

# NASA PCE<sub>3</sub> Virtual Workshop 2022

## Nano-to-Cosmic Studies of Complex Systems

Information, code of conduct & registration:  
[prebioticchem.info/workshops/workshop2.html](http://prebioticchem.info/workshops/workshop2.html)

Day 1 – October 19<sup>th</sup>, 2022 (all indicated times are US Eastern time zone)

8:50-9:00AM Opening Remarks (Zach Adam and Jennifer Glass)

Session 1. Early Earth as a Complex System (Jun Korenaga and Andy Ridgwell)

9:00-9:10AM Andy Ridgwell (University of California Riverside, USA)

9:10-9:40 Stephanie Olson (Purdue University, USA)

9:40-10:10 Linda Sohl (Columbia University & NASA Goddard, USA)

10:10-10:30 Q&A

10:30-10:40 Jun Korenaga (Yale University, USA)

10:40-11:10 Beth Ann Bell (University of California Los Angeles, USA)

11:10-11:40 Kevin Zahnle (NASA Ames Research Center, USA)

11:40-12:00 Q&A

Session 2. Systems Chemistry: Tools and Analyses (Irene Chen and Nita Sahai)

1:00-1:22PM Nori Ichihashi (The University of Tokyo, Japan)

1:22-1:45 Saidul Islam (University of Technology Sydney, Australia)

1:45-2:07 Wilhelm Huck (Radboud University, Netherlands)

2:07-2:30 Felix Mueller (Ludwig-Maximilians-Universität München, Germany)

2:30-2:52 Jason Greenwald (ETH Zürich, Switzerland)

2:52-3:15 Nita Sahai (University of Akron, USA)

3:15-3:37 Libusha Kelly (Albert Einstein College of Medicine, USA)

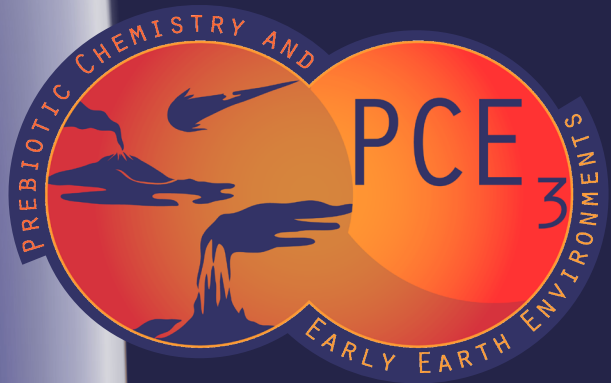
3:37-4:00 Ulrich Gerland (Technische Universität München, Germany)

4:00-5:00PM Discussion Session, led by:

Moran Frenkel-Pinter (Hebrew University, Israel)

Sudha Rajamani (Indian Institute of Science Education and Research, India)

Kristin Johnson-Finn (Rensselaer Polytechnic Institute, USA)



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*Day 2 – October 20<sup>th</sup>, 2022 (all indicated times are US Eastern time zone)*

*8:50-9:00AM Opening Remarks (Zach Adam and Jennifer Glass)*

*Session 3. Network Theory, Tools, and Applications (Zach Adam)*

*9:00-9:45AM Ginestra Bianconi (Queen Mary University, UK)*

*9:45-10:30 Dmitry Krotov (MIT-IBM Watson Lab, USA)*

*10:30-11:15 Madhurima Nath (Slalom, USA)*

*11:15-12:00 Fang Liu (Emory University)*

*Q&A*

*Session 4. Complex Systems Theory and Statistical Analyses (Ella Gale and Juan Pérez-Mercader)*

*1:00-1:30PM Ella Gale (University of Bristol, UK)*

*1:30-2:00 David Spivak (Massachusetts Institute of Technology, USA)*

*2:00-2:30 Claudius Gros (Goethe University Frankfurt, Germany)*

*2:30-3:00 Juan Pérez-Mercader (Harvard University, USA)*

*3:00-3:30 Eric Chaisson (Harvard University, USA)*

*3:30-4:00 Panel Discussion*

*Q&A*

*Day 3 – October 21<sup>st</sup>, 2022*

*9:00AM-4PM Open Discussion, Breakout Groups, and Synthesis (not broadcasted)*

*Examples of topical questions include:*

*What are the biggest challenges to designing and interpreting systems chemistry experiments?*

*What chemical or physical metrics are likely to capture a capacity for 'complex' behavior?*

*How can disparate efforts in prebiotic chemistry be compared and connected in meaningful ways?*

*What are the strengths and weaknesses of characterizing prebiotic scenarios as reaction networks?*