

CURRICULUM VITAE

Guido Caldarelli, MPhil, PhD

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• EDUCATION

24/10/1996 PHD IN PHYSICS, THEORY OF CONDENSED MATTER, final marks of *laude* at the International School for Advanced Studies (ISAS), Trieste (Italy).
“From Self-Organized Criticality to Pattern Formation: Theoretical Aspects, Occurrence in Nature”. Supervisors: Prof. A. Maritan, A. Stella

14/10/1994 MPhil in Physics, Theory of Condensed Matter, final marks *30/30 cum laude* at the International School for Advanced Studies (ISAS), Trieste (Italy).
“Boundary and Memory Effects in Models with Self-Organized Criticality”
Supervisor: Prof. A. Stella

16/07/1992 GRADUATION IN PHYSICS, final marks *110/110 cum laude* at University “La Sapienza”, Rome.
“The Origin of Scale Invariance in Continuous Media Breakdown”.
Supervisor: Prof. L. Pietronero

1985 CLASSICAL HIGH SCHOOL DIPLOMA, final marks *60/60*, at Liceo Classico “L. Manara”, Rome.

• EMPLOYMENT

2005-2006 Visiting Professor at École Normale Supérieure Paris, funded by City of Paris fellowship

2004 - Associate Professor INFN-CNR at Department of Physics University of Rome “La Sapienza” and Istituto Sistemi Complessi CNR.

2003 - Fellow of Centro Studi e Ricerche e Museo della Fisica “Enrico Fermi” Rome.

1998- 2004 INFN Lecturer at the Department of Physics University of Rome “La Sapienza”

1997-1998 Research Assistant at the Theory of Condensed Matter (TCM) Group, Cavendish Laboratory University of Cambridge (UK).

1996-1997 Research Assistant at the Department of Theoretical Physics, University of Manchester (UK).

1996 Visiting Researcher at the Department of Theoretical Physics, University of Fribourg (Switzerland).

• GRANTS AND RESEARCH PROJECTS

- 2005-2008** Submitted application for Coordination of FET-Open Project.
Response due in December,
title of project ECOSIN (Evaluation of Communities in Social Networks)
- 2004-2008** Participant to IST Integrated Project “DELIS”
Dynamically Evolving Large-scale Information Systems
- 2002-2005** Coordinator of the European Commission FET project “COSIN”
Co-evolution and Self-Organization in Dynamical Networks <http://www.cosin.org>
- 2002-2004** Scientific coordinator of INFMeeting project PAIS on statistical properties of Mars surface.
- 2001-2004** Participant to European Commission FET Network of Excellence “EXYSTENCE”

• LECTURES, SUPERVISION AND SCIENTIFIC ACTIVITY

- 2004-2005** Teacher of PhD course on Networks, Dep. of Physics, Università “La Sapienza” Rome
- 2003-2006** Coordinator of the Project on Complexity at Centro Studi e Ricerche “E. Fermi” Rome
- 2003** Lecturer of PhD course on Growing Networks, “Troisieme cycle de Physique en la Suisse Romande”, Lausanne (Switzerland).
- 2003** Organizer of a conference on Growing network September 2003 Rome.
Editor of the thematic special issue on European Physical Journal B.
- 2001** Organizer of satellite to StatPhys 21 on Fractal Phenomena and SOC, l'Habana, Cuba.
- 2001** Local Organizer of INFMeeting 2001, National Conference of Condensed Matter Physics, Rome.
- 1999** PhD course on Fractals in Department of Physics “La Sapienza” Rome, Italy.
- 1999-** Supervising several students for their degree and PhD (A. Parisi, M. Felici, S. Ciliberti, R. Marchetti, D. Garlaschelli, F. Squartini, S. Triglia, C. Caretta, A. Capocci, M. Catanzaro)

• PRESS RELEASE

- Punti di Contatto *Quark*, **35** 2003
- Sarà la Fisica a salvare le grandi reti, *Il Sole-24 ore* 18 December 2003
- C'è un filo rosso che unisce tutto il pianeta, *@lfa-Il Sole-24 ore* 11 September 2003
- Prediction: a game of chance *Nature* **419**, 787, 24 October 2002.
- Scienza in Spiaggia, *Focus* **120**, Ottobre 2002.
- The Physics of the Trading Floor, *Nature*, **415**, 3 January 2002.
- Fire Spread Looks Fractal, *Nature News and Views*, 13 August 2001.
- Una ricetta per essere felici, *Corriere del Ticino*, 22 March 2001.
- Kalkuliertes Eheglück, *Die Zeit*, **52**, 2000.
- La formula dell'amore, *Galileo*, 25 November 2000.
- Why beautiful people create ugly mood, *The Daily Telegraph*, p. 3 26 October 2000.
- Look's aren't everything say scientists, *The Times*, p. 8, 26 October 2000.
- What's love got to do with it?, *New Scientist*, **2262**, 38 2000.
- Speculative Trading: Physicists' Forays into Finance, *Europhysics News*, **29**, 4 1998.
- In the Money, *New Scientist* **2111**, 21, 6/12/1997.
- Greed drives Market, *The Times Higher Education Supplement* **1305**, 4, 7/11/1997.
- Stock market “steered by greed”, *Electronic Telegraph*, **880** 21/10/1997.
- Boom to Bust, *New Scientist* **2104**, 12, 18/10/1997.

RADIO AND TV BROADCASTS

- Explora Rai EDU 7/04/2003
- Night Program, BBC Asian network, 28/10/2000
- Physicist's look, BBC 2 live show, 27/10/2000
- What's love got to do with it?, BBC 1 27/10/2000
- Forum on Finance, BBC 2 live, 19/10/1996

• INVITED TALKS

- Lecturer of school on Complex Networks, ICTP Trieste May 2005.
- River networks (Application of Fractals, celebration of B. Mandelbrot 80th birthday, Trieste 18/11/2004)
- Statistical properties of shareholding networks (3rd NIKKEI Conference, Tokyo 11/11/2004)
- Growing Network in Social Systems (Statistical Physics National Conference, Parma 22/06/04).
- Statistical properties of taxonomy trees (workshop on Scaling in Ecology, Santa Fé 19/02/04).
- Models for Growing Networks (School on Protein Interaction Networks, Bologna 10/02/04).
- Statistical Physics of Growing Networks (Geneve 19/11/03)
- Statistical Properties of Financial Networks
(Invited session, 23rd annual International conference CNLS, Los Alamos 14/05/03).
- Energy flow in Food Webs (Invited Session, March meeting APS Austin, 05/03/03)
- Introduction to Complex Networks (VII Conference on Computational Physics, Granada 10/09/02).
- Network Properties in Food Webs
(XVIII SITGES Conference "Statistical Mechanics of Complex Networks, Sitges 14/06/02).
- Graph Theory of Growing Networks (Seminaires de Physique Statistique, EPFL Lausanne 18/03/2002)
- A model for Growing Networks (Satellite to StatPhys 21, l'Habana 24/07/01).
- The Fractal Structure of Internet (London School of Economics, London 13/10/00).
- The Fractal Structure of Internet (Workshop on Computational Physics, Granada 07/09/00).
- The CAPM model, a numerical study on Portfolio choices (Workshop on Finance, ICTP Trieste 02/09/00).
- A numerical study on Portfolio choices (Computing in Economics and Finance, Barcelona 08/07/00).
- The fractal Structure of Internet (Statistical Physics National Conference, Parma 21/06/00).
- Self similar properties of brittle fractures (Workshop on SOC, ICTP Trieste 03/03/00).
- Segregation and Minimisation in Granular Media. (INFM Workshop on Granular Media, Pisa 24/10/98).
- Statistical mechanics of river networks (Statistical Physics National Conference, Parma 24/06/96).
- SOC model for river networks (workshop on Disordered Systems, Villa Gualino, 22/10/95).
- Fixed scale transformation for fractures (Statistical Mechanics Conference, Trieste 15/03/95).

In addition about 20 talks have been given in various conferences among which STATPHYS 20, STATPHYS 21 and National Statistical Physics Conferences in Parma

• CITATIONS

- **67** *Europhys. Lett.* 40 479 (1997)
- **60** *Europhys Lett.* 52 386 (2000)
- **47** *Phys. Rev. Lett.* 89 2673 (2002)
- **35** *Phys. Rev. Lett.* 77 2503 (1996)
- **31** *Phys. A* 245 423 (1997)
- **30** *J. Theor. Biol.* 193 345 (1998)
- **28** *Nature* 423 165 (2003)
- **25** *Phys. Rev. E* 55 R4865 (1997)
- **21** *Phys. Rev. E* 62 8449 (2000)
- **19** *Phys. Rev. E* 49 2673 (1994)
- **16** *Phys. Rev. E* 52 72 (1995)
- **10** *Europhys. Lett.* 35 481 (1996)

The total number of citations since 1994 is more than 450