

Marco Cadoli Meeting

Introduction

Maurizio Lenzerini

AI*IA 2007, 12 settembre 2007

Marco entrò nella mia stanza dell'ufficio in via Buonarroti poco più di diciotto anni fa per chiedermi la tesi, con la sua educazione, la sua figura elegante, il suo sguardo limpido, e la sua intelligenza prorompente.....

Roma, 21/11/2006

Marco Cadoli

(5/12/1965 – 21/11/2006)

Outstanding contributions in Artificial Intelligence and other areas, in particular in Knowledge Representation and Reasoning



- Method
 - formalization (**logic**)
 - study of formal properties (**complexity**)
 - searching for effective solutions (**algorithms**)

Master thesis

1989 – Master thesis in Computer Engineering: “Il ragionamento nonmonotono nella rappresentazione della conoscenza”, Università di Roma La Sapienza

[Ai miei genitori Giuseppe and Adua]

Main theme of Marco's research

How to deal with intractability in knowledge representation and automated reasoning

Research areas

- **Artificial Intelligence**
 - Reasoning: Algorithms and complexity
 - Knowledge compilation
 - Approximate reasoning
 - Constraint programming and constraint modeling language
 - Quantified Boolean Formulae: Solvers and experiments
 - Agents and negotiation
- **Data and Knowledge Bases**
 - Query languages
 - Revision and update
- **Software Engineering**
 - Programming methodologies and techniques
 - Executable specification languages
 - Software development tools
- **Theoretical Computer Science**
 - Preprocessing and space efficiency
 - Computational complexity

1989 – 1992

1989 – PhD student at La Sapienza

1989 – First conference participation: AI*IA, Trento 1989

1990 – M. Cadoli, M. Lenzerini. “The Complexity of Closed World Reasoning and Circumscription”. AAAI 1990

1990 – AI*IA and GULP Master thesis award

1991,1992 – Visiting Stanford University

1992 – M. Cadoli, “The Complexity of Model Checking for Circumscriptive Formulae”. Information Processing Letters 44(3)

1992 – M. Cadoli, T. Eiter, G. Gottlob, “An Efficient Method for Eliminating Varying Predicates from a Circumscription”. Artificial Intelligence 54(2)

1992 – PhD thesis: “Two methods for tractable reasoning in Artificial Intelligence: language restriction and theory approximation”

1993 – 1995

1993 – Ricercatore (Assistant professor) at “La Sapienza”

1993 – M. Cadoli, M. Schaerf. “A Survey of Complexity Results for Nonmonotonic Logics”. J. Log. Program. 17(2/3&4)

1994 – M. Cadoli, M. Lenzerini. “The Complexity of Propositional Closed World Reasoning and Circumscription”. J. Comput. Syst. Sci. 48(2)

1994 – M. Cadoli, M. Schaerf. “Approximate Inference in Default Logic and Circumscription”. Fundam. Inform. 23(1)

1995 – PhD thesis publication: “Tractable reasoning in Artificial Intelligence”, LNAI, Springer-Verlag

[To my parents Giuseppe and Adua]

1995 – M. Schaerf, M. Cadoli. “Tractable Reasoning via Approximation”. Artif. Intell. 74(2)

1995 – *“Nice to meet you. You work with Marco Cadoli ...”*

1996 – 1997

1996 – M. Cadoli, F. M. Donini, M. Schaerf. “Is Intractability of Nonmonotonic Reasoning a Real Drawback?” *Artif. Intell.* 88(1-2)

1997 – M. Cadoli, F. M. Donini, Marco Schaerf, R. Silvestri. “On Compact Representations of Propositional Circumscription”. *Theor. Comput. Sci.* 182(1-2)

Next talk: Francesco M. Donini, “Compilability and space efficiency in Knowledge Representation – A retrospective”

1997 – Coordinator of the AI*IA Working Group on Knowledge Representation and Automated Reasoning (until 2006)

1997 – M. Cadoli, M. Lenzerini, P. Naggar, A. Schaerf. “Fondamenti della progettazione dei programmi”, CittàStudi Edizioni

[A Michele]

1998 – 2000

1998 – M. Cadoli, M. Lenzerini, E. Panizzi, A. Schaerf. “Esercizi di progettazione dei programmi in C++”, CittàStudi Edizioni

[A Laura]

1998 – Associate professor at “La Sapienza”

1999 – AI*IA Young research award

1999 – M. Cadoli, F. M. Donini, P. Liberatore, M. Schaerf. “The Size of a Revised Knowledge Base”. Artif. Intell. 115(1)

2000 – A. Schaerf, M. Cadoli, M. Lenzerini. “LOCAL++: A C++ framework for local search algorithms”. Softw. Pract. Exper. 30(3)

2000 – M. Cadoli, G. Ianni, L. Palopoli, A. Schaerf, D. Vasile. “NP-SPEC: an executable specification language for solving all problems in NP”. Comput. Lang. 26(2-4)

2001 - 2007

2001 – First PhD student: Toni Mancini

2002 – Full professor at “La Sapienza”

2002 – Phokion Kolaitis’ invited talk at LICS based on Marco’s work

2003 – M. Cadoli. “Proposal-based negotiation in convex regions”. Cooperative Information Agents (CIA 2003)

2006 – Last conference participation: ISMIS 2006, Bari

2007 – M. Cadoli, D. Calvanese, G. De Giacomo, T. Mancini. “Finite Model Reasoning on UML Class Diagrams Via Constraint Programming”. AI*IA 2007

2007 – T. Mancini and M. Cadoli. “Exploiting functional dependencies in declarative problem specifications”. Artif. Intell. To appear.

Marco Cadoli

(5/12/1965 – 21/11/2006)

I was deeply saddened to learn that Marco died yesterday. I looked at his web page and again saw this young, intelligent and handsome man whose work I admired. I looked over his vitae and was again impressed by the research he contributed to the computational logic community.

Marco was indeed a brilliant researcher, a wonderful person and an invaluable friend. Please give my condolences to Marco's family and to your colleagues who had the pleasure of working with this wonderful person. It is a deep loss to the entire scientific community to lose this decent person and outstanding researcher.

Jack Minker

November 22, 2006

