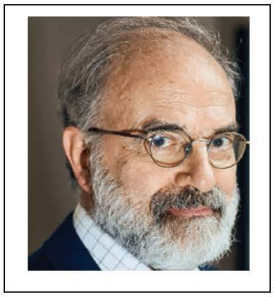

Battlefield Biology

Two Lectures on the Berkeley Campus by

Giuseppe Longo

Directeur de Recherche, Centre National de la Recherche Scientifique

April 24 at 5:30 and April 25 at 4 pm, 132 Mulford Hall

A native to mathematical theory and epistemology, Longo has been engaging with foundational questions of contemporary biology for the last 25 years. To his surprise, in Biology he found a battlefield where the very conception of Life is at stake. Organismal Biology, he found, has barely a diffuse theory to give a solid ground for discussion; instead, it has been mired in scientism and pseudoscience.

Prof. Longo's affiliations include: Directeur de Recherche, CNRS; Centre Cavaillès (Republique des Savoirs), CNRS; Collège de France; Ecole Normale Supérieur (Paris); European Network of Scientists for Social and Environmental Responsibility (ENSSER); School of Medicine, Tufts University; Grupo Cardano. Longo is President of the Association of Friends of the Thunberg Generation. Two of his recent publications: *Le Cauchemar de Prométhée: Les Sciences et leurs Limites* (2023) and *L'Empire Numérique: de l'Alphabet à l'IA* (2025).

Lecture 1

Thursday, April 24, 5:30 pm, 132 Mulford Hall.

Science vs Scientism in Biology:
the Lack of an Ethics of Knowledge in Biology and its Consequences

Scientism separates ethical issues from an internal ethics of Science. The latter requires explicit, clear and revisable principles, while Scientism expects to occupy reality with One Technics and One Concept, such as the notion of "Gene," embedded in biologically vague notions such as "information" and "coding." The negative consequences of scientism in biology, not least on ecosystem and human health, will be the center of this lecture. A project for an alternative proposal for a Theory of Organismal Biology will be presented.

Lecture 2

Friday, April 25, 4 pm, 132 Mulford Hall.

The Problem of "Emergence" and the
Incongruence of Physical Explanations in Biology

Since Poincaré formally proved in 1892 the inappropriateness of linear approaches to complex inanimate systems, a rich theory has been developed in physics on the subject. This lecture surveys strengths and limitations of this theory, in particular in relation to actual—and intrinsically very different—complex **evolutionary ecosystems**. Evolutionary history and ecosystemic relationships pose a set of problems that are incongruent with the capacities of physical complexity theory. A different science is needed for which this lecture will provide a new perspective in our understanding of Life.