Special Issue

Computing Physical Reality. Philosophical Perspectives and Scientific Challenges

Message from the Guest Editors

For centuries, humankind has attempted to decode and reconstruct the physical world. With the advent of digital computers—at once physical and formal systems—and their extraordinary computational power, the scope and breath of such an ambitious cultural project have increased enormously. An increasing number of realms of reality, including our brain and behaviour, now appear to be within the reach of computational analysis with an unprecedented degree of accuracy. This Special Issue of ***Philosophies*** focuses on a number of epistemological, historical, and conceptual issues concerning the interaction between this large computational effort and physics as a scientific and cultural phenomenon. The issues range from the problem of demarcation between computing and non-computing systems to the question of new meanings indicated by logical and physical concepts, formal structures, and theories, and consequences on scientific practices (e.g., the relationship between theory and data; the epistemological value of computational modelling and simulation).

Guest Editors

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Prof. Dr. Rossella Lupacchini

Deadline for manuscript submissions

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About the Journal

Message from the Editor-in-Chief

Philosophies searches for the syntheses of philosophical and scientific inquiries. It promotes philosophical work that is derived from the experience of diverse scientific disciplines and cultures. Multiple philosophies already exist— those of logic, information, computation, natural and artificial life, natural or artificial intelligence, complexity, technology, etc. Our mission is not to abandon philosophical roots and traditions of inquiry, but to promote the development of philosophical foundations and effective methodologies derived from diverse scientific explorations, and intended to enhance these explorations as to generate deeper and more holistic knowledge. Innovation may also be achieved through the cultural dimension. Other cultures can offer from their heritage a diversity of resources for exploration; these resources can also contribute to the emergent synthesis of philosophical inquiry.

Editor-in-Chief

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