CNRS-ENS-UA International Research Center iGLOBES
and
Paris Sciences & Lettres Research University
Interdisciplinary Program on Origin and Conditions of Appearance of Life

"BIOCOSMOS – Our Sense of Place, Our Sense of Life in the Universe"

Workshop organized by Dr. Perig Pitrou (Collège de France/PSL Research University, Paris), Dr. Istvan Praet (University of Roehampton, London), Dr. Regis Ferriere (University of Arizona and ENS/PSL Research University, Paris) and Dr. Kevin Bonine (Biosphere 2, University of Arizona)

February 1-2, 2018
at Biosphere 2 (Oracle, Arizona)

Planet scientists and exoplanet astronomers are re-shaping our understanding of the universe, presenting a fascinating cosmos filled with places and destinations, not an empty void. At the same time, Earth physicists and biologists design models of self-sustainable ecosystems such as Biosphere 2 and the Mars/Lunar Greenhouse, with the goal of engineering bio-regenerative mini-worlds that can function on their own. As these scientific revolutions unfold, with distant spaces and global life systems as objects of "field work", what counts as the "human environment"? How do we, as individuals and societies, relate to spaces, things, and processes we do not or cannot experience directly and which we see as "extreme" or "beyond" human? As scientists study these distant spaces and global processes, how do their findings transform our understanding of what it means to be in the world? How do inquiry and insight change our outer space imagination and the way we comprehend Earth on a whole, planetary scale? Will all this impact how our societies confront today's environmental challenges?

Tackling these big questions requires off-the-beaten-path dialogue among anthropologists, space scientists, and Earth system researchers. To promote this conversation, the International Research Center iGLOBES (CNRS-UA-ENS UMI 3157) and Paris Sciences & Lettres Research University organize a two-day workshop at Biosphere 2, on February 1-2, 2018.

Day 1 (Thursday, February 1) will be devoted to the question of how we, humans, use our perception and understanding of life and nature on global Earth to design, engineer and use 'mini-worlds' – miniaturized artificial ecosystems that can function on their own and help us meet some of our most pressing global challenges, such as food production, climate control, clean water, and safe energy beyond current environmental or economic limits.

Confirmed speakers: **John Adams (UA Biosphere 2), Gene Giacomelli (UA Agricultural & Biosystems Engineering), Perig Pitrou (Social Anthropology, PSL/CNRS-Collège de France), Peter Troch (UA Hydrology & Biosphere 2).**

A dedicated **Doctoral and Post-Doctoral Session, moderated by Joffrey Becker (PSL/Collège de France)** will bring together participants from multiple disciplines (biology, ecology, planetary science, computer and data sciences, applied mathematics, engineering, anthropology, philosophy…) who are concerned with the question: What fondamental elements and which interactions allow us to consider that a world can be inhabited, a world in which life systems can evolve and maintain themselves? The session will focus on issues directly related to cybernetic systems, considering them as both a mean to

represent (model) ecosystems emerging on Earth and potentially elsewhere in the universe, but also as a mean to design and construct artificial devices where terrestrial life can self-sustain in a contained environment and thus survive outside the Earth. In the philosophical perspective, we will try to better understand how cybernetic systems, through the mediation of theoretical or real machines, shed light on the complex (and culturally informed) entanglements of life and techniques.

Day 2 (Friday, February 2, 9am-5pm) will bring together astronomers and planetary scientists, environmental biologists, anthropologists and philosophers to tackle the questions of what counts as the "human environment", what it means to be in the world, and how we comprehend Earth in its globality, in the light of observation and exploration of distant spaces that revolutionize our understanding of the universe.

Confirmed speakers: **Marcia Rieke (Astronomy, University of Arizona), Chris Impey (Astronomy, University of Arizona), Dante Lauretta (Astronomy, University of Arizona), Lisa Messeri (Anthropology, Yale University), Valerie Olson (Antropology, UC Irvine), Istvan Praet (Anthropology, University of Roehampton, London). Opening remarks by Joaquin Ruiz, Dean of the College of Science and Biosphere 2 Director.**

After workshop ends, participants may consider visiting the Kuiper LPL Art of Planetary Science on UA main campus, 5:00-9:00 PM. The exhibit continues on February 3 and 4, 1-5PM. More information at https://www.sites.google.com/site/lpltaps/

Registration – The number of participants is limited to 25 on Day 1. Day 2 is open to the public but registration (free) is requested. Please register by sending an email to ocavbioarti@gmail.com with the following information

- Your name, affiliation, email address
- Participation in Day 1 (Feb 1)? Day 2 (Feb 2)? Both?
- For graduate students and postdoctoral researchers: If you are applying to contribute a presentation to the Doctoral and Postdoctoral Session on Day 1, please specify:
    - Oral presentation? Poster? Both?
    - Title(s) of the presentation(s) and short abstract(s).
    - If applicable, a list of selected publications, relevant to the topic of your contribution(s).
    - A short bio or résumé.