Prof.ssa Elisabetta Paladino

Contacts
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Curriculum Vitae

Area of expertise: mesososcopic systems, quantum dissipative systems, quantum computation and quantum control of nanodevices for quantum computation.

Relevant Empolyment and Educational History

Education

14/10/1994 Degree in Physics, at Palermo University, 110/110.
1995 - 1996 CNR fellow at the Physics Institute, Palermo University.
1996 - 1998 Ph.D. in Physics, at the Physics Department of Catania University and at the II Institut fuer Theoretische Physik, Stuttgart (Germany).
1997 - 1998 “Visiting scientist” at the II Institut fuer Theoretische Physik Stuttgart, Germany.
12/4/1999 Doctor's degree in physics cum laude, Catania University. Thesis “Dynamical Aspects of Dissipative Two-State Systems”.

Employment

1999 - 2000 Contract for education and research activities for the Environmental Engineering degree of the University of Catania (seat of Enna).
2001 “Visiting scientist” at the Department of Nanoscience, Delft University of Technology, The Netherlands
2002 - 2004 Post-Doc at the Engineering Faculty, Catania University
2007 “Maitre de Conferences invite” at the l'Universite de Provence (d'Aix-Marseille I), France, invited by Prof. T. Martin.
2004 - 2008 CNR-INFM researcher, (tenure track) at the National Center MATIS INFM-CNR, Catania.
October 2008 Assistant Professor at Catania University, Engineering Faculty.
April 2015 Associate Professor at the Physics and Astronomy Department of Catania University.

Research Interests

Present research interests are quantum dynamics of open systems and quantum control of nanodevices for quantum computation. Research lines are
1) Dynamics and control of nanodevices for quantum computing (since 2001)
2) Noise in mesoscopic devices (since 2006).
3) Quantum mechanics of dissipative systems (since 1996).
4) Quantum correlations in systems formed by few degrees of freedom (1994 - 1996).
The above activities have been done in collaborations with University of Genova (I), SNS Pisa (I), University of Stuttgart (D), TU Delft (NL), University of Marseille (F) and within national and EU projects. She is author of about 80 publications in international peered journals and review articles, one of which published in Rev. Mod. Phys. in 2014. She has given more than 45 oral presentations, 25 invited contributions, 8 invited talks at italian and foreign Universities. The international visibility of

the research activity is confirmed by the invitation to the Nobel Symposium 2009 “Qubits for future quantum computers”, Nobel Symposium 141, May 25-28,2009 in Göteborg, Sweden, presentation title "Advanced quantum control and noise in nanodevices".

Research projects

Since 1997 she collaborated to 13 national and international research projects (5 EU – IST). She has been PI of the Galileo Project 2013 “Mesoscopic detectors' quantum back-action effects in the measurement of coherent nano-devices: fluctuation dissipation relations and finite frequency current cumulants”, in collaboration with Marseille University, Centre de Physique Theorique (Prof. T. Martin). She is scientific coordinator of the “progetto di ricerca di Ateneo” 2008 entitled "Processi Fisico-Chimici su grani".

Research-related public service positions

She is associate researcher at the CNR-IMM UOS Catania (Università) Matis group since 2004, since 2013 she is associate researcher of the INFN. Since 2010 she is partecipates to the PhD commettee in Physics of Catania University.

Other Activities

Meeting organization

° Member of the Advisory board of the next 28th Low Temperature Physics Conference, LT28, Gothenburg, Sweden, 2017.

° Co-organizer of the International Workshop on Nanoscale dynamics, coherence and computation e MCRTN meeting, Catania September 26 - 28 2005.

° Co-organizzer (with T.M. Nieuwenhuizen and M. Grifoni), of the Workshop Hot Topics in Quantum Statistical Physics: q-Thermodynamics, q-Decoherence and q-Motors, August 11 - 16 2003, Lorentz Center - University of Leiden (The Netherlands).

° Co-organizer of the “joint TMR-COST P5 workshop” Mesoscopic Eletronics, Catania, October 17 -19 2002.

° Co-organizer of the 1st TMR/IST Joint Meeting: Dynamics of nanofabricated superconducting circuits - Superconducting Qubits, Catania, September 24 - 26 2000.

Referee assignements

She is referee for Nature Communications, Physical Review Letters, Physical Review B, Physical Review A, New Journal of Physics, Europhysics Letters, Journal of Modern Optics B, Physics Letters A, Physica B, Physica C, Physica E, European Physical Journal, Journal of Applied Physics.

She has been Guest Editor of the New Journal of Physics Special Issue “Quantum dissipation in unconventional environments”, November 2008 (M. Grifoni Editorial Board, E Paladino Guest Editor).

Teaching

Since 2014 she gives the courses on Classical Electromagnetism for Engineering diploma and on “Superconductors” part of the course Semiconductors and Superconductos for the Laurea in Fisica (LM 17). As assistant professor she has given the courses on Classical Electromagnetism for Engineering diploma and on Semicondutors Nanodevices and on Solid-State Electronics for the Master in “Microelectronics Engineering” at Catania University. Since 2002, as external associate to Catania University, she has teached Electromagnetism for the diploma in Electronic Engineering. She collaborated to courses in Classical Mechanics, Thermodynamics and Electromagnetism for the Diploma in Environmental Engineering, Catania University (seat of Enna) (1999-2002). She gave lectures at International Schools and she is co-author of two chapters of the textbook “Introduzione ai Dispositivi Elettronici”, G. Giustolisi e G. Palumbo, (2005) ISBN 88-464-6948-8. She has been invited lecturer at international schools and for Ph.D. programmes.