

Special Issue on the “Milan Logic and Philosophy of Science Network Conference”

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Abstract

Introduction to the contributions arising from the First Milan *Logic and Philosophy of Science Network* Conference, held at Politecnico of Milan on the 12th March 2025.

Keywords

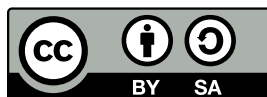
Logic and philosophy of science.

Submitted 7/11/2025

Accepted 7/12/2025

How to Cite

Ilaria Alfieri, Silvia Larghi, and Maria Raffa. *Special Issue on the “Milan Logic and Philosophy of Science Network Conference”*. THE REASONER 19(4) 2025. <https://doi.org/10.54103/1757-0522/30045>



The inaugural meeting of the “Milan Logic and Philosophy of Science Network”, held at Politecnico di Milano on the 12th March 2025, brought together scholars from across the academic landscape of Milan to explore the intersection of logic, philosophy of science, and contemporary challenges in science and society. This special issue gathers contributions and reflections from that event, showcasing the breadth and depth of ongoing philosophical work on themes of cognition, reasoning, new technologies, natural sciences, uncertainty and, above all, interdisciplinary research.

In a world increasingly shaped by technological innovation, social disruption, and epistemic complexity, philosophy has a critical role to play, not only in interpreting the conditions of knowledge production, but also in contributing to the design of responsible practices, inclusive frameworks, and sustainable futures. The Logic and Philosophy of Science Network was created with this mission in mind: to foster collaboration among philosophers of science based in the Milan area, scholars who often work in close geographical proximity yet remain unaware of each other’s research. The network aims to build connections and cultivate meaningful exchanges, with particular attention to the ethical, political, and methodological dimensions of scientific inquiry.

The meeting brought together over twenty contributions from research groups in philosophy of science across the main universities in Milan: Università Statale, Politecnico di Milano, Università di Milano-Bicocca, Università Vita-

Salute San Raffaele, and IULM. The contributions were organized around four key thematic axes, as follows:

The first topic was *Artificial Intelligence, Robotics, and Cognition*, and this section explored conceptual and epistemological questions arising from emerging AI and robotic systems. Contributions included philosophical reflections on human-centered AI and the integration of values into technological design, discussions on the epistemology of mental state attributions to robots, the modeling of cognition through artificial systems, and broader perspectives on the philosophy of AI.

The second thematic axis concerned *Epistemology, Reasoning, and Logic*. Talks in this stream examined foundational issues in reasoning, knowledge, and scientific explanation. Topics included the psychology of extreme beliefs, truth-maker semantics and modal logic, scientific analogies and models, and reasoning in science. Contributions on pseudoscience further expanded the discussion to data reasoning and misinformation.

The third topic tackled *Philosophy of the Physical Sciences, Biology, and Health*. This cluster offered rich insights into how philosophical analysis interacts with ongoing research in physics, cognitive biology, and health sciences. Epistemic cohesion in nuclear fusion research was examined, while contributions from other groups highlighted how philosophical thinking can engage with metaphysical, cultural, and epistemological questions. The program also included con-

tributions on transdisciplinary approaches to cognitive biology and artificial cognition, a rethinking of the conceptual foundations of health in light of emerging data practices, and a critical reassessment of the longstanding philosophical analogy between machines and organisms.

The last thematic axis included the topics of *Science, Values, and Uncertainty*. This section is focused on the growing awareness that science is never value-neutral and that uncertainty is a constitutive feature of both natural and social sciences. Contributions addressed decision-making under risk, the classification of normative kinds, and the epistemic and ethical dimensions of climate modeling. Epistemic injustice in medicine, and the role of values in scientific measurement were also explored.

In addition to the research presentations, the meeting hosted three *World Café* discussion tables that encouraged collective reflection on issues extending beyond academic research, focusing instead on the broader academic environment and philosophy's role in society. The discussions centered on three key topics: gender discrimination in academia, mental health within the academic profession, and philosophy's relationship with public engagement. These conversations resulted in three feature articles.

Together, the contributions in this special issue offer a multifaceted picture of contemporary philosophical research grounded in scientific practice, social concern, and theoretical depth. They illustrate how the philosophical commu-

nity from the Milan area is actively engaging with global challenges, rethinking AI, scientific norms, health, and epistemic justice. More than just a report on an academic event, this collection signals the emergence of a dynamic interdisciplinary platform, capable of connecting philosophical insight with the most pressing issues of our time.

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