

SILFS
Società Italiana
di Logica e Filosofia delle Scienze



SILFS 2010

**INTERNATIONAL CONGRESS
OF THE ITALIAN SOCIETY FOR LOGIC
AND PHILOSOPHY OF SCIENCE**

University of Bergamo
Piazzale Sant'Agostino, 2
Bergamo - Italy

15 – 17 December 2010

WEDNESDAY 15 DECEMBER 2010
Sala Conferenze, S.Agostino

9.00 – 10.30: **Registration**

10.30: **Opening of the Congress**

10.30 – 10.45: **Welcome of the SILFS Scientific Committee**

10.45 – 11.45: **Plenary Session 1: Peter Janich, *A Methodical Theory of Emergence***

11.45 – 12.45: **Plenary Session 2: Samir Okasha, *Title to be announced***

12.45 – 14.30: **Break**

14.30 – 15.30: **Plenary Session 3: Samson Abramsky, *Bell's Theorem And The Logic Of Locality***

15.45 – 17.00: Parallel Sessions

LOGIC AND APPLICATIONS 1 (Chair: M. D'Agostino, R. Giuntini)	PHILOSOPHY OF BIOLOGY AND COGNITIVE SCIENCES 1 (Chair: G. Bocchi, G. Boniolo)	PHILOSOPHY OF PHYSICAL AND MATHEMATICAL SCIENCES 1 (Chair: M. Dorato, G. Tamburrini)	EPISTEMOLOGY AND THE HISTORY OF SCIENCE 1 (Chair: E. Giannetto, S. Gozzano)	METHODOLOGY AND PHILOSOPHY OF SCIENCE 1 (Chair: M. Buzzoni, E. Fano)	EPISTEMOLOGY OF SOCIAL SCIENCES 1 (Chair: E. Di Nuoscio, R. Festa)
<p>F. D'AGOSTINI Paradoxes and probable truth</p> <p>H. FREYTES The algebraic approach to quantum computation</p> <p>M.L. DALLA CHIARA, R. GIUNTINI The standard disk $\sqrt{}$ quasi-MV algebra is not finitely axiomatizable</p>	<p>G. TAMBURRINI Intent reading in brain to machine communication: methodological and ethical reflections</p> <p>L. DAMIANO, L. CANAMERO Grounding the synthetic methodology: an epistemological framework for the synthetic exploration of life and cognition</p> <p>F. LONGY Selection and drift as causes: how to analyse the role of chance in biological evolution</p>	<p>M. GIUNTI Decomposing dynamical systems</p> <p>P. CANTÙ Grassmann's epistemology: multiplication and constructivism</p> <p>G. BOSCARINO The onto-epistemological background of Archimedes' mathema</p>	<p>F. BEVILACQUA Storia e significato del Principio di Conservazione dell'Energia: un ritorno ai classici</p> <p>C. ALUNNI, The diagram: proof by image</p>	<p>M. GHINS van Fraassen's views on representation: a new challenge to scientific realism?</p> <p>M. MORGANTI Is there a compelling argument of ontic structural realism?</p>	<p>C. LISCIANDRA On the emergence of descriptive norms</p> <p>E. ATUKEREN Causality-invariance: new insights into economic and social processes</p>

17.00 – 17.30: **Coffee Break**

Official Languages of the Congress: Italian, English, French

WEDNESDAY 15 DECEMBER 2010 (follows)

17.30 –19.00: Parallel Sessions					
LOGIC AND APPLICATIONS 2 (Chair: M. D'Agostino, R.Giuntini)	PHILOSOPHY OF BIOLOGY AND COGNITIVE SCIENCES 2 (Chair: G. Bocchi, G. Boniolo)	PHILOSOPHY OF PHYSICAL AND MATHEMATICAL SCIENCES 2 (Chair: M. Dorato, G. Tamburrini)	EPISTEMOLOGY AND THE HISTORY OF SCIENCE 2 (Chair: E. Giannetto, S. Gozzano)	METHODOLOGY AND PHILOSOPHY OF SCIENCE 2 (Chair: M. Buzzoni, E. Fano)	LOGIC AND APPLICATIONS 2 BIS (Chair: M. D'Agostino, R.Giuntini)
<p>F. PAOLI A non-classical theory of conditionals information</p> <p>D. PORELLO Resource allocation in Substructural logics</p> <p>C. CASADIO, M. SADRZADEH Cycling logic and natural language: a cross-linguistic analysis</p> <p>M. CASU Towards a notion of type-checking for the natural language</p>	<p>M. MAMELI On moral judgement as a psychological kind</p> <p>M. MACLEOD Inspired by Mill: an epistemic conception of natural kinds for the Life Science</p> <p>S. ZIPOLI CAIANI Epistemological considerations concerning the modularity of mind.</p> <p>S. IOANNIDIS Population Genetics and Evolutionary Developmental Biology</p>	<p>G. OLIVERI Object, structure, and form</p> <p>R. ARPAIA Incompleteness theorems and modelization of learning processes</p> <p>A. PEDEFERRI, M. FRIEND Are Mathematicians Better Described as Formalists or Pluralists?</p> <p>V. ALLORI What does quantum mechanics tells us about time?</p>	<p>M. SCHRENK Ernst Mach on the Self: The Deconstruction of the Ego as an Attempt to avoid Solipsism</p> <p>S. BORDONI From analytic mechanics to energetics: Duhem's early steps towards complexity</p> <p>G. FERRARO The rise of analysis as an autonomous mathematical discipline in eighteenth century</p> <p>F. FERRARI, E. ORLANDELLI Moderate neo-Mooreanism</p>	<p>J. KATZAV The reality of climate models</p> <p>A. RIVADULLA Anticipative Predution. A Deductive Discovery Practice in Theoretical Physics</p> <p>D. PORTIDES, A. RAFTOPOULOS Representation and Explanatory Power</p>	<p>G. TERZIAN On the structural (dis)similarities between set theory and semantics</p> <p>M. PIAZZA, G. PULCINI Disentangling Truth from Undecidability. Another look at incompleteness.</p> <p>D. GAYTÁN A paraconsistent non monotonical model of explanation for philosophy of science</p> <p>L. BELLOTTI On some consistency proofs for fragments of arithmetic</p>

THURSDAY 16 DECEMBER 2010

9.00 – 10.00: Plenary Session 4: Stathis Psillos, *Making contact with Molecules: On Perrin's argument for realism*

10.15 – 11.15: Parallel Sessions

LOGIC AND APPLICATIONS 3 (Chair: M. D'Agostino, R. Giuntini)	PHILOSOPHY OF BIOLOGY AND COGNITIVE SCIENCES 3 (Chair: G. Bocchi, G. Boniolo)	PHILOS. OF PHYSICAL AND MATHEMATICAL SCIENCES 3 (Chair: M. Dorato, G. Tamburrini)	EPISTEMOLOGY AND THE HISTORY OF SCIENCE 3 (Chair: E. Giannetto, S. Gozzano)	METHODOLOGY AND PHILOSOPHY OF SCIENCE 3 (Chair: M. Buzzoni, E. Fano)	EPISTEMOLOGY OF SOCIAL SCIENCES 3 (Chair: E. Di Nuosco, R. Festa)
<p>C.GAROLA Recovering quantum logic within an extended classical framework</p> <p>A. LEDDA The algebraic structure of an approximately universal system of quantum computational gates</p> <p>G. SERGIOLI Representing continuous t-norms in quantum computation with mixed sates</p>	<p>G. BATTIOTTI A computational model from quantum logic compared with Matte Blanco's bi-logic.</p> <p>S. CAIANIELLO On the rise and scope of the notion of modularity in the life sciences</p> <p>G. PIREDDA Extended mind and belief conception: a critical assessment</p>	<p>T. ARRIGONI On sets and infinite sets</p> <p>G. MACCHIA On the relational constitution of the cosmological spacetime</p> <p>M. FRIEND, A. PEDEFERRI An analysis of the notion of rigour in proof</p>	<p>G. GIANNINI The deviation of falling bodies: an experimental proof of the earth's rotation. The case of Bergamo</p> <p>M. ARCANGELI Urban Legends About Thought Experiments</p> <p>A. PORTA <<La Fisica del NoN>>. A logical-linguistic theory of Negation</p>	<p>K. KARAKA Ad hocness and Higgs mechanism</p> <p>A. CINTORA Brief commentary on Michael Williams' criticism of Agrippan scepticism</p> <p>N. ANGIUS Model checking and scientific methodology: models, regularity and idealization</p>	<p>P. MANTOVANI Could Santa Claus be a god? The cognitive science of religion</p> <p>A. CORRADINI The epistemological status of empathy in the human sciences</p> <p>C. GRASSENI Responsible innovation: co-research as a socio-scientific methodology of ethnographic enquiry</p>

11.15 – 11.45: Coffee Break

11.45 – 12.45: Parallel Sessions

LOGIC AND APPLICATIONS 4 (Chair: M. D'Agostino, R. Giuntini)	PHILOSOPHY OF BIOLOGY AND COGNITIVE SCIENCES 4 (Chair: G. Bocchi, G. Boniolo)	PHILOS. OF PHYSICAL AND MATHEMATICAL SCIENCES 4 (Chair: M. Dorato, G. Tamburrini)	EPISTEMOLOGY AND THE HISTORY OF SCIENCE 4 (Chair: E. Giannetto, S. Gozzano)	METHODOLOGY AND PHILOSOPHY OF SCIENCE 4 (Chair: M. Buzzoni, E. Fano)	EPISTEMOLOGY OF SOCIAL SCIENCES 4 (Chair: E. Di Nuosco, R. Festa)
<p>I. HANNIKAINEN Might-counterfactuals and the principle of conditional excluded middle</p> <p>P. MAFFEZIOLI, S. NEGRI A Gentzen-style analysis of Public Announcement Logic</p> <p>R. BRUNI, P. SCHUSTER On Beppo Levi's Approximation Principle</p>	<p>C. BROZZO Action (goals) in (the content of) perception</p> <p>F. BACCHINI Mental causality: a defence</p> <p>E. TALPSEPP Psychological essentialism vs. evolutionary theory. Introducing different notions of 'essence'</p>	<p>C. CALOSI Persistence and Change in Minkowski Spacetime</p> <p>G. USTORI Gödel and transcendental phenomenology</p> <p>F. STERPETTI On constructivism and bottom-up conception of mathematics</p>	<p>T. NUMERICO John von Neumann: doubts on mathematical rigor and on digital representation</p> <p>G. GHERARDI Alan Turing and the foundations of computable analysis</p> <p>K. KRZYZANOWSKA Belief ascription and the Ramsey Test</p>	<p>L. TAMBOLO The Verisimilitudinarian versus the Epistemic Approach to Scientific Progress</p> <p>A. BORGHINI, M. NATHAN Diachronic identity in biology and philosophy</p>	<p>D. RIZZA Applied mathematics in social choice theory</p> <p>G. LO DICO The puzzle of verbal reports in cognitive psychology</p>

12.45 – 14.30: Break

THURSDAY 16 DECEMBER 2010 (follows)

14.30 – 16.15: Parallel Sessions

LOGIC AND APPLICATIONS 5 (Chair: M. D'Agostino, R. Giuntini)	PHILOSOPHY OF BIOLOGY AND COGNITIVE SCIENCES 5 (Chair: G. Bocchi, G. Boniolo)	PHILOS. OF PHYSICAL AND MATHEMATICAL SCIENCES 5 (Chair: M. Dorato, G. Tamburrini)	EPISTEMOLOGY AND THE HISTORY OF SCIENCE 5 (Chair: E. Giannetto, S. Gozzano)	METHODOLOGY AND PHILOSOPHY OF SCIENCE 5 (Chair: M. Buzzoni, E. Fano)	EPISTEMOLOGY OF SOCIAL SCIENCES 5 (Chair: E. Di Nuoscio, R. Festa)
<p>D. D'ALFONSO Generalized Quantifiers: Logic and natural language</p> <p>J. BRENNER The Logic of Change</p> <p>L. TESCONI Towards an isomorphism with natural deduction: a labelled sequent calculus</p> <p>L. PAVONE Countermeasures for Barcan formulas</p> <p>C. CROSS Conclusive Reasons and Epistemic Closure</p>	<p>B. SWIATCZAK Ontological autonomy of biological states</p> <p>A. SOJIC Explanatory role of the classificatory units in clinical and biomedical knowledge representation</p> <p>F. ERVAS, T. ZALLA The role of "Naïve Sociology" in ironic vs. literal utterances understanding</p> <p>E. SERRELLI Models in philosophy of biology: a pragmatic approach</p> <p>B. SCHMIETOW Against Life as a natural kind - a historical and epistemological analogy</p>	<p>A. MELAS A common cause model for quantum co-relations</p> <p>G. TARZIU pure versus applied mathematics</p> <p>G. TORRENGO Time travel, individuals, and the space-time-actuality manifold</p> <p>A. DRAGO The birth of the non-euclidean geometries as the more significant crisis in the foundations of modern mathematics</p>	<p>S. RIVARA Truth in predication?</p> <p>S. D'AGOSTINO, The original Schroedinger's paper on the poor cat's paradoxical situation</p> <p>M. FORTINO Physics and Metaphysics in Pierre Duhem</p> <p>M. MARIANI, E. MORICONI Negation and quantification in Leibniz</p> <p>M. ALAI A partially externalist notion of justification as a solution to Gettier's problem</p>	<p>S. JAYADEVAN Is 'Being' is dependent on 'Describing'? an entity realist perspective on internal realism.</p> <p>D. PORTIDES, A. RAFTOPOULOS representation and explanatory power</p> <p>A. M. NOUNOU, F. A. MULLER Scientific understanding without explanation: A proposal based on five models of the solar system</p>	<p>F. DI IORIO Hayek and Merleau-Ponty on mind and action</p> <p>G. CEVOLANI Hayek in the lab. Austrian School, game theory, and experimental economics</p> <p>R. GIOVAGNOLI Analytic pragmatism, artificial intelligence and religious beliefs</p>

16.15 – 16.45: Coffee Break

THURSDAY 16 DECEMBER 2010 (follows)

16.45 – 19.00: Parallel Sessions					
LOGIC AND APPLICATIONS 6 (Chair: M. D'Agostino, R. Giuntini)	PHILOSOPHY OF BIOLOGY AND COGNITIVE SCIENCES 6 (Chair: G. Bocchi, G. Boniolo)	PHILOS. OF PHYSICAL AND MATHEMATICAL SCIENCES 6 (Chair: M. Dorato, G. Tamburrini)	EPISTEMOLOGY AND THE HISTORY OF SCIENCE 6 (Chair: E. Giannetto, S. Gozzano)	METHODOLOGY AND PHILOSOPHY OF SCIENCE 6 (Chair: M. Buzzoni, E. Fano)	PHILOSOPHY OF BIOLOGY AND COGNITIVE SCIENCES 6 BIS (Chair: G. Bocchi, G. Boniolo)
<p>M. FEDEL, H. HOSNI, F. MONTAGNA Probabilistic reasoning about second order probability: A logical characterization</p> <p>J. PITT, H. CARR, M. D'AGOSTINO Resource-bounded reasoning about resource allocation policies</p> <p>G. CONTE Structures for classical objects in categorial semantics for quantum information flow</p> <p>M. CARRARA, S. GAIO, E. MARTINO How dialetheism avoids trivialism</p> <p>F. POGGIOLESI Analytic logic of proofs</p> <p>D. PROVIJN Relevance, anomaly and heuristics in the generation of abductive explanations.</p>	<p>L. DEL SAVIO Life as a natural kind</p> <p>M. TACCA Does structure matter for content?</p> <p>P. GRAZIANI How subtle are gödelian arguments?</p> <p>L. BICH, M. MOSSIO On the Role of Constraints in the Emergence of Biological Organization</p> <p>P.-L. GERMAIN The conditions for epistemic emergence in biomedical sciences</p> <p>L. BARLASSINA Simulation is not enough. A hybrid model of disgust attribution</p>	<p>M. FARR The Role of the Metaphysics of Time Direction in the Past Hypothesis</p> <p>F. BOCCUNI Sheep Without SOL: The Case of Second-Order Logic</p> <p>R. DISALLE Explanation, explication, and interpretation of space-time theories</p> <p>D. CHRISTOPOULU On a double aspect of natural numbers as universals and objects</p> <p>C. MAZZOLA Becoming and the Algebra of Time information</p> <p>G. DOMENECH, H. FREYTES, C. DE RONDE The notion of possibility in the modal and many worlds interpretation of quantum mechanics</p>	<p>D. CRIPPA Solving or Dissolving Problems? Two case studies from the History of Mathematics</p> <p>L. BAZZOCCHI Contro l'interpretazione acrobatica della scala di Wittgenstein</p> <p>S. KOJMAN-ROZEN Changes in the Perception of Time in Victorian Scientific Theories: Lyell, Darwin and Maxwell</p> <p>E. LUCIANO I contributi di G. Vacca alla storiografia della Logica</p> <p>A. ROSSI René Thom: forms, catastrophes and complexity</p>	<p>E. SACCHI Can emergentism account for novelty in a strong ontological sense?</p> <p>M. IVANOVA Can theory virtues solve the problem of theory choice?</p> <p>W. DEMOPOULOS Extending "empiricism, semantic and ontology" to the realism-instrumentalism controversy</p>	<p>T. BRUNI Cross culturality and FMRI: why we should stop using the university student as a model organism</p> <p>C. NARDINI The role of quantitative experiments in contemporary biology</p> <p>M. CAPPuccio Handling with Symbols. Joint Attention and the Extended Mind</p> <p>L.D. DI PAOLO Environmental pressures and building of environment</p> <p>E. DATTERI Spiegazione, leggi e modelli nelle neuroscienze: un caso di studio information</p> <p>L. LORUSSO New meanings of old concepts: the case of common ancestry</p>

20.30: Social Dinner

FRIDAY 17 DECEMBER 2010

9.00 – 10.00: Plenary Session 5: Amit Hagar, *Counting steps: a new, finitist, and objective interpretation of probability in physics*

10.15 – 11.30: Parallel Sessions

LOGIC AND APPLICATIONS 7 (Chair: M. D'Agostino, R.Giuntini)	PHILOSOPHY OF BIOLOGY AND COGNITIVE SCIENCES 7 (Chair: G. Bocchi, G. Boniolo)	PHILOS. OF PHYSICAL AND MATHEMATICAL SCIENCES 7 (Chair: M. Dorato, G. Tamburrini)	EPISTEMOLOGY AND THE HISTORY OF SCIENCE 7 (Chair: E. Giannetto, S. Gozzano)	METHODOLOGY AND PHILOSOPHY OF SCIENCE 7 (Chair: M. Buzzoni, E. Fano)	EPISTEMOLOGY OF SOCIAL SCIENCES 7 (Chair: E. Di Nuoscio, R. Festa)
<p>S. L. UCKELMAN Reasoning about obligations: meta-disputational reasoning in medieval <i>Obligationes</i> treatises</p> <p>M. PANZARELLA Semantic game-theory, independent logic and ethical sentences</p> <p>A. MURA Towards a new logic of indicative conditionals</p>	<p>P. MAUGERI, A. BLASIMME Causal analogue models: dealing with disease causation in empirical ways</p> <p>E. CIANCI The role of visualization in the construction of biotechnological knowledge</p> <p>F. GROSS The limits of mechanistic explanation in molecular biology</p>	<p>B. LARVOR What can Toulmin teach us about mathematical inferences?</p> <p>A. CIAUNICA Higher- and Lower-Level Phenomena: a Nonhierarchical Approach to Fundamental Properties</p> <p>M. ESKANDARI Causal Interpretation of Quantum Mechanics in Kuhn's Paradigm</p>	<p>G. FORMICA Almost von Neumann, definitely Gödel. The 2nd Incompleteness Theorem's early story</p> <p>B. THALIATH Nature of spatial intuitions in early modern mechanics and optics</p> <p>S. ZAPPOLI Benedetto Croce's Theory of Science</p>	<p>M. C. AMORETTI, N. VASSALLO Scientific knowledge: situatedness and intersubjectivity without standpoints</p> <p>B. NANAY Singularist semirealism</p> <p>A. ABERDEIN Francis Bacon, prerogative instances, and argumentation schemes</p>	<p>C. MARTINI The role of experts in the methodology of economics</p> <p>N. GAJ Clinical psychology and its methodological roots: between monism and dualism</p>

11.30 – 12.00: Coffee Break

12.00 – 13.00: Parallel Sessions

LOGIC AND APPLICATIONS 8 (Chair: M. D'Agostino, R.Giuntini)	PHILOSOPHY OF BIOLOGY AND COGNITIVE SCIENCES 8 (Chair: G. Bocchi, G. Boniolo)	PHILOS. OF PHYSICAL AND MATHEMATICAL SCIENCES 8 (Chair: M. Dorato, G. Tamburrini)	EPISTEMOLOGY AND THE HISTORY OF SCIENCE 8 (Chair: E. Giannetto, S. Gozzano)	METHODOLOGY AND PHILOSOPHY OF SCIENCE 8 (Chair: M. Buzzoni, E. Fano)	EPISTEMOLOGY OF SOCIAL SCIENCES 8 (Chair: E. Di Nuoscio, R. Festa)
<p>M. BIANCHETTI Logical consequence and variation</p> <p>L.FATIGATO Fuzzy logic and the meaning of Aristotelian principles</p> <p>R. CIUNI, C. PROIETTI The abundance of the future: a paraconsistent approach to temporal logic and indeterminism.</p>	<p>M. BENZI Medical diagnosis and actual causation</p> <p>S. GIAIMO The antagonistic peyotropy theory of ageing</p> <p>M. FASOLI On the relations between binding-problem and consciousness</p>	<p>L. FELLINE Scientific Explanation between Principle and Constructive theories</p> <p>M. COMETTO The riemannian turn in the conception of space</p>	<p>L. GUZZARDI How models "can serve two masters": Schiaparelli's geometric theory of evolution</p> <p>E. BOUGLEUX, When the observer becomes an actor</p> <p>M. TOSCANO Poincaré and determinism</p>	<p>A.VOLPONE The problem of induction in the light of contemporary Cognitivism</p> <p>A. CEI The Epistemic Structural Realist Program on scientific changes. Some interference</p> <p>E. DI BONA what Mary learns: phenomenal concept and abilities</p>	<p>D: TAGLIAFICO Can we really speak of "pretend desires"?</p> <p>A. BONCOMPAGNI From the ground to the background. Forms of life as "the given" in Wittgenstein</p>

13.00 – 15.00: Break

FRIDAY 17 DECEMBER 2010 (follows)

15.00 – 16.30: Round Panel “SCIENCE AND DEMOCRACY”

Opening: Prof. Mauro Ceruti (President of SILFS)

Chair: Prof. Gianluca Bocchi (University of Bergamo)

Panel Discussant: Prof.ssa Maria Luisa Dalla Chiara (University of Florence)
Prof. Giulio Giorello (University of Milan)
Prof. Silvano Tagliagambe (University of Sassari)

16.30 – 17.00: Break

17.00 – 18.30: Round Panel “EDUCATION AND INNOVATION”

Chair: Prof. Stefano Paleari (Rector, University of Bergamo)

Panel Discussant: Prof. Giovanni Boniolo (University of Milan, IFOM)
Prof. Alberto De Toni (University of Udine)
Dott. Alberto Meomartini (Presidente of Assolombarda)
Dott.ssa Livia Pomodoro (President of the Law Court of Milan)
Prof. Giovanni Puglisi (Rector, IULM University IULM - Milan)

Closure: Prof. Mauro Ceruti (President of SILFS)

18.30: End of the Congress