



SAPIENZA  
UNIVERSITÀ DI ROMA



UNIVERSITÀ  
DI PAVIA

07-09  
JUNE  
2023

Department of Philosophy  
Sapienza University of Rome  
Villa Mirafiori  
Via Carlo Fea 2  
00161 Roma  
Rooms: II, V, X

[www.mbr023rome.com](http://www.mbr023rome.com)

Ninth International MBR Conference  
MODEL-BASED REASONING, ABDUCTIVE COGNITION, CREATIVITY

# MBR023\_ROME

**Inferences & Models in Science, Logic, Language, and Technology**

Chairs: Emiliano Ippoliti, Lorenzo Magnani, Selene Arfini

## KEYNOTE SPEAKERS

Marco BUZZONI - University of Macerata

Mireille HILDEBRANDT - Vrije Universiteit Brussels

Samantha COPELAND - TU Delft

Lorenzo MAGNANI - University of Pavia

David DANKS - University of California

Ángel NEPOMUCENO FERNÁNDEZ - University of Seville

Edoardo DATTERI - University of Milan-Bicocca

Thomas ORMEROD - University of Sussex

## Wednesday, 7 June

8.30-8.55 Registration Desk—located in front of aula V

8.55-9.00	<b>Piergiorgio Donatelli (Head, Sapienza Department of Philosophy), Opening</b>		
	<b>Invited Lecture - Location: aula V - Chair: Lorenzo Magnani</b>		
9.00-10.00	<b>Samantha COPELAND (TU Delft), Ethics as generative modelling</b>		
	Location: <b>aula II</b> - chair: <b>Cristina Barés-Gómez</b>	Location: <b>aula V</b> - chair: <b>Lorenzo Magnani</b>	Location: <b>aula X</b> - chair: <b>Fabio Sterpetti</b>
10.00-10.30	<b>Prätor, K.</b> - <i>An Action Based Model of Logic</i>	<b>Shelley, C.</b> - <i>Towards a Situational Account of Verbal Irony</i>	<b>Lieto, A. &amp; Pozzato, G.</b> - <i>A Non Monotonic Reasoning Framework for Human-Like Knowledge Invention</i>
10.30-11.00	<b>Savojardo, V.</b> - <i>The Narrative Function of an Embodied Imagination Between Scientific and Literary Thought Experiments</i>	<b>Chiffi, D. &amp; De Florio, C.</b> - <i>Two Types of Hypothesis and Denial. A Logical Analysis</i>	<b>Bouchard, Y.</b> - <i>Reasoning about Knowledge and Epistemic Equivocity</i>
11.00-11.20	<i>coffe break</i>		
11.20-11.50	<b>Giovagnoli, R.</b> - <i>Complexity, Habits &amp; Society</i>	<b>Fontaine, M.</b> - <i>Adaptive Structure Seeking Dialogues (A-SSD)</i>	<b>Thompson, B.</b> - <i>The Principle of Ecthesis in Hypothetical Reasoning</i>
11.50-12.20	<b>Lukowski, P. &amp; Rudnicki, K.</b> - <i>Logic of Content. An Attempt to Formalize Human Everyday Thinking</i>	<b>Omelchenko, N.</b> - <i>A Thought Experiment to Prove a Multitude of Intelligent Worlds</i>	<b>Addis, M. &amp; Eckert, C.</b> - <i>Explanatory Frameworks in Complex Change and Resilience System Modelling</i>
12.20-12.50	<b>Cattabriga, P.</b> - <i>Overcoming Self-Reference Modelling</i>	<b>Ross, W. &amp; Ormerod, T. C.</b> - <i>Modelling Insight: Process or Phenomenology?</i>	<b>Hermeto, J. R.</b> - <i>Towards an Ontology of Capitalist Knowledge Production: Beyond the Metaphysical Epistemic</i>
	<i>lunch</i>		
14.40-15.40	<b>Invited Lecture - Location: aula V - Chair: Selene Arfini</b>		
	<b>Thomas ORMEROD (Sussex), Solving problems by searching failed attempts for new ideas: A new computational model of insight</b>		
	Location: <b>aula II</b> - chair: <b>Ángel Nepomuceno</b>	Location: <b>aula V</b> - chair: <b>Cameron Shelley</b>	Location: <b>aula X</b> - chair: <b>Gustavo Cevolani</b>
15.40-16.10	<b>Borowiecki, O.</b> - <i>Neuroscientific Model-Based Computation and Philosophical Model-Based Reasoning – A Window for an Interdisciplinary Collaboration</i>	<b>Barés-Gómez, C. &amp; Nepomuceno, A. &amp; Salguero Lamillar, F. J.</b> - <i>Abduction and Analogies in Linguistic Reconstruction Inferences</i>	<b>Guarini, M.</b> - <i>Some Concerns with Totally Grounded Analogies</i>
16.10-16.40	<b>Garavaglia, F. &amp; Pinna, S. &amp; Giunti, M.</b> - <i>Ongoing Activity of the Brain: Perception Between Prediction and Errors</i>	<b>Nariña, I.</b> - <i>Matrix Modelling of n-Terms Systems</i>	<b>Niño, D.</b> - <i>A Classification of Abduction Based on Its Different Goals: A Proposal</i>
16.40-17.00	<i>coffe break</i>		
17.00-17.30	<b>Gajda, A. &amp; Flejsierowicz, J. &amp; Urbański, M.</b> - <i>Computing Abductive Hypotheses in Artificial Neural Networks: A Hybrid Approach</i>	<b>Visokolskis, S.</b> - <i>Creativity via Transduction: Associative Abductive Reasoning Through the Lens of Model-Based Reasoning</i>	<b>Coraci, D. &amp; Douven, I. &amp; Cevolani, G.</b> - <i>Inferring to the Best Explanation in Cognitive Neuroscience</i>
17.30-18.00	<b>Werner, P. A.</b> - <i>Chorological Abductive Inferring: Case Studies of Tracing Spatial Dissemination of COVID-19</i>	<b>Miotti, G.</b> - <i>The Use of Fuzzy Mathematics for Socio-Environmental Evaluation in Social Economy</i>	<b>Gangle, R. &amp; Tohmé, F &amp; Caterina, G.</b> - <i>Combinators as Presheaves</i>
	<b>Invited Lecture - Location: aula V - chair: Mireille Hildebrandt</b>		
18.00-19.00	<b>Lorenzo Magnani (Pavia), Scientific Models as Tools for Epistemic Warfare. The Unwelcome Confusion between Static and Dynamic Aspects of Models in Science</b>		

Model-Based Reasoning in Science and Technology

# Thursday, 8 June

<b>Invited Lecture - Location: aula V - Chair: Sara Dellantonio</b>		
<b>Edoardo DATTERI (Milano Bicocca), <i>Models for Surrogate Stimulation</i></b>		
9.00-10.00	Location: <b>aula II</b> - chair: <b>Viola Schiaffonati</b>	Location: <b>aula V</b> - chair: <b>Sara Dellantonio</b> Location: <b>aula X</b> - chair: <b>Marco Buzzoni</b>
10.00-10.30	<b>Guallart, N.</b> - <i>Neighbourhood Semantics for Bayesian Abduction: Uncertainty and Negation of Probabilistic Beliefs</i>	<b>Arfini, S.</b> - <i>Rethinking the Embodied Nature of Thought Experiments</i>
10.30-11.00	<b>Hermkes, R.</b> - <i>Epistemic Feelings in Decision-Making and its Integration into an Inferential Taxonomy</i>	<b>Ippoliti, E.</b> - <i>Do Predictions Destroy Predictability? The Case of Financial Markets</i>
<i>coffe break</i>		
11.00-11.20	<b>Abduction, Reason &amp; Science: A Symposium in Honor of the 70th Birthday of Lorenzo Magnani</b>	
11.20-11.50	Location: <b>aula II</b> - chair: <b>Selene Arfini</b>	Location: <b>aula V</b> - chair: <b>Samantha Copeland</b> Location: <b>aula X</b> - chair: <b>Mireille Hildebrandt</b>
11.50-12.20	<b>Minnameier, G.</b> - <i>Abduction - Its Point and Reach</i> <b>Abe, A.*</b> - <i>Abduction---analogy/narratology---discovery</i>	<b>Rudnicki, K. &amp; Lukowski, P.</b> - <i>Detection of Presuppositions for Falsification of Applied Logic Predictions</i> <b>Chinaia, A.</b> - <i>Brain Organoids as Models: Ethical and Epistemological Issues</i>
12.20-12.50	<b>Aliseda-Llera, A.</b> - <i>Automated Diagnostic Reasoning: A tribute to Lorenzo Magnani</i>	<b>Crocchiolo, P.</b> - <i>Model-Based Reasoning in Human Evolution</i> <b>Sans Pinillos, A.</b> - <i>The role of anticipations based on axiological information in the EC-Model of abduction</i>
<b>Lunch</b>		
<b>Invited Lecture - Location: aula V - chair: Emiliano Ippoliti</b>		
<b>David DANKS (UC San Diego), <i>Causation, goals, values, and models</i></b>		
14.40-15.40	Location: <b>aula II</b> - chair: <b>Selene Arfini</b>	Location: <b>aula V</b> - chair: <b>Samantha Copeland</b> Location: <b>aula X</b> - chair: <b>Mireille Hildebrandt</b>
15.40-16.10	<b>Bueno, O.</b> - <i>Abduction vs. Concept Refinement and Structural Preservation: Perspectives on Mathematical Heuristics</i>	<b>Lizzadri, A.</b> - <i>Internal Realism and Computational Model of Mind: A Realist Interpretation of the Ontological Relativity</i> <b>El Skaf, R.</b> - <i>Climate Science Narratives: Scenarios, Pathways and Storylines. Some Open Questions and a Promising (Thought Experimental) Avenue?</i>
16.10-16.40	<b>Thagard, P.*</b> - <i>Lorenzo Magnani's Contributions to the Study of Abductive Inference</i>	<b>Drago, A.</b> - <i>The Arguing Through an "Adjunction": Its Relevance for the History of Mathematics, Logic and AI</i> <b>Rusanen, A.</b> - <i>The Art of Cognitively Seductive Visualizations: The Case of Covid-19</i>
<i>coffe break</i>		
16.40-17.00	<b>Open discussion and Lorenzo's comments</b>	
17.00-17.30	<b>Chiffi, D. &amp; Petrolo, M. &amp; Schiaffonati, V. &amp; Zanotti, G.</b> - <i>Trustworthy AI: A Pragmatic Stance</i>	<b>D'Agostino, M. &amp; Larese, C.</b> - <i>Depth-Bounded Epistemic Logics and Logical Omniscience as a Matter of Degree</i>
17.30-18.00	<b>Gajda, A &amp; Flejsierowicz, J. &amp; Urbański, M</b> - <i>Computing Abductive Hypotheses in Artificial Neural Networks: A Hybrid Approach</i>	
<b>Invited Lecture - Location: aula V - Chair: Thomas Ormerod</b>		
<b>Ángel NEPOMUCENO FERNÁNDEZ (Seville), <i>Interrogative logic as underlying logic in scientific practices</i></b>		
18.00-19.00		
20:00	<b>SOCIAL DINNER - Momart Restaurant - Viale XXI Aprile, 19, 00162</b>	

# Friday, 9 June

<b>Invited Lecture - Location: aula V - chair: Edoardo Datteri</b>		
9.00-10.00	<b>Marco BUZZONI (Macerata), <i>Serendipity and Thought Experiment in Scientific Discovery</i></b>	
	Location: aula II - chair: Atocha Aliseda-Llera	Location: aula V - chair: Edoardo Datteri
10.00-10.30	<b>Hieke, W. &amp; Schwöbel, S. &amp; Smolka, M. N.</b> - <i>Involving Cognitive Science in Model Transformation for Description Logics</i>	<b>Dellantonio, S. &amp; Pastore, L.</b> - <i>Constructs as Building Blocks for Psychological Models. When Assessment Misrepresents the Phenomenon It Is Designed to Measure: 'Alexithymia' as a Case Study</i>
10.30-11.00	<b>Luczak, J.</b> - <i>Not Just Toying Around</i>	<b>Amigoni, F. &amp; Schiaffonati, V.</b> - <i>Complementing the Normative Approach of Robot Ethical Standards: A Methodological Account</i>
11.00-11.20	<i>coffe break</i>	
11.20-11.50	<b>Cevolani, G. &amp; Crupi, V. &amp; Viola, M.</b> - <i>The Paul Effect: The Persuasive Allure of the Unbeliever's enLightment</i>	<b>Barés-Gómez, C. &amp; Fontaine, M.</b> - <i>Abduction in Medical Research: The Case of Variolae Vaccinae</i>
11.50-12.20	<b>Sterpetti, F.</b> - <i>Counterfactuals, Models, and Scientific Realism</i>	<b>Raftopoulos, A. &amp; Portides, D.</b> - <i>Abductive Inferences in Perception and the Representational Formats of Perception and Cognition</i>
12.20-12.50	<b>Faroldi, F.</b> - <i>Generic Reasoning: A Logical Sketch</i>	<b>Giunti, M. &amp; Pinna, S.</b> - <i>Expressing Knowledge as Linked Data by FOOL</i>
<i>lunch</i>		
<b>Invited Lecture - Location: aula V – chair: David Danks</b>		
14.40-15.40	<b>Mireille HILDEBRANDT (Vrije Universiteit), <i>Abduction in LLMs, the issue of real world navigation</i></b>	
<b>Closing Plenary Session - Location: Aula V - chair: E. Ippoliti</b>		
15.40-16.40	<b>Selene ARFINI (Pavia), Marco BUZZONI (Macerata), Samantha COPELAND (TU Delft), David DANKS (UC San Diego), Edoardo DATTERI (Milano-Bicocca), Mireille HILDEBRANDT (Vrije Universiteit Brussels), Emiliano IPPOLITI (Sapienza), Lorenzo MAGNANI (Pavia), Ángel NEPOMUCENO FERNÁNDEZ (Seville), Thomas ORMEROD (Sussex)</b>	