

Friday, July 21, 2017

EVOLUTION: BEFORE AND AFTER LUCA/EVOLUTION OF METABOLISM

11:00 a.m. Price Center Theatre

Chair: Niles Lehman

- 11:00 a.m. Lancet D. * Zidovetzki R. Shenhav B. Markovitch O.
[Metabolic GARD: Replicating Catalytic Network of Lipid-Anchored Metabolites](#) [#4061]
We propose a computer-simulated M-GARD model, with mutually catalytic metabolic network of amphiphiles. It can show compositional reproduction of both bilayer and lumen content of lipid vesicles, thus joining metabolism, compartment and replication.
- 11:20 a.m. Gaut N. Heili J. Gomez-Garcia J. Engelhart A. Adamala K. *
[Pre-LUCA Cells: Life but Not Alive](#) [#4200]
We study late, immediately pre-LUCA stages of prebiotic evolution using synthetic minimal cell bioreactors.
- 11:40 a.m. Bonfio C. Scintilla S. Shah S. Evans D. J. Jin L. Szostak J. W. Sasselov D. D. Sutherland J. D. Mansy S. S. *
[Model Prebiotic Iron-Sulfur Peptides](#) [#4090]
Iron-sulfur clusters form easily in aqueous solution in the presence of thiolates and iron ions. Polymerization of short, iron-sulfur binding tripeptide sequences leads to ferredoxin-like ligand spacing and activity.
- 12:00 p.m. Czárán T. Könnnyü B. * Szathmáry E.
[Metabolically Coupled Replicator Systems: Overview of an RNA-World Model Concept of Prebiotic Evolution on Mineral Surfaces](#) [#4034]
Metabolically Coupled Replicator Systems: Overview of an RNA-world model concept of prebiotic evolution on mineral surfaces.
- 12:20 p.m. *Lunch*