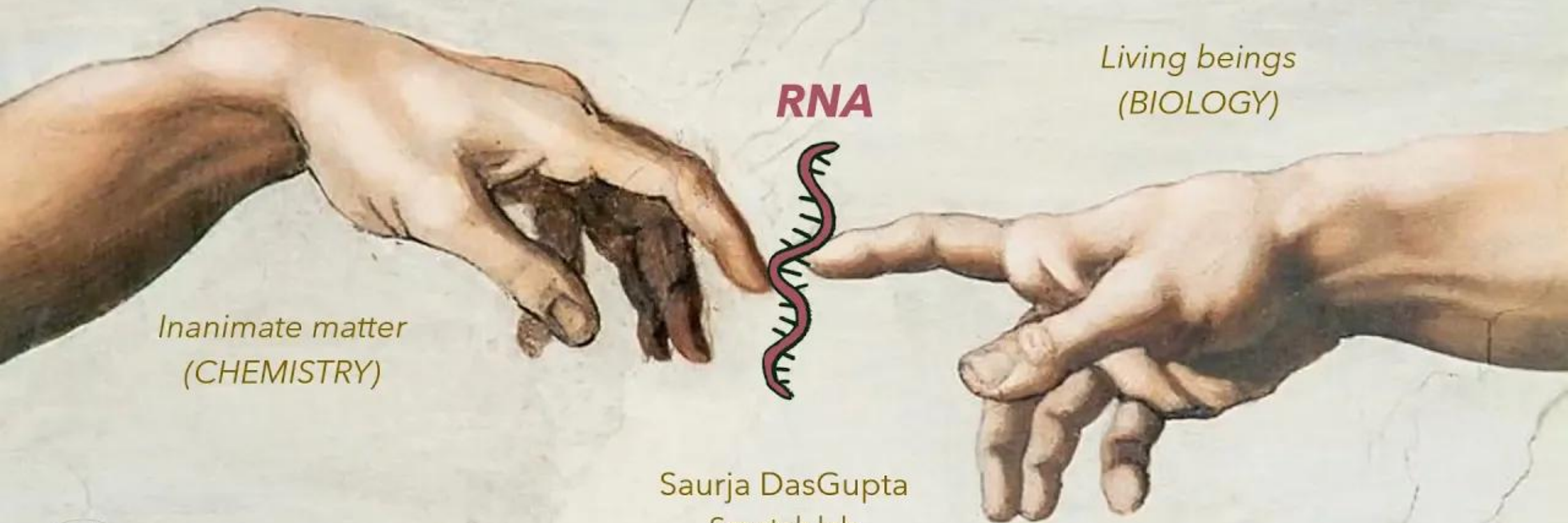


PREBIOTIC RNA ASSEMBLY: chemistry, catalysis, compartmentalization




Inanimate matter
(CHEMISTRY)

Living beings
(BIOLOGY)

RNA

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1
00:00:05,910 --> 00:00:03,270
hello in the next minute let me tell you

2
00:00:07,030 --> 00:00:05,920
how rna could have played a pivotal role

3
00:00:09,910 --> 00:00:07,040
in the emergence of

4
00:00:11,190 --> 00:00:09,920
organized cellular life from inanimate

5
00:00:13,270 --> 00:00:11,200
matter

6
00:00:15,430 --> 00:00:13,280
i am creating experimental models for

7
00:00:17,349 --> 00:00:15,440
some of the major chemical transitions

8
00:00:19,349 --> 00:00:17,359
rna had to go through from the

9
00:00:22,150 --> 00:00:19,359
simplicity of its building blocks

10
00:00:23,990 --> 00:00:22,160
to its complex catalytic functions i

11
00:00:27,589 --> 00:00:24,000
will discuss how we identified

12
00:00:30,070 --> 00:00:27,599
rna enzymes or ribozymes that catalyze

13
00:00:32,389 --> 00:00:30,080

the assembly of prebiotically plausible

14

00:00:34,630 --> 00:00:32,399

activated rna substrates

15

00:00:36,549 --> 00:00:34,640

i will also show you how such activated

16

00:00:37,830 --> 00:00:36,559

substrates could have been produced on

17

00:00:40,549 --> 00:00:37,840

early earth and how

18

00:00:42,069 --> 00:00:40,559

ribozymes that use these substrates

19

00:00:43,510 --> 00:00:42,079

could have functioned under these

20

00:00:46,069 --> 00:00:43,520

probiotic activation

21

00:00:47,190 --> 00:00:46,079

conditions finally i will show you how

22

00:00:50,069 --> 00:00:47,200

we constituted

23

00:00:52,150 --> 00:00:50,079

rna catalyzed rna assembly within

24

00:00:53,029 --> 00:00:52,160

prebiotically relevant fatty acid

25

00:00:54,869 --> 00:00:53,039

protocells

26

00:00:56,630 --> 00:00:54,879

which will hopefully pave the way for

27

00:00:59,029 --> 00:00:56,640

the spontaneous emergence

28

00:01:00,229 --> 00:00:59,039

of darwinian evolution in non-living