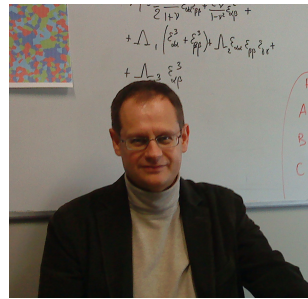


Luciano Colombo
Full curriculum vitae
Last update: January 7th, 2014



1. CURRICULUM VITAE

1.1 Name, status and contact details

Name: Luciano Colombo
Born: Venice (I), Aug. 6th, 1960
Status: married, one son
Citizenship: Italian
Contact details:
Department of Physics - University of Cagliari
Cittadella Universitaria
I-09042 Monserrato (Ca), Italy
Phone: +39 070 675 4871
Fax: +39 070 510 171
E-mail: luciano.colombo@dsf.unica.it
Website: www.dsf.unica.it/colombo

1.2 Current position

- Tenured full professor of Condensed Matter Physics (Theory&Simulation)
- Head of the Department of Physics, University of Cagliari
- *Colloquia & Reviews* Editor of the "European Physical Journal B"

1.3 Career profile

Education

- 1984: master degree in Physics at the University of Pavia, Italy
- 1985: stage at the "GaAs-based new information technologies laboratory" of Telettra SpA, Milano, Italy
- 1986-1988: visiting summer student at the "SuperComputing Research Institute" (SCRI) of the Florida State University, Tallahassee FL, USA
- 1986-1989: visiting student at the "Instituto de Ciencia de Materiales" (ICMM) of the "Consejo Superiore de Investigaciones Cientificas" (CSIC), Madrid, Spain
- 1989: Ph.D. in Physics at the University of Pavia, Italy
- 1989: post-doc research associate at "Institut Romande de Recherche Numérique en Physique des Matériaux" (IRRMA), Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland
- 1990: junior research associate at International School for Advanced Studies (ISAS-SISSA), Trieste, Italy

Employment

- 1990-1996: assistant professor (tenured) at the Department of Physics of the University of Milano, Italy
- 1991-1996: visiting scientist at the Swiss National Supercomputing Center (CSCS), Manno, Switzerland
- 1992-1993: visiting scientist at the "Centre Européen de Calcul Atomique et Moléculaire" (CECAM), Paris, France
- 1994-1996: visiting scientist at the "Chemistry and Materials Science Division" of the Lawrence Livermore National Laboratory (LLNL), Livermore CA, USA
- 1996-1999: assistant professor (tenured) at the Department of Materials Science of the University of Milano-Bicocca, Italy

- 1992-2002: associate professor (tenured) at the Department of Physics of the University of Cagliari, Italy
- 2002-present: full professor (tenured) at the Department of Physics of the University of Cagliari, Italy
- 2010-2011: visiting professor at the School of Physics of the University College Dublin, Ireland

1.4 Principal scientific activities

- Hybrid organic/metal-oxide interfaces for efficient solar energy harvesting
- Dielectric elastomers (metal-polymer nanocomposites) for stretchable electronics and biomedical applications
- Nanoscale thermal transport in nanostructured semiconductors (SiGe nanocomposites and porous/nanocrystalline silicon) for thermoelectric applications
- Thermal properties of graphene-based nanoribbons for optimal thermal budget in next-generation ULSI devices
- Mechanical, elastic, and defect properties of novel carbon-based nanomaterials (graphene and fullerenes)
- Structural, electronic, optical, and defect properties of silicon for microelectronics, photovoltaics, and optoelectronics
- Micro- and nano-mechanics of complex materials
- Methods and algorithms for large-scale simulations in materials physics

1.5 Most relevant research funding as project leader

Legend (institutions)	Legend (projects)
EU: European Union	CRG: Collaborative Research Grant
NATO: North-Atlantic Treaty Organization	PRIN: Small-scale basic research project
MiUR: Italian Ministry for University and Research	FIST: Small-scale application-oriented research project
INFM: Italian National Institute for the Physics of Matter	FIRB: Large-scale basic research project
RAS/LOMB: Regional Government of Sardinia and Lombardy (Italy)	PON: Large-scale application-oriented research project
	STREP: Strategic targeted research project
	IS CRA: SuperComputing Applications and Innovations

- 1995-1998: NATO-CRG project "*Molecular dynamics studies of defect properties and dopant diffusion in silicon*" - role: leader of the project (budget: about 50.000Euro)
- 2000-2002: MiUR-PRIN project "*Multiscale approach to the unification of micro- and macro-mechanics of linear and nonlinear materials*" - role: co-applicant - role: leader of a research unit (budget: about 40.000Euro)
- 2000-2002: INFM project "*An hybrid classical/quantum simulation scheme for modeling silicon bulk processing*" - role: leader of the project (budget: 50.000Euro)
- 2002-2004: MiUR-PRIN project "*Bridging molecular dynamics to continuum mechanics: a multiscale description of mechanical properties of materials*" - role: leader of a research unit (budget: 70.000Euro)
- 2002-2006: MiUR-FIST project "*Design, processing, and modeling of novel ceramic composites and coatings*" - role: leader of a research unit (budget: 185.000Euro)
- 2003-2006: MiUR-FIRB project "*Modeling and structural characterization of ion radiation induced defects in crystalline silicon*" - role: leader of a research unit (budget: 80.000Euro)
- 2004-2008: EU-STREP project "*Nanocrystalline silicon for photovoltaic and optoelectronic applications*" - role: leader of a research unit (budget: about

- 200.000Euro)
- 2005-2009: EU-PON project "*A cyberinfrastructure for science and technology*" - leader of the activity "*Computational hard- and soft-matter physics*" (budget: 380.000Euro)
- 2010-2013: RAS project "*Multiscale Modeling of Mechanical properties of Materials*" - role: leader of the project (budget: about 100.000Euro)
- 2012-2013: IS CRA project "*Understanding Cluster Implantation in Polymers*" - role: leader of the project (budget: 5.000.000 CPU-hours on the FERMI supercomputer @ CINECA)
- 2012-present: RAS-LOMB project "*Stretchable electronics for biomedical applications*" - role: leader of a research unit (budget: about 80.000 Euro).
- 2012-present: MiUR-PRIN project "*Frontiers in Graphene Research: understanding and controlling Advanced Functionalities*" - role: leader of a research unit (budget: 144.000Euro)
- 2013-present: European Metrology Research Project (EMRP-kNOW) "*Towards a new definition of the kilogram*" – role: leader of the reseacer unit awarded by an “Excellent Researcher Grant (REG)” (budget: 77.000Euro).

1.6 Scientific production

Papers

- Total scientific production: **262**
- papers on refereed journals: **184** (two under reviewing)
- book chapters (invited): **14**
- conference proceedings: **48**
- books (authored): **2**
- edited volumes: **4**
- others (science journalism, public outreach): **10**

Invited presentations

- more than **50 invited talks** at international events
- more than **10 invited lectures** at international schools

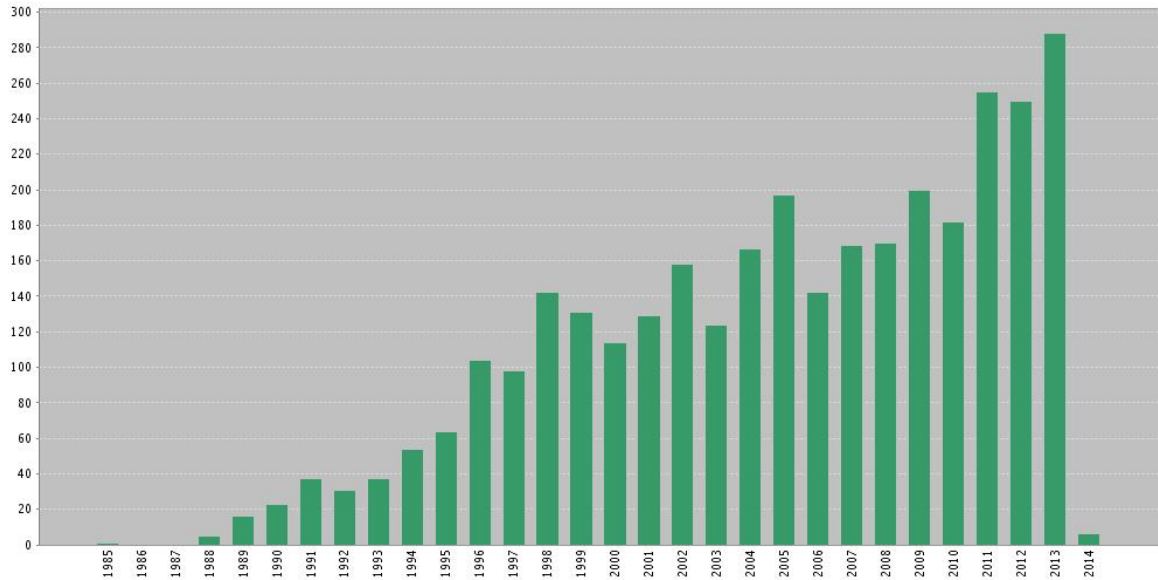
1.7 Bibliometric indices

Source: ISI Web of Science

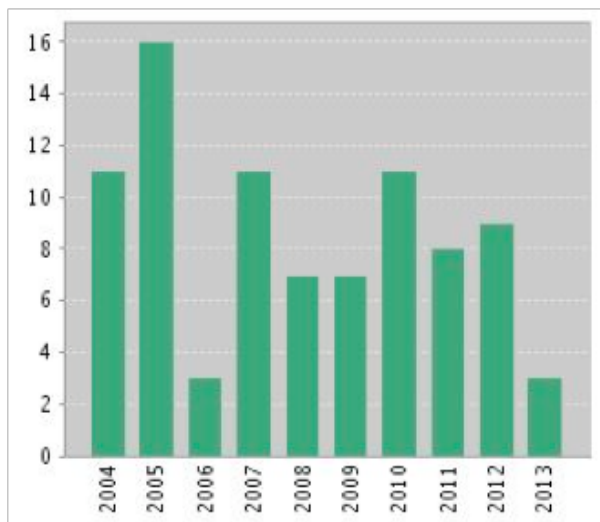
- total number of citations: **3148**
- H-index: **26**

Note: several homonymy cases (due to the fact that my family name is quite common) impose a very careful calculation of my bibliometric indices, using additional search criteria (like, e.g., affiliations and co-authors).

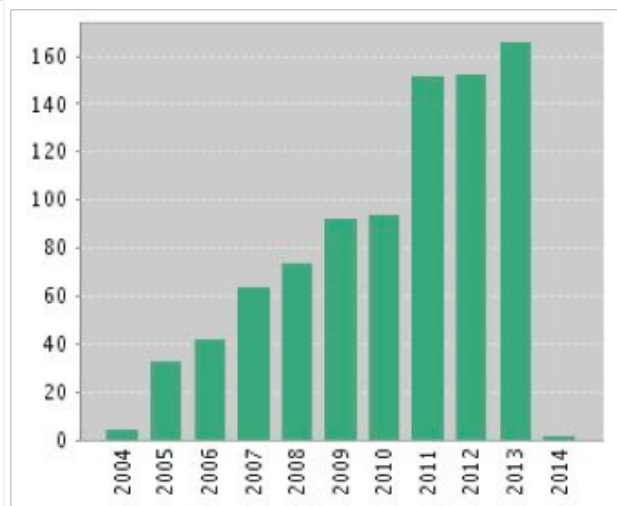
Number of citations per year
(full career: 1985-2014)



Number of papers per year
(only last 10 years)



Number of citations per year
(only for papers published in the last 10 years)



1.8 History of mentoring and supervision

Mentoring

- 12 Bachelor theses (in physics)
- 35 Master theses (in physics, electronic engineering, and mechanical engineering)

Supervision

- 9 Ph.D. theses (in physics)
- 3 Ph.D. theses (in engineering)
- 4 post-graduate students
- 9 post-doctoral research associates
- 1 research assistant at the Department Physics of the University Cagliari

1.9 Responsibilities

- 2002-2004: Coordinator of the Steering and Scientific Committee for high-performance computing of the Italian National Institute for the Physics of Matter (INFM)
- 2003-2007: Head of the Ph.D. program in Physics at the University of Cagliari, Italy
- 2005-2010: member of the Scientific and Technical Committee of the CASPUR supercomputing center, Rome, Italy
- 2006-present: member of the Scientific Committee of the CYBERSAR supercomputing center, Cagliari, Italy
- 2008-2011: Coordinator of the "Physics and Mathematics section" of the Faculty of Engineering at the University of Cagliari, Italy
- 2008-2012: Editor-in-Chief of the "European Physical Journal B - Condensed matter physics and complex systems" (EPJ-B) of the European Physical Society (EPS)
- 2009-2010: Director of the "Sardinian Laboratory for Computational Materials Science" (SLACS)
- 2009-2011: Coordinator of the "Panel for Physical Sciences" of the University of Cagliari
- 2010-present: Member of the Advisory Board of the European Theoretical Spectroscopy Facility
- 2011-present: Head of the Department of Physics at the University of Cagliari
- 2012-present: *Colloquia & Reviews* Editor of the "European Physical Journal B - Condensed matter physics and complex systems" (EPJ-B) of the European Physical Society (EPS)

1.10 Other information

Awards

- **1994 Gordon-Bell prize** of the IEEE Computer Society (co-recipient with S. Goedecker of the Cornell Theory Center) with the motivation: "*In recognition of their effort in practical parallel processing research*"
[See paper: S. Goedecker, L. Colombo, *Efficient linear scaling algorithm for tight-binding molecular dynamics*, Phys. Rev. Lett. **73**, 122 (1994)]