

CALL FOR PAPERS

The Insides of Nature: Causalities, Causal Processes and Conceptions of Nature Borders – *International Conference of Philosophy of Science*

Faculdade de Filosofia e Ciências Sociais (FFCS), Universidade Católica Portuguesa (UCP)
Braga, Portugal

Conference Dates: September, 10-12, 2018

Submission Deadline: April 30th, 2018

Organizing committee: Álvaro Balsas (FFCS), Antonio Augusto Passos Videira (UERJ, Brazil), Bruno Nobre (FFCS), João Carlos Onofre Pinto (FFCS), Ana Paula Pinto (FFCS)

Keynote Speakers:

Alexandre Castro Caldas (Lisbon University);
Ana Sofia Carvalho (UCP, Porto);
Antonio Augusto Passos Videira (UERJ, Rio de Janeiro);
Cristina Motta (UFRJ – Rio de Janeiro);
Gennaro Auletta (Gregorian University, Rome);
Juan Arana (Universidad de Sevilla);
Louis Caruana (Gregorian University, Rome);
Yolanda Espiña (FFCS, Braga)

Presentation:

Philosophy of Nature is the branch of philosophy which, out of the dialogue with the various sciences, reflects on our knowledge of Nature (in its various meanings). Although its research object is that of the particular sciences, Philosophy of Nature takes a philosophical-metaphysical perspective, having as a goal to arrive at a comprehensive, interdisciplinary, and harmonic understanding of the different images of Nature – although, not always consistent – associated with the corresponding particular sciences.

A comprehensive understanding of Nature is fundamental for the self-understanding of the human being. It is also crucial for the understanding of the relationship of human beings among themselves and with Nature. A better understanding of these relationships will allow: an improved self-balance and personal fulfillment; the construction of more inclusive societies; an increased adoption of human and ecological styles of life; and a more sustainable interaction with our planet.

The problem of causality within natural phenomena is, nowadays, one of the most significant challenges for the interdisciplinary dialogue between scientists, philosophers and theologians. Since the beginning of the 17th century, the approach to the study of causality has been mainly reductionist (*bottom-up*), placing it at the level of the elementary objects, constitutive of higher level systems. Contemporary science, however, has disclosed some limitations to that traditional reductionist paradigm, drawing the attention of both philosophers and scientists to another type of causality (*top-down*) which appears to be present in complex systems, and acting from the wholes to their constituent parts. This new type of causality manifests itself in several scientific areas: physics, chemistry, microbiology, epigenetics, evolutionary biology, physiology, neurosciences/cognitive sciences, psychology, social sciences, and computer and information sciences. Moreover, top-down causality concerns not only each individual science but also the relationship between the various scientific branches. It is complex and multifaceted, and also related to the emergence of contextual complexity throughout the cosmic evolutionary process. It is also highly relevant for the study of the mind, ethics, and religious phenomena.

It is particularly relevant for current research concerning philosophical aspects of causality to address the following questions: how does higher levels causality relates to the lower ones; if, in the various sciences, higher level variables can be obtained through *coarse graining* of the lower level ones; how to identify levels of causality and emergence in complex structures; whether top-down causality is real or simply an epiphenomenal manifestation of the lower levels; what is the relationship between top-down causality, contextual emergence of complexity, and reductionism (bottom-up causality), particularly in the context of the so-called “causal closure” of fundamental physics; to which extent does top-down causality prevail in quantum physics.

Research topics:

Submission of abstracts will be accepted for individual communications (20 min.) on the following scientific areas:

- History and Philosophy of Nature;
- Nature, Philosophy and Metaphysics;
- Nature and Contemporary Science;
- Nature, Emergence and Complexity;
- Nature and Ethics;
- Nature, Ecology and Contemporary Social Thought;
- Nature and Conceptions of the Human Being;
- Nature, Cognitive Sciences, Psychology and Neurosciences;
- Nature, the Arts, Aesthetics and Literature;
- Nature and Theology;
- Nature and sciences of language and communication.

* **Conference languages:** Portuguese, Spanish, and English

Abstract (max. 350 words) submission deadline: April 30th.

For further information, please visit the conference website: <http://braga.ucp.pt/filosofiadanatureza/>

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