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, VI, IX

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

Samantha COPELAND - TU Delft

David DANKS - University of California

Edoardo DATTERI - University of Milan-Bicocca

Mireille HILDEBRANDT - Vrije Universiteit Brussels

Lorenzo MAGNANI - University of Pavia

Ángel NEPOMUCENO FERNÁNDEZ - University of Seville

Thomas ORMEROD - University of Sussex

Model-Based Reasoning in Science and Technology
Inferences & Models in Science, Logic, Language, and Technology
Rome, Italy, June 7-9, 2023

MBR023@ROME SCHEDULE

SAPIENZA UNIVERSITÀ DI ROMA — UNIVERSITÀ DI PAVIA — MBR 023 ROME

Wednesday, 7 June

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

8.55-9.00	**Piergiorgio Donatelli (Head, Sapienza Department of Philosophy)**, *Opening*

Invited Lecture - Location: **aula VI** - Chair: **Lorenzo Magnani**

9.00-10.00	**Samantha COPELAND (TU Delft)**, *Ethics as generative modelling*

	Location: **aula II** - chair: **Cristina Barés-Gómez**	Location: **aula VI** - chair: **Lorenzo Magnani**	Location: **aula IX** - chair: **Fabio Sterpetti**
10.00-10.30	**Prätor, K. -** *An Action Based Model of Logic*	**Shelley, C. -** *Towards a Situational Account of Verbal Irony*	**Lieto, A. & Pozzato, G. -** *A Non Monotonic Reasoning Framework for Human-Like Knowledge Invention*
10.30-11.00	**Savojardo, V.** - *The Narrative Function of an Embodied Imagination Between Scientific and Literary Thought Experiments*	**Chiffi, D. & De Florio, C. -** *Two Types of Hypothesis and Denial. A Logical Analysis*	**Bouchard, Y.** - *Reasoning about Knowledge and Epistemic Equivocity*
11.00-11.20	*coffe break*		
11.20-11.50	**Giovagnoli, R. -** *Complexity, Habits & Society*	**Fontaine, M.** - *Adaptive Structure Seeking Dialogues (A-SSD)*	**Thompson, B.** - *The Principle of Ecthesis in Hypothetical Reasoning*
11.50-12.20	**Lukowski, P. & Rudnicki, K.** - *Logic of Content. An Attempt to Formalize Human Everyday Thinking*	**Omelchenko, N.** - *A Thought Experiment to Prove a Multitude of Intelligent Worlds*	**Addis, M. & Eckert, C.** - *Explanatory Frameworks in Complex Change and Resilience System Modelling*
12.20-12.50	**Cattabriga, P.** *Overcoming Self-Reference Modelling*	**Ross, W. & Ormerod, T. C.** - *Modelling Insight: Process or Phenomenology?*	**Hermeto, J. R. -** *Towards an Ontology of Capitalist Knowledge Production: Beyond the Metaphysical Epistemic*
	lunch		

Invited Lecture - Location: **aula VI** - Chair: **Selene Arfini**

14.40-15.40	**Thomas ORMEROD (Sussex)**, *Solving problems by searching failed attempts for new ideas: A new computational model of insight*

	Location: **aula II** - chair: **Ángel Nepomuceno**	Location: **aula VI** - chair: **Cameron Shelley**	Location: **aula IX** - chair: **Gustavo Cevolani**
15.40-16.10	**Borowiecki, O.** - *Neuroscientific Model-Based Computation and Philosophical Model-Based Reasoning – A Window for an Interdisciplinary Collaboration*	**Barés-Gómez, C. & Nepomuceno, A. & Salguero Lamillar, F. J** - *Abduction and Analogies in Linguistic Reconstruction Inferences*	**Guarini, M.** - *Some Concerns with Totally Grounded Analogies*
16.10-16.40	**Garavaglia, F. & Pinna, S. & Giunti, M. -** *Ongoing Activity of the Brain: Perception Between Prediction and Errors*	**Narița, I.** - *Matrix Modelling of n-Terms Systems*	**Niño, D. -** *A Classification of Abduction Based on Its Different Goals: A Proposal*
16.40-17.00	*coffe break*		
17.00-17.30	**Gajda, A. & Flejsierowicz, J. & Urbański, M.** - *Computing Abductive Hypotheses in Artificial Neural Networks: A Hybrid Approach*	**Visokolskis, S. -** *Creativity via Transduction: Associative Abductive Reasoning Through the Lens of Model-Based Reasoning*	**Coraci, D. & Douven, I. & Cevolani, G. -** *Inferring to the Best Explanation in Cognitive Neuroscience*
17.30-18.00	**Werner, P. A.** - *Chorological Abductive Inferring: Case Studies of Tracing Spatial Dissemination of COVID-19*	**Miotti, G.** - *The Use of Fuzzy Mathematics for Socio-Environmental Evaluation in Social Economy*	**Gangle, R. & Tohmé, F & Caterina, G. -** *Combinators as Presheaves*

Invited Lecture - Location: **aula VI** - chair: **Mireille Hildebrandt**

18.00-19.00	**Lorenzo Magnani (Pavia)**, *Scientific Models as Tools for Epistemic Warfare. The Unwelcome Confusion between Static and Dynamic Aspects of Models in Science*

Thursday, 8 June

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

Friday, 9 June

	Invited Lecture - Location: **aula VI** - chair: **Edoardo Datteri**
9.00-10.00	**Marco BUZZONI (Macerata)**, *Serendipity and Thought Experiment in Scientific Discovery*

	Location: **aula II** - chair: **Atocha Aliseda-Llera**	Location: **aula VI** - chair: **Edoardo Datteri**	Location: **aula IX** - chair: **Fabrizia Garavaglia**
10.00-10.30	**Hieke, W. & Schwöbel, S. & Smolka, M. N.** - *Involving Cognitive Science in Model Transformation for Description Logics*	**Dellantonio, S. & Pastore, L. -** *Constructs as Building Blocks for Psychological Models. When Assessment Misrepresents the Phenomenon It Is Designed to Measure: 'Alexithymia' as a Case Study*	**Huang, K. & Wang, J. -** *A New Approach to Knowledge Discovery - Hintikka's Interrogative Model of Inquiry*
10.30-11.00	**Luczak, J. -** *Not Just Toying Around*	**Amigoni, F. & Schiaffonati, V. -** *Complementing the Normative Approach of Robot Ethical Standards: A Methodological Account*	**Mennes, J. -** *A models-based understanding of cross-disciplinary knowledge integration*
11.00-11.20	*coffe break*		
11.20-11.50	**Cevolani, G. & Crupi, V. & Viola, M. -** *The Paul Effect: The Persuasive Allure of the Unbeliever's enLightment*	**Barés-Gómez, C. & Fontaine, M. -** *Abduction in Medical Research: The Case of Variolae Vaccinae*	**Bringsjord, S. & Bello, P. & Chella, A. & Govindarajulu, N. S. -** *On Computational Models of Interconnected Perception, Reasoning, and Action — in Dream Worlds*
11.50-12.20	**Sterpetti, F. -** *Counterfactuals, Models, and Scientific Realism*	**Raftopoulos, A. & Portides, D. -** *Abductive Inferences in Perception and the Representational Formats of Perception and Cognition*	**Colombo, C. F. -** *The Doing/Allowing Distinction: Moral Heuristics and Causal Models*
12.20-12.50	**Faroldi, F. -** *Generic Reasoning: A Logical Sketch*	**Giunti, M. & Pinna, S. -** *Expressing Knowledge as Linked Data by FOOL*	**Bellucci, F. -** *Occurrence-Referential Languages*
	lunch		
	Invited Lecture - Location: **aula VI** – chair: **David Danks**		
14.40-15.40	**Mireille HILDEBRANDT (Vrije Universiteit),** *Abduction in LLMs, the issue of real world navigation*		

	Closing Plenary Session - Location: **Aula VI** - chair: **E. Ippoliti**
15.40-16.40	**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)