

**PERSONAL DATA**

**Full name:** Giuseppe Maruccio **Sex:** Male  
**Date and place of birth:** 12 February 1978, Galatina (Lecce, Italy)  
**Marital status:** Married with Adriana Amato  
**Nationality:** Italian

**CONTACT INFORMATION**

**Home address:** 7, via Giuseppe Filippo, 73020 Scorrano (Lecce, Italy)  
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**Current position:** Researcher (FIS/01) at Physics Department, University of Salento (Lecce, Italy)

**Associated to CNR-INFN** (Atto del responsabile CNR-INFN n.685-07, prot. 17790 9-11-07).

**HIGHLIGHT**

**Giuseppe Maruccio** (1978) graduated in Physics (magna cum laude) in 2000 and got his PhD in 2004. In 2005, he worked in Wiesendanger group (Hamburg) on wavefunction mapping by spatially resolved dI/dV images. Back in Lecce in 2006, he is Researcher at the Dept. of Mathematics and Physics and carries out his research at CNR-NANO with main focus on molecular and nano-spintronics, lab on chip, scanning probe microscopy. He was coordinator of the EU project SpiDME on molecular spintronics and successfully granted in other open competitions (FIRB, PRIN and MAE projects), attracting also funds from external sources such as private companies (Ekuberg Pharma s.r.l.). Moreover he participated in writing large scale projects at the Institute level which allowed to buy very advanced instrumentation. In 2010 he was Chair of the International conference "Trends in Spintronics and Nanomagnetism", with the participation of Albert Fert, father of spintronics and Nobel Prize in Physics 2007, and Guest Editor of the conference proceedings (published on J. Physics: Conference Series, Vol. 292 (2011)). G. Maruccio is author of more than 80 publications and 3 patents in addition to several invited contributions at international conferences, institutions and PhD schools (h-index 15, citations 721 from ISI WEB OF KNOWLEDGE). He is also in the editorial board of (i) Journal of Spintronics and Magnetic Nanomaterials, (ii) ISRN Nanotechnology and (iii) ISRN Electronics, beyond being referee for prestigious international journals (including Science, Nature Nanotechnology, Phys. Rev. Lett., Lab on a chip, Nano Letters, ACS Nano, J. Am. Chem. Soc.) and funding agencies (including EU-FP7, MIUR, Israel Science Foundation). G. Maruccio was among the four candidates invited at Strathclyde University (Glasgow, UK) for an interview for a permanent position as "Professor of Physics and Life Sciences" in June 2011.

**HONOR/AWARDS**

**2000:** Best student/CV in Physics at Lecce University (from its institution in 1967)

**EDUCATION AND ACADEMIC BACKGROUND**

- **Degree in Physics** (magna cum laude), University of Lecce, July 2000. Thesis title: "Quantum Dots Laser" (Supervisor: Prof. R. Cingolani). G.Maruccio passed all exams with the highest marks and for his thesis work he received the highest mark cum laude. Please find in the following a list of sustained examinations.

English	Appropriate
French	Appropriate
Mathematical Analysis I	30/30
Mathematical Analysis II	30/30 cum laude
Geometry	30/30 cum laude
General Physics I	30/30
General Physics II	30/30
Analytical and Pure Mechanics	30/30 cum laude
Chemistry	30/30 cum laude
Physical Experiments I	30/30
Physical Experiments II	30/30
Physical Experiments III	30/30

Mathematical Methods for Physics	30/30 cum laude
Institutions of Theoretical Physics	30/30 cum laude
Condensed Matter Physics	30/30
Institutions of Nucl. and Subnucl. Phys.	30/30
Solid State Physics	30/30
Quantum Mechanics (part A)	30/30
Theoretical Physics	30/30 cum laude
Laboratory of Materials Physics	30/30
Materials Physics (part B)	30/30

- International School of Solid State Physics. 21st Course: Quantum Devices and Nanostructures (QDN-2). Erice-Sicily: 19 - 27 July 2001
- **Ph.D. in Physics**, University of Lecce, 5th October 2004. Thesis title: "Molecular Electronics at the nanoscale" (Supervisors: Prof. R. Cingolani, Prof. R.Rinaldi).

**LANGUAGES:** Italian (native), English (fluent), French, Latin

### COMPUTATION ABILITIES

- **Operating systems:** Windows, Linux
- **Programming languages: good knowledge and experience with:** Matlab, LabView, Mathematica, C++; **basic knowledge of** Fortran
- **Scientific utilities:** Matlab, Mathematica, Microcal Origin and other statistical and data analysis softwares
- **General utilities:** Office Suite, CorelDRAW Graphics Suite, Adobe Creative Suite, Nero Suite, Antivirus, Partition Magic, other graphic/audio/video utilities, Management of hardware.
- **Internet:** Macromedia Flash, Macromedia Dreamweaver, Macromedia Flashpaper, browsers and e-mail managers, Client FTP, SSH, website management/Design, intranet and internet.

### PROFESSIONAL EXPERIENCE

- **March 2000:** Visiting Research Scholar to EPFL. Activity: process of Quantum Dots Laser structures within Prof. Ilegems group.
- **July 2000-June 2001:** post-graduate researcher at INFM Lab. Lecce. Contract on Quantum Dots Lasers (European Project GSQ: V Framework Programme, Frame: Information Societies Technology, RTD Project: GaAs based second window quantum dot lasers)
- **June 2001-May 2004:** Ph. D. Student in Physics at the University of Lecce, research activity carried out at the National Nanotechnology Laboratory of INFM
- **May 2004-July 2004:** post-doctorate researcher at the National Nanotechnology Laboratory of INFM. Contract on Scanning probe microscopy and molecular electronics.
- **December 2004:** Guest researcher at the Institute of Applied Physics, University of Hamburg, Prof. R. Wiesendanger group (participation in the EU project "Nanospectra")
- **January-December 2005: Marie Curie Fellow** at the Institute of Applied Physics, University of Hamburg, Prof. R. Wiesendanger group (working in the Marie Curie International Training Network "Nanospectra")
- **2004-2007:** Tenure Track Researcher at the National Nanotechnology Laboratory of CNR-INFM (Lecce, Italy)
- **2007-2009:** Researcher (FIS/01) at University of Salento (Lecce, Italy)
- **2009-present:** Aggregate Professor (FIS/01) at University of Salento (Lecce, Italy)
- **2010: Chair of the international conference** "Trends in Spintronics and Nanomagnetism" (TSN2010, <http://tsn2010.nanophysics.it>) which was honored by the participation of Albert Fert, father of spintronics and Nobel Prize in Physics 2007.
- **From 2011:** Member of the Governing Board of the National Nanotechnology Laboratory – CNR-Institute of Nanoscience, Lecce. Delegated for stimulating and strengthening internal and external scientific collaborations.
- **From 2011:** Member of Technical and scientific Committee of I.I.S.S. "Enrico Mattei" (Istituto Tecnico Industriale in Maglie (Lecce))

### TEACHING AND TUTORING ACTIVITIES

- **Tutoring (from 2001):** Supervisor for 27 undergraduate students, six Ph.D. students and five post-docs in Physics, Materials Engineering, Chemistry, Biotechnology and Biology. Tutor of three Isufi Students for their Licenza Thesis.
- **Teaching at University of Salento (Physics students) from 2011:** Instructor for the 5rd year Physics of Nanostructures course (6 CFU); Assistant at 5th year Laboratory on Physics of Condensed Matter and Nanosystems course (8 CFU); Assistant at 2nd year Physical Experiments III course (6 CFU).
- **Teaching at Scuola Superiore ISUFI:** Instructor for the Nanomagnetism course (a.a. 2008-2009); Instructor for the Nanomechanics course (a.a. 2006-2007 and a.a. 2007-2008).
- **Teaching at Ph. D. schools (Università del Salento):** from 2010: Instructor for the course Introduction to Nanotechnologies (3 CFU) for Ph.D. students in Physics. Member of Teaching Board for the Ph.D. in "BIO-MOLECULAR NANOTECHNOLOGIES".
- **Teaching at University of Bari:** a.a. 2008-2009: Instructor for the 5rd year Biomedical Engineering course (5 CFU, 50 hours) for Industrial and Environmental Biotechnologies students. Seven students then decided to go in Lecce for their thesis.

- **2009.** Instructor for the module of **Geometric and Ondulatory Optics, Light-Matter Interaction** (17 hours) within the Research Project “Imaging non invasivo per diagnostica morfo-funzionale avanzata”
- **2009.** Instructor for the Nanotechnology course at Università delle Tre Età, Sede Autonoma di Maglie.
- **a.a. 2007-2008:** 3<sup>rd</sup> year Condensed Matter Physics course for Physics students – Lectures (20 hours) in the course held by Prof. R.Rinaldi at University of Salento
- **a.a. 2003-2004:** Preliminary course of mathematics for Physics students at Lecce University (4 hours)
- X National School of Materials Science INFM-INSTM – Topical Lessons on Molecular Devices (1/10/2004)
- XVII Settimana della Cultura Scientifica e Tecnologica, La Civiltà delle Macchine Intelligenti, Cagliari, 20 Aprile 2007, Aula Magna della Facoltà d'Ingegneria, Topical Lecture on “**Nanotechnology**”

#### **OTHER ACTIVITIES**

- **2005.** PON Project - MISURA 1 AZIONE 1.H HELIANTHUS 2 – PUGLIA 3: realization of the project DVD and of two module CDs.
- **2009.** PON Project - “Competenze per lo Sviluppo”, “I linguaggi della scienza e della tecnica”.
- **2012.** Project PON C 1 FSE 2011 -1825 – Obiettivo C – Azione 1 - Modulo “Dall'infinitamente piccolo all'infinitamente grande”. Objectives: (1) to arise curiosity and transmit method and passion for the science; (2) to write with the participants a book of scientific dissemination. This book, entitled “La poesia della natura. Dall'infinitamente piccolo all'infinitamente grande” won the first prize at Concorso “Tempo di leggere. Tempo di scrivere.” – Ufficio Scolastico Provinciale di Lecce.

## RESEARCH ACTIVITIES

### RESEARCH OVERVIEW

- **1999-2000.** Undergraduate research project in solid-state physics and low-dimensional systems: Optical properties of Quantum Dots, nanostructures and microcavities; Fabrication and characterization of Quantum Dots Lasers with application in telecommunication (EU and Agilent Technologies funded this research). This work led to a patent and publications among which two Applied Physics Letters in 2001.
- **2000-2007. Biomolecular electronics.** Pioneering work on biomolecular electronics started during graduate research (2000-2004) when G.Maruccio demonstrated field effect transistors based on modified DNA bases (guanosine, Nano Letters 2003) and redox proteins (the blue copper protein Azurin, Adv. Mat. 2005). In the case of proteins, the retention of their native conformation and functional properties was probed by AFM, EC-STM and fluorescence spectroscopy on self-assembled monolayers and in high electric fields. The prototype transistors consisted of a silver gate electrode and an EBL-fabricated nanojunction bridged by the molecular layer (Nano Letters 2003, Adv. Mat. 2005). With the demonstration of the first protein transistor, a leading position was established in this field of research (Nat. Nanotech. News & Views 2012). Successively, a new method was patented for simultaneous, economic fabrication of large arrays of nanodevices working at ambient conditions (TO2007A000341). This method was then employed to investigate transport through individual Azurin proteins directly immobilized on the electrodes with observation of clear molecular signatures such as a negative differential resistance (Small 2007). However, after quite some experiments it was concluded that conjugated molecules and nanoparticles are more suitable for fabricating reliable electronic nanodevices with commercial applications. From a different perspective, biomolecules are now investigated for biosensors and lab on chip applications (see below).
- **2003-now. Nanomechanics.** In 2003, G.Maruccio started a new line of research in Lecce concerning Force-spectroscopy characterization of surfaces, nanostructures and self-assembled monolayers of molecules and biomolecules in order to probe nanomechanical and other fundamental properties of sample surfaces (including nano-scale adhesive and elastic response), measure binding forces and enable chemical sensing and unfolding studies on proteins. This technique was/is used to investigate the mechanical properties of polymeric nanofibers fabricated by soft lithography, amyloid fibrils, cells and to study fluorinated compounds (Appl. Phys. Lett. 2005, Biomacromolecules 2008, Nanotechnology 2009 (both papers)).
- **2003-now. Advanced SFM.** In particular, Surface Potential Microscopy was used to investigate samples exposing different functional groups such as prototype halogen-bonded co-crystals of long-chain perfluorocarbons in order to gain information on the structure and composition of their fundamental crystal faces. These crystals were found to show surfaces with well-defined ledges formed by intersecting crystal planes having different chemical compositions with the perfluorocarbons (PFCs) covering the largest area of the crystal as a reminiscence of the strong segregation observed in the bulk crystal structure (CrystEngComm 2008, Biochim.Biophys. Acta 2005).
- **2005-now. UHV-STM and Wavefunction mapping** in quantum dots and nanoparticles by means of spatially resolved scanning tunneling spectroscopy using a low temperature UHV-STM. This work was carried out as a postdoc in the group of Prof. Roland Wiesendanger at the Institute of Applied Physics, University of Hamburg (one of the world leader groups in STM/STS). In particular, the correlation effects in the regime of few electrons in uncapped InAs quantum dots were investigated for the first time using this technique and the experimental results were explained in terms of many-body tunneling theory in collaboration with Prof. Molinari group in Modena (Nano Lett. 2007). The electronic structure of immobilized colloidal nanocrystals and the symmetry of the squared wavefunctions (WFs) corresponding to the different confined states resolved in the spectral density were also studied. An unprecedented, significant coupling with the environment was observed in combination with WF maps with clear s- and p-type character and charging energies decreasing when higher orbitals with broader WFs are occupied (Small 2009). The expertise acquired in Hamburg is now exploited in Lecce to study the electronic properties of molecules (mostly in the form of self-assembled monolayers), nanoparticles and quantum dots (ChemPhysChem 2009, Nanoscale 2012a).
- **2006-now. Molecular Spintronics.** Coming back from Hamburg in 2006, G.Maruccio started a new research line in Lecce on spintronics and nanomagnetism. This is driven by his fascination for nanoscale magnetism and **charge/spin transport phenomena in molecules/nanosystems**, as well as by the medium-long term perspective that many interesting discoveries and application can be expected in this field exploiting spin transport and quantum information storage in molecules, molecular magnets and magnetic nanoparticles. G.Maruccio was the coordinator of the EU project SpiDME (Spintronic Devices for Molecular Electronics) involving CNR-INFN, the Institute for Applied Physics at the University of Hamburg (Germany), the Institute for Molecules and Materials in Nijmegen (The Netherlands) and the Trinity College Dublin

(Ireland). The project aimed both at the understanding of the interaction between the electron spin and its solid-state environment and at the fabrication of a new generation of molecular spin devices, which exploit the spin degree of freedom to store, carry and manipulate information. This approach is expected to pave the way to the fabrication of conceptually new devices and can be considered as a potential “step forward” in the direction of future nanoelectronics. At the moment, special emphasis is dedicated to (1) the fabrication of hybrid organic/inorganic spin devices based on single magnetic molecules/nanoparticles; (2) the study and modelling of charge/spin transport in such devices with special attention to the interplay between single electron tunneling and spin-polarized tunneling. The feasibility of molecular-scale electronics/spintronics is also investigated for possible industrial applications (Nat. Mat. 2009, ACS Nano 2011, Nanoscale 2012b).

- **2005-now. Lab on chips and biosensors.** Fabrication of Lab on Chips, Cell chips, DNA/protein chips/sensors and development of innovative detection strategies (1 Italian Patent and 1 submitted). G. Maruccio also developed microheaters and temperature sensors for PCR chips along with the controlling software for thermal cycles (in Labview with PID feedback). The development of new biosensor prototypes is also an important part of this activity. The detection schemes are electrical, electrochemical (by impedance spectroscopy or cyclic voltammetry) or magnetic (using GMR and TMR sensors). (see Analyst 2009, Microel. Eng. 2009 (both papers), Biomedical Microdevices 2009, Biosens. Bioelectron. 2010, Lab Chip 2011 (two papers) and 2013)

These activities are documented by patents and papers in international journals. At the moment, G. Maruccio is the scientific coordinator of the spintronics and lab on a chip subgroups at CNR-Nano in Lecce, where he set up dedicated laboratories for these activities:

1. A **cryomagnetic lab** with two superconducting magnets (up to 10.5 T) having variable temperature inserts (from 300 K down to 0.3K) and equipped for DC and RF magnetotransport, magnetospectroscopy, vibrating sample magnetometry and a.c. susceptibility. The facility for transport experiments includes femtoamperometric systems, parameter and vector network analysers, etc.. Experiments at low temperature under irradiation are also possible. Two new setups were recently installed including a vector magnet with a dilution refrigerator (down to 10 mK) and a cryogenic probe station for magnetotransport and RF measurements (down to 4 K and up to 0.5 T and 70 GHz).
2. A **biochip lab** devoted to the fabrication and test of innovative biochips for molecular diagnostics and cell studies able to perform flow immunoassays with ultrasensitive (pM), direct and label-free detection and to monitor in real-time several cellular processes (such as cell micromotion, attachment and spreading, concentration, migration, morphology, growth and apoptosis). This includes facilities for electrochemistry and impedance-based readout schemes and for soft lithography and the fabrication of complex microfluidic components including microchannels, valves, mixers and separation components.

### *Experimental Techniques*

- Lithographic techniques (e-beam, photolithography, wet and reactive ion etching)
- Photoluminescence, electroluminescence and photocurrent spectroscopy
- Scanning probe techniques (AFM: contact and tapping mode, STM/STS)
- Advanced scanning probe microscopy/spectroscopy: wavefunction mapping (to map the local density of states and thus wavefunctions), electric force microscopy (EFM) and surface potential microscopy, scanning capacitance microscopy (SCM), scanning conductance microscopy, Force-spectroscopy (nano-scale adhesive and elastic response, binding forces, colloidal studies, and chemical sensing).
- Charge/spin Transport: temperature dependence, photoresponse and photocurrent spectroscopy, conductance in high magnetic field
- Electrochemistry, in particular cyclic voltammetry and impedance spectroscopy with application to biosensors.

### *Theoretical and Computational Background*

- Poisson-Schrodinger simulations of nanostructures (band diagram, electric field, confined states, etc.)
- Finite-elements Simulation (Flex-PDE, FemLAB)

**MAIN RESEARCH ACHIEVEMENTS TO DATE**

- 2001, demonstration of quantum dot lasers for telecommunication (Appl. Phys. Lett. 2001 (two papers)), successively patented (Patent number: WO02075876).
- 2002-2005, pioneering work in biomolecular electronics (Adv. Mat. 2002, Appl. Phys. Lett. 2003) and demonstration of transistors based on modified DNA bases (Nano Letters 2003) and redox proteins (Adv. Mat. 2005). Procedure for protein transistors were successively patented (Patent number: TO2005A000830). Relevance of these results was recognized in many citing papers/books (see also invited News and Views on Nat.Nanotech. (2012)).
- 2007, first measurements on individual redox proteins between nanoelectrodes (Small 2007) after patenting a new technique for simultaneous, economic fabrication of large arrays of nanodevices (Patent number: TO2007A000341).
- 2005-2009, nanomechanical and chemical sensitive AFM studies on polymeric nanofibers fabricated by soft lithography, cells, cholesterol tethering system for lipidic bilayers, hybrid polymer/semiconductor microtubes, fluorinated compounds et al. (Appl. Phys. Lett. 2005, Nanotechnology 2009 (two papers), Biochim.Biophys. Acta 2005, Ferroelectrics 2009, Crystengcomm 2009).
- 2005 (in Hamburg), first measurements of correlation effects in few-particle quantum dots and wavefunctions of immobilized colloidal nanocrystals strongly coupled to the environment by spatially resolved differential tunnelling conductance maps (Nano Lett. 2007, Small 2009).
- 2007-2008, study of charge transport and nanomechanical properties of amyloid-like fibrils (PNAS 2007, Biomacromolecules 2008)
- 2008, Intrinsic optical nonlinearity in colloidal seeded grown CdSe/CdS nanostructures assessed by single nanoparticle and time-resolved photoluminescence spectroscopies (Phys. Rev. B 2008)
- 2009, robust electrical detection of single biorecognition events (Analyst 2009) and patent of a new, flexible strategy for detection of specific binding events between proteins, antibodies, ligands and receptors (Patent number: TO2007A000341).
- 2009, nanomechanical characterization of AlN on polysilicon piezoelectric cantilevers for sensors/actuators (Microelectron. Eng.2009)
- 2009, demonstration and patent of miniaturized PCR chips with controlling Labview software for thermal cycles (Biomedical Microdevices 2009, Patent number: TO2008A000810).
- 2009, discovery of electrostatic spin crossover in insulating molecules with super-exchange magnetic interaction and inversion symmetry breaking, useful to control the magnetic configuration in polar magnetic molecules (and thus the device output) by means of an external electric field (Nat. Mat. 2009).
- 2010-2011, demonstration of impedance biochips for cell studies (Biosensors and Bioelectronics 2010, Lab on a chip 2011 (Primiceri et al.)) and label-free ultrasensitive flow immunoassays (Lab on a Chip 2011 (Chiriaco et al.)).
- 2011, first demonstration of sign reversal of magnetoresistance in tunnel junctions with nanocrystal superlattices (ACS Nano, 2011).
- 2012, demonstration of a spin filter effect in spin nanodevices based on single magnetic nanoparticles and magnetotransport studies on single molecule-nanoparticle hybrids (Nanoscale 2012 (Karmakar et al.) and manuscript in preparation).
- 2012, Thiolated-carbazole linked bisferrocenes as suitable molecular units for quantum-dot cellular automata (Nanoscale 2012 (Arima et al.)).

**INDICATORS FOR QUALITY, REPUTATION, AND INNOVATIVE POTENTIAL**

- Member of the NNL-CNR-Nano governing board and responsible for fostering internal and external scientific collaborations.
- Results on molecular electronics/spintronics, lab-on-a-chip, wavefunction mapping, nanomechanics and photonics were published in top journals such as Nat. Mat. (1), Nat. Nanotech. (1, news and views), PNAS (1), NanoLetters (2), Advanced Materials (2), Small (2), Acs Nano (1), Lab on a Chip (3), Biosensors and Bioelectronics (1), Nanoscale (2), Applied Physics Letters (4).
- Four patents were deposited based on G. Maruccio research.
- G. Maruccio delivered a number of invited talks/lectures and contributions to books, encyclopedia and international journals.
- Granted as project coordinator or local responsible from EU (SpiDME, MolArNet), Italy (MAE, FIRB and PRIN) and private companies. Participation in writing large projects funded at Institute level. Coordination/Participation in submission of  $\approx 20$  EU proposals from 2007, who often received a good evaluation.
- Very talented junior researchers were successfully attracted to work in his group: Dr. C.L.Indira from MIT (Moodera group), Dr. S.Karmakar from Indian Association for the Cultivation of Science, Dr. Elena Rodica Ionescu (actually associate professor in France).
- Conference organization: “Trends in Spintronics and Nanomagnetism” (Chair & proceeding editor; Lecce 2010) with the participation of A. Fert (Nobel Prize for Physics 2007); “Entanglement in Solid State Systems” (organizer; Lecce 2011); Recent Trends in Advanced Materials (International Advisory Committee; Vellore, 2012)
- G. Maruccio serves in a range of other advisory functions including the *Editorial Boards* of (i) the Journal of Spintronics and Magnetic Nanomaterials, (ii) ISRN Nanotechnology and ISRN Electronics.
- G. Maruccio serves as referee for national and international funding agencies, among which *MIUR* (PRIN projects), *Israel Science Foundation*, *TWAS* (the Academy of Sciences for the Developing World).
- G. Maruccio serves as referee for several international journals, among which *AAAS* (Science); *NPG* (Nature Nanotechnology); *American Physical Society* (Phys. Rev. Lett.); *American Chemical Society* (Nano Letters, ACS Nano, J. Am. Chem. Soc., Langmuir); *Royal Society of Chemistry* (Chemical Society Reviews, Lab on Chip, Journal of Material Chemistry, Chemical Communications, Physical Chemistry Chemical Physics, Soft Matter); *Wiley* (Electroanalysis and Eur. J. Org. Chem.); *Institute of Physics Publishing* (Nanotechnology), *American Institute of Physics* (J. Appl. Phys.).
- G. Maruccio was among the four candidates invited at Strathclyde University (Glasgow, UK) for an interview for a permanent position as “Professor of Physics and Life Sciences” in June 2011.

## **PROJECT GRANTS AND RESPONSABILITIES**

### **Grants in competitive calls**

- **UE-FP6-NEST-STREP (2006-2010, Proposer and Coordinator): Spintronic Devices for Molecular Electronics (SpiDME), Grant Agreement No. 029002, EC funding 1.3M€ Partners:** University of Hamburg – Institute for Applied Physics; University of Nijmegen - Institute for Molecules and Materials; Trinity College Dublin – School of Physics.
- **MAE-India (2008-2010, Proposer and Scientific Responsible):** Spintronic devices for mass-scale electronic: High-relevance project for scientific and technological co-operation between Italy and India, **Local Funding:** 32k€
- **MIUR-FIRB Project (2011-2014, Co-proposer and Responsible of Lecce Unit):** Molecular nanomagnets on metallic and magnetic surfaces for applications in molecular spintronics: *prot. RBAP117RWN*, **Total Funding:** 1528 k€
- **UE-FP7-ICT-CP (2012-2015, Proponente e WP Leader): Molecular Architectures for QCA-inspired Boolean Networks (MolArNet), Grant No. 318516, Finanziamento EU: 2.76M€ Partners:** Alma Mater Studiorum-Università di Bologna, Université de Strasbourg, Technische Universitaet Dresden, Trinity College Dublin – School Of Physics, Stmicroelectronics Srl.
- **MIUR-PRIN Project (2008-2010, Co-proposer and Vice-Responsible of Lecce Unit):** Preparation and characterization of fluorinated layers and surfaces: *prot. 2008KMP97E\_005*, **Total Funding:** 124 k€
- **MIUR-PRIN Project (2005-2007, Staff scientist):** Materiali fluorurati per il controllo dei fenomeni superficiali in sistemi micro- e nano-strutturati: *prot. 2005035277\_004*, **Total Funding:** 347 k€
- **MIUR-FIRB Project (2005-2011, Staff scientist):** National Laboratory for Nanotechnology applied to Genomics and Post-Genomics (NG-Lab): *prot. RBLA03ER38*, **Total Funding:** 6.0 M€
- **MIUR-FAR Project (2006-2010, Staff scientist):** Advanced micro- and nano-fabrication processes for the realization of devices and functional apparati for applications in electronics, photonics, micromechanics and biosensing (MICRO): *prot. MIUR-DM28486*, **Total Funding:** 2.9 M€
- **APQ-Ricerca Scientifica (2009-2012, Staff scientist):** Studio Preliminare di Materiali Nanocompositi per Applicazioni Aeronautiche (AEROCOMP), *prot. MIUR-DM48391*, **Total Funding:** 3.6 M€
- **APQ-Ricerca Scientifica (2011-2013, Staff scientist):** Progetto Reti di Laboratori Pubblici di Ricerca “Nano- Biotechnological methods for innovative Diagnostics and Therapy” (NaBiDiT), Project code 72, **Total Funding:** 2.2 M€(Coordinatore: Prof. R. Rinaldi).
- **P.O.N. Ricerca e competitività 2007-2013: “Omics and Nanotechnologies applied to living being for disease diagnosis” (ONEV), Project Code: PONA3\_00354, involved with Università del Salento, Total Funding:** 10600 k€(Coordinator: Prof. F. P. Schena)

### **Grants from Industry**

- **Research contract from Ekuberg Pharma S.r.l.** for the development and optimization of dedicated biochips, **Total Funding:** 32.4 k€

### **Involvement in other Projects**

- **P.O.N. Ricerca e competitività 2007-2013 (Staff scientist):** Process and product innovations aimed at increasing food safety and at diversifying pork-based products (SAFEMEAT): Project Code: **PON01\_01409**, (Coordinator: Salumificio Dodaro S.p.A.)
- **2006-2009: Italian Institute of Technology:** NNL-Lecce unit, Principal Investigator for the research line “Biodevices and biosensors arrays for electrochemical sensing and redox activity monitoring in cells”
- **2002-2006: Nanospectra** (European Union RTN network project, Project Reference: HPRN-CT-2002-00320), Programme type: Fifth Framework Programme, Subprogramme Area: Research Training Networks, Contract type: Research network contracts, Programme Acronym: HUMAN POTENTIAL, Duration: 42 months; Project Funding: **1179000 EURO**; **Participants:** Paul-Drude-Institut für Festkoerperelektronik - Berlin, University of Hamburg - Institut für Angewandte Phzsik and Institut Für Physikalische Chemie–Hamburg, IBM Research - Science & Technology Department, University of Nottingham, Institut d'Electronique et de Microelectronique du Nord – Lille, Swiss Federal Institute of Technology Zürich.  
**Role:** Post-doctorate researcher in Hamburg, Prof. Wiesendanger group
- **2003-2006: MIUR-FIRB Project: “Molecular Nanodevices”;**  
**Role:** Ph.D. Student and successively Staff Scientist



- **2001-2004: SAMBA (Self-Assembling of copper Metalloproteins at nanoscale for Biodevice Applications):** V Framework Programme, Frame: Information Societies Technology (IST), Project Future Emerging Technologies (IST 2000 28024); **Partners:** Istituto Nazionale Fisica Materia (Italy), Leiden University (The Netherlands), Oxford University (UK),  
**Role:** Ph.D. Student
- **2000-2003: PRA-INFN Project: Single Protein Transistor (SINPROT);**  
**Role:** Ph.D. Student
- **2000-2003: GSQ (GaAs based second window quantum dot lasers):** V Framework Programme, Frame: Information Societies Technology, RTD Project;  
**Role:** Diploma student and Fellowship at INFN Lab. Lecce

### Involvement in other EU proposals and evaluation results (mainly FP7)

Project	Year	Call	Topics	Role	Score vs Threshold	Notes
Biocirc	2007	FP7-NMP-2007-SMALL-1	Bio-Hybrids Mol.Electr.	Local node	6.1/10 vs 8/10	Below threshold
BONDhALL	2007	FP7-NMP-2007-SMALL-1	Halogen Bonding	Local coordinator	6.4/10 vs 8/10	Below threshold
NanoSpin	2007	FP7-NMP-2007-SMALL-1	Magnetic nanoparticles	Local node	6.0/10 vs 8/10	Below threshold
Easitronics	2007	FP7-ICT- 2007-1	Spintronics	Local coordinator	9.0/15 vs 10/15	Below threshold
EUspinTECH	2008	FP7-NMP-2008-LARGE-2	Spintronics DMS, FMO	EU Coordinator	7.0/10 vs 8/10	Below threshold
SpiN <sup>3</sup>	2008	FP7-PEOPLE-ITN-2008	Spintronics Nanomagnetism	EU Coordinator	82.0/100.0 vs 70.0/100.0	Above threshold
MHySt	2009	FP7-NMP-2009-SMALL-3	Nano-Spintronics	EU Coordinator	6.8/10 vs 8/10	Below threshold
MHySt	2009	FP7-NMP-2010-SMALL-4	Nano-Spintronics	EU Coordinator	7.0/10 vs 8/10	Below threshold
SpiN <sup>3</sup>	2009	FP7-PEOPLE-2010-ITN	Spintronics Nanomagnetism	EU Coordinator	85.2/100.0 vs 70.0/100.0	Above threshold
NanoMuPs	2009	FP7-NMP-2010-LARGE-4	Biosensors Biochips	EU Coordinator	7.5/10 vs 8/10	Below threshold
MiSpin	2010	FP7-ICT-2009-6	Spintronics	Local node	11.4/ 15 vs 10.5/15	Above threshold
SIMM	2010	FP7-ICT-2009-6	Spintronics	Local coordinator	13.5/15 vs 10.5/15	Reserve List, 2 <sup>nd</sup> among IP
OCM	2010-2012	FP7-PEOPLE-ITN	On Chip Medicine	EU Coordinator	74.60/100.0 vs 70.0/100.0	Above threshold
SpiN <sup>3</sup>	2010	FP7-PEOPLE-2011-ITN	Spintronics	EU Coordinator	85.0/100.0 vs 70.0/100.0	Above threshold
MultiNano	2010-2011	FP7-ICT-2011-C	Spintronics	Local coordinator	Reached 2nd Evaluation stage	Above threshold
DeMoS	2010-2011	FP7-ICT-2011-C	Spintronics	EU Coordinator	-	
SIT	2011	FP7-PEOPLE-2012-ITN	Spintronics	EU Coordinator	89.60/100.0 vs 70.0/100.0	Above threshold
SIT	2012	FP7-PEOPLE-2012-ITN	Spintronics	EU Coordinator	92.00/100.0 vs 70.0/100.0	Above threshold
MuS-MoD	2013	FP7- ICT-10-9.7 - FET Proactive	Spintronics	Local coordinator	13.20/15.00	Above threshold

MagBioNics	2011-2012	FP7-PEOPLE-2012-IIF	Biosensors Biochips	Host responsible	81.90/100 vs 70.0/100.0	Above threshold
NanoMuP	2012	FP7-NMP-2013-LARGE-7	Biosensors Biochips	EU Coordinator	6.2/10	Below threshold
Aquaplane	2013	FP7-Ocean-2013.1	Biosensors Biochips	Local coordinator	10.5/15	Above threshold

- Collaborations on specific topics and proposals are active with:** University of Hamburg – Institute for Applied Physics; Trinity College Dublin – School of Physics, IBM-Zurich, Kavli Institute of Nanoscience at Delft University of Technology, Inst. of Molecular Physics at Polish Academy of Science, Inst. Ciencia de Materials de Barcelona, INSA-Toulouse, University of Nijmegen - Institute for Molecules and Materials, INSTM-Florence, CNR-Nano-S<sup>3</sup> Modena, CNRS-Thales, Indian Institute of Science Bangalore, Hebrew University of Jerusalem, Universität Regensburg, ETH-Zurich, Charité Universitätsmedizin Berlin, Agencia Estatal Consejo Superior de Investigaciones Científicas, University of Turin - Center for Experimental Research and Medical Studies, IRSSC San Giovanni Rotondo. Many proposals were submitted together in the last years.

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Based on G. Maruccio Diploma thesis
2. P.P. Pompa, L.L. del Mercato, A. Della Torre, R. Chiuri, F. Calabi, G. Maruccio, R. Cingolani, and R. Rinaldi, “*A biomolecular field effect transistor comprising a polypeptide film, and a method for its manufacturing*”, Italian patent number TO2005A000830 (24-11-2005) , International Publication number WO 2007/060632 (31-05-2007).
3. G. Maruccio, E. Primiceri, P. Marzo, V. Arima, R. Krahne, T. Pellegrino, A. Della Torre, F. Calabi, R. Cingolani, R. Rinaldi, “*Electrical transduction method and device for the detection of biorecognition events in biomolecular interaction processes for genome/proteome analysis*”, Italian patent number TO2007A000341 (15-5-2007), International Publication number WO 2008/139421 (20-11-2008).
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3. R. Rinaldi, **G. MARUCCIO**, *Molecular Electronics*, published as a chapter in the collective work entitled **WILEY ENCYCLOPEDIA OF BIOMEDICAL ENGINEERING** (6-Volume Set, ISBN: 0-471-24967-X, Hardcover, 4152 pages, June 2006), edited by Metin Akay. **Both authors equally contributed to this work.**
4. R. Rinaldi, **G. MARUCCIO**, *Nanobioelectronics*, published by WILEY-VCH • Weinheim • Berlin as a chapter in the book entitled **Series on Nanotechnology for Life Sciences - Vol 4 (Nanodevices for Life Sciences)**, ISBN-10: 3-527-31384-2, ISBN-13: 978-3-527-31384-6, July 2006, approx 400pp with 175 figs) edited by Challa S.S.R. Kumar. **Both authors equally contributed to this work.**
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6. **G.MARUCCIO**, R. Wiesendanger, *Scanning Tunneling Spectroscopy of Semiconductor Quantum Dots and Nanocrystals*, published as a chapter in the book **Quantum Materials, Lateral Semiconductor Nanostructures, Hybrid Systems and Nanocrystals**, edited by Detlef Heitmann (Springer Berlin Heidelberg, 2010), pp. 183-216, DOI: 10.1007/978-3-642-10553-1\_8.
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3. **G. MARUCCIO**, *Your views...: 'Nanotechnology'*, Chemistry Worlds, December 2005, Vol 2, no.12

4. **G.MARUCCIO**, *Spintronics at the Molecular Scale–Progresses and Opportunities*, Journal of Spintronics and Magnetic Nanomaterials, 1, 1–8 (2012)
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**INVITED LECTURES/PRESENTATIONS**

1. **G. MARUCCIO**, P. Visconti, A. Biasco, A. Bramanti, A. Della Torre, P.P. Pompa, V. Frascerra, R. Cingolani and R. Rinaldi, G.W. Canters, G. Gottarelli, **Towards a bio/molecular electronics: concepts, results and perspectives**, Invited Lecture at the International Conference “European Materials Research Society – E-MRS 2004” (Strasbourg, France -24-28/05/2004)
2. **G. MARUCCIO**, **Mappatura Chimica di Superfici con Tecniche di Microscopia a Scansione**, Invited Lecture at the Dipartimento di Chimica, Materiali e Ingegneria Chimica “Giulio Natta” Politecnico di Milano (25/05/2004)
3. M. Rontani, E. Molinari, **G. MARUCCIO**, M. Janson, A. Schramm, C. Meyer, T. Matsui, C. Heyn, W. Hansen, and R. Wiesendanger, **Imaging correlated wave functions of few-electron quantum dots: Theory and STS experiments**, Invited Lecture at the 28th International Conference on the Physics of Semiconductors (Vienna, Austria, July 24-28, 2006)
4. **G. MARUCCIO**, **Biomolecular Electronics**, Invited Lecture at the Workshop on “New Perspectives in Bio-nanotechnology”, (Aula Magna del Politecnico-Lingotto, Via Nizza 230, Torino, 27 Settembre 2006)
5. R. Rinaldi, **G. MARUCCIO et al**, **Nano-electronic devices based on modified deoxyguanosines**, Invited Lecture at the ESF PESC EXPLORATORY WORKSHOP: “Self-assembly of guanosine derivatives: from quadruplex DNA to biomolecular devices”, (Bled, Slovenia, 12 - 15 September 2006)
6. C. Lekshmi Indira, P. Marzo, A. della Torre, L. Sanarica, E. Primiceri, R. Krahne, T. Pellegrino, V. Arima, R. Cingolani, R. Rinaldi, **G. MARUCCIO**, **International Conference on Nano and Microelectronics, ICONAME- 2008, Pondicherry Engineering College, Pillaichavady, Puducherry – 605014 (India, 3 – 5 January 2008)**
7. **G. MARUCCIO**, **Molecular electronics and nanospintronics**, Invited Lecture at Laboratory of Molecular Magnetism, Dipartimento di Chimica e UdR INSTM di Firenze Polo Scientifico, Sesto Fiorentino (Fi) – Italy (26-3-2009).
8. **G. MARUCCIO**, **Nanospintronics with magnetic nanoparticles and molecules**, Invited Lecture at CNR-Istituto Nanoscienze S3, Modena, Italy (16-3-2009)
9. **G. MARUCCIO**, **Applications of nanomaterials in nanoelectronics and biosensing**, 7th International Workshop on Functional and Nanostructured Materials (FNMA’2010), Malta, 16–20 July 2010.
10. **G. MARUCCIO**, **Nanoscale spin-devices based on magnetic nanoparticles and molecules**, International Conference on Physics of Emerging Functional Materials (PEFM-2010), Bhabha Atomic Research Center, Mumbai, India, September 22-24, 2010
11. **G. MARUCCIO**, **Nanoscale spin-devices based on magnetic nanoparticles and molecules**, Invited Lecture at Solid -State and Structural Chemistry Unit & Centre for Condensed Matter Theory, Indian Institute of Science, Bangalore, INDIA (27/09/2010)
12. **G. MARUCCIO**, **Multipurpose biochips with integrated microfluidic components**, Invited Lecture at Solid -State and Structural Chemistry Unit & Centre for Condensed Matter Theory, Indian Institute of Science, Bangalore, INDIA (27/09/2010)
13. **G. MARUCCIO**, **Multipurpose biochips - Toward on-chip medicine**, invited lecture (1h) at Center for Experimental Research and Medical Studies (CeRMS), San Giovanni Battista Hospital, Turin, Italy, 2 Department of Medicine and Experimental Oncology, University of Turin, Turin, Italy (31/1/2012)
14. **G. MARUCCIO**, **Spintronic Devices**, invited lecture (1h) at the Italian School of Magnetism, Pavia, Italy (5-10/2/2012)
15. **G. MARUCCIO**, **Spintronics & Nanomagnetism**, invited lecture (50 min, via Skype) for Scholars in nanomaterials/nanomagnetism at VIT University, Vellore, India (21/4/2012)

**PUBLICATIONS ANALYSIS - ISI WEB OF KNOWLEDGE STATISTICS - 2013-05-31**

*Published Items found: [1-81] (contributions to books and encyclopaedias not included)*

*Times cited: 721*

*Average Citations per (main) Items: 11.27 (excluding conference proceedings)*

*h-index: 15*

Among them, results on molecular electronics/spintronics, wavefunction mapping, nanomechanics, biochips and photonics were published in top journals such as

Nat. Mat.	(I.F. = 32.841)	Small	(I.F. = 8.349)
NanoLetters	(I.F. = 13.198)	Lab on a Chip	(I.F. = 5.670)
PNAS	(I.F. = 9.681)	Biosens. Bioelectron.	(I.F. = 5.602)
Advanced Materials	(I.F. = 13.877)	Nanoscale	(I.F. = 5.914)
ACS-Nano	(I.F. = 10.774)		

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- [3] R. Cingolani, R. Rinaldi, G. Maruccio and A. Biasco, *Nanotechnology approaches to self-organized bio-molecular devices*, ***Physica E* 2002**, Vol. 13, p. 1229-1235, **issn.** 1386-9477, [http://dx.doi.org/10.1016/S1386-9477\(02\)00342-9](http://dx.doi.org/10.1016/S1386-9477(02)00342-9).
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*Notes:*

1. *R.Rinaldi et al.*, Appl. Phys. Lett. 82, 472-474 (2003): Selected for Virtual Journal of Nanoscale Science & Technology, January 2003, Volume 7, Issue 4.
2. *G. Maruccio et al.*, Nano Letters 3, 479-483 (2003): Reviewed by Y. Sun and C.H.Kiang in the chapter "DNA-Based Artificial Nanostructures: Fabrication, Properties, and Applications", published in the "Handbook of Nanostructured Biomaterials and Their Applications in Nanobiotechnology," Vol.2, Ch.7, pp 224--246
3. *P.P. Pompa et al.*, J. Chem. Phys. 125, 021103 (2006) Selected for the July 24, 2006 issue of Virtual Journal of Nanoscale Science & Technology
4. *S. Leporatti et al.*, Nanotechnology, **20**, 055103 (2009), obtained the cover and was reviewed on Nanotechweb.

**SELECTED CONTRIBUTIONS PRESENTED AT INTERNATIONAL SCIENTIFIC CONFERENCES**  
**(More talks and poster presentations were given by my students/collaborators)**

1. **G. MARUCCIO**, P.Visconti, S.D'Amico, P.Calogiuri, E.D'Amone, R.Cingolani, R.Rinaldi, International Conference "Micro- and NanoEngineering - MNE 2002" (Lugano, Switzerland, 16-19/09/2002) presenting the accepted poster: *Nanotips as probes for transport experiments in molecules*
2. **G. MARUCCIO**, P.Visconti, S.D'Amico, V.Arima, A.Bramanti, R.Cingolani, R.Rinaldi, S.Masiero, T.Giorgi, G.Gottarelli, International Conference "European Materials Research Society – E-MRS 2003" (Strasbourg, France -10-13/06/2003) presenting the accepted poster: *Biomolecular devices: field effect transistor and feasibility report*
3. **G.MARUCCIO**, P.Visconti, P.Calogiuri, E.D'Amone, R.Cingolani, R.Rinaldi, International Conference "European Materials Research Society – E-MRS 2003" (Strasbourg, France -10-13/06/2003) presenting the accepted poster: *Resonant tunneling leakage in planar metal-oxide-metal nanojunctions*
4. R.Rinaldi, **G.MARUCCIO**, P.P. Pompa, A.Biasco, P.Visconti, V.Arima, A.Bramanti, A.Della Torre, S.D'Amico, R.Cingolani, P.Facci, F.De Rienzo, R.Di Felice, E.Molinari, M.Ph.Verbeet, G.W.Canters, 11th International Conference "Modulated Semiconductor Structures -MSS11-" (Nara, Japan - 14-18/07/2003) presenting the oral contribution: *A Protein-based transistor*.
5. **G. MARUCCIO**, P.Visconti, V.Arima, S.D'Amico, A.Biasco, E. D'Amone, R.Cingolani, R.Rinaldi, S.Masiero, T.Giorgi, G.Gottarelli, International Conference "Organic Field Effect Transistors II", part of Optical Science and Technology SPIE's 48th annual meeting (San Diego, USA - 03-08/08/2003) presenting the oral contribution: *Field Effect Transistor based on a modified DNA base*.
6. **G. MARUCCIO**, P.Visconti, A. Biasco, A. Bramanti, E. D'Amone, R. Cingolani, R. Rinaldi, Fourth IEEE Conference on Nanotechnology (Munich, Germany - 17-19/08/2004), accepted poster: *Metalloprotein-based field-effect transistor: a prototype*.
7. **G. MARUCCIO**, M. Janson, A. Schramm, C. Meyer, T. Matsui, W. Hansen, R. Wiesendanger, M. Rontani, E. Molinari, International Conference ICN&T2006 (Basel (Switzerland), July 30- August 4, 2006), oral contribution: *Correlation Effects in Wave Function Mapping of MBE-Grown Quantum Dots*. **Four Nobel Prizes participated to the meeting with plenary contributions.**
8. **G. MARUCCIO**, P. Marzo, R. Krahn, A. Della Torre, A. Passaseo, R. Cingolani, R. Rinaldi, 32nd International Conference on Micro- and Nano- Engineering 2006 (Barcelona (Spain), 17-20 September 2006), oral contribution: *Negative differential resistance and electron pathway in molecular tunnel-junctions based on individual Azurins*
9. **G. MARUCCIO**, E.Primiceri, V.Arima, T. Pellegrino, P.Marzo, A.Della Torre, F.Calabi, R.Cingolani, R.Rinaldi, Nanomec 06, Materials Science and Materials Mechanics at the nanoscale - Modeling, experimental mechanics & applications, Politecnico di Bari, Bari (Italy), 19-23 November 2006, presenting the oral contribution: *A nanoelectrode-based DNA sensor*.
10. **G. MARUCCIO**, E. Primiceri, P. Marzo, V.Arima, T. Pellegrino, A. Della Torre, R. Cingolani, F. Calabi, R. Rinaldi, International Conference: IVC-17/ICSS-13 and ICN+T2007 Congress, 2-6 July, 2007, Stockholm (Sweden), presenting the oral contribution: *A nanoelectrode-based biosensor for the detection of single biorecognition events* (Session: NS - Nanomedicine and Related)
11. **G. MARUCCIO**, C. Meyer, T. Matsui, D.V. Talapin, S. G. Hickey, H. Weller, R. Wiesendanger, International Conference: IVC-17/ICSS-13 and ICN+T2007 Congress, 2-6 July, 2007, Stockholm (Sweden), presenting the oral contribution: *Wavefunction mapping of semiconductor nanocrystals* (Session: Low Temperature Scanning PROBE Microscopy III)
12. **G. MARUCCIO**, P. Marzo, R.Krahn, A.Fiore, T.Pellegrino, V.Piazza, F.Beltram, R.Cingolani, R.Rinaldi, International Conference Trends in Nanotechnology 2008, (Oviedo, Spain, September 01-05, 2008), presenting the oral presentation: *Nanoscale Spin-Filters based on magnetic CoPt<sub>3</sub>-Au heterodimers*
13. **G. MARUCCIO**, P. Marzo, R.Krahn, A.Fiore, T.Pellegrino, V.Piazza, F.Beltram, R.Cingolani, R.Rinaldi, 21st International Microprocesses and Nanotechnology Conference, (Fukuoka, Japan, 27-30 October 2008), presenting the poster presentation: *Nanoscale Spin-Filters based on magnetic CoPt<sub>3</sub>-Au heterodimers*
14. **G. MARUCCIO**, E. Primiceri, M.S.Chiriaco, R.E.Ionescu, E.D'Amone, M.Maffia, R. Cingolani, R.Rinaldi, 21st International Microprocesses and Nanotechnology Conference, (Fukuoka, Japan, 27-30

- October 2008), presenting the oral presentation: *Flexible EIS Cell-Chip platform for non-invasive continuous monitoring of cell population dynamics, drug screening and cytotoxicity tests*
15. **G. MARUCCIO**, P. Marzo, R. Krahn, T. Pellegrino, R. Cingolani, R. Rinaldi, International Conference on Magnetism (ICM 2009, Karlsruhe, Germany, July 26 - 31, 2009), presenting the poster contribution: *Nanoscale Spin-Filters based on magnetic CoPt<sub>3</sub>-Au heterodimers*
  16. **G. MARUCCIO**, Workshop DMD “Atom-based nanotechnology” (Arcetri (Firenze), 19 gennaio 2011), presenting the oral presentation: *Towards atomic-scale electronics*
  17. S. Kumar, S. Karmakar, P. Marzo, C. L. Indira, V. Arima, R. Rinaldi, **G. MARUCCIO**, II Convegno Nazionale di Magnetismo, (MAGNET 2011, Torino, Italy, February 23-25, 2011), presenting the oral presentation: *Nanoscale spin-devices based on magnetic nanoparticles and molecules*
  18. **G. MARUCCIO**, Workshop “Surfaces, Interfaces and Functionalization Processes in Organic Compounds and Applications”, (SINFO, IMEM – CNR Institute, Parco Area delle Scienze 37/a – Parma (Italy), 20-22 June 2012), presenting the oral presentation: *Molecule-nanoparticle hybrids for electronic and sensing applications*
  19. **G. MARUCCIO**, S. Karmakar, S. Kumar, C. L. Indira and R. Rinaldi, International Conference on Nanoscience + Technology 2012 (Paris, France, 23-27 July 2012), presenting the oral presentation: *Nanoscale spin-devices based on magnetic nanoparticles and molecules; Two Nobel Prizes participated to the meeting with plenary contributions.*
  20. **G. MARUCCIO**, E. Primiceri, M. S. Chiriaco, A. G. Monteduro and R. Rinaldi, International Conference on Nanoscience + Technology 2012 (Paris, France, 23-27 July 2012), presenting the poster presentation: *Nanoscale spin-devices based on magnetic nanoparticles and molecules; Two Nobel Prizes participated to the meeting with plenary contributions.*