

PRESS ROUNDTABLE:
Life in the clouds of
Venus? Lessons from
studying life in Earth's
atmosphere

Monday, 14 December
1:00 pm US Eastern Time

AGU FALL
MEETING

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INFORMATION FOR REPORTERS

- Reporters: Please ask your questions directly to the panelists
- Slides from this presentation are available in the Fall Meeting Media Center: <https://www.agu.org/Fall-Meeting/Pages/Attend/Media-Center>
- Questions and technical issues: Email news@agu.org

LIFE IN THE CLOUDS OF VENUS? LESSONS LEARNED FROM EARTH'S ATMOSPHERE

- David J. Smith, NASA's Ames Research Center
- Kevin P. Dillon, Rutgers University
- Diana Gentry, NASA's Ames Research Center
- Noam Izenberg, Johns Hopkins University, Applied Physics Laboratory

DAVID J. SMITH

AEROBIOLOGIST, NASA'S AMES
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KEVIN P. DILLON

MICROBIOLOGIST,
RUTGERS UNIVERSITY



ADVANCING EARTH
AND SPACE SCIENCE

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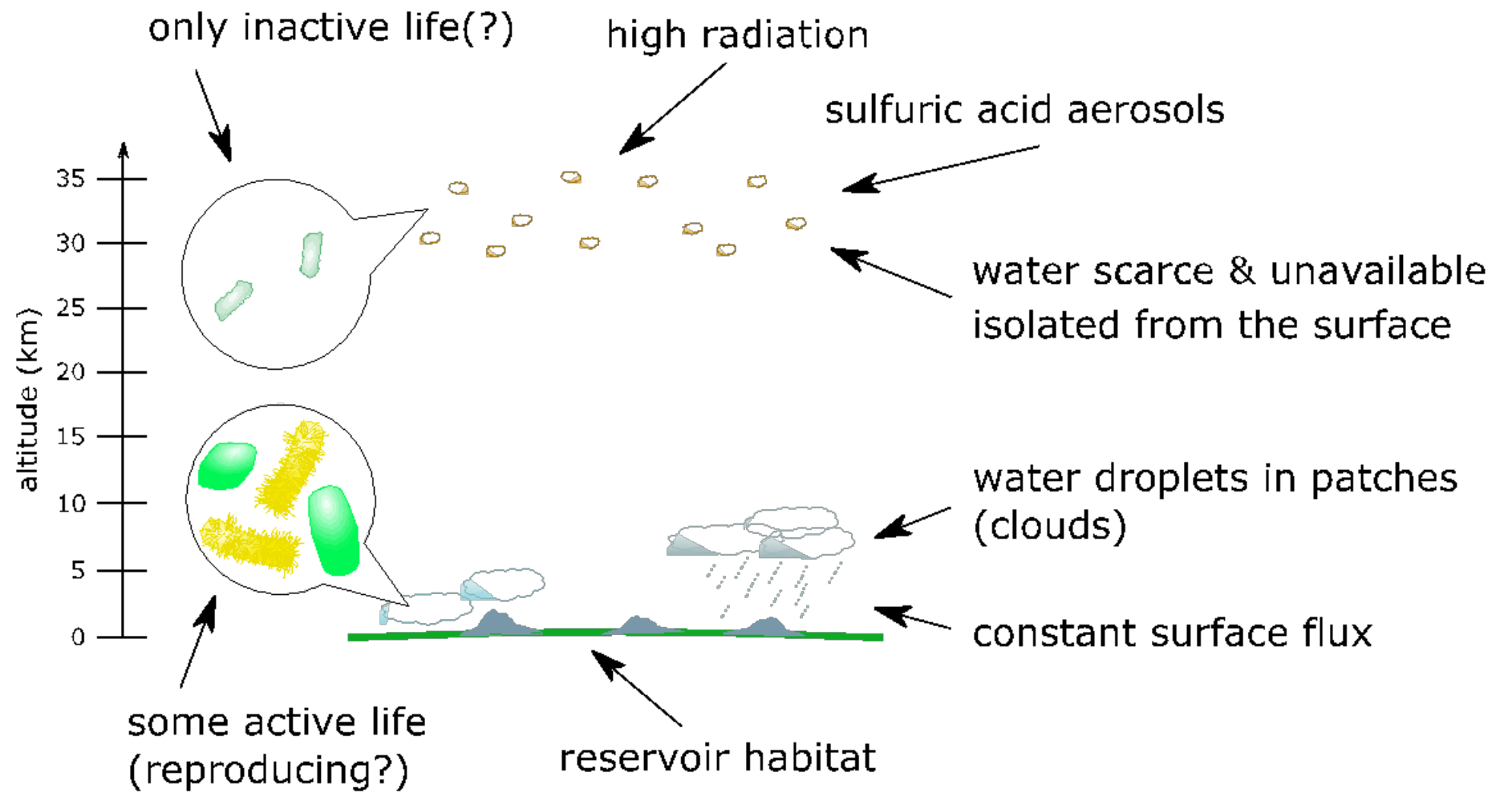






DIANA GENTRY

ASTROBIOLOGIST, NASA'S AMES
RESEARCH CENTER



inactive life is sparse,
patchy, & hard to detect

dependent on occasional
water influx (rain, fog)



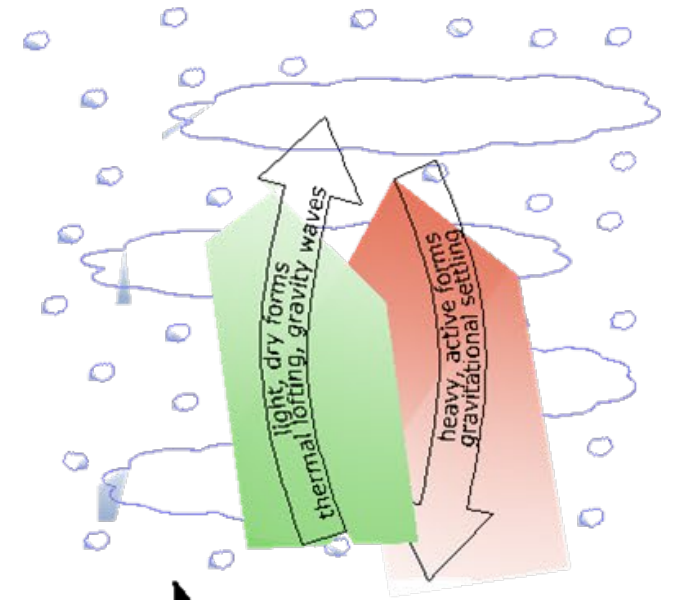
influx of water
repair, growth, reproduction

death, loss of water
dormancy, sporulation

'desert bloom' periods
infrequent & short-lived

life adapted to quick repair
of accumulated damage

for any active life:
residence time vs.
generation time?



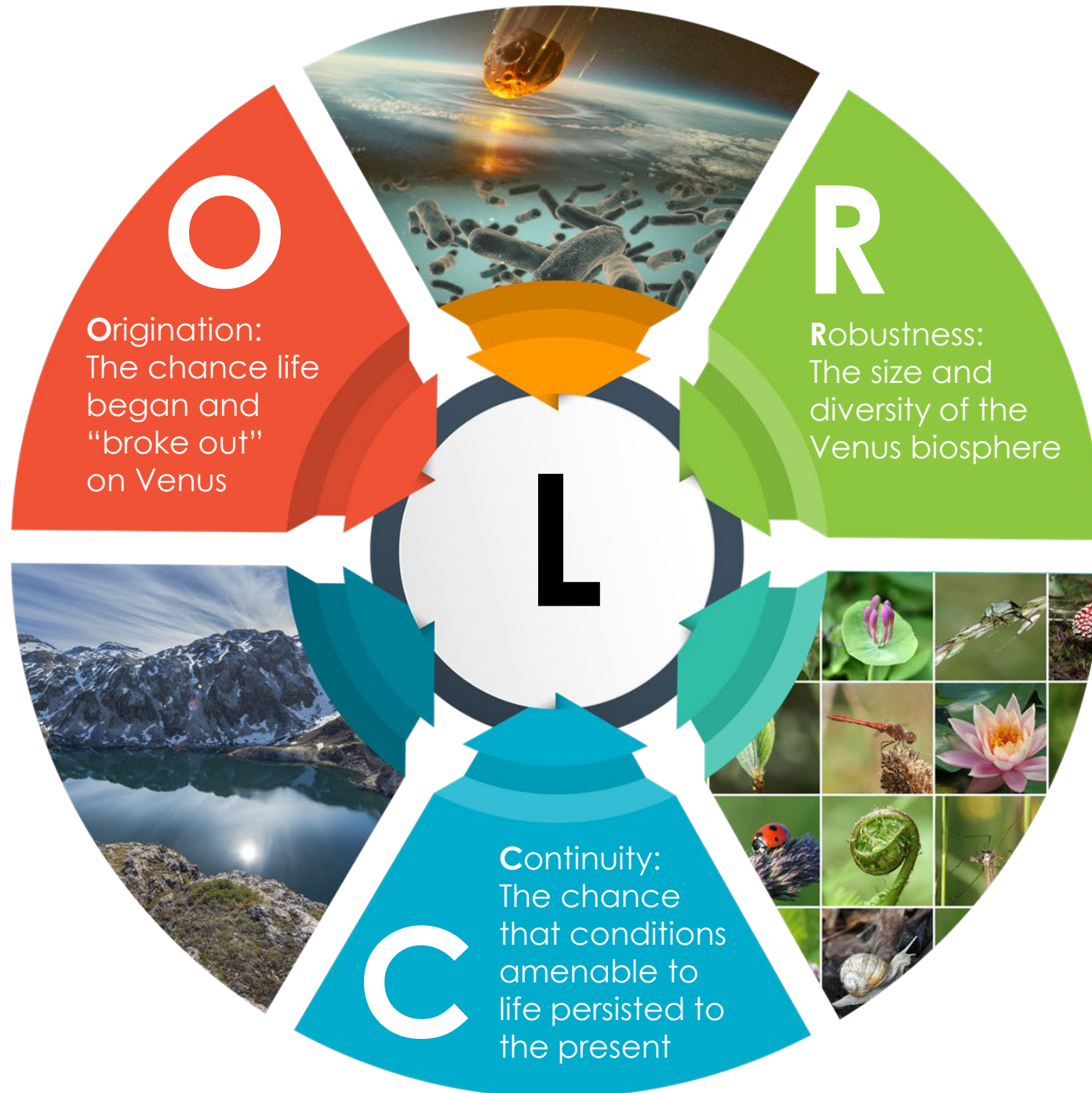
consistent losses to
gravitational settling

NOAM IZENBERG

PLANETARY SCIENTIST, JOHNS
HOPKINS UNIVERSITY APPLIED
PHYSICS LABORATORY

The Venus Life Equation

*L = Life
(The chance life exists today on Venus)
 $L = O \cdot R \cdot C$
 $\sim 7 \times 10^{-9}$ (low)
 ~ 0.1 (high)



VENUS LIFE: WHAT ARE THE CHANCES?

- How common is an origin, or transportation, of life in the solar system?
- How do we apply our understanding of the diversity and sheer quantity of life on Earth to other planets?
- Was there temporal and spatial continuity of habitat on Venus through time?

This framework can guide current research priorities

- What is life like at the extremes of Earth's (or any) biosphere?
- Does Venus' geologic history provide evidence for a path for life?

THANK YOU

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UP NEXT

Roundtable: MOSAiC

**Arctic expedition:
After the ice**

Tuesday, 15 December
11:00 am US Eastern Time

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