

# ExOceans

## Science Strategy for Space Exploration of the Outer Solar System Icy Moons Oceans

**13 November 2017 – Paris Observatory**

**Salle de l'atelier, 77 Av. Denfert-Rochereau, Paris**

**9.00-9.30**

### **Welcome address**

Dr. Athena Coustenis, Paris Observatory, ESSC Chair

**9.30-10.00**

### **The origin of life on Earth and elsewhere**

Prof. Jan de Leeuw, NIOZ (The Netherlands)

**10.00-10.30**

### **Life in marine extreme environments: examples from geological record**

Dr. Barbara Cavalazzi, University of Bologna (Italy)

**10.30-11.00**

### **Simulation experiments: the key for finding evidence of life in the sub-surface exooceans**

Dr. Karen Olsson Francis, Open University (UK)

**11.30-12.00**

### **Habitability environments across the solar system: An Oceans Worlds Exploration Strategy**

Dr. Alexander Hayes, Cornell University (USA)

**12.00-12.30**

### **Geodynamics of icy moons**

Dr. Gabriel Tobie, University of Nantes (France)

**12.30-13.00**

### **Saturn's moons: Titan and Enceladus**

Dr. Christophe Sotin, Jet Propulsion Laboratory (USA)

**14.15-14.45**

### **NASA Europa Lander Science Definition Team Report and Mission Concept**

Dr. Kevin Hand, Jet Propulsion Laboratory (USA)

**14.45-15.05**

### **Characteristics and programmatic feasibility of radioisotope power systems for space exploration: applicability for icy moons and exooceans**

Dr. Markus Landgraf, ESA (The Netherlands)

### **15.05-15.35 Technical advances to explore OCEANS - concepts and case studies from ROBEX**

Dr. Franz Wenzhöfer, Dr. Sascha Flögel and Dr. Stefan Sommer, GEOMAR and AWI (Germany)

This study is organised by the European Space Sciences Committee of the European Science Foundation ([www.essc.esf.org](http://www.essc.esf.org)).

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