



LIFE

FROM EARLY CELLS TO MULTICELLULARITY

1
00:00:07,670 --> 00:00:05,590

[Music]

2
00:00:09,629 --> 00:00:07,680

the astrobiology program is pleased to

3
00:00:11,749 --> 00:00:09,639

welcome the life early cells to

4
00:00:14,870 --> 00:00:11,759

multicellularity research coordination

5
00:00:17,750 --> 00:00:14,880

network to our astrobiology rcns the

6
00:00:21,109 --> 00:00:17,760

overarching set of questions

7
00:00:23,990 --> 00:00:21,119

uh in our rcn is how why and when did

8
00:00:26,950 --> 00:00:24,000

life and the environment co-evolve

9
00:00:29,509 --> 00:00:26,960

to take earth from a number of major

10
00:00:30,790 --> 00:00:29,519

changes both in its geology and its

11
00:00:32,470 --> 00:00:30,800

biology

12
00:00:34,549 --> 00:00:32,480

so we want to look for life on other

13
00:00:36,229 --> 00:00:34,559

worlds but but what are we looking for

14

00:00:38,389 --> 00:00:36,239

and the problem is that we don't really

15

00:00:40,869 --> 00:00:38,399

know the rules that govern the evolution

16

00:00:41,910 --> 00:00:40,879

of life on different sorts of planets so

17

00:00:43,910 --> 00:00:41,920

how does how does life evolve

18

00:00:45,430 --> 00:00:43,920

differently if the planet's environment

19

00:00:47,110 --> 00:00:45,440

if it's chemistry if the abundance of

20

00:00:48,630 --> 00:00:47,120

the economic elements are different than

21

00:00:50,310 --> 00:00:48,640

they are on earth we just don't know and

22

00:00:52,630 --> 00:00:50,320

earth is our natural lab for figuring

23

00:00:55,110 --> 00:00:52,640

that out why is studying early life

24

00:00:57,270 --> 00:00:55,120

interesting to us astrobiologists and

25

00:00:59,430 --> 00:00:57,280

nasa key events in the earliest

26

00:01:02,310 --> 00:00:59,440

evolution of life seem to be truly

27

00:01:05,109 --> 00:01:02,320

singular they happened only once and

28

00:01:07,750 --> 00:01:05,119

never before or since has anything

29

00:01:09,750 --> 00:01:07,760

comparable happened again history of

30

00:01:12,630 --> 00:01:09,760

life and early innovations are almost

31

00:01:15,350 --> 00:01:12,640

begging for us to study them we need to

32

00:01:17,990 --> 00:01:15,360

study these biological singularities to

33

00:01:21,190 --> 00:01:18,000

have any hope of estimating or locating

34

00:01:22,710 --> 00:01:21,200

complex life in the universe so rrcn

35

00:01:25,030 --> 00:01:22,720

life from early cells to

36

00:01:27,270 --> 00:01:25,040

multicellularity will focus on the

37

00:01:28,630 --> 00:01:27,280

co-evolution of life and its planetary

38

00:01:31,190 --> 00:01:28,640

environment

39

00:01:33,109 --> 00:01:31,200

this rcn will advance our understanding

40

00:01:35,670 --> 00:01:33,119

of the causes and consequences of

41

00:01:37,030 --> 00:01:35,680

co-evolution recorded in a variety of

42

00:01:38,950 --> 00:01:37,040

types of data

43

00:01:41,350 --> 00:01:38,960

so we really hope that you will join

44

00:01:43,350 --> 00:01:41,360

this diverse group of astrobiologists

45

00:01:45,429 --> 00:01:43,360

whose research interests focus on the

46

00:01:47,030 --> 00:01:45,439

co-evolution of earth and life from

47

00:01:49,270 --> 00:01:47,040

earliest cells to the rise of

48

00:01:51,670 --> 00:01:49,280

multicellularity but also including

49

00:01:53,749 --> 00:01:51,680

prospects for advancing this science and