

The Problem

with Theory and Data in Biology

Two Séances
with **Giuseppe Longo**
CNRS, Ecole Normale Supérieure, Paris

Tuesdays
April 11, April 18
225 Dwinelle Hall
6-8 pm



Séance I Ontogeny and Epistemology of Information

There is no data nor information without interpretation, and they both misrepresent the living. Historical and epistemological tracing of the philosophical and mathematical lineage of concepts of information and data may clarify the role of "interpretation" and "context", particularly as they concern The Living. Evolution and ontogeny in the living trump the interpretation of alpha-numeric information as a "complete" control of these processes derived from non-living (physics/digital) systems.

Longo readings for these séances:

Programming Evolution (on J. Doudna's worldview)
<https://www.di.ens.fr/users/longo/files/LongoReview-DoudnaBook.pdf>
Deluge of Spurious Correlations in Big Data
<https://www.di.ens.fr/users/longo/files/BigData-Calude-LongoAug21.pdf>
Information, Interpretation
<https://www.di.ens.fr/users/longo/files/Information-Interpretation.pdf>
From the century of the genome to the century of the organism
<https://www.di.ens.fr/users/longo/files/SotoLongoSpecialIssue-ContentsLongosPap2016.pdf>

Hosted by Ignacio Chapela

Environmental Science, Policy and Management, UC Berkeley

Séance II Determinism, Metaphor, Model

Native to the realm of Alphabetic Writing, of Physics or Computing, models and metaphors permeate the dominant understanding and norming of living things, from the sub-cellular to the biospheric scales. A dearth of Biology-native theoretical frames only exacerbates the problem, particularly once models and metaphors become the only approach, unmoored from reality through Big Data crunching. *Not only do we question the Central Dogma of Biology, but the multifarious consequences of using it from molecular biology to evolution. We scope new directions for an organismal understanding of the radical materiality and historicity of life.*

<https://www.di.ens.fr/~longo/>

Zoom access and links to the papers: see the QR code

