

# Lecture Series & Workshops 2019-2021

From Single Organisms to Systems Ecology and Evolution

## Dance of Rock and Life: Energy, Evolution, and the Transformation of the Earth

**Dr. Olivia JUDSON**

Imperial College London  
and Freie Universität Berlin

- 13<sup>th</sup> of November 2019, 12 PM
- Campus Belval, LCSB BT2; RIKEN room

SAVE-THE-DATE  
also for **14<sup>th</sup> Nov**  
for Dr. Judson's  
seminar and  
workshop on  
**scientific writing**

- 14<sup>th</sup> of November 2019:

**10:30 – Seminar & Discussion.** Writing Science: Tips, Tricks, and Traps

**13:30 to 15:30 – Workshop.** Improving your Abstract writing skills. To participate in the workshop, please send your Abstract to [secretary@microbiology.lu](mailto:secretary@microbiology.lu). The first 10 abstracts will be selected and will receive personal feedback during the workshop.

- For individual meetings (13<sup>th</sup>/14<sup>th</sup> Nov) with Dr. Judson, please **register** by mail to [secretary@microbiology.lu](mailto:secretary@microbiology.lu)

Throughout its long history, life has been a force of planetary transformation, remaking the air, the rocks, the landscapes, even painting the color of the sky and increasing the variety of Earth's minerals. But are the histories of life and Earth just one thing after another, or is there an underlying pattern that we can make sense of? Here, I argue that there is a pattern, and that life-Earth history can be understood as a sequence of five epochs, each of which corresponds to the evolution of lifeforms that can access a new source of energy. With each new epoch, the diversity of life has become greater, ecosystems have become richer, and life has increased its impact on the planet. This framework of energy expansions provides a way to think about current human impacts upon the Earth—and about the probable trajectories of life-planet systems elsewhere in the cosmos.

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