PCE3 Newsletter

General Announcements

PCE3 is now also on BlueSky! Follow us @pce3-sci.bsky.social

Have something you would like to share with the PCE3 community? Feel free to let us know here.

Call for volunteers for the Science Communication team!

Interested in joining the PCE3 Science Communication team? Early- and mid-career scientists are encouraged to join. If you are interested, contact pce3scicomm@gmail.com

Scroll at the bottom of this newsletter for a complete list of all PCE3-related AbSciCon 2026 sessions!

Check out the PCE3 Sci. Comm. twitter here for more updates.

Ask an Author

A Roadmap for the Exploration of Enceladus with Dr. Laura Rodriguez

- Q: **What excites you the most about this paper?**
  - **A:** *I am most excited about introducing our concept of "the organic state of a planetary body" as a framework for designing mission objectives that directly test origin-of-life hypotheses. Given the many open questions in the origin of life field, astrobiologically relevant missions and concepts often constrain related objectives to inventorying biologically relevant compounds, focusing instead on habitability or life detection. I hope this framework encourages missions to pursue science that more directly advances origin-of-life research.*

- **Q: What was the biggest challenge in your research?**
  - **A:** *The biggest challenge for me was writing the first half of the paper, which focuses on objectives grounded in geophysical models. This required parsing a large body of literature that was outside my expertise in analytical chemistry. Fortunately, I had excellent collaborators to facilitate my understanding and provide edits. I aimed to write these sections in a way that helps non-experts understand which physical measurements would be most useful for interpreting Enceladus' origins, thermal history, and long-term habitability.*

Upcoming Meetings & Events

Rocky Worlds 4
January 19 – 23, 2026. Groningen, Netherlands

IAUS 404 Symposium: Advancing the Search for Technosignatures
March 2 - 6, 2026. Online

Digital Twins in Astrobiology Hackathon
March 9 – 13, 2026. Online and hybrid (ETH Zurich, Switzerland)

EGU26 General Assembly
May 3 – 8, 2026. Vienna, Austria and online

Potential & Limitations of Evolutionary Processes Meeting (PLEP '26)
May 10 – 14, 2026. Lower Galilee, Israel

Astrobiology Science Conference 2026 (AbSciCon'26)
May 17 – 22, 2026. Madison, WI, USA

Origins 2026 – ISSOL & IAU Joint Symposium
July 5 – 10, Paris, France

Interdisciplinary Origin of Life Meeting for Early Career Researchers (IOoL2026)
September, 2026. Tokyo, Japan. Exact dates TBD

Courses:
Machine Learning Short Course for Sample Science
March 30 - April 10, 2026. Virtual

RED Training School: Rencontres Exobiologiques pour Doctorants

March 2026, Le Teich, France: in person; June 2026: virtual. Exact dates TBD

Spring School: Tracking the evolution of planetary systems and planets
April 15 – 22, 2026. Liblice, Czech Republic

Extraterrestrial Materials Academy (ETMA)
August 12 - 15, 2026. LPI, Houston, Texas

News

General News

Sugars, 'Gum,' Stardust Found in NASA's Asteroid Bennu Samples

3.7-Billion-Year-Old Rocks in Australia Are Rewriting the Story of Earth's First Continents

NASA Cassini Study Finds Organics 'Fresh' From Ocean of Enceladus

Funding Opportunities

Research Opportunities in Space and Earth Science (ROSES)-2025 Next deadline: March 31st

John Templeton Foundation, next OFI due by August 14, 2026

NSF Chemistry of Life Processes, no due date

NASA Astrobiology Early Career Collaboration Award (TBD, Spring 2026)

Future Investigators in NASA Earth and Space Science and Technology 2025 (Deadline TBD - not yet released)

Career Opportunities

Research Associate in Mars Glaciology, University of Sheffield (Jan. 19th, 2026)

Tenure-track Faculty Position, Department of Astrophysical and Planetary Sciences, University of Colorado Boulder (Jan. 30th, 2026)

NASA Postdoctoral Program (March 1st, 2026)

PostDoc position in scientific machine learning, University of Bern

Faculty Position in Prebiotic Chemistry at the University of Geneva (March 15th, 2026)

AbSciCon'26 Sessions Related to PCE3

01 - AI and Machine Learning for Discovery and Biosignature Detection in Astrobiology
02 - AI-Driven Autonomous Exploration of Prebiotic Chemistry and Planetary Environments
09 - Connecting Instrument Experts and Developers with Analog Scientists To Test Mission-Relevant Life-Detection Capabilities
10 - Deciphering planetary organic inventories across the abiotic - prebiotic - biotic spectrum: uncovering the signs of life as we might not know it
14 - Earth as a window for searching for Habitable Worlds
18 - Microscopic Worlds, Macroscopic Questions: Fluid Inclusions and Their Astrobiological Potential
22 - Applying Biosignatures to Constrain the Fingerprint, Origins, Evolution, and Evolvability of Life
23 - Beyond an RNA - Protein World: The Roles of Other Polymers in Life's Origins
24 - Compartmentalization: From Molecular Tunnels to Communities
28 - Origins of Life in Planetary Context
29 - Proteins: From So Simple a Beginning
32 - How Disequilibria Fuels Life: Observations of metabolic opportunities related to dramatic environmental gradients
36 - The Emergence and Evolution of Metabolic Machines
46 - Luna: A Laboratory for Life – The Moon as an Abiotic Platform for Astrobiological Science
84 - Biopolymers to bridge prebiotic chemistry and simple biology
85 - Planetary and Environmental Context for Prebiotic Chemistry
86 - Alive but not Life: An Exploration of Living System Models That Do Not Use or Rely Upon Biochemistry
87 - Dry–Wet Cycling as a Driver of Chemical Evolution
88 - Exploring self-assembly and self-organization: from prebiotic molecules to the emergence of organic complexity and implications towards the future exploration of Ocean World
89 - From Stardust to Stargazing: Drivers of Evolution from Chemistry to Biology

90 - Mechanisms for the Prebiotic Emergence of Homochirality and Implications for Life Detection
91 - New Approaches to Bridging the Abiotic–Biotic Divide: From Catalytic Assemblies to Network Analysis to Information Theory
93 - The Messy Chemistry of Planetary Environments: Prebiotic Chemistry Experiments of Planetary Analogues
94 - Prebiotic Organic Chemistry in Solar System and their Role in the Emergence of Life on the early Earth

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