

**ELSI/TDE Meeting: “Requirements for Origin of Life Field Investigations”**  
**October 5-7, 2016**

**Tuesday October 4**

7:00pm – 10:00pm: Icebreaker (ELSI-1 206 Agoura)

**Wednesday October 5 (ELSI-1 102 ELSI Hall)**

9:00 – 9:30 am: Coffee and Cookies

9:30 – 10:00 – Welcome and introduction to TDE (Laurie Barge, Pablo Sobron, Eugenio Simoncini)

**10:00 – 11:15: Disequilibrium and life’s origin I**

- 10:00 – 10:30 – TDE: Far-from-equilibrium considerations for the origin of life (Eugenio Simoncini)
- 10:30 – 11:00 – Entropy and the Search for Life (Adam Monroe)

11:00 – 11:15 Break

**11:15 – 12:15 – Hydrothermal Vents as sources of Geological Disequilibrium**

- 11:15 – 11:45 - Understanding the diversity and geochemical evolution of hydrothermal vents on Earth to improve exploration on other worlds (Roy Price)
- 11:45 – 12:15 – Life, the contaminant: Searching for abiotic organic chemistry in serpentinizing environments (Kirt Robinson)

12:15 – 2:00 – Lunch

- 2:00 – 2:30 – Energetics of Catabolism and Anabolism in Hydrothermal Systems (Jan Amend)
- 2:30 – 3:00 – Simulating Pre-bioenergetics at alkaline vents on early Earth and other worlds (Laurie Barge)

3:00 – 3:15 – coffee break

**3:15 – 4:45: Disequilibrium and life’s origin II**

- 3:15 – 3:45: The Abiotic Chemistry of Thiolated Acetate Derivatives and the Origin of Life (Kuhan Chandru)
- 3:45 – 4:15: UV-driven prebiotic synthesis and early atmospheric chemistry (Yuichiro Ueno)
- **4:15-5:00: Discussion / working groups**

## **Thursday October 6 (ELSI-1102 ELSI Hall)**

9:00 – 9:30 am: Coffee and cookies

9:30 – 10:30 – Keynote – JAXA MMX Mission to Phobos and Deimos (Kameda Shingo)

### **10:30 - 11:30: Exploration of Nonequilibrium Field Settings I**

- 10:30 – 10:45: Remote presentation – Biosignatures of a second genesis of life (Alfonso Davila)

10:45-11:00 Break

- 11:00 – 11:30: Real-time measurements of FFE systems with laser spectroscopy (Pablo Sobron)
- 11:30 – 12:00: Exploration technology of nonequilibrium and dynamic physical and chemical conditions in deep ocean (Ken Takai)

12:00 – 1:45 – Lunch

### **1:45 – 5:00: Disequilibrium and life's origin III**

- 1:45 – 2:15pm: Scale-invariance in biochemical networks (Sara Walker)
- 2:15 – 2:45: Chemobionics in the field and the origin of life (Julyan Cartwright)

2:45 – 3:00 Break

### **3:00-4:00: Exploration of Nonequilibrium Field Settings II**

- 3:00 – 3:30: Application of 3D reconstruction and LIBS in Deep-sea Vents (Blair Thornton)
- 3:30 – 4:00: The role of analog research in identifying functional requirements for the next generation of robotic and human planetary exploration (Darlene Lim)

### **4:00 – 5:00: Discussion / working groups**

6:00 – 9:00: Social Gathering (ELSI-1 206 Agoura)\*

**\*Dinner on Thursday:** 2,000 JPY (student:1,000 JPY) to be collected at registration

## **Friday October 7**

10:00 – 12:00 – White paper breakout groups

12:00 – 2:00 - Lunch

2:00 – 4:00 – White paper and TDE future meetings discussion