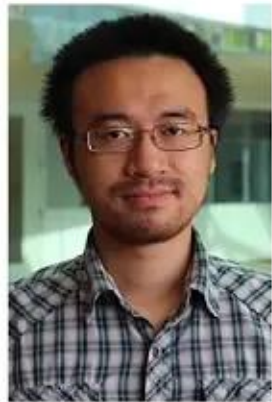


A Mechanism of Abiogenesis Based on the Shared Principles of Organizing Complex Autocatalytic Systems between Abiotic and Biotic Reaction Networks

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1
00:00:05,190 --> 00:00:03,030
hello everyone my name is jen pong and

2
00:00:07,430 --> 00:00:05,200
i'm a postdoc from david baum's lab at

3
00:00:09,350 --> 00:00:07,440
wisconsin institute for discovery

4
00:00:11,030 --> 00:00:09,360
we are generally interested in using

5
00:00:13,190 --> 00:00:11,040
interdisciplinary approaches

6
00:00:15,270 --> 00:00:13,200
to investigate how life originated from

7
00:00:17,510 --> 00:00:15,280
simple abiotic materials

8
00:00:19,830 --> 00:00:17,520
in this study we proposed the concept of

9
00:00:22,470 --> 00:00:19,840
c-dependent auto-catalytic system

10
00:00:23,269 --> 00:00:22,480
stats we detected multiple stances among

11
00:00:25,750 --> 00:00:23,279
abiotic

12
00:00:27,990 --> 00:00:25,760
and biotic reactions and also found that

13
00:00:29,990 --> 00:00:28,000

the step-wise activation of stasis

14

00:00:32,229 --> 00:00:30,000

provides a mechanism for a reaction

15

00:00:34,870 --> 00:00:32,239

network to complexify over time

16

00:00:36,790 --> 00:00:34,880

and better exploit the environment we

17

00:00:37,430 --> 00:00:36,800

found that stats organized reaction

18

00:00:39,270 --> 00:00:37,440

networks

19

00:00:41,430 --> 00:00:39,280

could potentially exhibit multiple

20

00:00:43,830 --> 00:00:41,440

life-like features such as seeding

21

00:00:45,190 --> 00:00:43,840

trophic hierarchy and mutualism even

22

00:00:46,950 --> 00:00:45,200

without enzymes

23

00:00:49,190 --> 00:00:46,960

this means that the stats-based

24

00:00:49,750 --> 00:00:49,200

mechanism may not only be of theoretical

25

00:00:51,990 --> 00:00:49,760

values

26

00:00:52,950 --> 00:00:52,000

but also could direct experimental

27

00:00:55,029 --> 00:00:52,960

studies

28

00:00:57,430 --> 00:00:55,039

with that i'd like to thank all members

29

00:00:58,790 --> 00:00:57,440

of our lab our friends and collaborators