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Biography

- 1945: Born in Palermo (Italy).
- 1970: Laurea Degree in Physics from Università di Milano.
- 1970-1976: Scientific Consultant for R&D Labs. of Honeywell Information Systems Italia.
- 1976-1985: Head of Software Methodologies Unit for R&D Labs. of Italtel Società Italiana Telecomunicazioni.
- 1982-84: Member of the board of European experts for the definition of the research programs JEPE-IT/ESPRIT (Joint European Planning Exercise - Information Technology / European Strategic Programme for Research and Development in Information Technology) and PET-RACE (Planning Exercise in Telecommunications - Research and Development in Advanced Communications Technologies in Europe).
- 1974-1985: Adjunct Professor, Faculty of Sciences of University of Milan.
- 1985-2000: Associate Professor (1985-1998 University of Milan and 1998-2000 University of Insubria).
- 1985-1998: Founder and director of the Logic Programming Lab. at the Computer Science Dept. of University of Milan.
- 1990-91: Coordinator for University of Milan of a European PIC ERASMUS in Artificial Intelligence.
- 1994-98 Coordinator of the SOCRATES program for the Computer Science Degree at University of Milan.
- 1995-1998: Coordinator of University of Milan participation to the european consortium of project THAlland (Telematics, Hypermedia and Artificial Intelligence) funded within the SOCRATES programme, for the definition of a European Master curriculum in Telemedia Studies.
- 2000-today: Member of the Board of the Computer Science PhD program of University of Milan.
- 2000-today University of Insubria at Varese.
- 1999-today: Founder and president of the European Association "New European Occupations in Culture and Computers".
- 2001-today: Founder and member of the board of the "Istituto di Studi Superiori dell'Insubria Gerolamo Cardano".
- Author of about a hundred of scientific publications in national and international journals and conferences in Computer Science and Artificial Intelligence.
- Participant and coordinator of several national and international research projects.

- Referee for many international journals and conferences and member of several Programme Committee of international conferences.

Research interests

Main research interests (in the last 15 years) in Artificial Intelligence with particular reference to:

1) Knowledge representation and automated reasoning

Introduction into logic programming languages of reflection principles for representing meta-knowledge and meta-reasoning (the term "metallogic programming" has been introduced by his papers). Definition of a metallogic programming language, named Reflective Prolog, able to express within first-order logic higher-order features and rules used to dynamically reflect the computation from object- to meta-level and vice versa. Reflective Prolog programs have a logic semantics based on reflective Herbrand models and an operational semantics based on an extension of SLD resolution, proved sound and complete.

2) Non standard forms of inferences

Starting from the semantics of the developed metallogic languages with non monotonic negation, several non-standard forms of reasoning have been investigated, such as non monotonic reasoning, reasoning with agents, inductive reasoning, temporal reasoning, analogical reasoning. The first formalization of analogical reasoning in logic programming has been introduced by his papers. Results from this research work have been applied to several domains, especially to legal reasoning

3) Epistemology and Ethics of Computer Science

Based on the above-mentioned scientific research results, the approach is to study the epistemological implications of self-reference with reflection as recursion through levels of languages and theories. The aim is twofold: a) in the artificial intelligence setting, to mimic the human intelligence capabilities with computer programs in as realistic a manner as possible; b) in the philosophy of science setting, to explore a third way between the approach of leaving different levels of abstraction completely separated and the 'reductionist' approach of substituting higher level propositions for lower level propositions.

Teaching experience and appointments

Currently teaching the courses of: a) Computational Logic II; b) Epistemology, ethics and deontology of Informatics; c) Intelligent Systems I (module A).

- 1998-2002 Promoter and coordinator of the undergraduate degree in Computer Science.

- 2000-2002 Promoter and coordinator of the undergraduate degree in Communication Sciences.

- 2000-2004: Founder and director of the "Interactive Informatics Research Center".

- 2000-2004 Rector's Delegate for Informatics, Communication and Technological Innovation.

- 2002-2004: Coordinator of the Board of Departments' Directors and

member of the University Senate.

- 2002-today: Founder and director of Dipartimento di Informatica e Comunicazione (Department of Computer and Information Sciences).

- Coordinator of the PhD program in Computer Science.

- Member of the Scientific Committee of Insubria University Press.

Representative publications

Costantini S., Lanzarone G.A., Metalevel Representation of Analogical Inference, in: Ardizzone E., Gaglio S., Sorbello F., (editors), "Trends e Artificial Intelligence", Lecture Notes in Artificial Intelligence n. 549, Springer-Verlag, 1991, 460-464.

Costantini S., Lanzarone G.A., On Procedural Semantics of Metalevel Negation, in: Voronkov A. (editor), Procs. 1st and 2nd Russian Conference on Logic Programming, Lecture Notes in Artificial Intelligence n. 592, Springer-Verlag 1992, 140-151.

Costantini S., Lanzarone G.A., Analogical Reasoning In Reflective Prolog, in: Martino A. (editor), Expert Systems in Law, Elsevier Science Publishers, 1992, 133-145.

Costantini S., Dell'Acqua P., Lanzarone G.A., Reflective Agents in Metalogic Programming, in: Pettorossi A. (editor), Meta-programming in Logic, Lecture Notes in Computer Science n. 649, Springer-Verlag 1992, 135-147.

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Costantini S., Lanzarone G.A., A Metalogic Programming Approach: Language, Semantics and Applications, International Journal of Experimental and Theoretical Artificial Intelligence, 6, 1994, 239-287.

Costantini S., Lanzarone G.A., Provetti A., Reification, Reflection and Ontological Promiscuity in Temporal Reasoning, in: Guarino N., Poli R. (eds.), International Workshop on Formal Ontology in Conceptual Analysis and Knowledge Representation, Padova March 17-19 1993, 159-164.

Barklund J., Costantini S., Dell'Acqua P., Lanzarone G.A., Reflection Through Constraint Satisfaction, in: Van Hentenrick P. (ed.), Logic Programming, Procs. Eleventh Int. Conf., MIT Press, 1994, 742.

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Bertarello S., Costantini S., Lanzarone G.A., Extending Explanation-Based Generalization with Metalogic Programming, in: Alpuente M., Barbuti R., Ramos I. (Eds.), Procs. GULP-PRODE Joint Conference on Declarative Programming, Peniscola (Spain), Sept. 19-22, 1994, vol. II,

16-31.

Barklund J., Costantini S., Dell'Acqua P., Lanzarone G.A., SLD-Resolution with Reflection, in: Bruynooghe M. (ed.), Logic Programming - Procs. 1994 International Symposium, MIT Press, 1994, 554-568.

Costantini S., Lanzarone G.A., Static Semantics as Program Transformation and Well-Founded Computation, in: Dix J., Pereira L.M., Przymusiński T.C. (eds.), Non-Monotonic Extensions of Logic Programming, Lecture Notes in Artificial Intelligence n. 927, Springer-Verlag, 1995, 156-180.

Lanzarone G.A., Metalogic Programming, in: M.I. Sessa (ed.), "Ten Years of Logic Programming in Italy, 1985-1995", Palladio 1995, 29-70.

Barklund J., Costantini S., Dell'Acqua P., Lanzarone G.A., Semantical Properties of Encodings in Logic Programming, in: J. Lloyd (ed.), Logic Programming, Procs. of the 1995 International Symposium, Portland (Oregon) Dec. 1995, MIT Press, 1995, 288-302.

Costantini S., Lanzarone G.A., Sbarbaro L., A Formal Definition and a Sound Implementation of Analogical Reasoning in Logic Programming, Annals of Mathematics and Artificial Intelligence, 14, 1995, 17-36.

Costantini S., Lanzarone G.A., Explanation-Based Interpretation of Open-Textured Concepts in Logical Models of Legislation, Artificial Intelligence and Law, vol.3, n.3, 1995, 191-208.

Costantini S., Lanzarone G.A., Magliocco, Asserting Lemmas in the Stable Model Semantics, in: M. Maher (ed.), Logic Programming, Procs. of the 1996 Joint International Conference and Symposium, MIT Press 1996, 438-452.

Barklund J., Costantini S., Dell'Acqua P., Lanzarone G.A., Metareasoning Agents for Query-Answering Systems, in: Andreassen T., Christiansen H., Larsen H.L., (eds.), Flexible Query-Answering Systems, Kluwer Academic Publ. 1997.

Balduccini M., Lanzarone G.A., Autonomous semi-reactive agent design based on incremental inductive learning in logic programming, in: van der Hoek W., Lesperance Y., Scherl R. (eds.), Logical Approaches to Agent Modelling and Design, Procs of the ESSLLI'97 Symposium, Aix-en-Provence (France), August 18-22, 1997, 1-12.

Lanzarone G.A., Proveti A., Processing Temporal and Atemporal Declarative Knowledge in Metalogic Programming, in: APPIA-GULP-PRODE '98 Joint Conference on Declarative Programming, A Coruna, Spain, July 20-23, 1998, 201-214.

Bandini S., Lanzarone G.A., Valpiani A, Revisiting the Mental Models Theory in Terms of Computational Models Based on Constructive Induction, in: Rini S., Poletti G. (eds), MBR'98 Conference "Model-Based Reasoning in Scientific Discovery", Pavia (Italy) Dec. 17-19, 1998, 7-9.

Balduccini M., Brignoli G., Lanzarone G.A., Magni F., Provetto A.,
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F.J. (eds.), Advances in Artificial Intelligence, Lecture Notes in
Computer Science n. 1793, Springer-Verlag, 2000, 95-107.

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Computation, volume 10, issue 6, dec. 2000, pp. 743-786, Oxford
University Press.

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Recognition using Cognitive Pyramids, in: Binaghi E., Serpico S. B.,
Brivio P.A. (editors.), Geospatial Pattern Recognition, Research
Signpost, 2002, pp. 87-103.

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Applications, in: L. Cyrus, H. Feddes, F. Schumacher, P. Steiner
(editors.), Language between Theory and Technology, The Deutscher
Universitaets-Verlag, Jan. 2003, pp. 123-134.