [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/mj5G6Zk9LM> ExoClimes V - Day 4 Kaitlyn Loftus Alien Sulfur Cycles Sulfate Haze & SO2 Gas as Constraints on Surface Liquid Water Presented by Kaitlyn Loftus [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/jjfOKSgtxX0> ExoClimes V - Day 4 Kim Bott Utility of Polarimetry in Studies of Exoplanet Atmospheres & Habitability Presented by Kim Bott [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/OOHE4ZkLcxg> ExoClimes V - Day 4 Martin Turbet Modeling Terrestrial Targets Presented by Martin Turbet [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/p5ro0Bpkk-0> ExoClimes V - Day 4 Sukrit Ranjan UV Light and the Prospects for Life in the Universe Presented by Sukrit Ranjan [Transcript Link](#)

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2019 09 09 NASA Astrobiology [https://youtu.be/rEAqHKKf\\_wY](https://youtu.be/rEAqHKKf_wY) ExoClimes V - Day 4 Thaddeus Komacek The Atmospheric Circulation & Climate of Terrestrial Planets Over a Broad Range of Planetary Parameters Presented by Thaddeus Komacek [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/Ypeu3dgLW48> ExoClimes V - Day 1 Adam Showman Oscillations in Gas Giants Presented by Adam Showman [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/8z9GkMs-GQQ> ExoClimes V - Day 1 Tom Louden Climate Mapping of Exoplanets Presented by Tom Louden [Transcript Link](#)

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2019 09 09 NASA Astrobiology [https://youtu.be/HlvvRq\\_uJaQM](https://youtu.be/HlvvRq_uJaQM) ExoClimes V - Day 1 Tom Evans Hubble Spectroscopic Phase Curve Observations for the Ultrahot Jupiter WASP-121B Presented by Tom Evans [Transcript Link](#)

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2019 09 09 NASA Astrobiology <https://youtu.be/NT9Zgkiji5k> ExoClimes V - Day 1 Sarah Casewell Presented by Sarah Casewell [Transcript Link](#)

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2019 08 01 NASA Astrobiology <https://youtu.be/3aRT10Apt18> AbGradCon 2019 - Day 1 Aline Ribeiro AbGradCon 2019 University of Utah Salt Lake City, Utah. [Transcript Link](#)

Formation & Destruction of Molecules in the Atmosphere of Titan  
Presented by Aline Ribeiro

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/6S0WH79ji9E> AbGradCon 2019 - AbGradCon 2019 [Transcript Link](#)  
Astrobiology Day 2 Joshua University of Utah  
Leehan Salt Lake City, Utah.

Low-pressure Adapted Bacillus subtilis Exhibit Upregulated  
Expression of Antibiotic Biosynthesis, Biofilm- & Cell Wall-associated  
Genes

Presented by Joshua Leehan

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/7RM69m-Haus> AbGradCon 2019 - AbGradCon 2019 [Transcript Link](#)  
Astrobiology Day 2 Pedro University of Utah  
Nogueira Salt Lake City, Utah.

Detecting a Population of Planets Around Kepler's Faintest Stars  
Presented by Pedro Nogueira

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/CODtMI34VRE> AbGradCon 2019 - AbGradCon 2019 [Transcript Link](#)  
Astrobiology Day 1 Andrew Burkhardt University of Utah Salt Lake City, Utah.

Session 1 Warm-Up Talk: Astronomy & Astrochemistry  
Presented by Andrew Burkhardt

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/E3bRM0Uoiu8> AbGradCon 2019 - AbGradCon 2019 [Transcript Link](#)  
Astrobiology Day 1 Sofia Sheikh University of Utah Salt Lake City, Utah.

Choosing a Maximum Drift Rate in a SETI Search: Astrophysical Considerations

Presented by Sofia Sheikh

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/XDenfgFh8M> AbGradCon 2019 - AbGradCon 2019 Day 2 Nicole Wagner University of Utah Salt Lake City, Utah. [Transcript Link](#)

Metagenomic Analysis of the Methane-Rich Anoxic Basin of Lake Untersee  
Presented by Nicole Wagner

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/d8f7j5Gv6jA> AbGradCon 2019 - AbGradCon 2019 Day 2 Natsumi Noda University of Utah Salt Lake City, Utah. [Transcript Link](#)

Groundwater Upwelling & Redox-based Habitability within Gale Crater Lake on Early Mars  
Presented by Natsumi Noda

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/fpHDfU14N9k> AbGradCon 2019 - AbGradCon 2019  
Astrobiology Day 1 University of Utah  
Christopher Tino Salt Lake City, Utah. [Transcript Link](#)

Evaluating Delta15N as a pH Proxy for High-pH Closed-basin  
Lacustrine Systems  
Presented by Christopher Tino

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/rGCTGjxSzIU> AbGradCon 2019 - AbGradCon 2019  
Astrobiology Day 1 Krishna University of Utah  
Sapkota Salt Lake City, Utah. [Transcript Link](#)

Identity & Metabolism of CoA Linked RNA  
Presented by Krishna Sapkota

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2019 08 01 NASA Astrobiology <https://youtu.be/whsjLCrYJ0> AbGradCon 2019 - Day 1 Ryan Felton AbGradCon 2019 University of Utah Salt Lake City, Utah. [Transcript Link](#)

Study of Barnard's Star B as an Analog for Titan-like Exoplanets  
Presented by Ryan Felton

Shot & Edited by Mike Toillion

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2019 08 01 NASA Astrobiology [https://youtu.be/1JhlfO\\_9wI](https://youtu.be/1JhlfO_9wI) AbGradCon 2019 - Day 2 Jack Madden AbGradCon 2019 University of Utah Salt Lake City, Utah. [Transcript Link](#)

1D Exoplanet Habitability: Now in Technicolor!  
Presented by Jack Madden

Shot & Edited by Mike Toillion

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2019 08 01 NASA Astrobiology <https://youtu.be/1fjo44KGz3g> AbGradCon 2019 - Day 2 - Lizethe Pendleton AbGradCon 2019 University of Utah Salt Lake City, Utah. [Transcript Link](#)

Session 3 Warm-Up Talk: Biology  
Presented by Lizethe Pendleton

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Astrobiology Day 1 Amit University of Utah  
Kahana Salt Lake City, Utah.

Reported Organic Chemistry on Enceladus Supports Origin of Life in a Lipid-World Scenario  
Presented by Amit Kahana

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2019 08 01 NASA <https://youtu.be/8lRq32siW-k> AbGradCon 2019 - AbGradCon 2019 [Transcript Link](#)  
Astrobiology Day 2 Ana University of Utah  
Schiavo Salt Lake City, Utah.

Understanding the Biospace: Large-Scale Survey & Classification of Halophilic Microorganisms  
Presented by Ana Schiavo

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2019 08 01 NASA [https://youtu.be/A\\_fSNf9R7CU](https://youtu.be/A_fSNf9R7CU) AbGradCon 2019 - AbGradCon 2019 [Transcript Link](#)  
Astrobiology Day 1 Hayley University of Utah  
Bunn Salt Lake City, Utah.

Measuring the Rotational Spectrum of Aminomethanol for  
Comparison to Radio Telescope Data  
Presented by Hayley Bunn

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/DDiuI7gpPag> AbGradCon 2019 - AbGradCon 2019 [Transcript Link](#)  
Astrobiology Day 2 Julia Horne University of Utah  
Salt Lake City, Utah.

Archean Biogeochemistry: Investigating Environmental Controls on  
Archean Earth's Habitability  
Presented by Julia Horne

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2019 08 01 NASA <https://youtu.be/DPFFvRCWTrM> AbGradCon 2019 - AbGradCon 2019  
Astrobiology Day 1 Science University of Utah  
Communication Salt Lake City, Utah.  
Panel

[Transcript](#)  
[Link](#)

Science Communication Panel  
Featuring Jaimi Butler, Audrey Rutz, Daniel Potters, and Sergeant Carri Shaw

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2019 08 01 NASA <https://youtu.be/F0D-ZOdfQK4> AbGradCon 2019 - AbGradCon 2019  
Astrobiology Day 2 University of Utah  
Chinmayee Salt Lake City, Utah.  
Govinda Raj

[Transcript](#)  
[Link](#)

Real-time Autonomous Instrumentation for Lab-based Microbe Experimental Evolution

Presented by Chinmayee Govinda Raj

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/H0Kdxi82XDQ> AbGradCon 2019 - AbGradCon 2019  
Astrobiology Day 2 Thea Kozakis University of Utah  
Salt Lake City, Utah.

[Transcript](#)  
[Link](#)

Dying to Live: Post-Main Sequence Habitability  
Presented by Thea Kozakis

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/NAFegl-LQFI> AbGradCon 2019 - AbGradCon 2019  
Astrobiology Day 1 Tony Jia University of Utah  
Salt Lake City, Utah.

[Transcript](#)  
[Link](#)

Membraneless Polyester Microdroplets as Primordial Compartments at the Origins of Life  
Presented by Tony Jia

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/W4lxpEZXUME> AbGradCon 2019 - AbGradCon 2019  
Astrobiology Day 2 Gabriel University of Utah  
Goncalves Silva Salt Lake City, Utah. [Transcript Link](#)

Application of Capillary Electrophoresis to Monitor Meteorite Simulant Bioleaching by *Acidithiobacillus ferrooxidans*  
Presented by Gabriel Goncalves Silva

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2019 08 01 NASA <https://youtu.be/XcgTt59rpZ4> AbGradCon 2019 - AbGradCon 2019  
Astrobiology Day 2 Anne University of Utah  
Farrell Salt Lake City, Utah. [Transcript Link](#)

Growth Temperature of the Last Common Ancestor of a Deeply-branching Bacterial Lineage  
Presented by Anne Farrell

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2019 08 01 NASA <https://youtu.be/Zo-0bODSUUg> AbGradCon 2019 - AbGradCon 2019 [Transcript Link](#)  
Astrobiology Day 1 Amy University of Utah  
LeBleu-DeBartola Salt Lake City, Utah.

The Peptide Connection Between Meteorites & the Origin of Life on Earth

Presented by Amy LeBleu-DeBartola

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/dQCeYeSGCE> AbGradCon 2019 - AbGradCon 2019 [Transcript Link](#)  
Astrobiology Day 1 Rebecca University of Utah  
Rapf Salt Lake City, Utah.

Session 2 Warm-Up Talk: Chemistry & Geology

Presented by Rebecca Rapf

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/jceZ1cJHbd8> AbGradCon 2019 - AbGradCon 2019 [Transcript Link](#)  
Astrobiology Day 2 Erik Tamre University of Utah  
Salt Lake City, Utah.

Phylogenetic History of Scytonemin Biosynthesis Proteins

Presented by Erik Tamre

Shot & Edited by Mike Toillion

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2019 08 01 NASA <https://youtu.be/l1QX7-52Soo> AbGradCon 2019 - AbGradCon 2019  
Astrobiology Day 2 Adrian University of Utah  
Barry-Sosa Salt Lake City, Utah. [Transcript Link](#)

Greenhouse Gases as Potential Biomarkers for Microbial Activity in  
Underground Environments  
Presented by Adrian Barry Sosa

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2019 08 01 NASA <https://youtu.be/gCUfK8Kq048> AbGradCon 2019 - AbGradCon 2019  
Astrobiology Day 1 Maria University of Utah  
Figueroa Salt Lake City, Utah. [Transcript Link](#)

Towards a Novel Planetary Biosignature: In-situ Isotopic &  
Elemental Analysis of Pyrite  
Presented by Maria Figueroa

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2019 08 01	NASA Astrobiology	<a href="https://youtu.be/qV5NQct5FHM">https://youtu.be/qV5NQct5FHM</a>	AbGradCon 2019 - Day 1 Michael Wang	AbGradCon 2019 University of Utah Salt Lake City, Utah.	<a href="#">Transcript</a> <a href="#">Link</a>
<p>Unevolved De Novo Proteins Have Innate Tendencies to Bind Transition Metals Presented by Michael Wang</p>					
<p>Shot &amp; Edited by Mike Toillion</p>					
<p>Music Credits: Discovery Hit by Kevin MacLeod is licensed under a Creative Commons Attribution license (<a href="https://creativecommons.org/licenses/by/4.0/">https://creativecommons.org/licenses/by/4.0/</a>) Source: <a href="http://incompetech.com/music/royalty-free/index.html?isrc=USUAN1300023">http://incompetech.com/music/royalty-free/index.html?isrc=USUAN1300023</a> Artist: <a href="http://incompetech.com/">http://incompetech.com/</a></p>					
<p>Follow the NASA Astrobiology program on Twitter (@NASAAstrobio) and Facebook (<a href="https://www.facebook.com/NasaAstrobiology/">facebook.com/NasaAstrobiology/</a>).</p>					
2019 08 01	NASA Astrobiology	<a href="https://youtu.be/sYKWImlD7VE">https://youtu.be/sYKWImlD7VE</a>	AbGradCon 2019 - Day 2 Amber Young	AbGradCon 2019 University of Utah Salt Lake City, Utah.	<a href="#">Transcript</a> <a href="#">Link</a>
<p>Session 4 Warm-Up Talk: Exoplanets &amp; Habitability Presented by Amber Young</p>					
<p>Shot &amp; Edited by Mike Toillion</p>					
<p>Music Credits: Discovery Hit by Kevin MacLeod is licensed under a Creative Commons Attribution license (<a href="https://creativecommons.org/licenses/by/4.0/">https://creativecommons.org/licenses/by/4.0/</a>) Source: <a href="http://incompetech.com/music/royalty-free/index.html?isrc=USUAN1300023">http://incompetech.com/music/royalty-free/index.html?isrc=USUAN1300023</a> Artist: <a href="http://incompetech.com/">http://incompetech.com/</a></p>					
<p>Follow the NASA Astrobiology program on Twitter (@NASAAstrobio) and Facebook (<a href="https://www.facebook.com/NasaAstrobiology/">facebook.com/NasaAstrobiology/</a>).</p>					
2019 07 17	NASA Astrobiology	<a href="https://youtu.be/UpYP1GmpWVg">https://youtu.be/UpYP1GmpWVg</a>	Ask An Astrobiologist The Ethics of Space Exploration with Dr. Lucianne Walkowicz	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">Transcript</a> <a href="#">Link</a>
<p>Ask An Astrobiologist: Episode 23 The Ethics of Exploration in Space Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)</p>					
<p>Featured Guest: Dr. Lucianne Walkowicz (Adler Planetarium)</p>					
<p>Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)</p>					

2019 07 11 NASA Astrobiology <https://youtu.be/-AID3AnVNPw> AbSciCon 2019 - Room 2 Day 1 - Jihua Hao Effects of Temperature & Pressure on the Interaction Between Mineral Surfaces & Life Elements Presented by Jihua Hao [Transcript Link](#)

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The theme for AbSciCon 2019 was “Understanding and Enabling the Search for Life on Worlds Near and Far.” Within our solar system, icy worlds and Mars have generated excitement, and exoplanets offer numerous and diverse environments where life may exist in other planetary systems. Near future missions and observations will scrutinize many of these targets to understand their environments and search for signs of life. Meanwhile, fundamental research on the origin and evolution of life on Earth drives our understanding about life processes that may operate elsewhere.

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2019 07 11 NASA Astrobiology <https://youtu.be/47anfKDONEU> AbSciCon 2019 - Room 2 Day 3 - Christian Mayer Experimental Evolution of a Peptide-Vesicle System: Development Towards Functional Protocells? Presented by Christian Mayer [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/CD-GrQXB2BY> AbSciCon 2019 - Room 2 Day 1 - Maxime Ruaud Theoretical Investigations on the Production of Organic Molecules in Protoplanetary Disks Presented by Maxime Ruaud [Transcript Link](#)

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2019 07 11 NASA Astrobiology [https://youtu.be/IB1bSErp\\_eg](https://youtu.be/IB1bSErp_eg) AbSciCon 2019 - Room 2 Day 2 - Reggie Hudson Aliphatics: The Other Cyclic Organic Astrobiology Compounds Presented by Reggie Hudson [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/iCUdmQyBtLc> AbSciCon 2019 - Room 2 Day 1 - Andrew Mattioda Formation of Complex Organic Materials (COMs) from PAHs Presented by Andrew Mattioda [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/gV7Hx4R2YqI> AbSciCon 2019 - Room 2 Day 1 - Chenyu Wei Emergence of Simple Ion Channels by Self-Assembly of Short Peptides Presented by Chenyu Wei [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/yiT0LJL1YaY> AbSciCon 2019 - Room 2 Day 1 - Martin Fisk Abiogenesis at Basalt-Water Boundaries: A Hypothesis Presented by Martin Fisk [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/-F2SP2xL7WA> AbSciCon 2019 - Room 2 Day 1 - Gustavo Cruz-Diaz PAH-Mineral Interactions: A Laboratory Approach to Astrophysical Catalysis Presented by Gustavo Cruz-Diaz [Transcript Link](#)

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2019 07 11 NASA Astrobiology [https://youtu.be/3Lcwg\\_a1FwqI](https://youtu.be/3Lcwg_a1FwqI) AbSciCon 2019 - Room 2 Day 1 - Christian Mayer Complex Structures Out of Randomly Formed Peptides: Continuous Selection vs. Darwinian Evolution Presented by Christian Mayer [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/8hgShSv7ykc> AbSciCon 2019 - Room 2 Day 2 - Yasuhiro Oba Synthesis of Nitrogen Heterocycles of Astrobiological Interest in Interstellar Ice Analogs Presented by Yasuhiro Oba [Transcript Link](#)

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2019 07 11 NASA  
Astrobiology <https://youtu.be/C5j0RMWBqww> AbSciCon 2019 -  
Room 2 Day 1 -  
Partha Bara

[Transcript  
Link](#)

2019 07 11 NASA  
Astrobiology [https://youtu.be/DHu-IXGe\\_wU](https://youtu.be/DHu-IXGe_wU) AbSciCon 2019 -  
Room 2 Day 1 -  
Sun Kwok

Synthesis of Complex Organics at the Late Stages of Stellar Evolution & Their Possible Effects on the Enrichment of the Primordial Solar System  
Presented by Sun Kwok [Transcript  
Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/E7-XyqtCPss> AbSciCon 2019 - Room 2 Day 1 - Michael Nuevo Formation of Sugars & Related Compounds from the UV Irradiation of Astrophysical Ices Presented by Michael Nuevo [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/EDYlbc6DDFc> AbSciCon 2019 - Room 2 Day 1 - David Baum Surface-limited Metabolisms (SLiMes) as the First Adaptively Evolving Entities Presented by David Baum [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/Eo29ai00rdA> AbSciCon 2019 - Room 2 Day 3 - Ben Pearce Warm Little Ponds as Sites for the Emergence of the RNA World: The Fates of Nucleobases Delivered by Meteorites & Interplanetary Dust Particles Presented by Ben Pearce [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/lro389GMtqU> AbSciCon 2019 - Room 2 Day 1 - Kosuke Fujishima Probing the Peptide Sequence Space on Iron Sulfide Surface Presented by Kosuke Fujishima [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/KoL5JKpEe08> AbSciCon 2019 - Room 2 Day 3 - Aaron Goldman Coevolution of Cellularity & Metabolism in Digital Life Simulations Presented by Aaron Goldman [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/SlxoW2mLBtQ> AbSciCon 2019 - Room 2 Day 1 - Nita Sahai Photocatalytic Mineral-Promoted Photoheterotrophic Protometabolism Presented by Nita Sahai [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/Sor38p6WJkk> AbSciCon 2019 - Room 2 Day 1 - Trent Stubbs A Glyoxylate-based Protometabolism Serves as an Analog of the Citric Acid Cycle Presented by Trent Stubbs [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/b3ajyLqFifc> AbSciCon 2019 - Room 2 Day 1 - Edith Fayolle Protostellar & Cometary Detections of CH<sub>3</sub>Cl & Laboratory Studies of Methyl Halides Presented by Edith Fayolle [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/gjH55WKOybE> AbSciCon 2019 - Room 2 Day 1 - Hyunju Kim Characteristic Chiral Nature of Hierarchical Biochemical Networks Presented by Hyunju Kim [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/nnvCKD5gcwo> AbSciCon 2019 - Room 2 Day 1 - Paul Higgs Evolutionary Benefits of RNA Replication Inside Protocells Presented by Paul Higgs [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/wUr1qku1dgc> AbSciCon 2019 - Room 2 Day 1 - Milena Popovic Evolution of Structural Complexity as a Response to Increasing Length Presented by Milena Popovic [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/yl8bpFstRrA> AbSciCon 2019 - Room 2 Day 1 - Klara Hlouchova Random Polypeptide Sequences as Exemplary Early Biopolymers Presented by Klara Hlouchova [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/n9SPfa4S5sQ> AbSciCon 2019 - Room 2 Day 1 - Partha Bera A Quantum Chemical Perspective of Biomolecule Synthesis Presented by Partha Bera [Transcript Link](#)

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2019 07 11 NASA Astrobiology [https://youtu.be/-wWG2Y\\_h-V8](https://youtu.be/-wWG2Y_h-V8) AbSciCon 2019 - Room 2 Day 4 - Moran Frenkel-Pinter Molecules in Mutualism: Prebiotic Mixtures of Cationic Depsipeptides & RNA Presented by Moran Frenkel-Pinter [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/75amGFUpqaY> AbSciCon 2019 - Room 2 Day 4 - Anthony Poole Probing the Early Paths of Life with Experimental Evolution Presented by Anthony Poole [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/9yZpkN9qISY> AbSciCon 2019 - Room 2 Day 4 - Mark Ditzler Talk %232 An Ancient Nuclease Cuts a Path Through "Life's Dark Ages" Presented by Mark Ditzler [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/AjIQoL9R97A> AbSciCon 2019 - Room 2 Day 3 - Zach Adam Network Topology of Radiolytic Chemical Systems that Generate Ribonucleotide Precursors Presented by Zach Adam [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/DeDurb6mOHs> AbSciCon 2019 - Room 2 Day 5 - Peter Girguis Water, Water Everywhere: Bioelectrochemical Processes at Some of Earth's Most Extreme Aquatic Environments, & Implications for Astrobiological Research Presented by Peter Girguis [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/HAPuR8UOvag> AbSciCon 2019 - Room 2 Day 3 - Juan Pérez-Mercader Building Functional Complexity in the Laboratory From Simple Chemical Parts Presented by Juan Pérez-Mercader [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/Km5-SH4Szls> AbSciCon 2019 - Room 2 Day 4 - George Fox Expansion Sequences in Bacterial & Archaeal 5S Ribosomal RNAs Presented by George Fox [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/Mf2fH1Dx7N8> AbSciCon 2019 - Room 2 Day 4 - Tyler Roche Possible Prebiotic Relevance of Ketose Sugars to the Origin of Aldose Nucleosides Presented by Tyler Roche [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/OpBzXyKBQV0> AbSciCon 2019 - Room 2 Day 5 - Jamie Foster Metabolome & the Exposome of Stromatolite-forming Communities: Linking Genes & Their Metabolites to Their Environment Presented by Jamie Foster [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/Tso82MZ9Mq4> AbSciCon 2019 - Room 2 Day 4 - AJ Harris Presented by AJ Harris [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/Wg29h8Rkv14> AbSciCon 2019 - Room 2 Day 5 - Alexis Templeton Presented by Alexis Templeton [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/cC8hrocJ7YY> AbSciCon 2019 - Room 2 Day 3 - David Deamer Testing the Hot Spring Hypothesis for the Origin of Life in the Laboratory & the Field Presented by David Deamer [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/eX32p2f7Qi0> AbSciCon 2019 - Room 2 Day 3 - Sarah Maurer Interactions Between Biomolecules & Non-polar Solvents Towards Understanding Life in the Universe Presented by Sarah Maurer [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/nxyiNAURIUU> AbSciCon 2019 - Room 2 Day 5 - Srishti Kashyap Physiological Mechanisms & Mineral Transformations of Hyperthermophilic Iron Reduction Presented by Srishti Kashyap [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/r-i6JmsJ-Mk> AbSciCon 2019 - Room 2 Day 3 - Vincent Riggi Investigation of Individuals & Combined Effects of Environmental Factors on Prebiotic Synthesis Using RNA Oligomerization as a Model Prebiotic Reaction Presented by Vincent Riggi [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/rRyKflszSkw> AbSciCon 2019 - Room 2 Day 4 - Raghav Poudyal Template-directed RNA Polymerization & Enhanced Ribozyme Catalysis Inside Membraneless Compartments Formed by Coacervates Presented by Raghav Poudyal [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/w2HboRkujdl> AbSciCon 2019 - Room 2 Day 5 - Annaliese Meyer Rare Earth Element Distributions in an Oligotrophic Gyre Influence Aerobic Bacterial Methanotrophy Presented by Annaliese Meyer [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/xNXbMgwrDY8> AbSciCon 2019 - Room 2 Day 5 - Tom McCollum Rates of Hydrogen Generation & Support for Life Within Actively Serpentinizing Systems Presented by Tom McCollum [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/yPonzImHuc> AbSciCon 2019 - Room 2 Day 3 - Nicholas Hud Wet-Dry Environmental Cycles & Alternative Building Blocks in Prebiotic Chemistry Presented by Nicholas Hud [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/-Q8wehY5f3M> AbSciCon 2019 - Room 2 Day 5 - Daniel Colman A Potential Origin for Sulfate Reduction in Moderately Acidic Sulfur-Rich Hydrothermal Environments? Presented by Daniel Colman [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/3merino9BXQ> AbSciCon 2019 - Room 2 Day 3 - Gilles Berger Speciation of Nitrogen in Alkaline Sources & Hydrothermal Experiments as Proxy of Prebiotic Chemistry Presented by Gilles Berger [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/3uKvJMxmvJU> AbSciCon 2019 - Room 2 Day 5 - James Yurkovich Biophysical Constraints Shape the Quantitative Bacterial Metabolome Presented by James Yurkovich [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/6SSY4DOXx18> AbSciCon 2019 - Room 2 Day 4 - Jessica Bowman Excavating the Root Origins & Early Evolution of the Ribosome Presented by Jessica Bowman [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/6ygn3WfBBeo> AbSciCon 2019 - Room 2 Day 4 - Marcus Bray Functional Iron-Containing Ribosomes Under Low O<sub>2</sub>, High Fe<sup>2+</sup> Conditions Presented by Marcus Bray [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/7JC2m-LElkc> AbSciCon 2019 - Room 2 Day 5 - Rebecca Mickol An 'Omics Analysis of a Bioelectrochemical System with Applications to Astrobiology Presented by Rebecca Mickol [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/BQOPIehURkg> AbSciCon 2019 - Room 2 Day 4 - Ulrich Muller In emulsio Selection of a Ribozyme that Triphosphorylates Free Nucleosides Presented by Ulrich Muller [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/EKIng-VtFFw> AbSciCon 2019 - Room 2 Day 4 - Anton Petrov Structural Patching Fosters Divergence of Mitochondrial Ribosomes Presented by Anton Petrov [Transcript Link](#)

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2019 07 11 NASA Astrobiology [https://youtu.be/FcTAO4dK\\_dk](https://youtu.be/FcTAO4dK_dk) AbSciCon 2019 - Room 2 Day 3 - Ralph Pudritz The Origin of Protocells: Experiments with the Planet Simulator at McMaster's Origins of Life Laboratory Presented by Ralph Pudritz [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/KolQDhSdP4U> AbSciCon 2019 - Room 2 Day 4 - Irene Chen A Ribozyme Fitness Landscape Presented by Irene Chen [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/MygUZt6F3go> AbSciCon 2019 - Room 2 Day 3 - Jennifer Lago The Role of Urea in Semi-Aqueous Solvent Phosphorylation Presented by Jennifer Lago [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/QQP8FEeyGf4> AbSciCon 2019 - Room 2 Day 5 - Eric Dunham Subglacial Microbiomes Supported by Lithogenic Hydrogen Presented by Eric Dunham [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/UXoGVftCWvU> AbSciCon 2019 - Room 2 Day 3 - Philip Bevilacqua Anion-Assisted Ribozyme Catalysis Inside Complex Coacervates Presented by Philip Bevilacqua [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/Vjivxh1EZ78> AbSciCon 2019 - Room 2 Day 5 - Chris Kempes Extracting General Principles from Interspecific Comparisons of Extant Life Presented by Chris Kempes [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/Wj5hA26VedE> AbSciCon 2019 - Room 2 Day 5 - Laurie Barge Geo-electrochemical Systems Supporting Life & its Origin on Early Earth & Ocean Worlds Presented by Laurie Barge [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/WnNAgMdlBnE> AbSciCon 2019 - Room 2 Day 3 - Lena Vincent The Spontaneous Emergence of Self-Propagating Systems on Mineral Grains in a Simulated Prebiotic Soup Presented by Lena Vincent [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/acFOCLcgog> AbSciCon 2019 - Room 2 Day 4 - Matilda Newton Could a Reduced Genetic Code Support Early Life? Presented by Matilda Newton [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/ayP6-fTKmwo> AbSciCon 2019 - Room 2 Day 4 - Chiamaka Obianyor Towards Recognizing Activated Oligonucleotides Phosphates versus Thermodynamic Traps in an RNA World Presented by Chiamaka Obianyor [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/buG5MOGQAIU> AbSciCon 2019 - Room 2 Day 3 - Madhan Tirumalai Exploring a Primitive 'RNA-only' or 'RNA-peptide' World Using a Dynamic Equilibrium System of Ligation & Degradation Presented by Madhan Tirumalai [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/di7vCBNISgw> AbSciCon 2019 - Room 2 Day 4 - Elisa Biondi Alternative Biopolymers in Early Evolution Presented by Elisa Biondi [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/gh5YwYasnYg> AbSciCon 2019 - Room 2 Day 5 - Jan Amend Catabolisms 'Missing in Nature' Presented by Jan Amend [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/h2rnDiVOqIs> AbSciCon 2019 - Room 2 Day 4 - Mark Ditzler An in vitro Approach to the Geochemical, Protocellular, & Genomic Environments of Early Evolution Presented by Mark Ditzler [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/ltRcmi50Hd8> AbSciCon 2019 - Room 2 Day 3 - Laurie Barge Redox-Active Minerals Affect Product Selectivity in Prebiotic Organic Reaction Networks Presented by Laurie Barge [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/m858stbTyvw> AbSciCon 2019 - Room 2 Day 4 - Loren Williams Biopolymers: Emergence, Assembly, & Origins Presented by Loren Williams [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/n7h2JQhjYgE> AbSciCon 2019 - Room 2 Day 5 - Thomas Deere Evolution of Biological Nitrogen Fixation: Sulfur-specific Maturation of Nitrogenase in a Methanogen Presented by Thomas Deere [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/oFU-cPmyhEE> AbSciCon 2019 - Room 2 Day 5 - Sanjoy Som Cell-specific Energy Availability for Methanogenesis in Serpentinizing Versus Traditional Methanogenic Environments Presented by Sanjoy Som [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/pYwWHhbPeE> AbSciCon 2019 - Room 2 Day 4 - Razvan Cojocaru In vitro Selection of a Highly Processive RNA Polymerase Ribozyme-Clamp Complex Presented by Razvan Cojocaru [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/uwCQOwWaTQOw> AbSciCon 2019 - Room 2 Day 4 - John Samuelian An FAD-binding RNA Aptamer that Increases the Redox Potential of FAD Presented by John Samuelian [Transcript Link](#)

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2019 07 11 NASA Astrobiology <https://youtu.be/xHp19ysLTjo> AbSciCon 2019 - Room 2 Day 3 - Wendy Smythe Plenary Session: Fostering Inclusive Education Practices From K-12 to Funding Agencies Presented by Wendy Smythe [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/rNz5VLjggMs> AbSciCon 2019 - Day 1 - Chris German Exploring Ocean Worlds Presented by Chris German [Transcript Link](#)

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2019 07 09 NASA <https://youtu.be/8RgHxj6Olpo> AbSciCon 2019 - Modeling & Detection of Thermophiles in the Subseafloor [Transcript Link](#)  
Astrobiology Day 1 - Jim Holden Presented by Jim Holden

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2019 07 09 NASA <https://youtu.be/DuiTD0kbFVk> AbSciCon 2019 - Comprehensive Chiral Amino Acid Method for Future Enceladus [Transcript Link](#)  
Astrobiology Day 1 - Jessica Creamer Astrobiology Missions  
Presented by Jessica Creamer

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2019 07 09 NASA Astrobiology <https://youtu.be/Fj7CbD3kphk> AbSciCon 2019 - Day 1 - Sara Walker

Statistical Frameworks for Life Detection  
Presented by Sara Walker

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2019 07 09 NASA Astrobiology <https://youtu.be/TT-Ru5QvZhg> AbSciCon 2019 - Day 1 - Benjamin Tully

Phage-host Evolutionary Dynamics in a Cold, Basalt-hosted Marine System:  
An Analog for the Majority of Ocean Worlds?  
Presented by Benjamin Tully

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2019 07 09 NASA Astrobiology <https://youtu.be/YRvoQ4hxwVI> AbSciCon 2019 - Day 1 - Sarah Johnson Agnostic Approaches to In Situ Life Detection Presented by Sarah Johnson [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/fWkSGbw-8Dg> AbSciCon 2019 - Day 1 - Elizabeth Jaramillo Analysis of Organic & Inorganic Ions by Capillary Electrophoresis with Contactless Conductivity Detection for Planetary Science Applications Presented by Elizabeth Jaramillo [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/hQgAd3NIGxM> AbSciCon 2019 - Day 1 - Amit Levi The pH of Ocean Worlds: When High-Pressure Ice Governs the Geochemical Evolution Presented by Amit Levi [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/mn5piuuMnik> AbSciCon 2019 - Day 1 - Leslie Radosevich SPLIce: Sample Processor to Enable the Search for Life on Icy Worlds Presented by Leslie Radosevich [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/16bJ4ZNRpJ8> AbSciCon 2019 - Day 1 - Andy Ridgwell (How) Do Oceans Overturn on Other Worlds? Presented by Andy Ridgwell [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/HdaFOg43hfU> AbSciCon 2019 - Day 1 - Christine Ray Modeling the Composition of Hydrothermal Fluids on Europa Presented by Christine Ray [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/LQmFaG9Xtig> AbSciCon 2019 - Day 1 - Nadejda Marounina CO2 Reservoirs of Habitable Exoplanet Waterworlds Presented by Nadejda Marounina [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/SV4aSChLVRg> AbSciCon 2019 - Day 1 - NASA Town Hall NASA Astrobiology Research Coordination Networks NASA Astrobiology Research Coordination Networks NASA Town Hall: NASA Astrobiology Research Coordination Networks Presented by Mary Voytek [Transcript Link](#)

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2019 07 09 NASA Astrobiology [https://youtu.be/W\\_Gb8aS3yM](https://youtu.be/W_Gb8aS3yM) AbSciCon 2019 - Day 1 - Julie Castillo-Rogez Occurrence of Clathrate Hydrates in the Solar System & Implications for the Evolution of Ocean Worlds Presented by Julie Castillo-Rogez [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/ZauPGU3Ilbs> AbSciCon 2019 - Day 1 - Amy Smith Lo'ihī Seamount: A Window to Ocean Worlds Presented by Amy Smith [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/fet2f1Kfp2s> AbSciCon 2019 - Day 1 - Ann Cook Presented by Ann Cook [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/pu3AhtZY05o> AbSciCon 2019 - Day 1 - Eddie Schwieterman Presented by Eddie Schwieterman [Transcript Link](#)

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2019 07 09 NASA Astrobiology [https://youtu.be/BJK\\_aWwOgIY](https://youtu.be/BJK_aWwOgIY) AbSciCon 2019 - Day 5 - Alexandra Pontefract The Role of Ionic Composition & Concentration on Biosignature Preservation: Lessons from the "Spotted" Lakes of British Columbia Presented by Alexandra Pontefract [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/ChS-76xHCU> AbSciCon 2019 - Day 4 - Kathleen Craft Investigating Tethered & Free-Space Communication Techniques for Sending Signals Through the Ice (STI) for an Ice-Ocean Probe at Europa Presented by Kathleen Craft [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/FGz5fbUD0hw> AbSciCon 2019 - Day 5 - Edgard Rivera-Valentin The Habitability of Brines at Jezero Crater Mars, the Future Mars 2020 Landing Site Presented by Edgard Rivera-Valentin [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/p0FLkYKYAW4> AbSciCon 2019 - Day 4 - Joey Sparta Sampling the Ocean Worlds: Drilling & Pneumatic Transfer Presented by Joey Sparta [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/z16mflNVKs> AbSciCon 2019 - Day 5 - German Martinez Exploring Brine Formation on Mars & the Icy Worlds: Laboratory Experiments & Instrument Development Presented by German Martinez [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/0J3jm3vX0Mo> AbSciCon 2019 - Day 5 - David Stillman Quantifying Daily Brine Phase-Evolution on Mars Using Thermochemical Modeling Presented by David Stillman [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/1CSKV2RlJo8> AbSciCon 2019 - Day 5 - Nancy Thomas Salts in Gale Crater, Mars: Constraining Habitable Ancient Lakes & Groundwater Environments Presented by Nancy Thomas [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/4Kx7GS6BbnU> AbSciCon 2019 - Day 4 - Ricardo Arevalo CORALS: Characterization of Ocean Residues & Life Signatures Presented by Ricardo Arevalo [Transcript Link](#)

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2019 07 09 NASA Astrobiology [https://youtu.be/4iO\\_cL9tWCQ](https://youtu.be/4iO_cL9tWCQ) AbSciCon 2019 - Day 5 - Vincent Chevrier Existence of Martian Special Regions Based on the Stability & Distribution of Liquid Brines Presented by Vincent Chevrier [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/8NRfkRkOKEA> AbSciCon 2019 - Day 4 - Elizabeth Jaramillo MCA: Microfluidic Icy-World Chemistry Analyzer Presented by Elizabeth Jaramillo [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/939p2CWFmZw> AbSciCon 2019 - Day 4 - Corina Barbalata Embedding Autonomous Capabilities in a Hydraulic Underwater Manipulator Presented by Corina Barbalata [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/CQ7hB360ypU> AbSciCon 2019 - Day 5 - Andrew Shumway Unfreezable Briny Water in Martian Soils Presented by Andrew Shumway [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/LbH2NX6bWHM> AbSciCon 2019 - Day 4 - Zachary Duca Quantitative, Compositional Analysis of Trace Amino Acids in Europa Analogues with a Modular  $\mu$ CE-LIF System Presented by Zachary Duca [Transcript Link](#)

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2019 07 09 NASA Astrobiology [https://youtu.be/QzjiMkWab\\_w](https://youtu.be/QzjiMkWab_w) AbSciCon 2019 - Day 5 - Plenary Session Ocean World Exploration in our Solar System Plenary Session: Ocean World Exploration in our Solar System Presented by Melissa Trainer, Laurie Barge, Christopher Glein, Rika Anderson, Britney Schmidt, and Conor Nixon [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/QzyqSi2QIUk> AbSciCon 2019 - Day 4 - James Lambert Overview of the Compact Integrated Raman Spectrometer (CIRS) for a Europa Lander Mission Presented by James Lambert [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/VL7O3n9ukqo> AbSciCon 2019 - Day 4 - William Stone Development & Environmental Testing of a Direct Laser Penetration Probe for Icy Ocean Worlds Presented by William Stone [Transcript Link](#)

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2019 07 09 NASA <https://youtu.be/Y8ZbEg-p2Uw> AbSciCon 2019 - Exploring Antarctic Subsurface Brines  
Astrobiology Day 5 - Jill Mikucki Presented by Jill Mikucki [Transcript Link](#)

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2019 07 09 NASA <https://youtu.be/YFvwox11aIo> AbSciCon 2019 - Organic Biosignatures of Mars Analog Sulfate-Dominated  
Astrobiology Day 5 - Hypersaline Lakes  
Magdalena Osburn Presented by Magdalena Osburn [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/l3QSLHgd7I> AbSciCon 2019 - Day 4 - Dale Winebrenner A Recoverable Melt Probe: Toward Exploration of Icy Moon Analogs at Logistical Cost Presented by Dale Winebrenner [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/fhOoMf4C4pw> AbSciCon 2019 - Day 5 - Marcela Ewert Proteomic Signatures & Cell Viability of Colwellia Psychrerythraea Strain 34H in Supercooled, Frozen, & Equilibrium Sea-Ice Brines Presented by Marcela Ewert [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/mFy-wqvniWE> AbSciCon 2019 - Day 4 - Peter Willis OCEANS: Organic Capillary Electrophoresis Analysis System, a Subsystem of EMILI: European Molecular Indicators of Life Investigation Presented by Peter Willis [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/p06klv0ig6M> AbSciCon 2019 - Day 5 - Jennifer Hanley Chlorine Salts Across the Solar System Presented by Jennifer Hanley [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/vVarLZlxUnI> AbSciCon 2019 - Day 3 - Sergei Katsev Archean-Proterozoic Ocean Oxygenation & Changes in Marine Sulfur Cycling Inferred from Biogeochemical Models Presented by Sergei Katsev [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/x8uKQja043I> AbSciCon 2019 - Day 4 - Rosalba Bonaccorsi Small, Fast, & Cold: Enceladus Plume Analog Simulation Experiments Presented by Rosalba Bonaccorsi [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/ys9xeT TDP8E> AbSciCon 2019 - Day 4 - Samuel Howell Environmental Considerations for Accessing the Interior Oceans of Ocean Worlds Presented by Samuel Howell [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/zzsVhl PQb-Q> AbSciCon 2019 - Day 4 - Tighe Costa SLUSH: Search for Life Using a Submersible Heated Drill Presented by Tighe Costa [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/Pwrpr39kAik> AbSciCon 2019 - Day 4 - Richard Mathies Microfabricated Organic Analyzers for Biosignatures Presented by Richard Mathies [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/YXITjSgqbts> AbSciCon 2019 - Day 4 - Scott Murchie Europa Lander Stereo Spectral Imaging Experiment (ELSSIE) Presented by Scott Murchie [Transcript Link](#)

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2019 07 09 NASA <https://youtu.be/d-FXX7Szy7Q> AbSciCon 2019 - Europa Lander Mission Concept [Transcript](#)  
Astrobiology Day 4 - Cynthia Presented by Cynthia Phillips [Link](#)  
Phillips

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2019 07 09 NASA [https://youtu.be/tHT\\_HbPEF5E](https://youtu.be/tHT_HbPEF5E) AbSciCon 2019 - Plenary Session: Understanding Habitats & Searching for Life on [0](#)  
Astrobiology Day 4 - Plenary Mars  
Session Presented by Bethany Ehlmann, Manuel de la Torre Juarez, Jennifer  
Understanding Eigenbrode, Barbara Sherwood-Lollar, Dawn Sumner, Alexis  
Habitats & Templeton, Kenneth Williford  
Searching for Life  
on Mars

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2019 07 09 NASA Astrobiology <https://youtu.be/-Te-2Rw-QWo> AbSciCon 2019 - Welcome Reception with Anthony Rapp

Welcome Reception with Anthony Rapp  
Presented by Mary Voytek and Melissa Kirven-Brooks

[Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/-gXcqQIMt4M> AbSciCon 2019 - Day 3 - Plenary Session Issues in the Origins of Life

Plenary Session: Issues in the Origins of Life: Multidisciplinary Perspectives  
Presented by Mary Voytek, Jim Cleaves, Laurie Barge, Boswell Wing, Christine Keating, Eric Smith, Jamie Elsila, Martin Van Kranendonk

[Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/4QBEMAJm7x8> AbSciCon 2019 - Day 3 - Jody Deming Viruses as Enablers of Microbial Life in Extreme Subzero Brines Presented by Jody Deming [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/H4VD32I34pU> AbSciCon 2019 - Day 4 - Alison Murray Biosignature Detection Using the Analyzer of Nanoscale Textures for Objects in Near-surface Ice on Europa (ANTONIE) & Other Icy Ocean Worlds Presented by Alison Murray [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/O0UOAOnGst4> AbSciCon 2019 - Day 4 - Chris Glein MAss Spectrometer for Planetary EXploration-ORganic Composition Analyzer (MASPEX-ORCA) Presented by Chris Glein [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/TW22a51alyk> AbSciCon 2019 - Day 3 - Peter Conlin Stabilizing the Evolutionary Transition to Multicellularity Against Reversion Presented by Peter Conlin [Transcript Link](#)

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2019 07 09 NASA <https://youtu.be/UY2-dC1u8B8> AbSciCon 2019 - Extra Salt Warms Archean Earth  
Astrobiology Day 3 - Stephanie Olson Presented by Stephanie Olson [Transcript Link](#)

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2019 07 09 NASA <https://youtu.be/Xia7AQLaibY> AbSciCon 2019 - Atmospheric CO2 Levels from 2.7 Billion Years Ago Using  
Astrobiology Day 3 - Owen Lehmer Micrometeorite Oxidation  
[Transcript Link](#)  
Presented by Owen Lehmer

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2019 07 09 NASA <https://youtu.be/g6bjuDEpspU> AbSciCon 2019 - Every (2nd) Breath You Take  
Astrobiology Day 3 - Jodi Young Presented by Jodi Young [Transcript Link](#)

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2019 07 09 NASA <https://youtu.be/gGffOVzEs2E> AbSciCon 2019 - Collective Cognition in the Arms of the Octopus  
Astrobiology Day 3 - Dominic Sivitilli Presented by Dominic Sivitilli [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/kUJkt14mqxw> AbSciCon 2019 - Day 2 - Allies & Advocates in Astrobiology A Discussion on Diversity & Inclusion

Allies & Advocates in Astrobiology: A Discussion on Diversity & Inclusion  
Presented by Lauren Seyler, Joan Schmetz, Tessa Fisher, Shawn Domagal-Goldman, Jen Glass, and Kennda Lynch

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2019 07 09 NASA Astrobiology <https://youtu.be/yy8kUCjIclk> AbSciCon 2019 - Day 2 - Alief Moulana

Inferring the Structure & Evolution of Sulfurovum Penge genome in Deep-Sea Hydrothermal Vents  
Presented by Alief Moulana

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2019 07 09 NASA Astrobiology <https://youtu.be/08OgnQUV68> AbSciCon 2019 - Day 4 - Chris Lindensmith In Situ Biology & Mineralogy Capabilities of Holographic Microscopy Presented by Chris Lindensmith [Transcript Link](#)

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2019 07 09 NASA Astrobiology [https://youtu.be/2ofRkp\\_scmQI](https://youtu.be/2ofRkp_scmQI) AbSciCon 2019 - Day 2 - Plenary Session Exoplanet Habitability & Biosignatures Plenary Session: Observational Prospects for Exoplanet Habitability & Biosignatures Presented by Karl Stapelfeldt, Shawn Domagal-Goldman, Vikki Meadows, Scott Gaudi, Giada Arney, and Keven Stevenson [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/8lTmbaV8KNA> AbSciCon 2019 - Day 2 - Anton Mahama Domain-Signatures of Genome Complexity in Extremophiles Presented by Anton Mahama [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/AvWh-YIE8hA> AbSciCon 2019 - Day 3 - Matthew Smart The Devonian Plant Revolution: Roots, Weathering & the Impact on Global Biogeochemical Cycling Presented by Matthew Smart [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/CHjc6y1tc0> AbSciCon 2019 - Day 3 - Amanda Garcia Reconstruction of Ancestral Nitrogenases: Phylogenetic Implications for Metal Binding Presented by Amanda Garcia [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/HLLiO1WyiEA> AbSciCon 2019 - Day 3 - Ariel Anbar Fully Oxygenated Water Columns Over Continental Shelves Before the Great Oxidation Event Presented by Ariel Anbar [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/IU6BEJCxytE> AbSciCon 2019 - Day 3 - Boswell Wing Carbon Fixation in Deep Time Presented by Boswell Wing [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/JElk89vjxzs> AbSciCon 2019 - Day 1 - Steve Vance Enceladus Distributed Geophysical Exploration (EDGE) Presented by Steve Vance [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/KJdtqWM3qs> AbSciCon 2019 - Day 3 - Alia Wofford Revisiting Early Earth's Methanogenic Biosphere Presented by Alia Wofford [Transcript Link](#)

AbSciCon is the largest astrobiology conference in the United States organized by the astrobiology community. AbSciCon 2019 was held on 24-28 June 2019 in Bellevue, Washington.

The theme for AbSciCon 2019 was “Understanding and Enabling the Search for Life on Worlds Near and Far.” Within our solar system, icy worlds and Mars have generated excitement, and exoplanets offer numerous and diverse environments where life may exist in other planetary systems. Near future missions and observations will scrutinize many of these targets to understand their environments and search for signs of life. Meanwhile, fundamental research on the origin and evolution of life on Earth drives our understanding about life processes that may operate elsewhere.

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2019 07 09 NASA Astrobiology [https://youtu.be/NefK\\_aJIHHY](https://youtu.be/NefK_aJIHHY) AbSciCon 2019 - Day 3 - William Bains Evolution of Complex Genetics Presented by William Bains [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/PynJGwcrUWw> AbSciCon 2019 - Day 2 - NAI 20th Anniversary A New Discipline Reaches Maturity II NAI 20th Anniversary: A New Discipline Reaches Maturity II Presented by Penny Boston and Carl Pilcher [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/blgekWUw4ws> AbSciCon 2019 - Day 3 - Nadia Szeinbaum A Synthetic Microbial Consortium to Explore Cooperation on Early Earth Presented by Nadia Szeinbaum [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/cynNnCs4oqw> AbSciCon 2019 - Day 2 - NAI 20th Anniversary A New Discipline Reaches Maturity I NAI 20th Anniversary: A New Discipline Reaches Maturity I Presented by Penny Boston and Carl Pilcher [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/juu5EOgfKfw> AbSciCon 2019 - Day 2 - Hannah Dawson Using Metabolomics as a Method to Probe the Physiological Adaptations of Sea-Ice Algae Presented by Hannah Dawson [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/nJhEjOn3X38> AbSciCon 2019 - Day 1 - Yaoxuan Zeng Wind-driven Ocean Circulation on Tidally Locked Aqua-Planets Presented by Yaoxuan Zeng [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/qQQQXOjPgiY> AbSciCon 2019 - Day 2 - Anais Gentilhomme Predicting Optimal Growth Rates of Marine Bacteria Using Genetic Signatures of Cold Adaptation Presented by Anais Gentilhomme [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/tGamrU1U8Vk> AbSciCon 2019 - Day 3 - Yasuto Watanabe Global Carbon Cycle & Climate Stability in the Early Earth System Presented by Yasuto Watanabe [Transcript Link](#)

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2019 07 09 NASA Astrobiology <https://youtu.be/xwKbTu28HDA> AbSciCon 2019 - Day 3 - Kosei Yamaguchi Oxygenation of the 2.2 Ga Deep Ocean: Evidence from Birman Greenstone Belt, Ghana Presented by Kosei Yamaguchi [Transcript Link](#)

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2019 05 25 NASA Astrobiology <https://youtu.be/Q642pXhOpsk> Ask an Astrobiologist From Mongolia to the Icy Worlds of our Solar System with Dr. Yasuhito Sekine

Once a month, SAGANet ([www.saganet.org](http://www.saganet.org)) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.

Each session lasts about an hour.

Ask An Astrobiologist: Episode 22  
From Mongolia to the Icy Worlds of our Solar System  
Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)

Featured Guest: Dr. Yasuhito Sekine (Earth-Life Science Institute)

Directed by Mike Toillion (NASA Astrobiology Program)  
Music by Sam Doshier (NASA Astrobiology Institute)

2019 04 19 NASA Astrobiology <https://youtu.be/UdEixny7SKQ> Ask An Astrobiologist Impact Craters and the Origin of Life with Dr. Gordon Osinski

Once a month, SAGANet ([www.saganet.org](http://www.saganet.org)) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.

Each session lasts about an hour.

Ask An Astrobiologist: Episode 21  
Impact Craters and the Origin of Life  
Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)

Featured Guest: Dr. Gordon 'Oz' Osinski (Western University)

Directed by Mike Toillion (NASA Astrobiology Program)  
Music by Sam Doshier (NASA Astrobiology Institute)

2019 04 04 NASA Astrobiology <https://youtu.be/UIEcXs9SXXw> Astrobiology in the Field, Episode 1 Iceland Astrobiology in the Field, Episode 1: Iceland Created by Mike Toillion. [Transcript Link](#)

This expedition is the first installment in a brand new NASA Astrobiology video documentary series, entitled Astrobiology in the Field. This series aims to showcase the amazing analogue environments and the interesting field work being conducted all over the world by NASA scientists; work that directly informs NASA missions to discover extraterrestrial life in the Universe.

This episode follows team FELDSPAR: the Field Exploration and Life Detection Sampling for Planetary and Astrobiology Research. Led by Georgia Institute of Technology's Dr. Amanda Stockton, and funded by the NASA Astrobiology's PSTAR program, team FELDSPAR is investigating the distribution of life amongst fresh lava fields in the volcanically-active regions of Iceland.

For more information, visit <https://astrobiology.nasa.gov/news/astrobiology-inthe-field-iceland>.

NOTE: At 6:53, an image of ADP, not ATP, is actually shown.

Music Credits:

Ben Sound: <https://www.bensound.com/royalty-free-music>

Babylon - Disco Ultralounge by Kevin MacLeod is licensed under a Creative Commons Attribution licence

2019 04 01 NASA Astrobiology <https://youtu.be/qEQGB6YmUfs> Astrobiology in the Field, Episode 1 Iceland (Teaser Trailer) Astrobiology in the Field Episode 1: Iceland Teaser Trailer [Transcript Link](#)

The NASA Astrobiology Program presents Astrobiology in the Field, Episode 1: Iceland, created by Mike Toillion.

This expedition is the first installment in a brand new NASA Astrobiology video documentary series, entitled Astrobiology in the Field. This series aims to showcase the amazing analogue environments and the interesting field work being conducted all over the world by NASA scientists; work that directly informs NASA missions to discover extraterrestrial life in the Universe.

The full episode follows team FELDSPAR: the Field Exploration and Life Detection Sampling for Planetary and Astrobiology Research. Led by Georgia Institute of Technology's Dr. Amanda Stockton, and funded by the NASA Astrobiology's PSTAR program, team FELDSPAR is investigating the distribution of life amongst fresh lava fields in the volcanically-active regions of Iceland.

For more information, visit <https://astrobiology.nasa.gov/news/astrobiology-inthe-field-iceland>.

Music: "Olympus" by Ross Bugden

2019 03 27	NASA Astrobiology	<a href="https://youtu.be/t4YqB1luixM">https://youtu.be/t4YqB1luixM</a>	Ask An Astrobiologist The Search for Technosignatures with Dr. Jason Wright	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">Transcript</a> <a href="#">Link</a>
				Ask An Astrobiologist: Episode 20 The Search for Technosignatures Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Jason Wright (Penn State University)	
				Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)	
2019 03 01	NASA Astrobiology	<a href="https://youtu.be/nYMCyAcOs50">https://youtu.be/nYMCyAcOs50</a>	Ask An Astrobiologist The Legacy and Future of SETI with Dr. Jill Tarter	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">Transcript</a> <a href="#">Link</a>
				Ask An Astrobiologist: Episode 18 The Legacy and Future of SETI Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Jill Tarter (SETI Institute)	
				Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)	
2019 03 01	NASA Astrobiology	<a href="https://youtu.be/p8GgDF45OzU">https://youtu.be/p8GgDF45OzU</a>	Ask An Astrobiologist Astronomy, Exoplanets, and Self-Care with Dr. Sarah Rugheimer	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.  Each session lasts about an hour.	<a href="#">Transcript</a> <a href="#">Link</a>
				Ask An Astrobiologist: Episode 19 Astronomy, Exoplanets, and Self-Care Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Sarah Rugheimer (University of Oxford)	
				Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)	

2019 02 01 NASA Astrobiology <https://youtu.be/0amtjdLV1vE> Navajo Our Mother Moon Navajo leaders and NASA scientists reflect on lunar exploration, and share perspectives on space exploration. [Transcript Link](#)

2019 02 01 NASA Astrobiology <https://youtu.be/gYWyllSAMGs> Navajo Story of the Stars Navajo leaders and NASA scientists share perspectives on the stars. [Transcript Link](#)

2018 11 30 NASA Astrobiology <https://youtu.be/hxiGCYepkMI> Living on Mars with Dr. Oleg Abramov Once a month, SAGANet ([www.saganet.org](http://www.saganet.org)) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video. [Transcript Link](#)

Each session lasts about an hour.

Ask An Astrobiologist: Episode 17  
Living on Mars  
Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)

Featured Guest: Dr. Oleg Abramov (Planetary Science Institute)

Directed by Mike Toillion (NASA Astrobiology Program)  
Music by Sam Doshier (NASA Astrobiology Institute)

2018 10 19	NASA Astrobiology	<a href="https://youtu.be/l5kiitskzEA">https://youtu.be/l5kiitskzEA</a>	Ask An Astrobiologist The Potential for Life on Titan, Europa, and Enceladus with Dr. Morgan Cable	<p>Once a month, SAGANet (<a href="http://www.saganet.org">www.saganet.org</a>) hosts a program called <a href="#">Q</a> "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.</p> <p>Each session lasts about an hour.</p> <p>Ask An Astrobiologist: Episode 16 The Potential for Life on Titan, Europa, and Enceladus Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)</p> <p>Featured Guest: Dr. Morgan Cable (NASA JPL)</p> <p>Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)</p>
2018 09 26	NASA Astrobiology	<a href="https://youtu.be/bYD5jRXJrfI">https://youtu.be/bYD5jRXJrfI</a>	Ask An Astrobiologist Looking for Life on Volcanoes in Iceland with Dr. Amanda Stockton	<p>Once a month, SAGANet (<a href="http://www.saganet.org">www.saganet.org</a>) hosts a program called <a href="#">Transcript Link</a> "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.</p> <p>Each session lasts about an hour.</p> <p>Ask An Astrobiologist: Episode 15 Looking for Life on Volcanoes in Iceland Hosted by Dr. Graham Lau (Blue Marble Space Institute of Science)</p> <p>Featured Guest: Dr. Amanda Stockton (Georgia Tech)</p> <p>Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)</p>
2018 09 18	NASA Astrobiology	<a href="https://youtu.be/kwDmNTGks1k">https://youtu.be/kwDmNTGks1k</a>	Ask An Astrobiologist NASA's Europa Clipper Mission with Dr. Steve Vance	<p>Once a month, SAGANet (<a href="http://www.saganet.org">www.saganet.org</a>) hosts a program called <a href="#">Transcript Link</a> "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.</p> <p>Each session lasts about an hour.</p> <p>Ask An Astrobiologist: Episode 14 NASA's Europa Clipper Mission Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)</p> <p>Featured Guest: Dr. Steve Vance (NASA JPL)</p> <p>Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)</p>

2018 07 26	NASA Astrobiology	<a href="https://youtu.be/H-9nT_h9U4">https://youtu.be/H-9nT_h9U4</a>	Ask An Astrobiologist Methane on Mars and More with Dr. Jennifer Glass	<p>Once a month, SAGANet (<a href="http://www.saganet.org">www.saganet.org</a>) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.</p> <p>Each session lasts about an hour.</p> <p>Ask An Astrobiologist: Episode 13 Methane on Mars and More Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)</p> <p>Featured Guest: Dr. Jennifer Glass (Georgia Tech)</p> <p>Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)</p>	<a href="#">Transcript</a> <a href="#">Link</a>
2018 06 25	NASA Astrobiology	<a href="https://youtu.be/l9RVas_mDi5A">https://youtu.be/l9RVas_mDi5A</a>	AbGradCon 2018 Andrew Lincowski	<p>Title: "Exoplanet Characterization with JWST: Evolved Climates and Observational Discriminants of the TRAPPIST-1 System"</p> <p>Speaker: Andrew Lincowski</p> <p>AbGradCon 2018 June 4th-8th Atlanta, GA</p> <p>AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically-inclined graduate students and early career researchers to come together to share their research, collaborate, and network. AbGradCon 2018 marks the 14th year of this conference—each time in a different place and organized by a different group of students, but always with the original charter as a guide.</p> <p>These meetings have been wildly successful both when connected to AbSciCon, and as stand-alone conferences. Since it is organized and attended by only graduate students, post docs, and select undergraduates, AbGradCon is an ideal venue for the next generation of career astrobiologists to form bonds, share ideas, and discuss the issues that will shape the future of the field.</p>	<a href="#">Transcript</a> <a href="#">Link</a>

2018 06 25 NASA Astrobiology <https://youtu.be/col1gMRhQg8> AbGradCon 2018 Arthur Adams Title: "Characterizing Exoplanet Meteorology" Speaker: Arthur Adams [Transcript Link](#)

AbGradCon 2018  
June 4th-8th  
Atlanta, GA

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2018 06 25 NASA Astrobiology <https://youtu.be/J1KB5W3WrzM> AbGradCon 2018 Brandon Carroll Title: "Tracing the Origins of Nitrogen Bearing Organics Toward Orion KL with ALMA" Speaker: Brandon Carroll [Transcript Link](#)

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2018 06 25 NASA Astrobiology [https://youtu.be/zVZbBl1\\_Kyg](https://youtu.be/zVZbBl1_Kyg) AbGradCon 2018 Emilio Enriquez Title: "The Breakthrough Listen Search for Intelligent Life: the first SETI results and other future science" Speaker: J. Emilio Enriquez [Transcript Link](#)

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2018 06 25 NASA Astrobiology <https://youtu.be/XI3TbuIVDos> AbGradCon 2018 Justin Lawrence Title: "RISE UP: Robotic Exploration beneath the Ross and McMurdo Ice Shelves" Speaker: Justin Lawrence [Transcript Link](#)

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2018 06 25 NASA <https://youtu.be/e9uU630gcdk> AbGradCon 2018 Title: "Assessing new biogenicity criteria of microfossils with high-resolution imaging techniques" [Transcript Link](#)  
Astrobiology Lara Maldanis Speaker: Lara Maldanis

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June 4th-8th  
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2018 06 25 NASA <https://youtu.be/F-TBcbGw12U> AbGradCon 2018 Title: "Warm-up Talk: Pre-Reqs for Astrobiology: Astrophysics & Astrochemistry" [Transcript Link](#)  
Astrobiology Mahmuda Afrin Badhan Speaker: Mahmuda Afrin Badhan

AbGradCon 2018  
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2018 06 25 NASA Astrobiology <https://youtu.be/PEMGdvQCB1o> AbGradCon 2018 Ngoc Truong Title: "Decomposition of Amino Acids in Water with Application to Enceladus and Europa" Speaker: Ngoc Truong [Transcript Link](#)

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June 4th-8th  
Atlanta, GA

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2018 06 25 NASA Astrobiology <https://youtu.be/0f5MyHJfc9Q> AbGradCon 2018 Saeed Ahmadvand Title: "From Simplicity to Complexity" Speaker: Saeed Ahmadvand [Transcript Link](#)

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June 4th-8th  
Atlanta, GA

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2018 06 25 NASA Astrobiology <https://youtu.be/rbPxKciDitg> AbGradCon 2018 Zach Duca Title: "Warm-up Talk: Innovations in Space Engineering & the Future of Astrobiology Missions" [Transcript Link](#)  
Speaker: Zach Duca

AbGradCon 2018  
June 4th-8th  
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2018 06 25 NASA Astrobiology <https://youtu.be/90p7XbaS5AA> AbGradCon 2018 Amanda Garcia Title: "A novel apatite-based oxygen paleobarometer across the Neoproterozoic-Cambrian transition" [Transcript Link](#)  
Speaker: Amanda Garcia

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2018 06 25 NASA <https://youtu.be/8mJtg470yqQ> AbGradCon 2018 Title: "Unusual self-assembly properties of model protocell membranes" [Transcript Link](#)  
Astrobiology Anna Wang Speaker: Anna Wang

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2018 06 25 NASA <https://youtu.be/ZFpGQdE3IVY> AbGradCon 2018 Title: "No Laughing Matter: Nitrous Oxide Production by Chemodenitrification in the Ferruginous Proterozoic Ocean" [Transcript Link](#)  
Astrobiology Chloe Stanton Speaker: Chloe Stanton

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2018 06 25 NASA Astrobiology <https://youtu.be/JRn0m-A1ofY> AbGradCon 2018 David Fialho Title: "Glycosylation of a Model Proto-RNA Nucleobase with Non-Ribose Sugars: Implications for the Origin of RNA" Speaker: David Fialho [Transcript Link](#)

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2018 06 25 NASA Astrobiology <https://youtu.be/wK0LLyTPnaQ> AbGradCon 2018 Jose Alberto Campillo-Balderas Title: "Viruses can be antique, but not primitive" Speaker: Jose Alberto Campillo-Balderas [Transcript Link](#)

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2018 06 25 NASA Astrobiology <https://youtu.be/pl9SuCVzVr4> AbGradCon 2018 Lara Vimercati Title: "Microbial activity and adaptation at extreme elevations on Atacama volcanoes: the best Martian analogue on Earth?" Speaker: Lara Vimercati [Transcript Link](#)

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2018 06 25 NASA Astrobiology <https://youtu.be/acUu1mGAlvo> AbGradCon 2018 Marcus Bray Title: "Warm-up Talk: AstroBIOLOGY" Speaker: Marcus Bray [Transcript Link](#)

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2018 06 25 NASA Astrobiology <https://youtu.be/jr2r4sQHS40> AbGradCon 2018 Michael Morrison Title: "Comparison of Bacillus subtilis transcription profiles from separate missions to the ISS reveal common responses" Speaker: Michael Morrison [Transcript Link](#)

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2018 06 25 NASA Astrobiology <https://youtu.be/YeGCdKSCHis> AbGradCon 2018 Moran Frenkel-Pinter Title: "Dynamic Polymerization of Prebiotic Depsipeptides Allows Selection of Stable Structures" Speaker: Moran Frenkel-Pinter [Transcript Link](#)

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2018 06 25 NASA Astrobiology <https://youtu.be/wddmqObP4e4> AbGradCon 2018 Niraja Bapat Title: "Prebiotic heterogeneity & its effect on nonenzymatic replication" Speaker: Niraja Bapat [Transcript Link](#)

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2018 06 25 NASA Astrobiology <https://youtu.be/amQQtG5FXo> AbGradCon 2018 Rebecca Rapf Title: "Warm-up Talk: Geology & Chemistry" Speaker: Rebecca Rapf [Transcript Link](#)

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2018 06 25 NASA <https://youtu.be/eKNmD3yOpVA> AbGradCon 2018 Title: "Simulations of Methane on Mars Using Curiosity Data" [Transcript Link](#)  
Astrobiology Amber Britt Speaker: Amber Britt

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2018 06 25 NASA <https://youtu.be/Nn7jqOTQuZw> AbGradCon 2018 Panel: [Transcript Link](#)  
Astrobiology Early Career Scientist Panel Dr. Jennifer Glass (Earth and Atmospheric Sciences, Georgia Tech)  
Dr. Amanda Stockton (Chemistry and Biochemistry, Georgia Tech)  
Dr. Susanna Widicus-Weaver (Chemistry, Emory University)

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2018 06 25 NASA Astrobiology <https://youtu.be/UhxshIjS9kY> AbGradCon 2018 Zoe Todd Title: "Cometary Delivery of Cyanide to the Early Earth for Prebiotic Synthesis" Speaker: Zoe Todd [Transcript Link](#)

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2018 06 25 NASA Astrobiology <https://youtu.be/yxyjX0Z4z1o> AbGradCon 2018 Valerio Guido Giaobelli Title: "Test of genetic code evolution hypotheses: Reverse evolution of specific target proteins by mRNA-display technique" Speaker: Valerio Guido Giaobelli [Transcript Link](#)

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2018 05 02	NASA Astrobiology	<a href="https://youtu.be/83U90pY90Is">https://youtu.be/83U90pY90Is</a>	GaTech Astrobiology Colloquium Shawn Domagal-Goldman	LUVVOIR: The Astrobiology Telescope Presented by Dr. Shawn Domagal-Goldman	<a href="#">Transcript Link</a>
				Exploring Life Origins and the Universe: A Networking Event March 30th, 2018	
				The Georgia Tech Astrobiology Colloquium is a new early career event for the Georgia Tech astrobiology community and consisted of presentations and talks by students (both graduate and undergraduate) and post-doctoral fellows working in astrobiology, space science, and engineering across the Georgia Tech campus and greater Atlanta. There are also plenary lectures given by distinguished members of the global astrobiology community.	
				Plenary Speakers: Dr. Ada Yonath Dr. Niles Lehman Dr. Shawn Domagal-Goldman	
				Organizing Committee: Moran Frenkel-Pinter Kennda Lynch George Zaharescu	
				Faculty Advisors: Martha Grover Glenn Lightsey	
2018 05 02	NASA Astrobiology	<a href="https://youtu.be/80YQmHce6fs">https://youtu.be/80YQmHce6fs</a>	GaTech Astrobiology Colloquium Atlanta Science Tavern	The Search for Life: Near & Far Presented by Dr. Shawn Domagal-Goldman	<a href="#">Transcript Link</a>
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2018 04 19	NASA Astrobiology	<a href="https://youtu.be/FpQDGBRf-S8">https://youtu.be/FpQDGBRf-S8</a>	GaTech Astrobiology Colloquium Dr. Marcus Bray	Iron: Primordial Cofactor for Biochemistry Presented by Dr. Marcus Bray	<a href="#">Transcript Link</a>
Exploring Life Origins and the Universe: A Networking Event March 30th, 2018					
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2018 04 19	NASA Astrobiology	<a href="https://youtu.be/uaF2p01ZKXE">https://youtu.be/uaF2p01ZKXE</a>	GaTech Astrobiology Colloquium Dr. Bradley Burcar	Phosphorylation in Urea-Rich Eutectic Solvents Presented by Dr. Bradley Burcar	<a href="#">Transcript Link</a>
Exploring Life Origins and the Universe: A Networking Event March 30th, 2018					
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2018 04 19 NASA <https://youtu.be/tB9bEF6yB4o> GaTech Astrobiology Colloquium Dr. Kimberly Chen

Genetics Underlying de novo Origins of Multicellularity in Response to Predation  
Presented by Dr. Kimberly Chen

[Transcript Link](#)

Exploring Life Origins and the Universe: A Networking Event  
March 30th, 2018

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Dr. Ada Yonath

Dr. Niles Lehman

Dr. Shawn Domagal-Goldman

Organizing Committee:

Moran Frenkel-Pinter

Kennda Lynch

George Zaharescu

Faculty Advisors:

Martha Grover

2018 04 19 NASA <https://youtu.be/jsr5G8h-3Xw> GaTech Astrobiology Colloquium Dr. Zachary Duca

Quantitative, Compositional Analysis of Trace Amino Acids in Europa Analogues  
Presented by Dr. Zachary Duca

[Transcript Link](#)

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2018 04 19	NASA Astrobiology	<a href="https://youtu.be/HJIEfLDOIzQ">https://youtu.be/HJIEfLDOIzQ</a>	GaTech Astrobiology Colloquium Dr. David Fialho	Glycosylation of Model Proto-RNA Nucleobases Presented by Dr. David Fialho	<a href="#">Transcript Link</a>
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2018 04 19	NASA Astrobiology	<a href="https://youtu.be/3jq0Cbzk6Ls">https://youtu.be/3jq0Cbzk6Ls</a>	GaTech Astrobiology Colloquium Dr. Andrea Krafft	The Embedded Scientist Program Presented by Dr. Andrea Krafft	<a href="#">Transcript Link</a>
Exploring Life Origins and the Universe: A Networking Event March 30th, 2018					
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2018 04 19	NASA Astrobiology	<a href="https://youtu.be/1CmhAW6t0Ms">https://youtu.be/1CmhAW6t0Ms</a>	GaTech Astrobiology Colloquium Dr. Nelson Lourenco	GTRI Space Strategic Initiative: MicroNimbus CubeSat Presented by Dr. Nelson Lourenco  Exploring Life Origins and the Universe: A Networking Event March 30th, 2018	<a href="#">Transcript Link</a>
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2018 04 19	NASA Astrobiology	<a href="https://youtu.be/OxMpryo6oNw">https://youtu.be/OxMpryo6oNw</a>	GaTech Astrobiology Colloquium Dr. Pedro Marquez-Zacarias	Exo-Evo? An Organismal Approach to Evolutionary Dynamics Presented by Dr. Pedro Marquez-Zacarias  Exploring Life Origins and the Universe: A Networking Event March 30th, 2018	<a href="#">Transcript Link</a>
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2018 04 19	NASA Astrobiology	<a href="https://youtu.be/f5mt02r3CTo">https://youtu.be/f5mt02r3CTo</a>	GaTech Astrobiology Colloquium Dr. Aaron McKee	A Possible Path to Prebiotic Peptides Presented by Dr. Aaron McKee	<a href="#">Transcript Link</a>
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2018 04 19	NASA Astrobiology	<a href="https://youtu.be/TNyabL8rCNO">https://youtu.be/TNyabL8rCNO</a>	GaTech Astrobiology Colloquium Dr. Martin Solano	Chemical Selection of Plausible Protopolypeptides Presented by Dr. Martin Solano	<a href="#">Transcript Link</a>
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2018 04 19	NASA Astrobiology	<a href="https://youtu.be/ohmtTWCD4mw">https://youtu.be/ohmtTWCD4mw</a>	GaTech Astrobiology Colloquium Dr. Nadia Szeinbaum	New Pathways for Old Metals Presented by Dr. Nadia Szeinbaum	<a href="#">Transcript Link</a>
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2018 04 19	NASA Astrobiology	<a href="https://youtu.be/nlFMjW3JHQI">https://youtu.be/nlFMjW3JHQI</a>	GaTech Astrobiology Colloquium Dr. Olga Taran	Iron Sulfide Minerals in Prebiotic Redox Chemistry Presented by Dr. Olga Taran	<a href="#">Transcript Link</a>
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Faculty Advisors: Martha Grover Glenn Lightsey					

2018 03 22 NASA Astrobiology <https://youtu.be/CWo81diwBAA> Ask An Astrobiologist Computer Modeling and Searching for Biosignatures with Shawn Domagal-Goldman

Once a month, SAGANet ([www.saganet.org](http://www.saganet.org)) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.

Each session lasts about an hour.

Ask An Astrobiologist: Episode 12  
Computer Modeling and Searching for Biosignatures  
Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)

Featured Guest: Dr. Shawn Domagal-Goldman (NASA Goddard Space Flight Center)

Directed by Mike Toillion (NASA Astrobiology Program)  
Music by Sam Doshier (NASA Astrobiology Institute)

2018 03 02 NASA Astrobiology <https://youtu.be/y6r9VAzbcE4> Ask An Astrobiologist Physics and the Origin of Life with Dr. Sara Imari Walker

Once a month, SAGANet ([www.saganet.org](http://www.saganet.org)) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.

Each session lasts about an hour.

Ask An Astrobiologist: Episode 11  
Physics and the Origin of Life  
Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)

Featured Guest: Dr. Sara Imari Walker (Arizona State University)

Directed by Mike Toillion (NASA Astrobiology Program)  
Music by Sam Doshier (NASA Astrobiology Institute)

2018 02 08 NASA  
Astrobiology <https://youtu.be/57F6v6Yqoc> 6th ELSI Symposium  
George Whitesides

6th ELSI International Symposium  
Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology

[Transcript Link](#)

Conference website: [www.elsi6sympo.org](http://www.elsi6sympo.org)

Understanding the transition from the Earth's earliest geochemistry, to the later emergence of life, requires a synthesis of knowledge across an unprecedented range of scales of size, time, and complexity. We need both empirical data, and the ability to synthesize, compute, and reason at levels linking elementary mechanisms in organic geochemistry and catalysis, available energy systems, the assembly and roles of intermediate-scale structures, and reaching all the way to molecular and ecological systems evolutionary biology. Recent advances in several areas bring us close to connecting all the links in a chain needed to reason from micro to macro, from geochemistry to nascent biochemistry. The goal in this symposium is to hold a collaborative conversation, among speakers and participants, to sketch the form of this emerging bridge, and to point out both the most compelling opportunities and the most urgent needs.

Speaker List:

Haruyuki Atomi (Kyoto University)  
Eric Boyd (Montana State University)  
Rogier Braakman (MIT)  
George Cody (Carnegie Institution for Science)

2018 02 08 NASA  
Astrobiology <https://youtu.be/VcBte2kng-Q> 6th ELSI Symposium Paul Falkowski

6th ELSI International Symposium  
Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology

[Transcript Link](#)

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Haruyuki Atomi (Kyoto University)  
Eric Boyd (Montana State University)  
Rogier Braakman (MIT)  
George Cody (Carnegie Institution for Science)

2018 02 08 NASA <https://youtu.be/X8iWAJqG09U> 6th ELSI Symposium Vikas Nanda 6th ELSI International Symposium Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology [Transcript Link](#)

Conference website: [www.elsi6sympo.org](http://www.elsi6sympo.org)

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Haruyuki Atomi (Kyoto University)

Eric Boyd (Montana State University)

Rogier Braakman (MIT)

George Cody (Carnegie Institution for Science)

2018 02 08 NASA <https://youtu.be/k64aARltHlI> 6th ELSI Symposium Rogier Braakman 6th ELSI International Symposium Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology [Transcript Link](#)

Conference website: [www.elsi6sympo.org](http://www.elsi6sympo.org)

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Speaker List:

Haruyuki Atomi (Kyoto University)

Eric Boyd (Montana State University)

Rogier Braakman (MIT)

George Cody (Carnegie Institution for Science)

2018 02 08 NASA Astrobiology <https://youtu.be/0X7Mt6u3S5M> 6th ELSI Symposium Marta Ruiz Bermejo

6th ELSI International Symposium  
Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology

[Transcript Link](#)

Conference website: [www.elsi6sympo.org](http://www.elsi6sympo.org)

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Speaker List:

Haruyuki Atomi (Kyoto University)  
Eric Boyd (Montana State University)  
Rogier Braakman (MIT)  
George Cody (Carnegie Institution for Science)

2018 02 08 NASA Astrobiology <https://youtu.be/GVGEEIqR25k> 6th ELSI Symposium Shawn McGlynn

6th ELSI International Symposium  
Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology

[Transcript Link](#)

Conference website: [www.elsi6sympo.org](http://www.elsi6sympo.org)

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Haruyuki Atomi (Kyoto University)  
Eric Boyd (Montana State University)  
Rogier Braakman (MIT)  
George Cody (Carnegie Institution for Science)

2018 02 08 NASA <https://youtu.be/Gvw-wDC48j4> 6th ELSI Symposium Marc Koper 6th ELSI International Symposium Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology [Transcript Link](#)

Conference website: [www.elsi6sympo.org](http://www.elsi6sympo.org)

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Haruyuki Atomi (Kyoto University)

Eric Boyd (Montana State University)

Rogier Braakman (MIT)

George Cody (Carnegie Institution for Science)

2018 02 08 NASA <https://youtu.be/l6SefnJlbXw> 6th ELSI Symposium George Cody 6th ELSI International Symposium Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology [Transcript Link](#)

Conference website: [www.elsi6sympo.org](http://www.elsi6sympo.org)

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Eric Boyd (Montana State University)

Rogier Braakman (MIT)

George Cody (Carnegie Institution for Science)

2018 02 08 NASA <https://youtu.be/c0nCa-dm8Vdl> 6th ELSI Symposium Hong-Yan Shih 6th ELSI International Symposium Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology [Transcript Link](#)

Conference website: [www.elsi6sympo.org](http://www.elsi6sympo.org)

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Haruyuki Atomi (Kyoto University)

Eric Boyd (Montana State University)

Rogier Braakman (MIT)

George Cody (Carnegie Institution for Science)

2018 02 08 NASA <https://youtu.be/d1EsVgC0geA> 6th ELSI Symposium Donato Giovannelli 6th ELSI International Symposium Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology [Transcript Link](#)

Conference website: [www.elsi6sympo.org](http://www.elsi6sympo.org)

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Eric Boyd (Montana State University)

Rogier Braakman (MIT)

George Cody (Carnegie Institution for Science)

2018 02 08 NASA [https://youtu.be/l1\\_ScTijV50](https://youtu.be/l1_ScTijV50) 6th ELSI Symposium Christoph Flamm 6th ELSI International Symposium Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology [Transcript Link](#)

Conference website: [www.elsi6sympo.org](http://www.elsi6sympo.org)

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Eric Boyd (Montana State University)

Rogier Braakman (MIT)

George Cody (Carnegie Institution for Science)

2018 02 08 NASA <https://youtu.be/u5R0ptE7cNI> 6th ELSI Symposium Shaunna Morrison 6th ELSI International Symposium Building Bridges from Earth to Life: From Chemical Mechanism to Ancient Biology [Transcript Link](#)

Conference website: [www.elsi6sympo.org](http://www.elsi6sympo.org)

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Eric Boyd (Montana State University)

Rogier Braakman (MIT)

George Cody (Carnegie Institution for Science)

2018 01 31 NASA <https://youtu.be/3Wg5eYELXsQ> ELSI Visitor Profiles Dr. Jennifer Stern [Transcript Link](#)

2018 01 31 NASA <https://youtu.be/PmsBdWcidLM> ELSI Visitor Profiles Dr. Dominic Papineau [Transcript Link](#)

2018 01 31 NASA <https://youtu.be/ZYnSMwOEjEM> ELSI Visitor Profiles Dr. Robert Hazen [Transcript Link](#)

2018 01 26 NASA <https://youtu.be/1kYRv63pRrE> Ask An Astrobiologist 'Oumuamua and Other Mysteries of Space with Dr. Sean Raymond

Once a month, SAGANet ([www.saganet.org](http://www.saganet.org)) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter, facebook, and chat questions live on video.

Each session lasts about an hour.

Ask An Astrobiologist: Episode 10  
'Oumuamua and Other Mysteries of Space  
Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)

Featured Guest: Dr. Sean Raymond (Université de Bordeaux, France)

Directed by Mike Toillion (NASA Astrobiology Program)  
Music by Sam Doshier (NASA Astrobiology Institute)

[Transcript Link](#)

2017 12 08	NASA Astrobiology	<a href="https://youtu.be/br64mZsIQWw">https://youtu.be/br64mZsIQWw</a>	Searching for Habitable Worlds A Special Panel Discussion	After a week long systems science workshop about the search for habitable worlds, Elizabeth Tasker (ISAS/JAXA) hosts a panel discussion of astrobiologists to discuss the myriad approaches to understanding the search for life in the universe.	<a href="#">Transcript Link</a>
				Introduction by Hannah Jang-Condell (University of Wyoming) Hosted by Elizabeth Tasker (ISAS/JAXA)	
				Panel Guests: Aki Roberge (NASA Goddard Spaceflight Center) Andrew Rushby (NASA Ames Research Center) Giada Arney (NASA Goddard Spaceflight Center)	
				This presentation was made possible by the NASA Astrobiology Program. <a href="http://www.astrobiology.nasa.gov">www.astrobiology.nasa.gov</a>	
2017 11 10	NASA Astrobiology	<a href="https://youtu.be/4H-ZlCbssjs">https://youtu.be/4H-ZlCbssjs</a>	Ask An Astrobiologist Fostering an Astrobiology Community with Dr. Carl Pilcher	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter and chat questions live on video. Each session lasts about an hour.  Ask An Astrobiologist: Episode 9 Fostering an Astrobiology Community Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)	<a href="#">Transcript Link</a>
				Featured Guest: Dr. Carl Pilcher (NASA Astrobiology Institute)	
				Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)	
2017 11 03	NASA Astrobiology	<a href="https://youtu.be/kxMYx9gQ2rU">https://youtu.be/kxMYx9gQ2rU</a>	Space Dust to Sentience Dr. Shawn McGlynn	ELSI Origins I: Space Dust to Sentience An Earth-Life Science Institute Public Event  The Origin of Microbial and Communal Life; the Journey of the Progenote to the Last Universal Common Ancestor by Dr. Shawn McGlynn	<a href="#">Transcript Link</a>
				What is the origin of the earth? What is the origin of life? Come with us on a scientific journey from the birth of planets all the way to the origins of conscious thought and artificial intelligence.	
				On September 30, scientists at Earth-Life Science Institute (ELSI) of Tokyo Tech spoke to the public about what we work on at ELSI, as we try to understand the major transitions in the universe that led to life and beyond. Hear from scientists carrying out cutting edge research on geological and planetary sciences, life sciences and astrobiology.	

2017 11 03	NASA Astrobiology	<a href="https://youtu.be/W4ofYRd_zyo">https://youtu.be/W4ofYRd_zyo</a>	Space Dust to Sentience Marc Kaufman	ELSI Origins I: Space Dust to Sentience An Earth-Life Science Institute Public Event  Human Life at ELSI: The People Behind the Research by Marc Kaufman	<a href="#">Transcript Link</a>
<p>What is the origin of the earth? What is the origin of life? Come with us on a scientific journey from the birth of planets all the way to the origins of conscious thought and artificial intelligence.</p>					
<p>On September 30, scientists at Earth-Life Science Institute (ELSI) of Tokyo Tech spoke to the public about what we work on at ELSI, as we try to understand the major transitions in the universe that led to life and beyond. Hear from scientists carrying out cutting edge research on geological and planetary sciences, life sciences and astrobiology.</p>					
2017 11 03	NASA Astrobiology	<a href="https://youtu.be/BLenkDBKkml">https://youtu.be/BLenkDBKkml</a>	Space Dust to Sentience Dr. Ramon Brassler	ELSI Origins I: Space Dust to Sentience An Earth-Life Science Institute Public Event  The Building Blocks and Formation of Earth by Dr. Ramon Brassler	<a href="#">Transcript Link</a>
<p>What is the origin of the earth? What is the origin of life? Come with us on a scientific journey from the birth of planets all the way to the origins of conscious thought and artificial intelligence.</p>					
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2017 11 01	NASA Astrobiology	<a href="https://youtu.be/h7Uwg-eRGSQ">https://youtu.be/h7Uwg-eRGSQ</a>	Space Dust to Sentience Dr. Nicholas Guttenberg	ELSI Origins I: Space Dust to Sentience An Earth-Life Science Institute Public Event  Understanding Intelligence by Trying to Build It by Dr. Nicholas Guttenberg	<a href="#">Transcript Link</a>
<p>What is the origin of the earth? What is the origin of life? Come with us on a scientific journey from the birth of planets all the way to the origins of conscious thought and artificial intelligence.</p>					
<p>On September 30, scientists at Earth-Life Science Institute (ELSI) of Tokyo Tech spoke to the public about what we work on at ELSI, as we try to understand the major transitions in the universe that led to life and beyond. Hear from scientists carrying out cutting edge research on geological and planetary sciences, life sciences and astrobiology.</p>					

2017 11 01	NASA Astrobiology	<a href="https://youtu.be/aYuzZsWxTGM">https://youtu.be/aYuzZsWxTGM</a>	Space Dust to Sentience Dr. Marine Lasbleis	ELSI Origins I: Space Dust to Sentience An Earth-Life Science Institute Public Event  The Earth's Core and the Origin of Planetary Magnetic Fields by Dr. Marine Lasbleis	<a href="#">Transcript Link</a>
<p>What is the origin of the earth? What is the origin of life? Come with us on a scientific journey from the birth of planets all the way to the origins of conscious thought and artificial intelligence.</p>					
<p>On September 30, scientists at Earth-Life Science Institute (ELSI) of Tokyo Tech spoke to the public about what we work on at ELSI, as we try to understand the major transitions in the universe that led to life and beyond. Hear from scientists carrying out cutting edge research on geological and planetary sciences, life sciences and astrobiology.</p>					
2017 11 01	NASA Astrobiology	<a href="https://youtu.be/hrBC5oOwSwl">https://youtu.be/hrBC5oOwSwl</a>	Space Dust to Sentience Dr. Jim Cleaves	ELSI Origins I: Space Dust to Sentience An Earth-Life Science Institute Public Event  The Origin of Life From Prebiotic Chemistry to the Progenote by Dr. Elizabeth Tasker	<a href="#">Transcript Link</a>
<p>What is the origin of the earth? What is the origin of life? Come with us on a scientific journey from the birth of planets all the way to the origins of conscious thought and artificial intelligence.</p>					
<p>On September 30, scientists at Earth-Life Science Institute (ELSI) of Tokyo Tech spoke to the public about what we work on at ELSI, as we try to understand the major transitions in the universe that led to life and beyond. Hear from scientists carrying out cutting edge research on geological and planetary sciences, life sciences and astrobiology.</p>					
2017 11 01	NASA Astrobiology	<a href="https://youtu.be/IM2ejCUMNXk">https://youtu.be/IM2ejCUMNXk</a>	Space Dust to Sentience Dr. Jennifer Hoyal Cuthill	ELSI Origins I: Space Dust to Sentience An Earth-Life Science Institute Public Event  The Origin of Animals by Dr. Jennifer Hoyal Cuthill	<a href="#">Transcript Link</a>
<p>What is the origin of the earth? What is the origin of life? Come with us on a scientific journey from the birth of planets all the way to the origins of conscious thought and artificial intelligence.</p>					
<p>On September 30, scientists at Earth-Life Science Institute (ELSI) of Tokyo Tech spoke to the public about what we work on at ELSI, as we try to understand the major transitions in the universe that led to life and beyond. Hear from scientists carrying out cutting edge research on geological and planetary sciences, life sciences and astrobiology.</p>					

2017 11 01	NASA Astrobiology	<a href="https://youtu.be/Gub4fCdwQQ4">https://youtu.be/Gub4fCdwQQ4</a>	Space Dust to Sentience Dr. Elizabeth Tasker	ELSI Origins I: Space Dust to Sentience An Earth-Life Science Institute Public Event  Life Beyond Our Planet by Dr. Elizabeth Tasker	<a href="#">Transcript Link</a>
				What is the origin of the earth? What is the origin of life? Come with us on a scientific journey from the birth of planets all the way to the origins of conscious thought and artificial intelligence.	
				On September 30, scientists at Earth-Life Science Institute (ELSI) of Tokyo Tech spoke to the public about what we work on at ELSI, as we try to understand the major transitions in the universe that led to life and beyond. Hear from scientists carrying out cutting edge research on geological and planetary sciences, life sciences and astrobiology.	
2017 09 08	NASA Astrobiology	<a href="https://youtu.be/7U3gGihjwQ">https://youtu.be/7U3gGihjwQ</a>	Early Career Spotlight Series Dr. Betül Kaçar	NASA Astrobiology profiles the career path of up and coming astrobiologists from all around the world. This episode showcases Dr. Betül Kaçar, an Assistant Professor at the University of Arizona, and a prominent member of the NASA Astrobiology community.	<a href="#">Transcript Link</a>
				Created with support by Dr. Mary Voytek and the NASA Astrobiology Program.	
				Shot and edited by Mike Toillion.	
				Media Credits: Photos provided by Betül Kaçar. Video provided by NASA/PBS: <a href="https://www.pbslearningmedia.org/resource/9ef25915-987a-4f6e-9de9-30a7f7694483/the-search-for-the-origin-of-life-the-tree-of-life/#.WbA9rdMjHOQ">https://www.pbslearningmedia.org/resource/9ef25915-987a-4f6e-9de9-30a7f7694483/the-search-for-the-origin-of-life-the-tree-of-life/#.WbA9rdMjHOQ</a>	
				Music Credits: Intro/Outro Music by Otis McDonald. Music by Kevin MacLeod. Music by Wes Hutchinson. Music by the 126ers.	
				Dreamy Flashback by Kevin MacLeod is licensed under a Creative Commons Attribution license ( <a href="https://creativecommons.org/licenses/by/4.0/">https://creativecommons.org/licenses/by/4.0/</a> ) Source: <a href="http://incompetech.com/music/royalty-">http://incompetech.com/music/royalty-</a>	
2017 09 01	NASA Astrobiology	<a href="https://youtu.be/IntTqDpqmis">https://youtu.be/IntTqDpqmis</a>	Ask An Astrobiologist Submersibles in Space with Dr. Darlene Lim	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter and chat questions live on video. Each session lasts about an hour.  Ask An Astrobiologist: Episode 8 Submersibles in Space Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)	<a href="#">Transcript Link</a>
				Featured Guest: Dr. Darlene Lim (NASA Ames Research Center)	
				Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)	

2017 07 14	NASA Astrobiology	<a href="https://youtu.be/fg9lqaEgrp0">https://youtu.be/fg9lqaEgrp0</a>	Ask An Astrobiologist Water, Rocks, and the Potential for Life with Dr. Alexis Templeton	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter and chat questions live on video. Each session lasts about an hour.  Ask An Astrobiologist: Episode 7 Water, Rocks, and the Potential for Life Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)  Featured Guest: Dr. Alexis Templeton (Associate Professor of Geology, University of Colorado, Boulder)  Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)	<a href="#">Transcript</a> <a href="#">Link</a>
2017 06 15	NASA Astrobiology	<a href="https://youtu.be/OqbtEnSf_K4">https://youtu.be/OqbtEnSf_K4</a>	AbGradCon 2017 - Day 2 - Bradley Burcar	Warm-up Talk: Biosignatures, Proteins, and Lipids Presented by: Bradley Burcar  AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically-inclined graduate students and early career researchers to come together to share their research, collaborate, and network. AbGradCon 2017 marks the 13th year of this conference—each time in a different place and organized by a different group of students, but always with the original charter as a guide.  Since it is organized and attended by only graduate students, post docs, and select undergraduates (see below), AbGradCon is an ideal venue for the next generation of career astrobiologists to form bonds, share ideas, and discuss the issues that will shape the future of the field.  Music by MK2 (YouTube Audio Library)	<a href="#">Transcript</a> <a href="#">Link</a>
2017 06 15	NASA Astrobiology	<a href="https://youtu.be/SSNONC1d7uU">https://youtu.be/SSNONC1d7uU</a>	AbGradCon 2017 - Day 2 - Shreyas Vissapragada	Predicting COM Emission from the TW Hya Protoplanetary Disk Presented by: Shreyas Vissapragada  AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically-inclined graduate students and early career researchers to come together to share their research, collaborate, and network. AbGradCon 2017 marks the 13th year of this conference—each time in a different place and organized by a different group of students, but always with the original charter as a guide.  Since it is organized and attended by only graduate students, post docs, and select undergraduates (see below), AbGradCon is an ideal venue for the next generation of career astrobiologists to form bonds, share ideas, and discuss the issues that will shape the future of the field.  Music by MK2 (YouTube Audio Library)	<a href="#">Transcript</a> <a href="#">Link</a>

2017 06 15	NASA Astrobiology	<a href="https://youtu.be/UsoNZ00SNfw">https://youtu.be/UsoNZ00SNfw</a>	AbGradCon 2017 - Day 1 - Proposal Writing Retreat	Proposal Writing Retreat Group Presented by: Rebecca Rapf and the PWRG	<a href="#">Transcript Link</a>
<p>AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically-inclined graduate students and early career researchers to come together to share their research, collaborate, and network. AbGradCon 2017 marks the 13th year of this conference—each time in a different place and organized by a different group of students, but always with the original charter as a guide.</p>					
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<p>Music by MK2 (YouTube Audio Library)</p>					
2017 06 15	NASA Astrobiology	<a href="https://youtu.be/tTqQMle8Xns">https://youtu.be/tTqQMle8Xns</a>	AbGradCon 2017 - Day 1 - Danny Barringer	A Coherent Content Storyline on Exoplanets Presented by: Danny Barringer	<a href="#">Transcript Link</a>
<p>AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically-inclined graduate students and early career researchers to come together to share their research, collaborate, and network. AbGradCon 2017 marks the 13th year of this conference—each time in a different place and organized by a different group of students, but always with the original charter as a guide.</p>					
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<p>Music by MK2 (YouTube Audio Library)</p>					
2017 06 15	NASA Astrobiology	<a href="https://youtu.be/yfYofAJlg4g">https://youtu.be/yfYofAJlg4g</a>	AbGradCon 2017 - Day 2 - Brandon Carroll	Warm-up Talk: Molecules: How Might We Blow Them Up? and So Your Molecule Was Blown Up: How to Pick Up the Pieces and Put Humpty Back Together Again Presented by: Brandon Carroll	<a href="#">Transcript Link</a>
<p>AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically-inclined graduate students and early career researchers to come together to share their research, collaborate, and network. AbGradCon 2017 marks the 13th year of this conference—each time in a different place and organized by a different group of students, but always with the original charter as a guide.</p>					
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<p>Music by MK2 (YouTube Audio Library)</p>					

2017 06 15 NASA Astrobiology <https://youtu.be/5Q-EY2OgbJk> AbGradCon 2017 - Day 1 - Ryan Loomis - Uncovering Dust Sub-structure and Chemical Complexity in Protoplanetary Disks Presented by: Ryan Loomis [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/JD9UDLnm6E8> AbGradCon 2017 - Day 2 - Fanny Vazart - Possible Gas-Phase Formation Routes of Complex Organic Molecules in the ISM: Formamide and Cyanomethanimine Isomers Presented by: Fanny Vazart [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/LKJZyQUh4JI> AbGradCon 2017 - Day 1 - Thea Kozakis - UV Environments of Earth-Like Planets Orbiting White Dwarfs Presented by: Thea Kozakis [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/LadfBTJSNRM> AbGradCon 2017 - A New Model of the Chemistry of Ionizing Radiation in Solids (Cosmic Rays Bite the Dust!) Day 2 - Christopher Shingledecker Presented by: Christopher Shingledecker [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/l4UoSTInSPQ> AbGradCon 2017 - UV Photodestruction of Interstellar Ices: A New Laboratory Survey Day 2 - Ilsa Cooke Presented by: Ilsa Cooke [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology [https://youtu.be/w8CdTc2o\\_YQ](https://youtu.be/w8CdTc2o_YQ) AbGradCon 2017 - Rings and Gaps in Protoplanetary Disks: Formation by Magnetic Fields Day 1 - Scott Suriano Presented by: Scott Suriano [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/gSuKjQJk9BY> AbGradCon 2017 - Warm-up Talk: Building Planets and Listening to the Songs of Their Peoples  
Day 1 - Sonny Harman  
Presented by: Sonny Harman [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/QGmw1Xsh-SE> AbGradCon 2017 - BIOMEX on EXPOSE-R2: Preservation of Raman Biosignatures in Cyanobacteria and Green Algae After Space Exposure  
Day 2 - Mickael Baque  
Presented by: Mickael Baque [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA <https://youtu.be/3gXBJobv00IU> AbGradCon 2017 - Career Panel Discussion [Transcript Link](#)  
Astrobiology Day 2 - Career Panel  
Featuring:  
Dr. Garrod (University of Virginia)  
Dr. Sarah Horst (Johns Hopkins University)  
Dr. Amanda Kepley (National Radio Astronomy Observatory)  
Dr. Miriam Friedel (Elder Research)  
Anthony Remijan (Joint ALMA Observatory)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA <https://youtu.be/eYXMMHeXLWM> AbGradCon 2017 - The Lipid Record of Life on Mars [Transcript Link](#)  
Astrobiology Day 2 - Jonathan Tan Presented by: Jonathan Tan

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/rABX3IoNZSI> AbGradCon 2017 - Day 2 - Keyron Hickman-Lewis - Archaeal Chemotrophic Biosignatures: Analogues for a Putative Martian Biosphere? Presented by: Keyron Hickman-Lewis [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/FKvyR4HPFNI> AbGradCon 2017 - Day 2 - Nicholas Kovacs - Frozen in Time: The History of Proteins Presented by: Nicholas Kovacs [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/kn7FdUCtwTg> AbGradCon 2017 - Day 2 - Tony Jia - Prebiotic Peptide Self-Assembly Presented by: Tony Jia [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/mOgnwuse7fg> AbGradCon 2017 - Breakthrough Listen and the Future of the Search for Intelligent Life Day 2 - Emilio Enriquez Presented by: Emilio Enriquez [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/sGEVfWsk-PO> AbGradCon 2017 - Aqueous Photochemical Oligomerization of Simple Lipids: Using Sunlight to Drive Synthesis and Self-Assembly of Membranes Day 2 - Rebecca Rapf Presented by: Rebecca Rapf [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/9e1ggZzFM2A> AbGradCon 2017 - We're Not the Only Rock in This Here Solar System Day 3 - Jay Kroll Presented by: Jay Kroll [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/wpzTZ8-lvFQ> AbGradCon 2017 - Seasonal Variations in Titan's Atmosphere Observed with ALMA Day 3 - Alexander Thelen Presented by: Alexander Thelen [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/IAVaaiuDU7U> AbGradCon 2017 - The Atmospheric Evolution of Early Venus Through Hydrogen Loss Day 3 - Sonny Harman Presented by: Sonny Harman [Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/U3vdhgdKFA4> AbGradCon 2017 - Quantifying the Threshold of Organic Detection in Evaporites: Constraining Martian Biosignature Preservation Day 3 - Arman Seuylemezian Presented by: Arman Seuylemezian [Transcript Link](#)

AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically-inclined graduate students and early career researchers to come together to share their research, collaborate, and network. AbGradCon 2017 marks the 13th year of this conference—each time in a different place and organized by a different group of students, but always with the original charter as a guide.

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/blepFt6j7zA> AbGradCon 2017 - Day 3 - Shana Kendall

Stromatolite Texture Analysis: Hot Spring Geysersite  
Presented by: Shana Kendall

[Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/XVZnCzqCMwc> AbGradCon 2017 - Day 3 - Julia McGonigle

Community Composition & Metabolic Characterization of Bonneville Salt Flats  
Presented by: Julia McGonigle

[Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 06 15 NASA Astrobiology <https://youtu.be/dGP-loG1onY> AbGradCon 2017 - Day 3 - Victoria Laye

Mutagenic Analysis of a Polyextremophilic  $\beta$ -Galactosidase from an Antarctic Haloarchaeon: Potential Model for Life on Mars  
Presented by: Victoria Laye

[Transcript Link](#)

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Music by MK2 (YouTube Audio Library)

2017 05 31	NASA Astrobiology	<a href="https://youtu.be/OmDEfF8KfOO">https://youtu.be/OmDEfF8KfOO</a>	Ask An Astrobiologist Hot Springs and the Search for Life with Dr. Eric Boyd	Once a month, SAGANet (www.saganet.org) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter and chat questions live on video. Each session lasts about an hour.  Ask an Astrobiologist: Episode 6 Hot Springs and the Search for Life Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)  Featured Guest: Dr. Eric Boyd (Assistant Professor of Microbiology & Immunology, Montana State University)  Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)	<a href="#">Transcript Link</a>
2017 05 12	NASA Astrobiology	<a href="https://youtu.be/FFJRqz37JNs">https://youtu.be/FFJRqz37JNs</a>	AbSciCon 2017 • Day 2 • Session 2 Magdalena Osburn	The theme for AbSciCon 2017 is "Diverse Life and its Detection on Different Worlds." Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars' habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.  www.astrobiology.nasa.gov	<a href="#">Transcript Link</a>
2017 05 11	NASA Astrobiology	<a href="https://youtu.be/kwaDd-wDfiQ">https://youtu.be/kwaDd-wDfiQ</a>	AbSciCon 2017 • Day 5 • Session 2 Natalie Hinkel	The theme for AbSciCon 2017 is "Diverse Life and its Detection on Different Worlds." Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars' habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.  www.astrobiology.nasa.gov	<a href="#">Transcript Link</a>
2017 05 11	NASA Astrobiology	<a href="https://youtu.be/yu1PUcfqpvQ">https://youtu.be/yu1PUcfqpvQ</a>	AbSciCon 2017 • Day 5 • Session 2 Amanda Truitt	The theme for AbSciCon 2017 is "Diverse Life and its Detection on Different Worlds." Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars' habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.  www.astrobiology.nasa.gov	<a href="#">Transcript Link</a>

2017 05 11	NASA Astrobiology	<a href="https://youtu.be/UnvW5rrZCrw">https://youtu.be/UnvW5rrZCrw</a>	AbSciCon 2017 • Day 5 • Session 2 Charley Lineweaver	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 11	NASA Astrobiology	<a href="https://youtu.be/kCkVE NrB0jY">https://youtu.be/kCkVE NrB0jY</a>	AbSciCon 2017 • Day 5 • Session 2 Laura Schaefer	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 11	NASA Astrobiology	<a href="https://youtu.be/9h-8YxRv7DU">https://youtu.be/9h-8YxRv7DU</a>	AbSciCon 2017 • Day 5 • Session 2 Adam Schneider	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 11	NASA Astrobiology	<a href="https://youtu.be/5UQD581NSB0">https://youtu.be/5UQD581NSB0</a>	AbSciCon 2017 • Day 5 • Session 1 Matt Tilley	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					

- 2017 05 11 NASA Astrobiology <https://youtu.be/kBg4D9gyfeQ> AbSciCon 2017 • Day 5 • Session 1 Rodrigo Luger The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)
- www.astrobiology.nasa.gov
- 2017 05 11 NASA Astrobiology <https://youtu.be/wkLfThXax8U> AbSciCon 2017 • Day 5 • Session 1 Victoria Meadows The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)
- www.astrobiology.nasa.gov
- 2017 05 11 NASA Astrobiology <https://youtu.be/prLWbEDVCAI> AbSciCon 2017 • Day 5 • Session 1 Russell Deitrick The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)
- www.astrobiology.nasa.gov
- 2017 05 11 NASA Astrobiology <https://youtu.be/blce7ulOWHA> AbSciCon 2017 • Day 5 • Session 1 David Fleming The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)
- www.astrobiology.nasa.gov

2017 05 11 NASA Astrobiology <https://youtu.be/4oHqZnSl3g4> AbSciCon 2017 • Day 5 • Session 1 Tony Del Genio The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)

[www.astrobiology.nasa.gov](http://www.astrobiology.nasa.gov)

2017 05 11 NASA Astrobiology <https://youtu.be/6im2KtNHwpk> AbSciCon 2017 • Day 5 • Session 1 Alex Bixel [Transcript Link](#)

2017 05 11 NASA Astrobiology <https://youtu.be/ZtNdAfp1Ycw> AbSciCon 2017 • Day 5 • Plenary Increasing the Number of Astrobiology Instruments on NASA Missions The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [0](#)

[www.astrobiology.nasa.gov](http://www.astrobiology.nasa.gov)

2017 05 11 NASA Astrobiology <https://youtu.be/AvQlaNpulsU> AbSciCon 2017 • Day 4 • Public Talk Managing Earth as a Planet The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)

[www.astrobiology.nasa.gov](http://www.astrobiology.nasa.gov)

2017 05 11 NASA Astrobiology <https://youtu.be/zfcWP AfIVtY> AbSciCon 2017 • Day 4 • Session 4 Stephanie Napieralski The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)

[www.astrobiology.nasa.gov](http://www.astrobiology.nasa.gov)

2017 05 11 NASA Astrobiology <https://youtu.be/pCQij6 f-WMw> AbSciCon 2017 • Day 4 • Session 3 Nathaniel Fortney [Transcript Link](#)

2017 05 11 NASA Astrobiology <https://youtu.be/C1vXl mlkIKM> AbSciCon 2017 • Day 4 • Session 3 David Emerson The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)

[www.astrobiology.nasa.gov](http://www.astrobiology.nasa.gov)

2017 05 11 NASA Astrobiology <https://youtu.be/CTwqg vs9OQk> AbSciCon 2017 • Day 4 • Session 2 Michael Kipp The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)

[www.astrobiology.nasa.gov](http://www.astrobiology.nasa.gov)

2017 05 11 NASA Astrobiology <https://youtu.be/5vQpkV6AOjo> AbSciCon 2017 • Day 4 • Session 2 Muammar Mansor

The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.

[Transcript Link](#)

[www.astrobiology.nasa.gov](http://www.astrobiology.nasa.gov)

2017 05 11 NASA Astrobiology <https://youtu.be/CclVjZsgLXg> AbSciCon 2017 • Day 4 • Session 1 Betul Kacar

[Transcript Link](#)

2017 05 10 NASA Astrobiology <https://youtu.be/lxnZfpz-ESE> AbSciCon 2017 • Day 4 • Session 1 Abby Caron

The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.

[Transcript Link](#)

[www.astrobiology.nasa.gov](http://www.astrobiology.nasa.gov)

2017 05 10 NASA Astrobiology <https://youtu.be/JZEsMRrtRFA> AbSciCon 2017 • Day 4 • Tribute to Dr. Carl Pilcher

The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.

[Transcript Link](#)

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2017 05 10	NASA Astrobiology	<a href="https://youtu.be/61cyMUoyUxY">https://youtu.be/61cyMUoyUxY</a>	AbSciCon 2017 • Day 4 • Plenary The Evolutionary Transition to Oxygenic Photosynthesis	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/-SmLrKS7POA">https://youtu.be/-SmLrKS7POA</a>	AbSciCon 2017 • Day 3 • Session 2 Rodrigo Luger	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/Wx267NE4HI">https://youtu.be/Wx267NE4HI</a>	AbSciCon 2017 • Day 3 • Session 2 Katherina Feng	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/JHbU8QCNv2o">https://youtu.be/JHbU8QCNv2o</a>	AbSciCon 2017 • Day 3 • Session 2 Shawn Domagal-Goldman	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					

2017 05 10	NASA Astrobiology	<a href="https://youtu.be/hYmRrpBQJPO">https://youtu.be/hYmRrpBQJPO</a>	AbSciCon 2017 • Day 3 • Session 2 Guillermo Nery	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/YIVHuI04Wo">https://youtu.be/YIVHuI04Wo</a>	AbSciCon 2017 • Day 3 • Session 1 Chuhong Mai	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/XDelia_pU2E">https://youtu.be/XDelia_pU2E</a>	AbSciCon 2017 • Day 3 • Session 1 Andrew Lincowski	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/Dy1di0t1lsk">https://youtu.be/Dy1di0t1lsk</a>	AbSciCon 2017 • Day 3 • Session 1 Eric Wolf	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					

2017 05 10	NASA Astrobiology	<a href="https://youtu.be/HfZEeMFgDLc">https://youtu.be/HfZEeMFgDLc</a>	AbSciCon 2017 • Day 3 • Session 1 Jade Checlair	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/1iVvJLb9Rag">https://youtu.be/1iVvJLb9Rag</a>	AbSciCon 2017 • Day 3 • Session 1 Jacob Haqq-Misra	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/jNQjP8I3xEQ">https://youtu.be/jNQjP8I3xEQ</a>	AbSciCon 2017 • Day 3 • Plenary Astrobiology Education	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/9Y_2c0n0EXs">https://youtu.be/9Y_2c0n0EXs</a>	AbSciCon 2017 • Day 1 • Session 3 John Grunsfeld	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					

2017 05 10	NASA Astrobiology	<a href="https://youtu.be/htIsTB78AUU">https://youtu.be/htIsTB78AUU</a>	AbSciCon 2017 • Day 1 • Session 3 Debra Fischer	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/i1NQE dwUVSc">https://youtu.be/i1NQE dwUVSc</a>	AbSciCon 2017 • Day 2 • Public Talk Where Will We Find Alien Life	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/Q5CCr MeVRUE">https://youtu.be/Q5CCr MeVRUE</a>	AbSciCon 2017 • Day 2 • Plenary Recent Developments in Origin of Life Studies	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/gCs8k7 Y9J4Y">https://youtu.be/gCs8k7 Y9J4Y</a>	AbSciCon 2017 • Day 2 • Session 4 Thaddeus Komacek	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					

- 2017 05 10 NASA Astrobiology [https://youtu.be/WFfeq\\_drRU](https://youtu.be/WFfeq_drRU) AbSciCon 2017 • Day 2 • Session 4 Jake Hanson The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)
- www.astrobiology.nasa.gov
- 2017 05 10 NASA Astrobiology <https://youtu.be/iO8c6oahhec> AbSciCon 2017 • Day 2 • Session 4 Owen Lehmer The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)
- www.astrobiology.nasa.gov
- 2017 05 10 NASA Astrobiology <https://youtu.be/SpDMKROf2bA> AbSciCon 2017 • Day 2 • Session 3 Paul Kalas The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)
- www.astrobiology.nasa.gov
- 2017 05 10 NASA Astrobiology <https://youtu.be/WyGkRwE0OWg> AbSciCon 2017 • Day 2 • Session 3 Kimberly Ward-Duong The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them. [Transcript Link](#)
- www.astrobiology.nasa.gov

2017 05 10	NASA Astrobiology	<a href="https://youtu.be/8jwalX6lYVc">https://youtu.be/8jwalX6lYVc</a>	AbSciCon 2017 • Day 2 • Session 3 Gijs Mulders	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/6EpW4Nv4obs">https://youtu.be/6EpW4Nv4obs</a>	AbSciCon 2017 • Day 2 • Session 2 Lindsay Williams	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/V12SatELyQ">https://youtu.be/V12SatELyQ</a>	AbSciCon 2017 • Day 2 • Session 2 Mary Sabuda	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/CSbiFOBmlNA">https://youtu.be/CSbiFOBmlNA</a>	AbSciCon 2017 • Day 2 • Session 1 Lauren Seyler	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					

2017 05 10	NASA Astrobiology	<a href="https://youtu.be/PdwHiZk1H2Q">https://youtu.be/PdwHiZk1H2Q</a>	AbSciCon 2017 • Day 2 • Session 1 Katrina Twing	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/Yfu86sgZyYQ">https://youtu.be/Yfu86sgZyYQ</a>	AbSciCon 2017 • Day 2 • Session 1 Chris German	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/6tMcMJEDb0">https://youtu.be/6tMcMJEDb0</a>	AbSciCon 2017 • Day 1 • Plenary Planetary Protection	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/FzEzQKg2Rs">https://youtu.be/FzEzQKg2Rs</a>	AbSciCon 2017 • Day 3 • Plenary Social & Conceptual Issues in Astrobiology	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					

2017 05 10	NASA Astrobiology	<a href="https://youtu.be/9wqLvik8rjM">https://youtu.be/9wqLvik8rjM</a>	AbSciCon 2017 • Day 3 • Session 2 Michelle Hill	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/JNGRdOyyv_o">https://youtu.be/JNGRdOyyv_o</a>	AbSciCon 2017 • Day 1 • Session 2 Benjamin Rackham	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/vL0kCMO5k2Y">https://youtu.be/vL0kCMO5k2Y</a>	AbSciCon 2017 • Day 1 • Session 2 Chester Harman	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/KHWyCPwjZml">https://youtu.be/KHWyCPwjZml</a>	AbSciCon 2017 • Day 1 • Session 2 Eddie Schwieterman	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					

2017 05 10	NASA Astrobiology	<a href="https://youtu.be/8MGQ6Q68JXs">https://youtu.be/8MGQ6Q68JXs</a>	AbSciCon 2017 • Day 1 • Session 1 Jack O'Malley- James	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/914jh6dMWWI">https://youtu.be/914jh6dMWWI</a>	AbSciCon 2017 • Day 1 • Session 1 Shiladitya DasSarma	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/sO4vtD4DTCU">https://youtu.be/sO4vtD4DTCU</a>	AbSciCon 2017 • Day 1 • Session 1 Siddharth Hegde	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/g1uQ4Of8da4">https://youtu.be/g1uQ4Of8da4</a>	AbSciCon 2017 • Day 1 • Session 2 Svetlana Berdyugina	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					

2017 05 10	NASA Astrobiology	<a href="https://youtu.be/K5YGeGem7vg">https://youtu.be/K5YGeGem7vg</a>	AbSciCon 2017 • Day 1 • Session 3 Steven Desch	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/youL74BCeZ1Y">https://youtu.be/youL74BCeZ1Y</a>	AbSciCon 2017 • Day 1 • Session 3 William Bains	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/8YD3dKALPVY">https://youtu.be/8YD3dKALPVY</a>	AbSciCon 2017 • Day 1 • Session 3 Sara Walker	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					
2017 05 10	NASA Astrobiology	<a href="https://youtu.be/rTMt2VBIU_s">https://youtu.be/rTMt2VBIU_s</a>	AbSciCon 2017 • Day 1 • Session 3 Sarah Rugheimer	The theme for AbSciCon 2017 is “Diverse Life and its Detection on Different Worlds.” Mars and icy worlds in our solar system are increasingly recognized as habitable, even as increasing numbers of exoplanets in their stars’ habitable zones have been discovered. The focus is shifting from identification of habitable worlds, to detection of life on them.	<a href="#">Transcript Link</a>
www.astrobiology.nasa.gov					

2017 04 21	NASA Astrobiology	<a href="https://youtu.be/CbZmLi8hgwA">https://youtu.be/CbZmLi8hgwA</a>	Ask An Astrobiologist Robot Explorers on Icy Worlds with Dr. Britney Schmidt	<p>Once a month, SAGANet (<a href="http://www.saganet.org">www.saganet.org</a>) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter and chat questions live on video. Each session lasts about an hour.</p> <p>Ask An Astrobiologist: Episode 5 Robot Explorers on Icy Worlds Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)</p> <p>Featured Guest: Dr. Britney Schmidt (Georgia Tech)</p> <p>Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)</p>	<a href="#">Transcript</a> <a href="#">Link</a>
2017 04 21	NASA Astrobiology	<a href="https://youtu.be/7kjCBYB0ac">https://youtu.be/7kjCBYB0ac</a>	Modern & Ancient Cold Spring Sulfur Deposits in the High Arctic by Graham Lau	<p>Modern &amp; Ancient Cold Spring Sulfur Deposits in the High Arctic Presented by Graham Lau @cosmobiologist <a href="http://cosmobiologist.blogspot.com">cosmobiologist.blogspot.com</a></p> <p>Shot &amp; Edited by Mike Toillion @miketoillion</p> <p>Intro Music by Lakey Inspired Golden Hour <a href="https://youtu.be/HTF1kSn0gLI">https://youtu.be/HTF1kSn0gLI</a> Facebook - <a href="https://www.facebook.com/lakeyinspired">https://www.facebook.com/lakeyinspired</a> Soundcloud - <a href="https://soundcloud.com/lakeyinspired">https://soundcloud.com/lakeyinspired</a></p>	<a href="#">Transcript</a> <a href="#">Link</a>
2017 03 02	NASA Astrobiology	<a href="https://youtu.be/wJZigleDzE">https://youtu.be/wJZigleDzE</a>	Ask An Astrobiologist Meteorites and the Origin of Life with Dr. George Cooper	<p>Once a month, SAGANet (<a href="http://www.saganet.org">www.saganet.org</a>) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter and chat questions live on video. Each session lasts about an hour.</p> <p>Ask An Astrobiologist: Episode 4 Meteorites and the Origin of Life Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)</p> <p>Featured Guest: Dr. George Cooper (NASA Ames Research Center)</p> <p>Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)</p>	<a href="#">Transcript</a> <a href="#">Link</a>
2017 02 24	NASA Astrobiology	<a href="https://youtu.be/kPGxvWz6LJ8">https://youtu.be/kPGxvWz6LJ8</a>	Early Career Spotlight Series Dr. Shawn Domagal-Goldman	<p>NASA Astrobiology profiles the career path of up and coming astrobiologists from all around the world. This episode showcases Dr. Shawn Domagal-Goldman, a NASA civil servant and astrobiologist at the NASA Goddard Space Flight Center.</p> <p>Created with support by Dr. Mary Voytek and the NASA Astrobiology Program.</p> <p>Shot and edited by Mike Toillion.</p> <p>Music by Otis McDonald.</p>	<a href="#">Transcript</a> <a href="#">Link</a>

2017 02 10 NASA <https://youtu.be/eJlaBnXDyow> 5th ELSI Symposium Werner von Bloh "Global carbon cycle models for the early evolution of Earth" presented by Werner von Bloh [Transcript Link](#)

EXPANDING VIEWS ON THE EMERGENCE OF THE BIOSPHERE

The emergence of biosphere on Earth, and possibly elsewhere in the universe, remains one of the great unsolved scientific questions. Research into the origin and subsequent evolution of life takes place across an array of scientific disciplines, including but not limited to planetary sciences, astronomy, theoretical physics, chemistry and biology. The goal of the Symposium is to provide a forum for diverse perspectives and unify the fragmentary knowledge stemming from a single discipline.

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2017 02 10 NASA <https://youtu.be/sJq2kk222Cw> 5th ELSI Symposium Shawn McGlynn "Revisiting electrons, protons, and energy conservation at hydrothermal vents during the emergence of life" presented by Shawn McGlynn [Transcript Link](#)

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2017 02 09 NASA <https://youtu.be/QdxhAhGG8u4> 5th ELSI Symposium Irena Mamajanov "From messy chemistry to biofunctional systems" presented by Irena Mamajanov [Transcript Link](#)  
Astrobiology

#### EXPANDING VIEWS ON THE EMERGENCE OF THE BIOSPHERE

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2017 02 09 NASA [https://youtu.be/sgEm6\\_uEc1k](https://youtu.be/sgEm6_uEc1k) 5th ELSI Symposium Yoko Kebukawa EXPANDING VIEWS ON THE EMERGENCE OF THE BIOSPHERE [Transcript Link](#)  
Astrobiology

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2017 02 09 NASA  
Astrobiology <https://youtu.be/QJyDZVx2WD4> 5th ELSI  
Symposium  
Andrew Knoll

"The Proterozoic Eon: Life and Environments in Earth's Middle Age"  
presented by Andrew Knoll

[Transcript  
Link](#)

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2017 02 09 NASA  
Astrobiology <https://youtu.be/NmgL49SSTYA> 5th ELSI  
Symposium  
Yuichiro Ueno

"Redox buffering of Archean atmosphere" presented by Yuichiro Ueno

[Transcript  
Link](#)

#### EXPANDING VIEWS ON THE EMERGENCE OF THE BIOSPHERE

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2017 02 09 NASA  
Astrobiology <https://youtu.be/MrDYaOYdYSI> 5th ELSI  
Symposium Loren Williams

"RNA and Protein: A match made in the Hadean" presented by Loren Williams

[Transcript Link](#)

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2017 02 09 NASA  
Astrobiology [https://youtu.be/CHu\\_oljKvN8](https://youtu.be/CHu_oljKvN8) 5th ELSI  
Symposium Piet Hut

""Who are we?" presented by Piet Hut

[Transcript Link](#)

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2017 02 09 NASA [https://youtu.be/Q-SDjO\\_mquA](https://youtu.be/Q-SDjO_mquA) 5th ELSI Symposium Charley Lineweaver "Connecting the "Emergence of our biosphere" to the "Emergence of biospheres" presented by Charley Lineweaver [Transcript Link](#)

EXPANDING VIEWS ON THE EMERGENCE OF THE BIOSPHERE

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2017 02 09 NASA <https://youtu.be/WGFaiPW289o> 5th ELSI Symposium Mark Jellinek "The punctuated evolution and enigmatic resilience of plate tectonics: Novel controls on the dynamics and surprising longevity of Earth's habitability" presented by Mark Jellinek [Transcript Link](#)

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2017 02 09 NASA  
Astrobiology <https://youtu.be/0PMkxhBE4xg> 5th ELSI  
Symposium  
Sijbren Otto

"Emergence and evolution of self-replicating molecules from dynamic molecular networks" presented by Sijbren Otto

[Transcript Link](#)

#### EXPANDING VIEWS ON THE EMERGENCE OF THE BIOSPHERE

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2017 02 09 NASA  
Astrobiology <https://youtu.be/Q6T0iGbBevg> 5th ELSI  
Symposium  
Martha Grover

"A system-level viewpoint on the chemical origins of life" presented by Martha Grover

[Transcript Link](#)

#### EXPANDING VIEWS ON THE EMERGENCE OF THE BIOSPHERE

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2017 02 09 NASA <https://youtu.be/-C-IsVNqyPw> 5th ELSI Symposium Kapa Ruiz-Mirazo "Prebiotic systems evolution as a process of protocell development" presented by Kapa Ruiz-Mirazo [Transcript Link](#)

#### EXPANDING VIEWS ON THE EMERGENCE OF THE BIOSPHERE

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2017 02 09 NASA <https://youtu.be/RQyck80kDvM> 5th ELSI Symposium Marc Hirschmann "Accretion and retention of bio-essential elements during Earth's catastrophic early history" presented by Marc Hirschmann [Transcript Link](#)

#### EXPANDING VIEWS ON THE EMERGENCE OF THE BIOSPHERE

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2017 02 09	NASA Astrobiology	<a href="https://youtu.be/SpJZw-68QyE">https://youtu.be/SpJZw-68QyE</a>	5th ELSI Symposium Eric Smith	<p>"The many faces of the nature of life" presented by Eric Smith.</p> <p>EXPANDING VIEWS ON THE EMERGENCE OF THE BIOSPHERE</p> <p>The emergence of biosphere on Earth, and possibly elsewhere in the universe, remains one of the great unsolved scientific questions. Research into the origin and subsequent evolution of life takes place across an array of scientific disciplines, including but not limited to planetary sciences, astronomy, theoretical physics, chemistry and biology. The goal of the Symposium is to provide a forum for diverse perspectives and unify the fragmentary knowledge stemming from a single discipline.</p> <p>Accordingly, the program features talks and discussions aimed at understanding the nature of life, constraints of habitability, early Earth environments, systems chemistry, structure and attributes of early life. The Symposium will gather eminent investigators as well as provide opportunities for early-career scientists to present their findings in a poster format and exchange ideas in discussion sessions.</p>	<a href="#">Transcript Link</a>
2017 02 02	NASA Astrobiology	<a href="https://youtu.be/ZImNeOL0QwQ">https://youtu.be/ZImNeOL0QwQ</a>	Ask An Astrobiologist LUVOIR and the Detection of Life with Dr. Aki Roberge	<p>Once a month, SAGANet (<a href="http://www.saganet.org">www.saganet.org</a>) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter and chat questions live on video. Each session lasts about an hour.</p> <p>Ask An Astrobiologist: Episode 3 LUVOIR and the Detection of Life Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)</p> <p>Featured Guest: Dr. Aki Roberge (NASA Goddard Space Flight Center, Exoplanets and Stellar Astrophysics Laboratory)</p> <p>Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)</p>	<a href="#">Transcript Link</a>
2016 12 15	NASA Astrobiology	<a href="https://youtu.be/s4inAraxiew">https://youtu.be/s4inAraxiew</a>	Ask An Astrobiologist From Quantum Mechanics to the Search for Life with Dr. Juan Pérez Mercader	<p>Once a month, SAGANet (<a href="http://www.saganet.org">www.saganet.org</a>) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter and chat questions live on video. Each session lasts about an hour.</p> <p>Ask An Astrobiologist: Episode 2 From Quantum Mechanics to the Search for Life Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)</p> <p>Featured Guest: Dr. Juan Pérez Mercader (Founder and former Director of the Centro de Astrobiología, CAB, of Madrid, Spain)</p> <p>Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)</p>	<a href="#">0</a>

2016 11 10	NASA Astrobiology	<a href="https://youtu.be/CZebr5swvg">https://youtu.be/CZebr5swvg</a>	Ask An Astrobiologist Astrobiology 101 with Dr. Charles Cockell	Once a month, SAGANet ( <a href="http://www.saganet.org">www.saganet.org</a> ) hosts a program called "Ask an Astrobiologist", where the public is invited to interact with a high-profile astrobiologist, who replies to twitter and chat questions live on video. Each session lasts about an hour.	<a href="#">Transcript</a> <a href="#">Link</a>
				Ask an Astrobiologist: Episode 1 Astrobiology 101 Hosted by Dr. Sanjoy Som (Blue Marble Space Institute of Science)	
				Featured Guest: Dr. Charles Cockell (Director of the UK Center for Astrobiology)	
				Directed by Mike Toillion (NASA Astrobiology Program) Music by Sam Doshier (NASA Astrobiology Institute)	
2016 08 22	NASA Astrobiology	<a href="https://youtu.be/ry6PhPYMCuA">https://youtu.be/ry6PhPYMCuA</a>	AbGradCon 2016 Day 1 - Alex Lanzano		<a href="#">Transcript</a> <a href="#">Link</a>
2016 08 22	NASA Astrobiology	<a href="https://youtu.be/urbFCyzJcNk">https://youtu.be/urbFCyzJcNk</a>	AbGradCon 2016 Day 1 - Baylee Bordwell		<a href="#">Transcript</a> <a href="#">Link</a>
2016 08 22	NASA Astrobiology	<a href="https://youtu.be/4LH8AwEiK0l">https://youtu.be/4LH8AwEiK0l</a>	AbGradCon 2016 Day 1 - Bryan Holler		<a href="#">Transcript</a> <a href="#">Link</a>

2016 08 22 NASA  
Astrobiology <https://youtu.be/7pWBXh0oRIA> AbGradCon 2016  
Day 1 - Brandon  
Carroll

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/BfxjxHKnhxo> AbGradCon 2016  
Day 1 - Brett  
McGuire

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/5ISsbfr mSvY> AbGradCon 2016  
Day 1 - Cayman  
Unterborn

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/RvNVeAqV1B8> AbGradCon 2016  
Day 1 - Emma Yu

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology [https://youtu.be/p8t\\_ZbxJfJk](https://youtu.be/p8t_ZbxJfJk) AbGradCon 2016  
Day 1 - Danny  
Barringer

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/y6oos7xBdBQ> AbGradCon 2016  
Day 1 - Jay Kroll

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology [https://youtu.be/NqwbVde\\_ieM](https://youtu.be/NqwbVde_ieM) AbGradCon 2016  
Day 1 - Sarah  
Black

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/d1-VW12GTOo> AbGradCon 2016  
Day 1 - S. J.  
Ralston

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/ytze18geKYg> AbGradCon 2016  
Day 1 - Parke Loyd

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/HVd-o5S33ck> AbGradCon 2016  
Day 1 - Marc Neveu

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/SzUNOQ7dL88> AbGradCon 2016  
Day 1 - Maya Yanez

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/pHZb8SIXSgM> AbGradCon 2016  
Day 1 - Katie Primm

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/v8ZcNMEEnBAA> AbGradCon 2016  
Day 1 - Nicole Chase

[Transcript Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/fCL97-FHGBM> AbGradCon 2016  
Day 1 - Kamil Stelmach

[Transcript Link](#)

2016 08 22 NASA  
Astrobiology [https://youtu.be/pS\\_71RrunR8](https://youtu.be/pS_71RrunR8) AbGradCon 2016  
Day 2 - Abigail Caron

[Transcript Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/xKB5BFT2wog> AbGradCon 2016  
Day 1 - Victoria Hartwick

[Transcript Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/2PJKRWRDRZg> AbGradCon 2016  
Day 2 - Research  
Focus Group

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/VT2EfEMIJfw> AbGradCon 2016  
Day 2 - Thomas  
Campbell

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/A41NKfmTsOE> AbGradCon 2016  
Day 2 - Harrison  
Smith

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/OdzFTKrKAE> AbGradCon 2016  
Day 2 - Cole  
Mathis

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/Sh4oxCS3CE> AbGradCon 2016  
Day 2 - Hannah  
Miller

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/wljrvrtW50> AbGradCon 2016  
Day 2 - Ben Intoy

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/80MdPtNSb9Y> AbGradCon 2016  
Day 2 - Parker  
Castleberry

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology [https://youtu.be/UDSn33zpw\\_E](https://youtu.be/UDSn33zpw_E) AbGradCon 2016  
Day 2 - Jeff  
Osterhout

[Transcript  
Link](#)

2016 08 22 NASA  
Astrobiology <https://youtu.be/g0EhzViu-FM> AbGradCon 2016  
Day 2 - Matthew  
Brister

[Transcript  
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2016 08 22 NASA  
Astrobiology <https://youtu.be/huDYq9f-VE0> AbGradCon 2016  
Day 2 - Kaitlin  
Rempfert

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2016 08 22 NASA  
Astrobiology <https://youtu.be/xJD22jyvOCO> AbGradCon 2016  
Day 2 - Lauren  
Seyler

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2016 08 22 NASA  
Astrobiology <https://youtu.be/JzhAjbSupM> AbGradCon 2016  
Day 2 - Alyssa  
Adams

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2016 08 22 NASA  
Astrobiology [https://youtu.be/Warpc\\_tDyDi8](https://youtu.be/Warpc_tDyDi8) AbGradCon 2016  
Day 2 - Russell  
Perkins

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2016 08 22 NASA  
Astrobiology [https://youtu.be/bC\\_0R6Slnxg](https://youtu.be/bC_0R6Slnxg) AbGradCon 2016  
Day 2 - Rebecca  
Rapf

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2016 08 22 NASA  
Astrobiology [https://youtu.be/fUUJ4Cfkg\\_0](https://youtu.be/fUUJ4Cfkg_0) AbGradCon 2016  
Day 2 - Stephanie  
Napieralski

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2016 08 22 NASA  
Astrobiology <https://youtu.be/pO-wORobL7w> AbGradCon 2016  
Day 2 - Theresa  
Fisher

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2016 08 22 NASA  
Astrobiology [https://youtu.be/uaASGgY\\_RNM](https://youtu.be/uaASGgY_RNM) AbGradCon 2016  
Day 2 - Xin Chen

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2016 08 22 NASA  
Astrobiology <https://youtu.be/dz4z4B7W7uA> AbGradCon 2016  
Day 2 - Bradley  
Burcar

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2016 03 21 NASA  
Astrobiology <https://youtu.be/J5tqaANxgPM> NASA  
Astrobiology  
Debates Eastern  
Championship  
Tournament 2016

NASA Astrobiology Debates: Eastern Championship Tournament  
Washington, D.C.

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Organized by the NASA Astrobiology Program and The George Washington University, the NASA Astrobiology Debates challenge students of all ages to research and debate the complex ethical and political questions raised by the 2015-16 NASA Astrobiology Debates topic, "Resolved: An overriding ethical obligation to protect and preserve extraterrestrial microbial life and ecosystems should be incorporated into international law."

The discovery of extraterrestrial microbial life would change the nature and meaning of life itself. The NASA Astrobiology Debates seek to engage present and future leaders in dialogue on the implications of such a discovery. During the 2015-16 school year, students will compete in online speech competitions, public debates, and tournament competitions judged by a cross-section of thought-leaders. In addition, students will conduct interviews with topic experts drawn from across the disciplines and the videos of the interviews will be posted to this website to create a permanent online resource for research into astrobiology and its implications for humanity.

Get involved! The NASA Astrobiology Debates are open to students of all ages, levels and nationalities. We are actively recruiting judges and topic experts for the student-interviews. Please email any questions or inquiries to [NASADebates@gmail.com](mailto:NASADebates@gmail.com).

2015 11 24	NASA Astrobiology	<a href="https://youtu.be/kd2xgC7GaSQ">https://youtu.be/kd2xgC7GaSQ</a>	NASA Astrobiology Debates Western Championship Tournament 2015	<p>NASA Astrobiology Debates: Western Championship Tournament Seattle, WA</p> <p>Organized by the NASA Astrobiology Program and The George Washington University, the NASA Astrobiology Debates challenge students of all ages to research and debate the complex ethical and political questions raised by the 2015-16 NASA Astrobiology Debates topic, "Resolved: An overriding ethical obligation to protect and preserve extraterrestrial microbial life and ecosystems should be incorporated into international law."</p> <p>The discovery of extraterrestrial microbial life would change the nature and meaning of life itself. The NASA Astrobiology Debates seek to engage present and future leaders in dialogue on the implications of such a discovery. During the 2015-16 school year, students will compete in online speech competitions, public debates, and tournament competitions judged by a cross-section of thought-leaders. In addition, students will conduct interviews with topic experts drawn from across the disciplines and the videos of the interviews will be posted to this website to create a permanent online resource for research into astrobiology and its implications for humanity.</p> <p>Get involved! The NASA Astrobiology Debates are open to students of all ages, levels and nationalities. We are actively recruiting judges and topic experts for the student-interviews. Please email any questions or inquiries to <a href="mailto:NASADebates@gmail.com">NASADebates@gmail.com</a>.</p>	<a href="#">Transcript Link</a>
2015 10 06	NASA Astrobiology	<a href="https://youtu.be/1KuAxmxH_xY">https://youtu.be/1KuAxmxH_xY</a>	AbSciCon 2015 - Astrobiology Memorial Presentation	Honoring those we have lost in the field of astrobiology.	<a href="#">Transcript Link</a>
2015 07 31	NASA Astrobiology	<a href="https://youtu.be/3ySsL3e7I-U">https://youtu.be/3ySsL3e7I-U</a>	AbGradCon 2015 Day 1 Brandon Carroll		<a href="#">Transcript Link</a>

2015 07 31 NASA  
Astrobiology [https://youtu.be/H4Ylp1\\_oJxk](https://youtu.be/H4Ylp1_oJxk) AbGradCon 2015  
Day 1 Emma Yu

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2015 07 31 NASA  
Astrobiology <https://youtu.be/pUNSKSpmK2g> AbGradCon 2015  
Day 1 Laura  
Grace Beckerman

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2015 07 31 NASA  
Astrobiology <https://youtu.be/vDsKXGe9mX0> AbGradCon 2015  
Day 1 Saeed  
Ahmadvand

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2015 07 31 NASA  
Astrobiology [https://youtu.be/anwymb\\_v7Lg](https://youtu.be/anwymb_v7Lg) AbGradCon 2015  
Day 1 Amanda  
Truitt

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2015 07 31 NASA  
Astrobiology <https://youtu.be/eMgXNkZzG9E> AbGradCon 2015  
Day 1 Lu Pan

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2015 07 31 NASA  
Astrobiology <https://youtu.be/nT85Wda4gUo> AbGradCon 2015  
Day 1 Maria Sanchez Arenillas

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2015 07 31 NASA  
Astrobiology <https://youtu.be/uVPWFQD8EzY> AbGradCon 2015  
Day 1 Warm Up  
Talk 1

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2015 07 31 NASA  
Astrobiology <https://youtu.be/xwhQ61APkFc> AbGradCon 2015  
Day 1 Navita Sinha

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2015 07 31 NASA  
Astrobiology <https://youtu.be/9bDHdtSnoG0> AbGradCon 2015  
Day 2 Cole  
Mathis

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2015 07 31 NASA  
Astrobiology <https://youtu.be/56ComMNsYul> AbGradCon 2015  
Day 2 Navot  
Morag

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2015 07 31 NASA  
Astrobiology <https://youtu.be/0Fb17thGOaE> AbGradCon 2015  
Day 1 Sonny  
Harman

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2015 07 31 NASA  
Astrobiology <https://youtu.be/HUr-0WwtUQI> AbGradCon 2015  
Day 2 SAGANet

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2015 07 31 NASA  
Astrobiology <https://youtu.be/YAi3wWPjuL8> AbGradCon 2015  
Day 2 Harrison  
Smith

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2015 07 31 NASA  
Astrobiology [https://youtu.be/\\_rRBkU6koCQ](https://youtu.be/_rRBkU6koCQ) AbGradCon 2015  
Day 2 Nathan  
Fortney

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2015 07 31 NASA  
Astrobiology <https://youtu.be/9hvYVMEp9c4> AbGradCon 2015  
Day 2 Warm Up  
Talk 1

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2015 07 31 NASA  
Astrobiology <https://youtu.be/Y4IFbH9sKmo> AbGradCon 2015  
Day 1 Anusha  
Kalyaan

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2015 07 31 NASA  
Astrobiology <https://youtu.be/voY11N-QBiY> AbGradCon 2015  
Day 2 Thiruchelvi  
Reddy

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2015 07 31 NASA  
Astrobiology <https://youtu.be/yMzl3lRcJUs> AbGradCon 2015  
Day 2 Tony Jia

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2015 07 31 NASA  
Astrobiology [https://youtu.be/8YEhM\\_VRLlQ](https://youtu.be/8YEhM_VRLlQ) AbGradCon 2015  
Day 2 Parker  
Castleberry

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2015 07 31 NASA  
Astrobiology <https://youtu.be/LoixhYdyhRU> AbGradCon 2015  
Day 2 Brett  
McGuire

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Link](#)

2015 07 31 NASA  
Astrobiology <https://youtu.be/ZtxVeNhUg1c> AbGradCon 2015  
Day 2 Xin Yuan  
Zheng

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2015 07 31 NASA  
Astrobiology <https://youtu.be/f6cZ5kW-V-k> AbGradCon 2015  
Day 2 Nicholas  
Kovacs

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2015 07 31 NASA  
Astrobiology <https://youtu.be/RAg1d2d3C84> AbGradCon 2015  
Day 2 Abigail  
Asangba

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2015 07 31 NASA  
Astrobiology [https://youtu.be/Re\\_bV0zUpPg](https://youtu.be/Re_bV0zUpPg) AbGradCon 2015  
Day 1 Warm Up  
Talk 2

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2015 07 31 NASA  
Astrobiology <https://youtu.be/U5nUmhxWz64> AbGradCon 2015  
Day 2 Yihang  
Fang

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2015 07 31 NASA  
Astrobiology <https://youtu.be/okegG5kGmBU> AbGradCon 2015  
Day 1 EPO Panel  
Clark Johnson

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2015 07 31 NASA  
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Day 1 Zhechen  
Wang

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2015 07 31 NASA  
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Day 1 Svetlana  
Shkolyar

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2015 07 31 NASA  
Astrobiology <https://youtu.be/3pTUkxMzcc> AbGradCon 2015  
Day 2 Jake  
Cammack

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Day 2 Research  
Focus Group

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Astrobiology <https://youtu.be/qSFpuVa47TI> AbGradCon 2015  
Day 2 Breana  
Hashman

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2015 07 31 NASA  
Astrobiology <https://youtu.be/rVN-HY7mIJ8> AbGradCon 2015  
Day 2 Guang Sin  
Lu

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2015 07 31 NASA  
Astrobiology <https://youtu.be/wxMZUz7p5Lw> AbGradCon 2015  
Day 2 Marvin  
Pollum

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2015 07 31 NASA  
Astrobiology <https://youtu.be/-lvT6fBSGRc> AbGradCon 2015  
Day 1 Jay Kroll

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2015 07 31 NASA  
Astrobiology <https://youtu.be/Q7FAw9v0leQ> AbGradCon 2015  
Day 2 Rebecca  
Rapf

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2015 07 31 NASA  
Astrobiology <https://youtu.be/idaRxQtDcc> AbGradCon 2015  
Day 1 EPO Panel  
Brooke Norsted

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2014 11 13 NASA  
Astrobiology [https://youtu.be/gQsVW\\_4gg6g](https://youtu.be/gQsVW_4gg6g) AbGradCon 2014 -  
Day 1 Tyler Pauly

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2014 11 13 NASA  
Astrobiology <https://youtu.be/40yWmT400d4> AbGradCon 2014 -  
Day 1 Thomson  
Mason Fisher

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2014 11 13 NASA  
Astrobiology <https://youtu.be/BdPKC8t3FYM> AbGradCon 2014 -  
Day 1 Warm-Up  
Talk 1

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2014 11 13 NASA  
Astrobiology <https://youtu.be/dmMffSklnyQ> AbGradCon 2014 -  
Day 1 Sonny  
Chester Harman

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2014 11 13 NASA  
Astrobiology [https://youtu.be/1jhiSkLdW\\_A](https://youtu.be/1jhiSkLdW_A) AbGradCon 2014 -  
Day 1 Benjamin  
Sargent

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2014 11 13 NASA  
Astrobiology <https://youtu.be/HXVBxLq6Tvg> AbGradCon 2014 -  
Day 2 Raghav  
Poudyal

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2014 11 13 NASA  
Astrobiology <https://youtu.be/KqBNDf-S3P4> AbGradCon 2014 -  
Day 2 Bradley  
Burcar

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2014 11 13 NASA  
Astrobiology <https://youtu.be/TxlbaWhvx8A> AbGradCon 2014 -  
Day 1 Erik Larson

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2014 11 13 NASA  
Astrobiology <https://youtu.be/anTfpHJEvDA> AbGradCon 2014 -  
Day 1 Research  
Focus Group  
Report

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2014 11 13 NASA  
Astrobiology <https://youtu.be/oelp2Xmi03k> AbGradCon 2014 -  
Day 2 Rebecca  
Mickol

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2014 11 13 NASA  
Astrobiology <https://youtu.be/so6EButaOYE> AbGradCon 2014 -  
Day 1 Warm-Up  
Talk 2

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2014 11 13 NASA  
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Day 2 Kevin  
Nguyen

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2014 11 13 NASA  
Astrobiology [https://youtu.be/E5oncZ7\\_A4](https://youtu.be/E5oncZ7_A4) AbGradCon 2014 -  
Day 2 Sarah  
Rugheimer

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2014 11 13 NASA  
Astrobiology <https://youtu.be/GUEznSnBtio> AbGradCon 2014 -  
Day 2 Rebecca  
Rapf

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Day 2 Jeff  
Osterhout

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2014 11 13 NASA  
Astrobiology <https://youtu.be/ce5bW-901o4> AbGradCon 2014 -  
Day 2 Jessica  
Moore

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2014 11 13 NASA  
Astrobiology <https://youtu.be/ejKwvAdw--k> AbGradCon 2014 -  
Day 2 Joshua  
Krissansen Totton

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2014 11 13 NASA  
Astrobiology <https://youtu.be/gatqMPu6GZU> AbGradCon 2014 -  
Day 2 Lucy  
Stewart

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2014 11 13 NASA  
Astrobiology [https://youtu.be/jgMn3jxv\\_Jg](https://youtu.be/jgMn3jxv_Jg) AbGradCon 2014 -  
Day 1 Marco  
Allodi

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2014 11 13 NASA  
Astrobiology <https://youtu.be/s17SdkLj9Ls> AbGradCon 2014 -  
Day 1 Eugenio  
Simoncini

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2014 11 13 NASA  
Astrobiology <https://youtu.be/vjY7DLMkAH0> AbGradCon 2014 -  
Day 2 Navita  
Sinha

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2014 11 13 NASA  
Astrobiology <https://youtu.be/EH5ItpV58c> AbGradCon 2014 -  
Day 2  
Astrobiology &  
Education

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2014 11 13 NASA  
Astrobiology <https://youtu.be/NNkiZl2IHc> AbGradCon 2014 -  
Day 1 Journal  
Clubs

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2014 11 13 NASA  
Astrobiology <https://youtu.be/Q0j556lmX28> AbGradCon 2014 -  
Day 1 Brandon  
Carroll

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2014 11 13	NASA Astrobiology	<a href="https://youtu.be/VpdJEfXIITA">https://youtu.be/VpdJEfXIITA</a>	AbGradCon 2014 - Day 2 Graham Lau		<a href="#">Transcript Link</a>
2014 01 31	NASA Astrobiology	<a href="https://youtu.be/jCQYEa4H4dM">https://youtu.be/jCQYEa4H4dM</a>	Astrobiology Strategic Planning 2013 - Origin & Evolution of Photosynthesis	What is the origin and early evolution of photosynthesis?	<a href="#">Transcript Link</a>
2014 01 30	NASA Astrobiology	<a href="https://youtu.be/eojJmbdTYGU">https://youtu.be/eojJmbdTYGU</a>	Astrobiology Strategic Planning 2013 - Geophysical Evolutionary History of Terrestrial Planets	What is the geophysical evolutionary history of terrestrial planets of different sizes and compositions?	<a href="#">0</a>
2014 01 29	NASA Astrobiology	<a href="https://youtu.be/-hRL-EHEraA">https://youtu.be/-hRL-EHEraA</a>	XQM NASA Video Series 5) Planetary Lake Lander - Intelligent Robots Camera	The Planetary Lake Lander project is testing robotic systems that can be used to search for signatures of life in our solar system. The roboticists on the team include Professor David Wettergreen, along with Dr. Liam Pedersen and Dr. Trey Smith. Pedersen and Smith are responsible for assembling and monitoring the Lake Lander and its sensing equipment. Professor Wettergreen is developing a smart camera, whose function he explains.	<a href="#">Transcript Link</a>

2014 01 29	NASA Astrobiology	<a href="https://youtu.be/45WgUA8j6tA">https://youtu.be/45WgUA8j6tA</a>	XQM NASA Video Series 8) Planetary Lake Lander - Upgrade	A year after its launch on a glacial lake in Chile, NASA's prototype Planetary Lake Lander is taken back to California for an upgrade.  The robotics team at the NASA Ames Research Center adds hardware and software that will allow the Lake Lander to examine its environment without human direction. Dr. Liam Pedersen and Dr. Trey Smith describe the new equipment, the Lake Lander's new capabilities, and the changes to how it will operate.	<a href="#">Transcript Link</a>
2014 01 29	NASA Astrobiology	<a href="https://youtu.be/D6TMrLOncQk">https://youtu.be/D6TMrLOncQk</a>	XQM NASA Video Series 4) Planetary Lake Lander - International Team	The deployment of NASA's Planetary Lake Lander on Laguna Negra in Central Chile is providing scientists the opportunity to develop and test equipment that may be used in future space exploration. Dr. Nathalie Cabrol leads an international team of researchers living and working at this high altitude lake. The conditions are stark and challenging - conditions that may parallel places elsewhere in our solar system.	<a href="#">Transcript Link</a>
2014 01 29	NASA Astrobiology	<a href="https://youtu.be/HQvY0mR0o5U">https://youtu.be/HQvY0mR0o5U</a>	XQM NASA Video Series 9) Planetary Lake Lander - Year Two	As the Planetary Lake Lander project enters its second year of operation, new software and sensors are added to the prototype system. At NASA Ames in California, Project leader, Dr. Nathalie Cabrol explains how these updates will change the robot from a simple testing platform, to a robot capable of communicating changes in its surroundings.	<a href="#">Transcript Link</a>
2014 01 29	NASA Astrobiology	<a href="https://youtu.be/lZaWP5PyGKc">https://youtu.be/lZaWP5PyGKc</a>	XQM NASA Video Series 1) Astrobiology Introduction	Spurred by more than five decades of research, NASA scientists are developing new technologies that are dramatically expanding our ability to explore our solar system. With the end of the space shuttle program, the search for life in the universe has become NASA's primary focus.  The Astrobiology Institute (NAI) and her partners are conducting research around the globe, developing unique instruments to investigate some of Earth's most remote and extreme environments in the search for life. Not only are they expanding the knowledge we have of our planet; they are building and testing tools, systems and technologies for future NASA missions. Follow this XQM/NASA series of short videos to meet the researchers and learn about their work in unique and dramatic areas on Planet Earth.	<a href="#">Transcript Link</a>

2014 01 29	NASA Astrobiology	<a href="https://youtu.be/LUdfB3vVNa8">https://youtu.be/LUdfB3vVNa8</a>	XQM NASA Video Series 7) Planetary Lake Lander - Biosignatures	The prototype Planetary Lake Lander is a robotic system where scientists are developing sensors that may help to identify the chemical building blocks of life in our solar system. Angela Detweiler is a lab specialist helping to calibrate the sensors of the Planetary Lake Lander. These prototypes may one day be deployed in far off location like Saturn's moon, Titan.	<a href="#">Transcript Link</a>
2014 01 29	NASA Astrobiology	<a href="https://youtu.be/PHCB9G960mw">https://youtu.be/PHCB9G960mw</a>	XQM NASA Video Series 6) Planetary Lake Lander - Looking for Gradients	The Planetary Lake Lander project is allowing NASA researchers the chance to develop robotics systems that are capable of independently searching for the signs of life elsewhere in our solar system. Microbial ecologist Dr. Erich Fleming studies how life adapts to harsh environments, research useful in refining the techniques needed for future exploration.	<a href="#">Transcript Link</a>
2014 01 29	NASA Astrobiology	<a href="https://youtu.be/XfsoBCl6lGj">https://youtu.be/XfsoBCl6lGj</a>	XQM NASA Video Series 2) Planetary Lake Lander - Introduction	In December 2011, high in the central Andes of Chile, NASA scientists launched the prototype Planetary Lake Lander, a testing platform for the development of robots that are capable of making scientific decisions based on the data they collect.  Dr. Nathalie Cabrol leads a team of researchers working on these smart robots, which will expand our ability to search for life in the universe.	<a href="#">Transcript Link</a>
2014 01 29	NASA Astrobiology	<a href="https://youtu.be/sXtNtr9tOrE">https://youtu.be/sXtNtr9tOrE</a>	XQM NASA Video Series 3) Planetary Lake Lander - Adaptive Systems	NASA's prototype Planetary Lake Lander is a testing platform for the development of adaptive robotic systems. A NASA research team has placed the prototype on a mountain lake high in the Central Andes of Chile to gather information about the extremes of the lake's environment. Project leader Dr Nathalie Cabrol explains her team's work on this smart robot.	<a href="#">Transcript Link</a>

2014 01 24	NASA Astrobiology	<a href="https://youtu.be/s5how5u29do">https://youtu.be/s5how5u29do</a>	Astrobiology Strategic Planning 2013 - Overcoming Ignorance About Microbial Life	How can we best overcome our ignorance about microbial life on Earth?	<a href="#">Transcript Link</a>
2014 01 24	NASA Astrobiology	<a href="https://youtu.be/iaQwF2L89Tw">https://youtu.be/iaQwF2L89Tw</a>	Astrobiology Strategic Planning 2013 - Primitive Icy Bodies & the Origin of Life	What Roles Do Primitive Icy Bodies Play in the Origin of Life on Habitable Planets?	<a href="#">Transcript Link</a>
2014 01 17	NASA Astrobiology	<a href="https://youtu.be/pg76c35rdgE">https://youtu.be/pg76c35rdgE</a>	Astrobiology Strategic Planning 2013 - The Search for Life in our Solar System	How Can We Search for Life in our Solar System?	<a href="#">Transcript Link</a>
2014 01 16	NASA Astrobiology	<a href="https://youtu.be/H99GHv9JmNg">https://youtu.be/H99GHv9JmNg</a>	Astrobiology Strategic Planning 2013 - Early Rock Record & Origin of Life	How does Earth's earliest rock record inform us about the origin of life on Earth?	<a href="#">Transcript Link</a>

2014 01 08	NASA Astrobiology	<a href="https://youtu.be/kPe7oBo_Lck">https://youtu.be/kPe7oBo_Lck</a>	Astrobiology Strategic Planning 2013 - Life & Prebiotic Chemistry on Icy Worlds	Did life or pre-biotic chemistry evolve on differentiated icy worlds?	<a href="#">Transcript Link</a>
2013 12 20	NASA Astrobiology	<a href="https://youtu.be/IE0sl4uSHv4">https://youtu.be/IE0sl4uSHv4</a>	Astrobiology Strategic Planning 2013 - Simple Life	What does the simplest life look like?	<a href="#">Transcript Link</a>
2013 12 19	NASA Astrobiology	<a href="https://youtu.be/1wgrwbP58hg">https://youtu.be/1wgrwbP58hg</a>	Astrobiology Strategic Planning 2013 - Evolutionary Pathways and Emergence	What experimental studies of evolutionary pathways and emergence in molecular systems should be performed?	<a href="#">Transcript Link</a>
2013 12 06	NASA Astrobiology	<a href="https://youtu.be/mh8uN8axlig">https://youtu.be/mh8uN8axlig</a>	Astrobiology Strategic Planning 2013 - Peptides & Nucleotides	How did polypeptide meet polynucleotide?	<a href="#">Transcript Link</a>

2013 12 06	NASA Astrobiology	<a href="https://youtu.be/w9rbDNF9uJo">https://youtu.be/w9rbDNF9uJo</a>	Astrobiology Strategic Planning 2013 - Macromolecules & Functionality	How did macromolecules gain function?	<a href="#">Transcript Link</a>
2013 11 22	NASA Astrobiology	<a href="https://youtu.be/QgZAC4SdB7g">https://youtu.be/QgZAC4SdB7g</a>	Astrobiology Strategic Planning 2013 - Substituting Space for Time	How can we substitute space for time to better understand geochemical and co-evolutionary dynamics?	<a href="#">Transcript Link</a>
2013 11 20	NASA Astrobiology	<a href="https://youtu.be/OPCVMBD6MuA">https://youtu.be/OPCVMBD6MuA</a>	Astrobiology Strategic Planning 2013 - Synthesis and Assembly of Oligomers	How are stable populations of oligomers synthesized and assembled?	<a href="#">Transcript Link</a>
2013 11 18	NASA Astrobiology	<a href="https://youtu.be/o6wrqgq5T9k">https://youtu.be/o6wrqgq5T9k</a>	Astrobiology Strategic Planning 2013 - Habitability Beyond the Solar System	How can we identify habitable planets and search for life beyond our Solar System?	<a href="#">Transcript Link</a>

2013 11 18	NASA Astrobiology	<a href="https://youtu.be/ghzJpllxArE">https://youtu.be/ghzJpllxArE</a>	Astrobiology Strategic Planning 2013 - Characteristics of LUCA	What genomic, metabolic and ecological features characterized LUCA/life at the root of the Tree of Life?	<a href="#">Transcript Link</a>
2013 11 18	NASA Astrobiology	<a href="https://youtu.be/Pct1RAzSLu4">https://youtu.be/Pct1RAzSLu4</a>	Astrobiology Strategic Planning 2013 - Habitable Planetary Formation	How do habitable planetary systems form?	<a href="#">Transcript Link</a>
2013 11 18	NASA Astrobiology	<a href="https://youtu.be/xfd-xS6COwQ">https://youtu.be/xfd-xS6COwQ</a>	Astrobiology Strategic Planning 2013 - Life Generation and Support	How can a world generate and support life?	<a href="#">Transcript Link</a>
2013 11 18	NASA Astrobiology	<a href="https://youtu.be/l-UgUgkU88k">https://youtu.be/l-UgUgkU88k</a>	Astrobiology Strategic Planning 2013 - Identifying Habitable Environments	How can we identify habitable environments in our Solar System?	<a href="#">Transcript Link</a>

2013 10 25	NASA Astrobiology	<a href="https://youtu.be/sm5gSPx76K8">https://youtu.be/sm5gSPx76K8</a>	Astrobiology Strategic Planning 2013 - Environmental Factors for Emergence	What environmental factors are coupled to the emergence of life?	<a href="#">Transcript Link</a>
2013 10 25	NASA Astrobiology	<a href="https://youtu.be/j7HsCaQm-6k">https://youtu.be/j7HsCaQm-6k</a>	Astrobiology Strategic Planning 2013 - Common Attributes for Extant Life	What are the common attributes of extant living systems and what can they tell us about all living systems?	<a href="#">Transcript Link</a>
2013 10 24	NASA Astrobiology	<a href="https://youtu.be/4VGzz85aaso">https://youtu.be/4VGzz85aaso</a>	Astrobiology Strategic Planning 2013 - Origin of Organic Monomers	What are the sources of organic monomers relevant to the origin of life?	<a href="#">Transcript Link</a>
2013 10 24	NASA Astrobiology	<a href="https://youtu.be/2JrQIDX_k-U">https://youtu.be/2JrQIDX_k-U</a>	Astrobiology Strategic Planning 2013 - Evolution of the Atmosphere	How does the evolution of the atmosphere & its interactions with the solid Earth and the biosphere inform our exploration of habitable worlds?	<a href="#">Transcript Link</a>

2013 09 23	NASA Astrobiology	<a href="https://youtu.be/YY8oMBRMUlc">https://youtu.be/YY8oMBRMUlc</a>	Astrobiology Strategic Planning 2013 - Kick-Off Meeting	An Introduction and Overview of the Concept Documents for the 2014 Astrobiology Strategy  Frank Rosenzweig, Eric Smith, and Michael New will discuss the output from the recent workshop, and outline the next steps in the development of the strategy.	<a href="#">Transcript</a> <a href="#">Link</a>
2013 07 04	NASA Astrobiology	<a href="https://youtu.be/5TZ7JKwKzMo">https://youtu.be/5TZ7JKwKzMo</a>	AbGradCon 2013 - Day 3 - Lively Lie	Lively Lie Ice as a Potential Incubator for the RNA World  AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically inclined graduate students and early career researchers to come together to share their research, collaborate, and network.  Shot and edited by Mike Toillion. NASA Astrobiology Institute	<a href="#">Transcript</a> <a href="#">Link</a>
2013 07 04	NASA Astrobiology	<a href="https://youtu.be/BlqkUo4y5-E">https://youtu.be/BlqkUo4y5-E</a>	AbGradCon 2013 - Day 3 - Brande Jones	Brande Jones How do Animals Escape the Stresses of Extreme Environments? Stress Granules Form in Brachionus manjavacas (Rotifera) in Response to a Variety of Stressors  AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically inclined graduate students and early career researchers to come together to share their research, collaborate, and network.  Shot and edited by Mike Toillion. NASA Astrobiology Institute	<a href="#">Transcript</a> <a href="#">Link</a>
2013 07 04	NASA Astrobiology	<a href="https://youtu.be/F5xEGy8h6JI">https://youtu.be/F5xEGy8h6JI</a>	AbGradCon 2013 - Day 3 - Isabelle Raymond	Isabelle Raymond Molecular Adaptations to Life at -15: insights from Planococcus halocryophilus  AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically inclined graduate students and early career researchers to come together to share their research, collaborate, and network.  Shot and edited by Mike Toillion. NASA Astrobiology Institute	<a href="#">Transcript</a> <a href="#">Link</a>

2013 07 04 NASA <https://youtu.be/RkDIO3E9gO0> AbGradCon 2013 - Brian Cafferty  
Astrobiology Day 3 - Brian Cafferty Spontaneous Assembly of Both Nucleobase Analogs and the Ship of Theseus [Transcript Link](#)

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2013 07 04 NASA <https://youtu.be/SMFjAMY67VA> AbGradCon 2013 - Danielle Simkus  
Astrobiology Day 3 - Danielle Simkus Microbial Biosignatures in the Deep Terrestrial Subsurface: Phospholipid Fatty Acids and Carbon Isotope Analyses [Transcript Link](#)

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2013 07 04 NASA <https://youtu.be/TF04hiktQp0> AbGradCon 2013 - Kristin Coari  
Astrobiology Day 3 - Kristin Coari An Investigation of the Inclusion of G in Abiotic RNA Polymerization [Transcript Link](#)

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2013 07 04 NASA <https://youtu.be/aXy1Xm-iDc> AbGradCon 2013 - Lucy Stewart  
Astrobiology Day 3 - Lucy Stewart Understanding Energy Demands in Hydrothermal Vent Systems [Transcript Link](#)

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2013 07 04 NASA <https://youtu.be/gQWjb7LVcLU> AbGradCon 2013 - Carlos Mariscal  
Astrobiology Day 3 - Carlos Mariscal

[Transcript Link](#)

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2013 07 04 NASA <https://youtu.be/oSzUU SR2EEw> AbGradCon 2013 - Kinnari Matheson  
Astrobiology Day 3 - Kinnari Matheson  
Investigating Ancient Amino Acid Biosynthetic Pathways

[Transcript Link](#)

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2013 07 04 NASA <https://youtu.be/trftHx DONnM> AbGradCon 2013 - Jackie Goordial  
Astrobiology Day 3 - Jackie Goordial  
A Deep Dry-freeze: Life in the Hyper Arid Cold Desert of the  
McMurdo Dry Valleys, Antarctica

[Transcript Link](#)

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2013 07 04 NASA <https://youtu.be/009Sa8af-As> AbGradCon 2013 - Ryan James  
Astrobiology Day 3 - Ryan James  
Health and Robustness of the Field of Astrobiology

[Transcript Link](#)

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2013 07 04 NASA <https://youtu.be/51Y5XnxuOW4> AbGradCon 2013 - Samantha Waters [Transcript Link](#)  
Astrobiology Day 3 - Samantha Waters Evolutionary Adaptation in Bacillus subtilis: Genomic Changes During Growth at Low-Pressure

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2013 07 04 NASA <https://youtu.be/5vajWY8vkc> AbGradCon 2013 - Tim Lenz [Transcript Link](#)  
Astrobiology Day 3 - Warm up Everything You Need to Know About Biochemistry and the Origins of Life (In 30 Minutes or Less)  
Tim Lenz

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2013 07 04 NASA <https://youtu.be/RF-rgiRWKHo> AbGradCon 2013 - Jen Ronholm [Transcript Link](#)  
Astrobiology Day 3 - Warm up Extreme Living: Understanding Extremophilic Organisms  
Jen Ronholm

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2013 07 04 NASA <https://youtu.be/lSybgZt6U5g> AbGradCon 2013 - Rebecca Mickol [Transcript Link](#)  
Astrobiology Day 3 - Rebecca Mickol Methanogen Survivability Under Freeze/Thaw Cycles

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2013 07 04	NASA Astrobiology	<a href="https://youtu.be/tFrQ84eKm8E">https://youtu.be/tFrQ84eKm8E</a>	AbGradCon 2013 - Tim Lenz Day 3 - Tim Lenz	Molecular Paleontology: Reassembling the Ancestral Ribosome in vitro	<a href="#">Transcript Link</a>
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2013 07 04	NASA Astrobiology	<a href="https://youtu.be/ycZv4oT1I">https://youtu.be/ycZv4oT1I</a>	AbGradCon 2013 - Thomson Fisher Day 3 - Thomson Fisher	Controls of Growth in a Subglacial Ecosystem: A Modeling Approach	<a href="#">Transcript Link</a>
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2013 07 03	NASA Astrobiology	<a href="https://youtu.be/ugxQoYpi69w">https://youtu.be/ugxQoYpi69w</a>	AbGradCon 2013 - Eric Parker Day 2 - Eric Parker	Stanley Miller's Cyanamide Spark Discharge Experiment	<a href="#">Transcript Link</a>
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Shot and edited by Mike Toillion. NASA Astrobiology Institute					
2013 06 28	NASA Astrobiology	<a href="https://youtu.be/9-ye1hG1-tM">https://youtu.be/9-ye1hG1-tM</a>	AbGradCon 2013 - Lena Noack Day 2 - Lena Noack	Self-consistent Formation of Continents on Early Earth	<a href="#">Transcript Link</a>
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2013 06 28	NASA Astrobiology	<a href="https://youtu.be/9W74e05PrQw">https://youtu.be/9W74e05PrQw</a>	AbGradCon 2013 - Day 2 - Jessica Bowman	Jessica Bowman The Role of Fe <sup>2+</sup> in the Biochemistry of Early Earth	<a href="#">Transcript Link</a>
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2013 06 28	NASA Astrobiology	<a href="https://youtu.be/AocEAews8XI">https://youtu.be/AocEAews8XI</a>	AbGradCon 2013 - Day 2 - Sally Potter McIntyre	Sally Potter McIntyre Textural and Mineralogical Microbial Fossils in Modern and Ancient Iron (Oxyhydr)Oxides: Terrestrial Analog for Mars	<a href="#">Transcript Link</a>
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2013 06 28	NASA Astrobiology	<a href="https://youtu.be/DURqsXO3wk">https://youtu.be/DURqsXO3wk</a>	AbGradCon 2013 - Day 2 - Cindy Elbaz	Cindy Elbaz Sulfur Cycling in Modern Continental Sediments Associated with Two Mesothermal Sulfidic Springs	<a href="#">Transcript Link</a>
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2013 06 28	NASA Astrobiology	<a href="https://youtu.be/FdzjqO8icHs">https://youtu.be/FdzjqO8icHs</a>	AbGradCon 2013 - Day 2 - Bradley Burcar	Bradley Burcar Abiotic RNA Formation at Synthetic Iron Sulfur Vent Systems	<a href="#">Transcript Link</a>
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2013 06 28	NASA Astrobiology	<a href="https://youtu.be/G-qo93oVXJM">https://youtu.be/G-qo93oVXJM</a>	AbGradCon 2013 - Day 2 - Brandon Stackhouse	Brandon Stackhouse Gas Fluxes and Hydrochemical Characteristics of Polygonal Active Layer and Permafrost Soils During Progressive Thaw	<a href="#">Transcript</a> <a href="#">Link</a>
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2013 06 28	NASA Astrobiology	<a href="https://youtu.be/I9FBPi_h0t0s">https://youtu.be/I9FBPi_h0t0s</a>	AbGradCon 2013 - Day 2 - Gabriella March	Gabriella March Evidence of Microbial Mediation in Ca-Mg Carbonate Cements of Streambed Conglomerates	<a href="#">Transcript</a> <a href="#">Link</a>
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2013 06 28	NASA Astrobiology	<a href="https://youtu.be/a1EClkQVO2E">https://youtu.be/a1EClkQVO2E</a>	AbGradCon 2013 - Day 2 - Dennis Hoening	Dennis Hoening On the Impact of Life on the Evolution of Plate Tectonic Planets	<a href="#">Transcript</a> <a href="#">Link</a>
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2013 06 28	NASA Astrobiology	<a href="https://youtu.be/ehn1Hzj98H8">https://youtu.be/ehn1Hzj98H8</a>	AbGradCon 2013 - Day 2 - Jessica Stromberg	Jessica Stromberg Geochemistry of Archean Seafloor Hydrothermal Fluids at the Dome Mine, Timmins, Ontario, Canada	<a href="#">Transcript</a> <a href="#">Link</a>
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2013 06 28 NASA Astrobiology <https://youtu.be/hDTBfAp1E4w> AbGradCon 2013 - Dirk Schumann Day 2 - Dirk Schumann Calcite Biomineralization in Conical Microbial Mats of the Highly Alkaline Lake Untersee, East Antarctica [Transcript Link](#)

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2013 06 28 NASA Astrobiology <https://youtu.be/neo018OswvE> AbGradCon 2013 - Jamie Brainard Day 2 - Jamie Brainard An Estimate of Archean Ocean Sulfate from the 3.2Ga Panorama Hydrothermal Ore Deposits [Transcript Link](#)

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2013 06 28 NASA Astrobiology <https://youtu.be/poEftAtDkIE> AbGradCon 2013 - Jessica Stromberg Day 2 - Warm-up Jessica Stromberg Warm-up Talk: Geology & Biology: Putting the 'ology' in Astrobiology [Transcript Link](#)

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2013 06 28 NASA Astrobiology <https://youtu.be/uHFcf7PK2II> AbGradCon 2013 - Brett McGuire Day 2 - Brett McGuire THz Time-Domain Spectroscopy of Interstellar Ice Analogs [Transcript Link](#)

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2013 06 28	NASA Astrobiology	<a href="https://youtu.be/xfY66jiNpTI">https://youtu.be/xfY66jiNpTI</a>	AbGradCon 2013 - Stephanie Olson Day 2 - Stephanie Olson	Quantifying the Areal Extent and Dissolved Oxygen Concentrations of Archean Oxygen Oases	<a href="#">Transcript</a> <a href="#">Link</a>
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2013 06 27	NASA Astrobiology	<a href="https://youtu.be/5HfURv5DXCc">https://youtu.be/5HfURv5DXCc</a>	AbGradCon 2013 - Mike Chaffin Day 1 - Warm-up Talk Mike Chaffin	Warm-up Talk: Ice, Meteorites, and Mars... on Earth	<a href="#">Transcript</a> <a href="#">Link</a>
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2013 06 27	NASA Astrobiology	<a href="https://youtu.be/6rS8kXNOE0M">https://youtu.be/6rS8kXNOE0M</a>	AbGradCon 2013 - Daniel Angerhausen Day 1 - Daniel Angerhausen	Exoplanet Spectrophotometry in the pre-JWST Era and the Habitability of Tidally-Locked M-Dwarf Planets	<a href="#">Transcript</a> <a href="#">Link</a>
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Shot and edited by Mike Toillion. NASA Astrobiology Institute					
2013 06 27	NASA Astrobiology	<a href="https://youtu.be/8xVUih8wz64">https://youtu.be/8xVUih8wz64</a>	AbGradCon 2013 - Career Panel Discussion Day 1 - Career Panel Discussion	Lyle Whyte, Richard L'eviel e, Roman Kruzelecky, and Mariek Schmidt	<a href="#">Transcript</a> <a href="#">Link</a>
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2013 06 27	NASA Astrobiology	<a href="https://youtu.be/EdDV93vihWg">https://youtu.be/EdDV93vihWg</a>	AbGradCon 2013 - Day 1 - Julia DeMarines	Julia DeMarines Particle Flux on Titan and Implications for a Biosphere	<a href="#">Transcript Link</a>
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2013 06 27	NASA Astrobiology	<a href="https://youtu.be/Nh842WeFry8">https://youtu.be/Nh842WeFry8</a>	AbGradCon 2013 - Day 1 - Harvey Elliot	Harvey Elliot Laboratory Experiments to Study the Formation of Liquid Brines at Martian Environmental Conditions	<a href="#">Transcript Link</a>
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Shot and edited by Mike Toillion. NASA Astrobiology Institute					
2013 06 27	NASA Astrobiology	<a href="https://youtu.be/P5yluCmrDuc">https://youtu.be/P5yluCmrDuc</a>	AbGradCon 2013 - Day 1 - Julia DeMarines of S.A.G.A.N.	Julia DeMarines and Heshan "Grasshopper" Illangkoon Introduction to S.A.G.A.N. (Social Action for a Grassroots Astrobiology Network)	<a href="#">Transcript Link</a>
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Shot and edited by Mike Toillion. NASA Astrobiology Institute					
2013 06 27	NASA Astrobiology	<a href="https://youtu.be/Y_fcl-V3Mks">https://youtu.be/Y_fcl-V3Mks</a>	AbGradCon 2013 - Day 1 - Siddharth Hegde	Siddharth Hegde Colors of Extreme Exo-Earth Environments	<a href="#">Transcript Link</a>
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2013 06 27	NASA Astrobiology	<a href="https://youtu.be/ZMfbkCzzQUE">https://youtu.be/ZMfbkCzzQUE</a>	AbGradCon 2013 - Day 1 - Brett Morris	Brett Morris Kepler's Optical Secondary Eclipse of HAT-P-7b and Probable Detection of Planet-Induced Stellar Gravity Darkening	<a href="#">Transcript Link</a>
<p>AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically inclined graduate students and early career researchers to come together to share their research, collaborate, and network.</p>					
<p>Shot and edited by Mike Toillion. NASA Astrobiology Institute</p>					
2013 06 27	NASA Astrobiology	<a href="https://youtu.be/G1uzpya4Qg">https://youtu.be/G1uzpya4Qg</a>	AbGradCon 2013 - Day 1 - Giada Arney	Giada Arney Pale Yellow Dots: Venus as an Example of Runaway Greenhouse Worlds	<a href="#">Transcript Link</a>
<p>AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically inclined graduate students and early career researchers to come together to share their research, collaborate, and network.</p>					
<p>Shot and edited by Mike Toillion. NASA Astrobiology Institute</p>					
2013 06 27	NASA Astrobiology	<a href="https://youtu.be/ianpgO18otE">https://youtu.be/ianpgO18otE</a>	AbGradCon 2013 - Day 1 - Emma Marcucci	Emma Marcucci Visible-near Infrared Reflectance Spectroscopy of Acid-sulfate Alteration in Nicaraguan Volcanic Systems: Analogs for Early Mars	<a href="#">Transcript Link</a>
<p>AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically inclined graduate students and early career researchers to come together to share their research, collaborate, and network.</p>					
<p>Shot and edited by Mike Toillion. NASA Astrobiology Institute</p>					
2013 06 27	NASA Astrobiology	<a href="https://youtu.be/m-HDOCzq3gs">https://youtu.be/m-HDOCzq3gs</a>	AbGradCon 2013 - Day 1 - Kyle Uckert	Kyle Uckert Spectral Mixture and Chemometric Algorithms Applied to Identifi- cation of Biosignatures on Planetary Surfaces	<a href="#">Transcript Link</a>
<p>AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically inclined graduate students and early career researchers to come together to share their research, collaborate, and network.</p>					
<p>Shot and edited by Mike Toillion. NASA Astrobiology Institute</p>					

2013 06 27	NASA Astrobiology	<a href="https://youtu.be/nX_z6uhktmk">https://youtu.be/nX_z6uhktmk</a>	AbGradCon 2013 - Day 1 - Lydia Hallis	Lydia Hallis Comparisons of Martian and Terrestrial Antarctic Clays	<a href="#">Transcript</a> <a href="#">Link</a>
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Shot and edited by Mike Toillion. NASA Astrobiology Institute					
2013 06 27	NASA Astrobiology	<a href="https://youtu.be/nbSrJcD-Q">https://youtu.be/nbSrJcD-Q</a>	AbGradCon 2013 - Day 1 - Warm-up Talk Alyssa Cobb	Alyssa Cobb Warm-up Talk: Introduction to Exoplanets: Detection, Composition and Habitability	<a href="#">Transcript</a> <a href="#">Link</a>
AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically inclined graduate students and early career researchers to come together to share their research, collaborate, and network.					
Shot and edited by Mike Toillion. NASA Astrobiology Institute					
2013 06 27	NASA Astrobiology	<a href="https://youtu.be/ppG3sau54D0">https://youtu.be/ppG3sau54D0</a>	AbGradCon 2013 - Day 1 - Sukrit Ranjan	Sukrit Ranjan Characterizing Hot Jupiter Atmospheres: New Results from Hub-ble WFC3	<a href="#">Transcript</a> <a href="#">Link</a>
AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically inclined graduate students and early career researchers to come together to share their research, collaborate, and network.					
Shot and edited by Mike Toillion. NASA Astrobiology Institute					
2013 06 27	NASA Astrobiology	<a href="https://youtu.be/ta6gXe5f6ho">https://youtu.be/ta6gXe5f6ho</a>	AbGradCon 2013 - Day 1 - Alyssa Cobb	Alyssa Cobb Nature's Starships: Amino Acid Synthesis, Distribution and Delivery to Earth via Meteorites	<a href="#">Transcript</a> <a href="#">Link</a>
AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically inclined graduate students and early career researchers to come together to share their research, collaborate, and network.					
Shot and edited by Mike Toillion. NASA Astrobiology Institute					

2013 06 27	NASA Astrobiology	<a href="https://youtu.be/zPIAw2ERa9g">https://youtu.be/zPIAw2ERa9g</a>	AbGradCon 2013 - Simon Porter Day 1 - Simon Porter	Simon Porter Trading on Up: Capturing Exomoons Through Momentum Exchange	<a href="#">Transcript</a> <a href="#">Link</a>
AbGradCon (Astrobiology Graduate Conference) provides a unique setting for astrobiologically inclined graduate students and early career researchers to come together to share their research, collaborate, and network.					
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2013 05 22	NASA Astrobiology	<a href="https://youtu.be/kwsjPTcLm2k">https://youtu.be/kwsjPTcLm2k</a>	Astrobiology Roadmap 2013 - Early Evolution of Life May 20th	The goal of research into the early evolution of life is to determine the nature of the most primitive organisms and the environment in which they evolved. The opportunity is taken to investigate two natural repositories of evolutionary history available on Earth: the molecular record in living organisms and the geological record.	<a href="#">Transcript</a> <a href="#">Link</a>
These paired records are used to: (i) determine when and in what setting life first appeared and the characteristics of the first successful living organisms; (ii) understand the phylogeny and physiology of microorganisms, including extremophiles, whose characteristics may reflect the nature of primitive environments; (iii) determine the original nature of biological energy transduction, membrane function, and information processing, including the construction of artificial chemical systems to test hypotheses regarding the original nature of key biological processes; iv) investigate the development of key biological processes and their environmental impact; v) examine the response of Earth's biosphere to extraterrestrial events; vi) investigate the evolution of genes, pathways, and microbial species subject to long-term environmental change relevant to the origin of life on Earth and the search for life elsewhere; and vii) study the coevolution of microbial communities, and the interactions within such communities, that drive major geochemical cycles, including the processes through which new species are added to extant communities.					
2013 05 22	NASA Astrobiology	<a href="https://youtu.be/mHDeoUCskGQ">https://youtu.be/mHDeoUCskGQ</a>	Astrobiology Roadmap 2013 - Planetary Conditions For Life May 20th	Research in this area seeks to delineate the galactic and planetary conditions conducive to the origin of life. Topics of interest include the formation and stability of habitable planets, the formation of complex organic molecules in space and their delivery to planetary surfaces, models of early environments in which organic chemical synthesis could occur, the forms in which prebiotic organic matter has been preserved in planetary materials, and the range of planetary environments amenable to life.	<a href="#">Transcript</a> <a href="#">Link</a>
Emphasis is placed on studies that constrain or extend concepts of possible chemical evolution relevant to the origin, evolution, and distribution of life. Studies of sites thought to be analogues to the early Earth will be considered as part of NASA's broader interest in the search for life in the Universe.					

2013 05 14	NASA Astrobiology	<a href="https://youtu.be/lfkXhwTlLmU">https://youtu.be/lfkXhwTlLmU</a>	NAI Video Tutorial Series How to Use Your Microphone in Adobe Connect	In this video, you will learn the fundamentals of connecting and configuring your microphone device in Adobe Connect.	<a href="#">Transcript Link</a>
2013 05 14	NASA Astrobiology	<a href="https://youtu.be/lfFrQc5BYbE">https://youtu.be/lfFrQc5BYbE</a>	NAI Video Tutorial Series How to Use Your Webcam in Adobe Connect	In this video, you will learn the fundamentals of connecting and configuring your webcam device in Adobe Connect.	<a href="#">Transcript Link</a>
2013 05 14	NASA Astrobiology	<a href="https://youtu.be/VsvE2Lx7_bo">https://youtu.be/VsvE2Lx7_bo</a>	Astrobiology Roadmap 2013 - Advanced Life May 13th	<p>Research associated with the study of the evolution of advanced life seeks to determine the biological and environmental factors leading to the development of multicellularity on Earth and the potential distribution of complex life in the Universe.</p> <p>This research includes studies of the origin and early evolution of those biological factors that are essential to multicellular life, such as developmental programs, intercellular signaling, programmed cell death, the cytoskeleton, cellular adhesion control and differentiation, in the context of the origin of advanced life. This research area also includes an evaluation of environmental factors such as the influence of extraterrestrial (e.g., bolide impacts, orbital and solar variations, gamma-ray bursts, etc.) and planetary processes ("Snowball Earth" events, rapid climate change, etc.) on the appearance and evolution of multicellular life. Of particular interest are mass extinction events.</p>	<a href="#">Transcript Link</a>
2013 05 14	NASA Astrobiology	<a href="https://youtu.be/j7gnbHtNiOc">https://youtu.be/j7gnbHtNiOc</a>	Astrobiology Roadmap 2013 - Prebiotic Evolution May 13th	<p>Research in the area of prebiotic evolution seeks to understand the pathways and processes leading from the origin of planetary bodies to the origin of life. The strategy is to investigate the planetary and molecular processes that set the physical and chemical conditions within which living systems may have arisen.</p> <p>A major objective is determining what chemical systems could have served as precursors of metabolic and replicating systems on Earth and elsewhere, including alternatives to the current DNA-RNA-protein basis for life. Laboratory and theoretical, as well as related data-analysis, studies will be considered.</p>	<a href="#">Transcript Link</a>

2013 05 08	NASA Astrobiology	<a href="https://youtu.be/jYnWd-Ezy2k">https://youtu.be/jYnWd-Ezy2k</a>	Astrobiology Roadmap 2013 - Solar Systems Exploration (May 6th)	In this first webinar, Tori Hoehler, Chris House, Victoria Meadows and Kelsi Singer will explore the questions that they feel have been answered in the last decade, and then outline what they each feel are the most compelling open questions for the next decade. The webinar will be followed by a week long online discussion. The discussion is intended to deepen our understanding of the key questions for the next decade.	<a href="#">Transcript</a> <a href="#">Link</a>
2013 04 10	NASA Astrobiology	<a href="https://youtu.be/cKgFnPPYxWg">https://youtu.be/cKgFnPPYxWg</a>	ASU Stellar Stoichiometry Workshop - Trailer %233	This is a 2-day workshop intended for people in the astronomy, astrobiology, and related communities to discuss and address several unresolved issues related to the topic of stellar abundances, and its impact on planetary systems.	<a href="#">Transcript</a> <a href="#">Link</a>
				It will be held in the "Workshop Without Walls" format, meaning that virtual participation is possible and encouraged! All discussions and presentations will be streamed live, so you don't need to be in Phoenix to take part in this meeting. Instructions for connecting to the workshop can be found on the format page.	
				Registration is open, so sign up now! There is no cost and no obligation; please sign up if you are interested in the workshop.	
2013 04 08	NASA Astrobiology	<a href="https://youtu.be/-Ifyou1MtQE">https://youtu.be/-Ifyou1MtQE</a>	ASU Stellar Stoichiometry Workshop - Trailer %232	This is a 2-day workshop intended for people in the astronomy, astrobiology, and related communities to discuss and address several unresolved issues related to the topic of stellar abundances, and its impact on planetary systems.	<a href="#">Transcript</a> <a href="#">Link</a>
				It will be held in the "Workshop Without Walls" format, meaning that virtual participation is possible and encouraged! All discussions and presentations will be streamed live, so you don't need to be in Phoenix to take part in this meeting. Instructions for connecting to the workshop can be found on the format page.	
				Registration is open, so sign up now! There is no cost and no obligation; please sign up if you are interested in the workshop.	

2013 04 08 NASA Astrobiology <https://youtu.be/UZxyXYZxi40> ASU Stellar Stoichiometry Workshop - Trailer %231 This is a 2-day workshop intended for people in the astronomy, astrobiology, and related communities to discuss and address several unresolved issues related to the topic of stellar abundances, and its impact on planetary systems. [Transcript Link](#)

It will be held in the "Workshop Without Walls" format, meaning that virtual participation is possible and encouraged! All discussions and presentations will be streamed live, so you don't need to be in Phoenix to take part in this meeting. Instructions for connecting to the workshop can be found on the format page.

Registration is open, so sign up now! There is no cost and no obligation; please sign up if you are interested in the workshop.

2012 11 26 NASA Astrobiology <https://youtu.be/dX5BB-CsDmjs> University of Washington Seminar Series Prof. Dorian Abbot Presenter: Dorian Abbot When: November 13, 2012 3PM PST Indication of Insensitivity of Planetary Weathering Behavior and Habitable Zone to Surface Land Fraction [Transcript Link](#)

It is likely that unambiguous habitable zone terrestrial planets of unknown water content will soon be discovered. Water content helps determine surface land fraction, which influences planetary weathering behavior. This is important because the silicate-weathering feedback determines the width of the habitable zone in space and time. Here a low-order model of weathering and climate, useful for gaining qualitative understanding, is developed to examine climate evolution for planets of various land-ocean fractions. It is pointed out that, if sea-floor weathering does not depend directly on surface temperature, there can be no weathering-climate feedback on a waterworld. This would dramatically narrow the habitable zone of a waterworld.

Results from our model indicate that weathering behavior does not depend strongly on land fraction for partially ocean-covered planets. This is powerful because it suggests that previous habitable zone theory is robust to changes in land fraction, as long as there is some land. Finally, a mechanism is proposed for a waterworld to prevent complete water loss during a moist greenhouse through rapid weathering of exposed continents. This process is named a "waterworld self-arrest," and it implies that waterworlds can go

2012 09 25 NASA <https://youtu.be/h3zureJt6OU> University of Washington Seminar Series Victoria Meadows Planets Around Other Stars: Exploring Habitability and Spectral Signatures Presenter: Victoria Meadows [Transcript Link](#)  
January 23, 2007 2:30PM PST

The search for life outside our Solar System will be undertaken using remote-sensing techniques to understand the spectroscopic properties of extrasolar planets. To improve our ability to interpret what we might find, the Virtual Planetary Laboratory NAI Alumni team uses realistic stellar spectra and generalized planetary climate-chemistry models to explore the effect of different stellar energy distributions on the atmospheric photochemistry and resultant spectra of Earth-like planets.

In this presentation I will review results to date on the effects on atmospheric photochemistry, planetary habitability and the detectability of biosignatures for planetary host stars of different spectral type and UV activity levels. I will also highlight new modeling results relevant to photosynthesis in extrasolar planet environments, and attempts to generate "false positive" signatures of atmospheric oxygen, using high incident stellar UV radiation and model planets with dense carbon dioxide atmospheres.

2012 09 25 NASA <https://youtu.be/K5bDYre8lhA> University of Washington Seminar Series Robert Hazen LEFT & RIGHT: Geochemical Origins of Life's Homochirality Presenter: Robert Hazen [Transcript Link](#)  
May 1, 2007 2:30PM PDT

Life arose on Earth as a geochemical process from the interaction of rocks, water, and gases. Prior to the origin of life, the necessary organic molecules had formed abundantly, but indiscriminately, both in space and on Earth. A major mystery of life's origin is how an idiosyncratic subset of those diverse molecules was selected and concentrated from the prebiotic soup to form more complex structures leading to the development of life. Rocks and minerals are likely to have played several critical roles in this selection, especially as templates for the adsorption and organization of these molecules.

Our recent experimental and theoretical studies on interactions between crystals and organic molecules reveal that crystals with chiral surface structures may have facilitated the separation of left- and right-handed biomolecules - the possible origin of life's distinctive homochirality.

2012 09 25 NASA Astrobiology <https://youtu.be/rTpD7xQ8J5A> University of Washington Seminar Series Megan Elwood Madden Gas Hydrates as Planetary-Scale Water and Greenhouse Gas Reservoirs: Implications for Astrobiology Presenter: Megan Elwood Madden February 20, 2007 2:30PM PST [Transcript Link](#)

Gas hydrates (clathrates) are plentiful on Earth, forming ice-like gas reservoirs within seafloor sediments and permafrost. Terrestrial gas hydrates may contain more hydrocarbons (natural gas) than all other conventional petroleum reserves combined. However, terrestrial gas hydrate deposits are not unique within the Solar System. Gas hydrates are likely important reservoirs for water and greenhouse gases on other planetary bodies as well, affecting both the availability of water and the composition of planetary atmospheres.

Understanding the thermodynamics and kinetics of hydrate formation and decomposition along with the physical properties gas hydrate materials allows us to predict where hydrates are most likely to form in the Solar System and how these gas hydrates may affect the geochemistry and physical processes on planetary bodies. As sources and sinks for carbon and water, the fate of hydrates in planetary systems is intimately tied to the potential for biological activity.

2012 09 25 NASA Astrobiology <https://youtu.be/fdL5TwwWFot8> University of Washington Seminar Series Marc Kuchner From Carbon Planets to Water Planets: The Composition of Low-Mass Extrasolar Planets Presenter: Marc Kuchner January 30, 2007 2:30PM PST [Transcript Link](#)

A new extrasolar planet is discovered with mass comparable to that of the Earth. Is it made mostly of silicates like the Earth? Not necessarily. I will discuss some other strange possibilities: low-mass planets made mostly from water, iron, carbon compounds, etc. I'll describe how these possibilities fit into our current picture of planet formation and suggest how we can recognize them with upcoming planet search tools.

2012 09 25 NASA Astrobiology <https://youtu.be/LXCBkrkwQVs> University of Washington Seminar Series Joseph Kirschvink Four Billion Years of Climate Change (Lessons From the Precambrian): From Oxygen Poisoning to Snowballs & True Polar Wander Presenter: Joseph Kirschvink [Transcript Link](#)

May 29, 2007 2:30PM PDT

Despite a nearly 30% increase in Solar luminosity over the past 4.5 billion years, the geological record of glaciation appears to have increased, not decreased, over geological time. Investigations indicate that two of the three major Precambrian glacial intervals were exceptionally intense, with solid evidence for widespread glaciers flowing into the oceans on or near the Equator, well within the ice-albedo runaway's "Snowball Earth" zone.

These glacial events are also associated with large perturbations in global geochemical cycles, which are reflected particularly well in carbon and sulfur isotopes. The first of these low-latitude glaciations in the early Paleoproterozoic (the Makganyene in South Africa) is also associated intimately with the first solid evidence of global oxygenation, including deposition of the world's largest sedimentary manganese deposit; this hints that the evolution of oxygenic photosynthesis triggered the event by destroying a methane greenhouse. The subsequent low-latitude glaciations during the Cryogenian period of the Neoproterozoic happened about the time that the animal phyla were diversifying, which also suggests organisms were either involved or affected. However, this

2012 09 25 NASA Astrobiology <https://youtu.be/TB95Y35Rukg> University of Washington Seminar Series David Crisp Measuring CO2 From Space: The Orbiting Carbon Observatory (OCO) Mission Presenter: David Crisp [Transcript Link](#)

October 9, 2007 2:30PM PDT

The Orbiting Carbon Observatory (OCO) is currently scheduled for launch in December 2008. This NASA Earth System Science Pathfinder (ESSP) mission will make spatially resolved measurements of CO<sub>2</sub> over the sunlit hemisphere the Earth. These measurements will be analyzed with chemical tracer transport models to retrieve CO<sub>2</sub> sources and sinks on regional scales and quantify their variability over the seasonal cycle. This seminar will describe the mission objectives, approach, and anticipated products.

2012 09 25	NASA Astrobiology	<a href="https://youtu.be/ri1hexV5Vak">https://youtu.be/ri1hexV5Vak</a>	University of Washington Seminar Series Erika Harnett	Mars: Where Did All the Water Go? Presenter: Erika Harnett  October 2, 2007 2:30PM PDT	<a href="#">Transcript Link</a>
<p>Evidence indicates that Mars was warmer and wetter in the past. In order for water to have been stable, the atmosphere must have been thicker than current conditions. I will discuss possible loss mechanisms in the Martian history, paying particular attention to the mechanisms by which the atmosphere may have been lost to space. I will present results from numerical simulations that show how the loss of the ionosphere to space due to interactions with the solar wind is modulated by both the orientation of Mars' anomalous magnetic field and the solar wind conditions themselves. Studying how the ionospheric loss rate is modulated by solar storms increases the confidence in predictions of past loss rates, as past nominal solar wind conditions are analogous to current day storm conditions.</p>					
2012 09 17	NASA Astrobiology	<a href="https://youtu.be/ST-Vb2T3LYo">https://youtu.be/ST-Vb2T3LYo</a>	University of Washington Seminar Series Siegfried Franck	Earth System Analysis: Applications to Astrobiology Presenter: Siegfried Franck  April 22, 2008 02:30 PM Pacific	<a href="#">Transcript Link</a>
<p>A general model for the global carbon cycle of the Earth containing the reservoirs mantle, ocean floor, continental crust, biosphere, and the kerogen, as well as the combined ocean and atmosphere reservoir is presented. The model is specified by introducing three different types of biosphere: procaryotes, eucaryotes, and complex multicellular life. We can calculate the co-evolution of the geo- and biosphere from the Archaean to the long-term future. A simplified Earth system model can be used for the investigation of the habitable zone in the solar system and in exoplanetary systems.</p>					
2012 09 17	NASA Astrobiology	<a href="https://youtu.be/nzkSqjMN4_I">https://youtu.be/nzkSqjMN4_I</a>	University of Washington Seminar Series Janet Siefert	Stromatolites: What's Sulfur Got to Do With It? Presenter: Janet Siefert  April 8, 2008 02:30 PM Pacific	<a href="#">Transcript Link</a>
<p>Stromatolites (or more generally, microbialites) are carbonate encased complex microbial communities. They were a mainstream feature of early earth and now are found only in special ecosystems that provide for bacterial domination. This talk describes the bacterial constituency and metabolism within the local context of extant microbialites. We provide evidence that at least one of the conditions for microbialite formation is the presence of sulfur cycle resident in the community. Descriptions such as these better define possible early earth conditions that proved ripe for stromatolite formation and the possibility that we might extend those constraints to the possibilities of similar biotic preservation extra terrestrially.</p>					

2012 09 17 NASA Astrobiology <https://youtu.be/K7ixC96A64Q> University of Washington Seminar Series Robert M. Winglee Plasma/Upper Atmospheric Interactions Within the Saturn/Titan System Presenter: Robert M. Winglee [Transcript Link](#)  
October 23, 2007 02:30 PM Pacific

Titan is the only moon in the solar system that is able to maintain a thick atmosphere, with possible oceans of methane and ethane on its surface. This environment is probably the closest facsimile to the early atmosphere on the Earth, albeit at very much lower temperatures. The upper atmosphere is subject to ionization and erosion from incident plasma that is rotating within Saturn's magnetosphere. This interaction can lead to modifications of the optical emissions that is different from the planetary emissions and thereby allow remote sensing of its upper atmospheric conditions.

3-D simulations are used to quantify how the interaction between Titan and Saturn changes under variable solar wind conditions. It is shown that this interaction leads to the generation of a comet-like tail which can extend several Saturn radii in length. This tail can be subject to disruption during storm-like conditions within the planetary magnetosphere. Potential applications to other systems are discussed, including the Jovian system and extrasolar planets.

2012 09 17 NASA Astrobiology <https://youtu.be/l82KLXZ1XDk> University of Washington Seminar Series Sean Raymond Exotic Earths: Hot Jupiters, Tidal Evolution, and Ocean Planets Presenter: Sean Raymond () [Transcript Link](#)  
October 16, 2007 02:30 PM Pacific

Planets like Earth form via collisional accumulation of smaller bodies in circumstellar disks. However, there exist systematic differences between the formation environment of Earth-like planets around other stars and that of the Solar System. For example, short-lived radionuclides (SLRs) like  $^{26}\text{Al}$  were an important heat source in the Solar System and may have been derived from a nearby supernova. However, SLRs have variable abundances in protoplanetary disks because of orbital variations within stellar clusters which determine the proximity to supernovae. The quantity of SLRs can be directly tied to the water abundance of terrestrial planets. In addition, the habitable zones of low-mass stars are very close-in, which affects the ability of habitable planets to have large masses or retain water, and can also cause large orbital changes via tidal dissipation. About 60 "hot Jupiters" are currently known; these giant planets likely formed farther from their stars and migrated inward through the habitable zone. Ocean-covered planets are often able to form in the "wake" of a migrating giant planet.

2012 09 17	NASA Astrobiology	<a href="https://youtu.be/TZdGAcAUzNU">https://youtu.be/TZdGAcAUzNU</a>	University of Washington Seminar Series Ram Samudrala	Modeling Interactomes Presenter: Ram Samudrala	<a href="#">Transcript Link</a>	
				November 6, 2007 02:30 PM Pacific		
				<p>A fundamental biological challenge is to understand how the linear information in an organism's genome is processed to produce the resulting behavior or phenotype. Our research aims to understand these processes and develop a coherent picture of the mechanistic basis (wiring diagram) of molecular and organismal structure, function, networks, and evolution within a fundamental scientific framework. The talk will detail our current progress and provide an overview of the methodologies being pursued by our group to achieve the above goals, recent basic science discoveries, successful applications in the context of drug discovery and nanotechnology, as well as potential applications in astrobiology.</p>		
2012 09 17	NASA Astrobiology	<a href="https://youtu.be/CLYpRCRFmbs">https://youtu.be/CLYpRCRFmbs</a>	University of Washington Seminar Series Matthew Pasek	Phosphorus and the Origin of Life Presenter: Matthew Pasek	<a href="#">Transcript Link</a>	
				November 20, 2007 02:30 PM Pacific		
				<p>Phosphorylated biomolecules like RNA, DNA, ATP, phospholipids, and many coenzymes are critical to life as we know it. Presumably, given their central role in life, phosphorylated biomolecules were also critical for the origin or early evolution of life on the Earth. The origin of these biomolecules remains one of the major questions in origins of life research.</p>		
				<p>Recent discoveries have suggested that the reaction of meteoritic schreibersite with water produces abundant reduced phosphorus compounds which may have encouraged the synthesis of critical prebiotic molecules. The cosmochemistry, geochemistry, and biochemistry of phosphorus will be summarized to point to pathways for the incorporation of phosphorus in the origin of life.</p>		
2012 09 17	NASA Astrobiology	<a href="https://youtu.be/awfa-Pr_2X4">https://youtu.be/awfa-Pr_2X4</a>	University of Washington Seminar Series Joshua Bandfield	A complex compositional and aqueous history of Mars Presenter: Joshua Bandfield (Research Assistant Professor, Earth & Space Sciences/Astrobiology, University of Washington, Seattle)	<a href="#">Transcript Link</a>	
				November 4, 2008 02:30 PM Pacific		
				<p>Spectroscopic datasets from orbiters and landers have been used to identify a growing variety of compositions on Mars. Evidence for sedimentary silica, sulfates, carbonates, phyllosilicates, iron oxides, and chlorides indicates a relatively rich and varied Martian aqueous history that is fundamentally changing our understanding of the planet. This increasingly detailed compositional picture can be used to infer the spatial and temporal extent of habitable environments as well as the potential for biological development and its subsequent preservation.</p>		

2012 09 17 NASA Astrobiology <https://youtu.be/iHiiqLLPGhE> University of Washington Seminar Series Jeremy Bailey Using Polarization to Detect and Characterize Extrasolar Planets Presenter: Jeremy Bailey [Transcript Link](#)  
April 29, 2008 02:30 PM Pacific

Light scattered from planetary surfaces and atmospheres is polarized while the light of the star is unpolarized. The polarization variations around a planet's orbit provide information that is complementary to that obtainable using spectroscopy. I will describe how polarization could be used in the future to search for liquid water on extrasolar terrestrial planets by detecting the rainbow scattering from cloud droplets and the "glint" from surface oceans. Such observations should be feasible with proposed space missions such as the Terrestrial Planet Finder-Coronagraph and provide a means of detecting habitable planets. I will also describe a new high-sensitivity polarimeter built to search for the polarized scattered light from Hot Jupiter type exoplanets.

2012 09 10 NASA Astrobiology <https://youtu.be/vLokAPcQzN4> University of Washington Seminar Series Rory Barnes Habitability of Tidally-Locked Terrestrial Exoplanets Presenter: Rory Barnes (University of Arizona) [Transcript Link](#)  
October 7, 2008 02:30 PM Pacific

The first terrestrial-like exoplanets will likely be observed in tight orbits around low-mass stars. Conveniently, planets on these orbits receive about as much starlight as the Earth does from the Sun, and hence have the potential to be habitable. Such planets may also experience significant tidal forces from the star which can result in orbital decay, a specific planetary rotation, and significant internal heating. I describe how these phenomena are likely to impact habitability. In some cases orbital decay may result in planets moving too close to their star for habitability. For planets on non-circular orbits, rotation periods may be similar to the Earth's and hence may produce similar atmospheric circulation patterns. Tidal heating may span the range from zero to well in excess of Io's, and hence can dramatically impact habitability. Further complicating the situation is the presence of additional companions which may drive large oscillations in the magnitudes of these effects. Taken together these processes suggest a scheme for categorizing planetary attributes based on the planetary system's architecture, including a refinement of the prerequisites for planetary habitability.

2012 09 10	NASA Astrobiology	<a href="https://youtu.be/AtxeCJVmWIY">https://youtu.be/AtxeCJVmWIY</a>	University of Washington Seminar Series James Kasting	Was the Early Earth Hot? Presenter: James Kasting (Department of Geosciences, Pennsylvania State University)  May 13, 2008 02:30 PM Pacific	<a href="#">Transcript</a> <a href="#">Link</a>
<p>Despite the faintness of the young Sun, the early Earth appears to have been warm, or perhaps even hot. Taken at face value, oxygen and silicon isotopes in ancient cherts imply a mean surface temperature of <math>70(\pm 15)^{\circ}\text{C}</math> at 3.3 Ga<sup>1,2</sup>. Ancient carbonates also yield high Precambrian surface temperatures<sup>3</sup>, as does a recently published analysis of the thermal stability of proteins which are inferred to be ancient<sup>4</sup>. This evidence for hot early surface temperatures must be weighed against the previously mentioned dimness of the young Sun, as well as geomorphic evidence for glaciation at 2.9 Ga, 2.4 Ga, and 0.6-0.7 Ga. Climate models with high CO<sub>2</sub> and CH<sub>4</sub> concentrations can potentially explain hot climates, but can they explain climates that transition from hot to cold, and back again, multiple times? Such models must also account for the well documented correlation between the rise of O<sub>2</sub> at 2.4 Ga and the Paleoproterozoic glaciations which occurred at that same time. Models that do<sup>5</sup> and do not<sup>6</sup> rely on changes in seawater oxygen isotopic composition will be discussed.</p>					
<p>References: 1 Knauth and Lowe, GSA Bull., 2003 2 Robert and Chaussidon, Nature, 2006</p>					
2012 09 10	NASA Astrobiology	<a href="https://youtu.be/6juTQTimpH8">https://youtu.be/6juTQTimpH8</a>	NAI Team Overview - VPL at the University of Washington	Team Overview: VPL @ University of Washington Presenter: Victoria Meadows (University of Washington)  April 13, 2009 11:00 AM Pacific	<a href="#">Transcript</a> <a href="#">Link</a>
2012 09 10	NASA Astrobiology	<a href="https://youtu.be/iOvfIKSbAI">https://youtu.be/iOvfIKSbAI</a>	NAI Team Overview - NASA Goddard Space Flight Center	Team Overview: NASA Goddard Space Flight Center Presenter: Michael Mumma (NASA Goddard Space Flight Center)  April 15, 2009 11:00 AM Pacific	<a href="#">Transcript</a> <a href="#">Link</a>

2012 09 06	NASA Astrobiology	<a href="https://youtu.be/nUmbUDBPuM0">https://youtu.be/nUmbUDBPuM0</a>	NAI Team Overview Montana State University	Team Overview: Montana State University Presenter: John Peters (Montana State University)  March 30, 2009 11:00 AM Pacific	<a href="#">Transcript Link</a>
2012 09 06	NASA Astrobiology	<a href="https://youtu.be/N2XGEVLGkoE">https://youtu.be/N2XGEVLGkoE</a>	NAI Team Overview Carnegie Institution of Washington	Team Overview: Carnegie Institution of Washington Presenter: George Cody (Carnegie Institution of Washington)  February 23, 2009 11:00 AM Pacific	<a href="#">Transcript Link</a>
2012 09 04	NASA Astrobiology	<a href="https://youtu.be/IL30X-4VjA">https://youtu.be/IL30X-4VjA</a>	NAI Director's Seminar Series Norman Pace	Life in the Universe: The Expanding World of Microbial Diversity Presenter: Norman Pace  September 24, 2007 11:00 AM Pacific  Life anywhere in the universe is likely to be based on carbon and to have a basic biochemistry similar to our own. The fundamental demands of life anywhere thus are the same: to capture energy in order to transform organic chemistry into more of self. In order to accomplish these tasks and thrive, terrestrial life has penetrated all permissible thermodynamic and physical niches offered by planet Earth. Consequently, it is likely that terrestrial life offers models for life in almost any habitable niche in the Universe. Knowledge of terrestrial diversity thus informs us about possible life anywhere.	<a href="#">Transcript Link</a>
2012 08 14	NASA Astrobiology	<a href="https://youtu.be/dTcggbWLnmg">https://youtu.be/dTcggbWLnmg</a>	Lassen VFT - Boiling Springs		<a href="#">Transcript Link</a>

2012 08 14 NASA  
Astrobiology [https://youtu.be/CfnxCEA\\_e4U](https://youtu.be/CfnxCEA_e4U) Lassen VFT - Devil's Kitchen

[Transcript Link](#)

2012 08 14 NASA  
Astrobiology <https://youtu.be/GZ2YajW2D1c> Lassen VFT - What is a Mudpot

[Transcript Link](#)

2012 08 14 NASA  
Astrobiology <https://youtu.be/wamRQugL3YU> Lassen VFT - Isochemical Weathering

[Transcript Link](#)

2012 08 14 NASA  
Astrobiology <https://youtu.be/hrxe8kBOY0> Lassen VFT - Boiling Springs Explained

[Transcript Link](#)

2012 06 27 NASA Astrobiology [https://youtu.be/p1SJfHVMM\\_E](https://youtu.be/p1SJfHVMM_E) Summer Student Presentations Summer Student Presentations [Transcript Link](#)

Presenter: NAI Students  
August 1, 2007 10:00 AM Pacific

Please join us as ten students from the NASA Goddard Space Flight Center present their summer work in astrobiology.

Jim Doty, Rice University  
A Search for Purines and Pyrimidines in Carbonaceous Meteorites

Ariel Lewis, Eckerd College  
A study of the vapor pressure of carbonic acid and its implications in space

Lorne Loudin, Keene State College  
Fingerprinting Late Accretion: A study of the Lunar Impact Melt 76055

Steven Manning, University of Maryland  
Amorphous Iron Silicate Grains as Catalysts for Organics in the Solar Nebula

Justin Nieuwsma, The College of New Jersey  
Analysis of Martian Gaseous Abundances Utilizing NIRSPEC Spectroscopic Data

2012 06 27 NASA Astrobiology <https://youtu.be/OG-r70gDzgw> GSFC Summer Student Presentations GSFC Summer Student Presentations [Transcript Link](#)

Presenter: NAI Students  
August 6, 2008 11:00 AM Pacific

Please join us as this year's students present the results of their summer's research.

The 2008 Summer Undergraduate Internship in Astrobiology is a ten-week internship in astrobiology held each year at Goddard Space Flight Center.

2012 06 27 NASA Astrobiology <https://youtu.be/-wZbho9eyOc> FAR Seminar Series Elise Furlan and Evgenya Shkolnik First Steps of Planet Formation in Protoplanetary Disks Presenter: Elise Furlan October 15, 2007 11:00 AM Pacific [Transcript Link](#)

Young stars are surrounded by circumstellar disks for several million years; it is in these disks that planets are thought to form. The Spitzer Space Telescope has been providing a wealth of data that aids in understanding the evolution of protoplanetary disks. I will present results from Spitzer that reveal significant disk evolution, ranging from dust grain growth to disk clearing, already at an age of 1 million years. Thus, we are observing the first steps of planet formation in several of these young disks, which place constraints on planet formation mechanisms.

The On/Off Nature of Star-Planet Interactions: A Probe of Magnetized Exoplanets

Presenter: Evgenya Shkolnik  
October 15, 2007 11:00 AM Pacific

A new field of extrasolar planet characterization is emerging, which deals with the magnetic and tidal interactions between close-in giant planets ('hot Jupiters') and their host stars. Over the past 5 years, we have been spectroscopically monitoring the chromospheric activity of stars with hot Jupiters in search of excess

2012 06 27 NASA Astrobiology <https://youtu.be/zMLjdrDB2Sk> FAR Seminar Series William J. Brazelton and Catherine Neish Prebiotic Chemistry Presenter: William J. Brazelton and Catherine Neish October 6, 2008 11:00 AM Pacific [Transcript Link](#)

Prebiotic Chemistry

Presenter: William J. Brazelton and Catherine Neish  
October 6, 2008 11:00 AM Pacific

"Prebiotic chemistry in aqueous solutions on the surface of Titan" - Catherine Neish (University of Arizona)

Laboratory experiments that simulate the reactions occurring in Titan's thick nitrogen-methane atmosphere produce complex organic precipitates known as tholins. Tholins have the general formula  $C_xH_yN_z$ , and are spectrally similar to Titan's haze. When placed in liquid water, a variety of tholin compounds produce organic species containing oxygen atom(s). If similar reactions were to take place on the surface of Titan, in impact melt pools or cryolavas, molecules of direct relevance to the origin of life could be created. To determine whether there is sufficient time to produce oxygen-containing organics in a solidifying melt pool on Titan, it is necessary to determine the rate constants of these hydrolysis reactions at relevant temperatures.

In this work, we synthesized tholins from a nitrogen-methane atmosphere in a high voltage AC flow discharge reactor. We dissolved the tholins in water and 13 wt. % ammonia-water at temperatures ranging from 253 K to 313 K, and monitored the intensity changes of several oxygenated species over time using

2012 06 26 NASA Astrobiology <https://youtu.be/w808EYlGpuM> NAI Director's Seminar Series Steven D'Hondt Microbial Activities in Deep Subseafloor Sediments Presenter: Steven D'Hondt April 30, 2007 11:00 AM Pacific [Transcript Link](#)

Recent studies by URI investigators and our collaborators have advanced understanding of Earth's subsurface life in several ways. These advances include the following discoveries: (1) respiration per subseafloor cell is much lower than canonical estimates of respiration required for cell maintenance; (2) thermodynamic cooperation sustains complex subsurface communities for millions of years; (3) subseafloor biomass and predominant redox activities vary predictably with the chlorophyll content of the surface ocean; (4) subseafloor redox activities ultimately affect the chemistry of the ocean and atmosphere; and (5) Earth's subsurface biomass is much smaller than the canonical estimate. Preliminary data suggest that hydrogen from radiolysis of water may be a significant food source for microbial communities in the low-activity sediments that characterize much of the open ocean.

2012 06 25 NASA Astrobiology <https://youtu.be/S6VW-gAt9rl> Explorer, Nobel Laureate, Astrobiologist Things you Never Knew About Barry Blumberg Presenter: Carl Pilcher (NASA Astrobiology Institute) September 20, 2011 02:00 PM Pacific [Transcript Link](#)

Baruch Samuel "Barry" Blumberg traveled to Earth's far reaches as a medical explorer and pioneer. Through perseverance in the face of skepticism, he made discoveries that saved hundreds of millions of lives. This remarkable career shaped his perspectives when, at age 72, he became the Founding Director of NASA's Astrobiology Institute. In this talk I will trace Barry's early years and describe how his studies of genetic variations in diverse and remote populations led to his serendipitous discovery of the Hepatitis B virus and subsequent development of a protective vaccine, for which he was awarded the 1976 Nobel Prize in Physiology or Medicine. I'll relate these experiences to his views and actions as NAI Director.

2012 06 21 NASA Astrobiology <https://youtu.be/iqd2NOgWWaE> NAI Director's Seminar Series Tim Raub New and Emerging Perspectives on Late Precambrian 'Snowball Earth' Glaciation [Transcript Link](#)

Presenter: Tim Raub  
February 26, 2007 11:00 AM Pacific

Geological and geophysical evidence for a dramatically severe planetary glacial response during Earth's Precambrian Eon (the "Snowball Earth") continues to grow. Recent geochemical measurements and modeling suggest that each late Precambrian glaciation might have boosted levels of atmospheric oxygen, ultimately changing patterns of carbon cycling in the ocean and permitting bodyplan complexity in early animals. The Snowball deglacial timescale appears long with respect to Plio-Pleistocene deglacial records and ice dynamic expectations.

Alternatively, a nonuniformitarian configuration of Earth's geomagnetic field could permit rapid deglaciation but introduce new ambiguities for climate forcing feedbacks. This talk enumerates multiple working hypotheses sustained by astrobiologists attacking this aspect of the fundamentally unusual, Precambrian Earth system.

2012 06 21 NASA Astrobiology <https://youtu.be/ZTtaHXeWy1M> NAI Director's Seminar Series Sean Raymond and Avi Mandell Formation of Habitable Planetary Systems: Are We Normal? [Transcript Link](#)

Presenter: Sean Raymond and Avi Mandell  
November 27, 2006 11:00 AM Pacific

For a planet to be potentially habitable over long timescales, it must 1) have a stable orbit in the "habitable zone" (HZ); 2) have sufficient mass to sustain plate tectonics and maintain an atmosphere; and 3) have a substantial water content. Habitable planets are thought to form from a swarm of rocky/icy bodies in circumstellar disks, and it is this process which determines whether these "habitability criteria" will be met. We will review this process in the context of the formation of Earth and the Solar System, and examine the conditions needed to form habitable planets around other stars. Of particular importance is the presence and location of giant planets, which form more quickly than terrestrial planets and can strongly influence the final stages of terrestrial planet formation. We discuss models of terrestrial planet formation in systems with different

2012 06 21 NASA Astrobiology <https://youtu.be/f4-fickHsU> NAI Director's Seminar Series Lisa Pratt and T.C. Onstott Radiolysis of water as a source of bioavailable energy in the subsurface of Earth and Mars Presenter: Lisa Pratt and T.C. Onstott January 29, 2007 11:00 AM Pacific [Transcript Link](#)

An NAI research team has discovered an isolated community of bacteria nearly two miles underground that derives all of its energy from the decay of radioactive rocks rather than from sunlight. The finding suggests life might exist in similarly extreme conditions on other worlds. The self-sustaining bacterial community, which thrives in nutrient-rich groundwater found near a South African gold mine, has been isolated from the Earth's surface for several million years. It represents the first group of microbes known to depend exclusively on geologically produced hydrogen and sulfur compounds for nourishment. The extreme conditions under which the bacteria live bear a resemblance to those of early Earth, potentially offering insights into the nature of organisms that lived long before our planet had an oxygen atmosphere.

2012 06 21 NASA Astrobiology <https://youtu.be/o7nxZBhtn4k> NAI Director's Seminar Series Drake Deming Infrared Spectra of Extrasolar Planets Presenter: Drake Deming March 26, 2007 11:00 AM Pacific [Transcript Link](#)

Two independent scientific groups have recently reported the first spectroscopy of planets orbiting other stars, using the Spitzer Space Telescope. The planets (HD 209458b and HD 189733b) are "hot Jupiters" orbiting within 0.05 AU of solar-type stars, and with orbital periods from 2.2 to 3.5 days. Their orbital planes are close to our line of sight, so both planets pass in front of ("transit"), and disappear behind their stars, once each orbit. The Spitzer measurements were made by subtracting the spectrum of each star - with the planet in eclipse - from the combined infrared light of the system, to yield the infrared spectrum of the planet alone. Theorists expected that absorption by hot water vapor would dominate the spectra of these planets in the 7- 14-micron wavelength region. However, neither planet shows this expected signature, indicating that some process is masking the water absorption. One planet (HD 209458b) shows spectral features appearing in emission above a hot thermal continuum, indicating the likely presence of silicate clouds, and possibly more exotic compounds, at high altitudes in the planet's atmosphere.

The future launch of the James Webb Space Telescope will allow us to extend these measurements to spectra of transiting terrestrial planets in the habitable zones around lower main sequence stars.

2012 06 21 NASA Astrobiology <https://youtu.be/rBMdzp8dVjw> NAI Director's Seminar Series Julie Huber Microbial Diversity in the Deep Sea and the Underexplored Rare Biosphere [Transcript Link](#)

Presenter: Julie Huber  
October 16, 2006 11:00 AM Pacific

The world's oceans are teeming with microscopic life forms. The staining of cells with DNA-binding dyes (DAPI and acridine orange) coupled with epifluorescence microscopy demonstrated that nominal cell densities exceed 10<sup>5</sup>/ml of sea water. Extrapolations of these numbers predict that the oceans harbor 3.6 x 10<sup>29</sup> microbial cells with cellular carbon of ~3 x 10<sup>17</sup> grams. Given the enormous populations of microbes with seemingly unlimited metabolic diversity, the accumulation of mutations during the past 3.5 billion years should have led to very high levels of genetic diversity and phenotypic variation. By adopting a massively parallel 454 tag sequencing strategy, we show that bacterial communities of deep water masses of the North Atlantic and diffuse flow hydrothermal vents are one to two orders of magnitude more complex than previously reported for any microbial environment. A relatively small number of different populations dominate all samples, but thousands of low-abundance populations account for most of the observed phylogenetic diversity. This "rare biosphere" is very ancient and may represent a nearly inexhaustible source of genomic innovation. Members of the rare biosphere are highly divergent from each other and at different times in earth's history may have had a profound impact on shaping planetary processes.

2012 06 21 NASA Astrobiology <https://youtu.be/bAYO6VCGYu4> NAI Director's Seminar Series David Hollenbach The Effect of Protoplanetary Disk Dispersal on Planet Formation [Transcript Link](#)

Presenter: David Hollenbach (NASA Ames Research Center)  
February 4, 2008 11:00 AM Pacific

One of the first questions facing astrobiologists is: "What is the likelihood of habitable planets or moons forming around stars in the universe?" During their formation from gas and dust orbiting young stars, planets compete with mechanisms that disperse the gas and dust: viscous accretion on the central star and dispersal into interstellar space by the effects of nearby stellar encounters, the winds from the central star, and the ultraviolet (UV) and X-ray photons from either the central star or nearby luminous stars. We show with theoretical models validated by astronomical observations how viscous accretion likely dominates the dispersal in the inner regions (less than 1 AU) of protoplanetary disks, while UV-induced photoevaporation dominates in the outer regions. These dispersal mechanisms may prevent, truncate, or otherwise affect planet formation and the resultant planetary architecture. Planetary formation is most seriously affected around high mass stars and around low mass stars in clusters of stars with high mass star members. We review progress made on answering the above question and future prospects.

2012 06 19	NASA Astrobiology	<a href="https://youtu.be/5EMFQfh-VZA">https://youtu.be/5EMFQfh-VZA</a>	NAI Director's Seminar Series Jack Szostak	<p>What can we Learn About the Origin of Life from Efforts to Design an Artificial Cell?</p> <p>Presenter: Jack Szostak (Harvard Medical School, Massachusetts General Hospital, Howard Hughes Medical Institute) November 3, 2008 11:00 AM Pacific</p> <p>The complexity of modern biological life has long made it difficult to understand how life could emerge spontaneously from the chemistry of the early earth. The key to resolving this mystery lies in the simplicity of the earliest living cells. Through our efforts to synthesize extremely simple artificial cells, we hope to discover plausible pathways for the transition from chemical evolution to Darwinian evolution. We view the two key components of a primitive cell as a self-replicating nucleic acid genome, and a self-replicating boundary structure. I will discuss recent experimental progress towards the synthesis of self-replicating nucleic acid and membrane vesicle systems, and the implications of these experiments for our understanding of the origin of life.</p>	<a href="#">Transcript Link</a>
2012 06 19	NASA Astrobiology	<a href="https://youtu.be/fs1mQ1-dkAM">https://youtu.be/fs1mQ1-dkAM</a>	NAI Director's Seminar Series Ariel Anbar	<p>A Whiff of Oxygen before the Great Oxidation Event</p> <p>Presenter: Ariel Anbar November 5, 2007 11:00 AM Pacific</p> <p>Many lines of evidence point to a rapid rise of atmospheric O<sub>2</sub> between 2.45 - 2.22 billion years ago (Ga), a transition often referred to as the Great Oxidation Event (GOE). The cause of the GOE is unknown. It could have been an immediate consequence of the evolution of oxygenic photosynthesis. Alternatively, O<sub>2</sub> biogenesis may be ancient and the GOE a consequence of an abiotic shift in the balance of oxidants and reductants at the Earth's surface that crossed a critical threshold at that time. In the latter case, oxygenic photosynthesis could have evolved long before the GOE. This debate can be addressed by looking for evidence of localized or short-lived concentrations of O<sub>2</sub> before 2.45 Ga.</p>	<a href="#">Transcript Link</a>
2012 06 19	NASA Astrobiology	<a href="https://youtu.be/NX4RzNAFYfY">https://youtu.be/NX4RzNAFYfY</a>	NAI Director's Seminar Series Geoff Marcy	<p>Getting to the Core of Exoplanets: From Gas to Ice Giants</p> <p>Presenter: Geoff Marcy December 3, 2007 11:00 AM Pacific</p> <p>The measured masses and orbits of the 200 secure exoplanets within 200 pc reveal the processes of formation and subsequent dynamics. Several planets reveal information on their cores and interiors.</p> <p>Multiple-planet systems, especially those in resonances, inform us about migration, scattering, and capture. Planets from 5-14 Earth masses are now detectable, and several have been found. The Kepler Mission and a new 2.4-m "Automated Planet Finder" telescope at Lick Observatory portend the detection of rocky planets.</p>	<a href="#">Transcript Link</a>

2012 06 13 NASA  
Astrobiology <https://youtu.be/zlgJWIzkIZQ> NAI Director's Seminar Series J. William Schopf

[Transcript Link](#)

2012 06 13 NASA  
Astrobiology <https://youtu.be/SaeKcuVluLk> NAI Director's Seminar Series Roger Summons

The Great Mass Extinction - a Sudden Event or a Slow Moving Train-Wreck?

[Transcript Link](#)

Presenter: Roger Summons (Department of Earth, Atmospheric and Planetary Sciences, MIT)

November 24, 2008 11:00 AM Pacific

A great mass extinction took place 252 million years ago when approximately 90% of the existing marine taxa were lost. Both the magnitude of the extinction and the slowness of the subsequent faunal radiation are enigmatic. The event is also known for the number and diversity of theories about its cause(s) including catastrophic volcanism, sudden climate change, overturn of stagnant oceans and bolide impact.

Studies of molecular fossils confirm that the oceans were stagnant (euxinic) for some considerable period of time before and after the main biological turnover. Accordingly this event appears to be the culmination of particular paleo-oceanographic circumstances that happened on a geological timescale.

2012 06 11	NASA Astrobiology	<a href="https://youtu.be/8RZsWVBQzOk">https://youtu.be/8RZsWVBQzOk</a>	NAI Director's Seminar Series Steven Benner	Four Approaches to a General Theory of Life	<a href="#">Transcript Link</a>
				Presenter: Steven Benner (Foundation For Applied Molecular Evolution) April 28, 2008 11:00 AM Pacific	
				<p>The search for life in the cosmos has been hindered by the absence of a general theory of life [Cleland]. Theories of life that have been based on the enumeration of properties of the life that we know (such as the cell, gene, and evolutionary theories of life) may even fail as grounds to search for life on Earth, as emerging molecular theories of life have suggested that there might be an entire biosphere in our immediate presence that is obscure to observational tools based on those theories (just as biospheres were overlooked or misunderstood before the invention of the microscope or the sequencing of ribosomal RNA). They are certainly failing as we prepare to look for life on subsurface Mars or, in more exotic environments, Europa, Titan, or Venus.</p>	
				<p>Last, although nearly everyone agrees that Structure Theory from organic chemistry will be a necessary tool to analyze life, it is too broad to distinguish the living from the non-living. This talk will describe recent progress using four approaches to develop a theory of life. These simplify the life we know by going backwards in time towards a simpler life (paleogenetics), attempt to constrain the chemistry of life by defining possible mineral-chemistry interactions at that originated life on Earth, explore the solar system to define</p>	
2012 06 07	NASA Astrobiology	<a href="https://youtu.be/7Co_cSvclTE">https://youtu.be/7Co_cSvclTE</a>	NAI Director's Seminar Series Jody Deming and James Staley	Earth's Low Temperature Life: An Analog for Mars and Europa?	<a href="#">Transcript Link</a>
				Presenter: Jody Deming and James Staley (University of Washington) March 31, 2008 11:00 AM Pacific	
				<p>Earth's solar system harbors many frozen environments that contain liquid water and therefore present a rationale to consider the possibility of microbial life within them. The subsurface realms of Mars and Europa are two such examples. Among the many different types of frozen environments on Earth, sea ice has captured astrobiological attention for its retention of significant liquid water (brine) even as the eutectic of seawater is approached (-55 C), and because liquid water on Mars and Europa is expected to be salty as well. We have each explored this environment as a model system for studying various ecological, physiological and diversity aspects of microbial life at very low temperatures.</p>	
				<p>A critical determinant of many life processes in very cold saline ice appears to be the presence of organic exopolymers which serve multiple functions as they coat a cell, from enhancing cryopreservation to enabling metabolic activity. One psychrophilic or cold-adapted bacterium isolated from Arctic sea ice and brought into pure culture, <i>Psychromonas ingrahamii</i>, has been shown to grow at temperatures of -12 C or lower. The recent sequencing of its genome is providing new information about the properties that help explain the adaptation of life to subzero temperatures.</p>	

2012 06 05 NASA Astrobiology <https://youtu.be/2DhC17KGrbM> NAI Director's Seminar Series Giovanni Tinetti Observing Extrasolar Worlds: From Gas Giant to Terrestrial Planets [Transcript Link](#)  
Presenter: Giovanna Tinetti (University College London)  
June 2, 2008 11:00 AM Pacific

In the past decade, over 280 planets orbiting other stars (extrasolar planets) have been discovered. For a growing sample of giant extrasolar planets orbiting very close to their parent star (hot-Jupiters), we can already probe their atmospheric constituents using transit techniques. With this method, we can indirectly observe the thin atmospheric ring surrounding the optically thick disc of the planet -the limb- while the planet is transiting in front of its parent star. This method was traditionally used to probe the atmospheres of planets in our Solar System and most recently, thanks to the Hubble and Spitzer Space Telescopes, was successfully applied to exoplanets.

In our seminar, we will focus in the most recent detections of water vapour and other carbon-molecules in the atmosphere of hot-Jupiters using photometry and spectroscopy. A new generation of space telescopes is expected to be launched in the next decade: the James Webb Space Telescope. The improved sensitivity of the instruments on board JWST will allow us to probe the atmospheres of transiting Earth-size planets, down to the habitable zone.

2012 06 05 NASA Astrobiology <https://youtu.be/SrgGnXYdYsA> NAI Director's Seminar Series Norm Sleep Habitability of Super-Earths [Transcript Link](#)  
Presenter: Norm Sleep (Professor of Geophysics, Stanford University)  
September 29, 2008 11:00 AM Pacific

Silicate super-earths are rocky planets with masses up to  $\sim 10$  that of the Earth. They are of astrobiological interest because they are relatively easy to detect around other stars. Tectonics enhances habitability on the Earth by exhuming biologically important elements. Plate tectonics are too poorly understood on the Earth to tell whether this process should occur on larger planets. Still the Gauss' law relationship that surface heat flow scales with surface gravity provides some insight and yields that the geotherm expressed in terms of pressure is to the first order invariant to planetary size. For subduction to occur, the mega-thrust fault needs to slip in friction, the lithosphere within the slab needs to bend with strains of  $\sim 1$ , and the slab needs to sink. It is not evident which process limits the rate of subduction of the Earth. Specifically, it is not well understood why major faults fail at much lower shear tractions than would be expected for frictional sliding at near lithostatic pressure. It not evident whether the lithosphere through isostasy or the deep slab provides the negative buoyancy that drives surface plates.

Plausible assumptions yield contradictory simple results. For example, the globally averaged heat flow scales with surface gravity

2012 06 05	NASA Astrobiology	<a href="https://youtu.be/cxDT7beav0">https://youtu.be/cxDT7beav0</a>	NAI Director's Seminar Series David Blake	The CheMin mineralogical instrument on the MSL mission and the field-portable TERRA version available for NAI field campaigns  Presenter: David Blake (NASA Ames Research Center) June 30, 2008 11:00 AM Pacific  Dr. Blake will describe the Mars Science Laboratory (MSL) '09 mission and its CheMin XRD/XRF instrument. A terrestrial field-deployable version of CheMin (called "TERRA") will be available to perform in situ analyses during NAI field campaigns. The TERRA instrument has already been proven to be invaluable on field expeditions to Spitsbergen (Norway), the dry valleys of Antarctica, Canada (twice), and Rio Tinto (Spain).  TERRA instruments will be provided (for the cost of shipment and refurbishment) to any funded NAI field campaign. This "loaner XRD" program, which we call "Johnny Appleseed CheMin," will provide definitive mineralogical identifications for NAI field campaigns, as well as help to create a database of minerals in rocks and soils for use with MSL'09. A further benefit to the program is that a large number of Astrobiologists will become familiar with CheMin XRD data and will be able to contribute to the interpretations of rocks and soils analyzed by the CheMin flight instrument during MSL '09.	<a href="#">Transcript Link</a>
2012 03 29	NASA Astrobiology	<a href="https://youtu.be/TNOQMpQZUWA">https://youtu.be/TNOQMpQZUWA</a>	David Des Marais Exploring Mars	A presentation from NASA Ames Research Center scientist, David Des Marais, on the exploration of Mars.  Made with support from the NASA Astrobiology Institute (NAI).	<a href="#">Transcript Link</a>
2012 02 23	NASA Astrobiology	<a href="https://youtu.be/lvxfq9vyEQ">https://youtu.be/lvxfq9vyEQ</a>	From the Earth to the Solar System (FETTSS) Trailer	From the Earth to the Solar System is a collection of high resolution images that showcase the discoveries and excitement of planetary exploration, with a focus on the origin and evolution of the Solar System and the search for life.  Visit the FETTS homepage at <a href="http://fettss.arc.nasa.gov/">http://fettss.arc.nasa.gov/</a> to download the entire collection and find more information.	<a href="#">Transcript Link</a>