



SearchLites

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The Quarterly Newsletter of The SETI League, Inc.

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Please Help Afghani Scientists by Prof. Teresa Lago, General Secretary, International Astronomical Union

The International Astronomical Union (IAU) is profoundly concerned by the current events in Afghanistan and fears adverse consequences to its scientific community, most notably continued access for women in science and access to education for girls.

We have been receiving reports of the dire circumstances and numerous requests for help from our colleagues, who in this time of crisis fear for their lives for no other reason than that they are upholding scientific principles and furthering scientific knowledge. Their freedom, security and wellbeing are under threat.

The IAU's mission is to promote and safeguard the science of astronomy in all its aspects, including research, communication, education and development through international cooperation. Whereas the IAU does not wish to influence the political decisions of any country, it is concerned about the potential adverse consequences to its community.

Triggered by the life-threatening situation in which our colleagues find themselves, the IAU wishes to encourage its members and National Members to publicly denounce any action that endangers or threatens their wellbeing and to pursue any protective action of our colleagues in need. The IAU also strongly encourages our National Members and other colleagues to help wherever possible in this difficult time for Afghanistan.

The IAU would like to strongly reaffirm its adherence to the ISCU Principle of Universality of Science, which “requires freedom of movement, association, expression and communication for scientists [...] and opposes discrimination based on such factors as ethnic origin, religion, citizenship, language, political or other opinion.”

Guest Editorial:

Sonia and the Spirit of SETI

by Elisabeth Piotelat

As some of my fellow SETI League members may know, I lost my daughter Sonia on the 26th of June, 2020. She was an 18 year old university STEM student. I was surprised when our Executive Director told me he felt he knew Sonia through my blog. I thought perhaps Paul and Sonia had met in “real life”.

I joined the SETI League before Sonia's birth in 2002. I think she was still a baby when she too joined the organization, as a household member. Her first contribution to SETI was an appearance on the "Who We Are" page of Allen Tough's *Invitation to ETI* website. I felt I couldn't possibly introduce myself to an alien without proudly saying that I was her mother. When she was a teenager I asked her if I should have Paul remove her picture from that website, to protect here e-reputation in case someone googled her name. But she asked me not to do so.

I remember some philosophical discussions we had about the Pioneer Plaque, and the different ways to represent humanity. Her first drawings, and some of her toys, were used in one of my SETI talks. She was the first to listen to it, and to give sincere feedback: "it's boring, Mom." When Sonia asked questions such as “Why don't we send probes to Enceladus now?” I knew my presentation was ready.

Sonia might have met Paul at the 2008 UNESCO SETI symposium in Paris, had she not been at school during the presentations. She did attend one or two outreach events in French, but I'm afraid she didn't meet a lot of SETI researchers there.

In 2017, Sonia went with me to the SETI Italia workshop in Milano. She used that occasion to write a report for her high school class about a job. She went there as a community manager, and took pictures for the SETI League website and Facebook page. She got a very good grade on that report, and really enjoyed being a part of our international community.

As a parent, you never know how your interests or your actions will influence your children. Sonia loved to repair her smartphone. She was really proud the first time she changed the screen alone. Maybe her involvement with the SETI League had something to do with this ability. She saw pictures of various Project Argus stations, and visited the Nançay Observatory several times.

I want to thank Paul and all the SETI League members for the stars, and the hopes, that they put in the eyes of Sonia and of so many other young people they never met. This invisible impact of SETI research is amazing. In a way, Sonia lives on in the spirit of SETI.



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Martian Chopper

by **Seth Shostak**

Senior Astronomer, SETI Institute

From SETI Institute *Journey* eNewsletter,
22 April 2021, used by permission

“We have liftoff,” to quote NASA’s famous description of spacecraft taking flight. And indeed, there was a liftoff in the early morning hours of April 19 ... not from a launchpad in Florida, but from a patch of dusty terrain on Mars.

The craft in question, the Ingenuity helicopter (it’s really a drone), rose about the height of a basketball hoop into the cold, thin Martian atmosphere. After about 40 seconds of airborne bliss, it alighted on its four short, skinny legs. Ingenuity was the first aircraft to fly in the solar system anywhere but on Earth.

Ingenuity was carried to the Red Planet beneath a protective shield in the belly of the Perseverance rover – an arrangement somewhat like a joey on a kangaroo. The process of detaching Ingenuity and getting it ready to fly was hardly simple and took a few days. It had to be detached, positioned, cranked upright, and left on its own while Perseverance rolled out of the way.

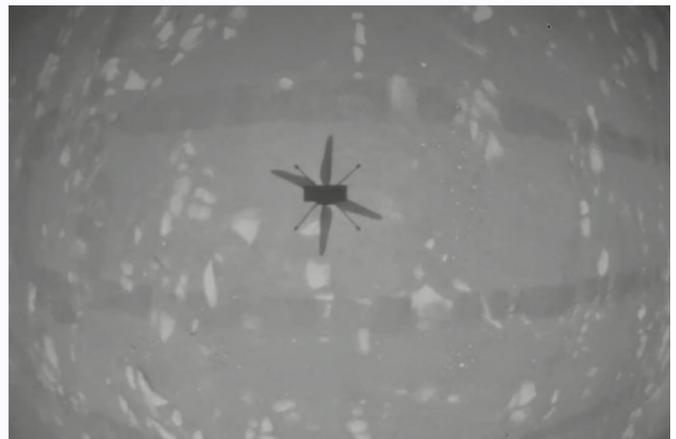
The big challenge in getting a drone to work on Mars is the thin atmosphere, roughly a hundred times less dense than our own. Sure, the craft is pretty light (four pounds), and the martian gravity is only a little more than one-third that of Earth. All that helps, but this diminutive craft still had to move a lot of air to fly.

It did that by having big rotors that spin fast. There are two rotors, by the way, spinning in opposite directions so that the whole craft doesn’t start to wildly twist. The rotors

are powered at a level of about a half-horsepower. That’s an impressive energy use for a mechanism that’s shorter than your average Hobbit.

So, what’s the point? Ingenuity didn’t carry any science instrumentation ... just two cameras to look at the horizon and the ground. But keep in mind that this brief flight was a technical demonstration, not a research project. Having proven that such craft can successfully fly, the future uses are both obvious and valuable. Martian rovers move very slowly across the dusty, rock-strewn terrain of the Red Planet. A drone could serve as “point person” for future rovers, guiding them around obstacles rather than waiting for them to be found from the ground. Drones could also scout out the most interesting places for reconnaissance by the rovers, which could be efficiently done from 10 feet up.

In other words, Ingenuity is not a toy let loose by NASA in the atmosphere on Mars. It may prove as important to future research as the Wright Brothers’ tentative flights were to future travel.



Last June, while hovering above Mars, NASA's Ingenuity helicopter pointed its camera down, and saw its own shadow. Thus, the Red Planet was fated to endure six additional weeks of Martian winter. *NASA JPL photo*



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SETI League members are encouraged to nominate SETI-relevant websites for our monthly SETI SuperStar Award. Nominating emails to our Awards Committee may be sent to:

Awards_at_setileague_dot_org.

Please be sure to indicate the URL of the candidate website you are nominating, and a brief explanation as to why you consider the site worthy of recognition.

Event Horizon

SearchLites readers are apprised of the following conferences and meetings at which SETI-related information will be us at info@setileague.org, to obtain further details. Members are also encouraged to send in information about upcoming events of which we may be unaware.

October 25 - 29, 2021: 72nd International Astronautical Congress, Dubai, United Arab Emirates.

December 15 - 19, 2021: 79th World Science Fiction Convention, Washington, DC.

April 24, 2022, 1300 EDT (tentative): Twenty-Eighth SETI League Annual Membership Meeting, to be held virtually on the Zoom online platform.

June 27 - 30, 2022: Penn State SETI Symposium, State College, PA.

September 1 - 5, 2022: 80th World Science Fiction Convention, Chicago, IL.

September 18 - 22, 2022: 73rd International Astronautical Congress, Paris, France.

September 25 - 29, 2023: 74th International Astronautical Congress, Baku, Azerbaijan.

Please note that the global COVID-19 pandemic has resulted in the cancellation or rescheduling of many planned scientific meetings and conferences. We recommend you check with the event sponsors for updates before making travel arrangements. ❖



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Annual memberships are issued for the calendar year. Those processed in January through April expire on 31 December of that year. Those processed in September through December expire on 31 December of the *following* year. Those members joining in May through August should remit half the annual dues indicated, and will expire on 31 December of the same year.

Order Your Membership Premiums:

	(u)*	(o)*
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<i>The Listeners</i> by James Gunn	\$15	\$21
<i>Sing More Songs of SETI</i> (Songbook)	\$10	\$13
<i>Sing a Song of SETI</i> (music CD)	\$15	\$18
<i>Sing More Songs of SETI</i> (music CD)	\$15	\$18
T-shirts, specify M, L, or XL	\$15	\$22
SETI Nerd Gift Set (one each Mouse Pad, Pocket Protector, <i>Project Cyclops</i> and <i>Tech Manual</i>) at 20% Savings to Members Only:	\$30	\$45

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