

Curriculum vitae

Michele Parrinello

Computational Science

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Personal information

Date of birth: 7 September 1945
Place of birth: Messina, Italy
Nationality: Swiss / Italian
Residence: Lugano, Switzerland
Marital status: Married, with one child

Education

Italian *Laurea* in physics, University of Bologna, 1968

Professional experience

Professor of Computational Sciences, USI, Lugano, Switzerland, 2010-present
Professor of Computational Sciences, ETH, Zurich, Switzerland, 2001-present
Professor of Computational Chemistry, *Scuola Normale*, Pisa, Italy, 2004-2008
Director, Swiss Center for Scientific Computing (CSCS), Manno, Switzerland, 2001-2003
Director, Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany, 1994-2001
Manager, IBM Research Laboratory, Zurich, Switzerland, 1991-1994
Research Staff Member, IBM Research Laboratory, Zurich, Switzerland, 1989-1991
Summer Visitor, IBM Research Laboratory, Zurich, Switzerland, 1987
Full Professor, International School for Advanced Studies (SISSA), Trieste, Italy, 1986-1989
Summer Visitor, University of Minnesota, Minneapolis, USA, 1986
Summer Visitor, IBM Research Laboratory, Yorktown, USA, 1985
Associate Professor, University of Trieste, Italy, 1982-1986
Visiting Scientist, Argonne National Laboratory, Chicago, USA, 1980-1981
Lecturer, University of Trieste, Italy, 1976-1982
Visiting Scientist, Imperial College, London, UK, 1975-1976
Lecturer, University of Messina, Italy, 1972-1977
Borsista del Consiglio Nazionale delle Ricerche, University of Messina, Italy, 1970-1971

Awards

Hewlett-Packard Europhysics Prize (with R. Car), European Physical Society (1990)
 Boys-Rahman Prize, Royal Society of Chemistry, UK (1994)
 Rahman Prize (with R. Car), American Physical Society (1995)
 Award in Theoretical Chemistry, American Chemical Society (2001)
 Schroedinger Medal of the World Association of Theoretically Oriented Chemists (2005)
 Triennial Somaini Physics Prize, Italian Physical Society (2006)
 Gutenberg Lecture Award, University of Mainz, Germany (2008)
 FOMMS Medal Award, University of Michigan, USA (2009)
 Sidney Fernbach Award (with R. Car), IEEE Computer Society, USA (2009)
 Dirac Medal (with R. Car), ICTP Trieste, Italy (2009)
 Berni J. Alder CECAM Prize (with R. Car), CECAM, Switzerland (2010)

Honorary degrees

Honorary Doctorate in Chemistry, University of Messina, Italy (2003)
 Honorary Doctorate in Materials Science and Technology, University of Rome 2, Italy (2005)
 Honorary Doctorate in Materials Science, University of Cagliari, Sardinia, Italy (2006)
 Honorary Doctorate in Industrial Chemistry, University of Como, Italy (2007)
 Honorary Doctorate in Physics and Chemistry of Biological Systems, Scuola Internazionale Superiore di Studi Avanzati, SISSA, Trieste, Italy (2008)
 Honorary Doctorate in Science, King's College, London, UK (2011)

Honorary academic appointments

Honorary professor, University of Stuttgart, Germany (1995)
 Honorary Fellow, Sidney Sussex College, Cambridge, UK (2005)
 Distinguished Visiting Professor, University of California, Santa Barbara, USA (2006/2007)
 Adjunct Professor, Università della Svizzera Italiana, Lugano, Switzerland (2006/2010)
 Honorary Fellow, St. Catherine's College, Oxford, UK (2007)
 Honorary Professor, East China University of Science and Technology, Shanghai, China (2008)

Named lectures

Eli Burstein Lecturer in Materials Science, University of Pennsylvania, USA (1993)
 Gilbert Newton Lewis Lecturer, University of California, Berkeley, USA (2001)
 DuPont-Marshall Lecturer, University of Pennsylvania, Philadelphia, USA (2001)
 Lise Meitner Lecturer, Lise Meitner-Minerva Center for Computational Quantum Chemistry, Jerusalem, Israel (2001/2002)
 Celsius Lecturer, Uppsala University, Sweden (2002)
 Falk-Plaut Lecturer, Columbia University, New York, USA (2002)
 Jean Perrin Lecturer, Chemical Physics Division, Physical and Chemical Societies, France (2003)
 Linnett Visiting Professor, Cambridge University, UK (2005)
 Cyril Hinshelwood Lecturer, Oxford University, UK (2006/2007)
 Greg Watson Lecturer, Rutherford Appleton Laboratory, Didcot, UK (2007)
 Charles A. Coulson Lecturer, University of Georgia, Athens, USA (2008)
 Richard M. Noyes Lecturer, University of Oregon, Eugene, USA (2009)
 Almlöf-Gropen Lecturer, Centre for Theoretical and Computational Chemistry, Norway (2010)

Academy and learned society memberships

Fellow, American Physical Society (1991)
Socio corrispondente, Accademia dei Pericolanti, Italy (1992)
 Member, International Academy of Quantum Molecular Science (1995)
 Honorary Member of the Materials Research Society of India (1999)
 Member, Berlin-Brandenburgische Akademie der Wissenschaften, Germany (2000)
 External Scientific Member, Max Planck Society, Germany (2001)
 Foreign Member of the Royal Society, UK (2004)
 Member, European Academy of Sciences (2004)
 Fellow, World Association of Theoretically Oriented Chemists (WATOC) (2005)
Socio corrispondente, Accademia Nazionale dei Lincei, Italy (2005)
 Foreign Member, *Istituto Lombardo, Accademia di Scienze e Lettere*, Milan, Italy (2007)
 Foreign Member, The National Academy of Sciences, USA (2010)

Society memberships

American Physical Society
 American Chemical Society
 Institute of Physics
 Swiss Chemical Society

Research interests

Computer simulations and modelling of condensed matter, chemical and biophysical systems:
 Ab-initio molecular dynamics
 Metadynamics
 Simulation of rare events
 Structural and chemical transformations in solids under the effect of pressure
 Nucleation
 Chemical reactions in condensed phases
 Protein-protein interaction

Publications

Over 530 research papers, review articles and edited books. His work has been cited 34'000 times, which makes him one of the most cited authors in physics and chemistry in the world. In particular, the first paper with Roberto Car is *Physical Review Letters*' 5th most cited of all time. His h-index is 91.

Current advisory activities

International School for Advanced Studies, (SISSA), Trieste, Italy
Scientific Council of the Fondazione Bruno Kessler, Trento, Italy
Scientific Council of the Max Planck Institute für Polymerforschung, Mainz, Germany
Scientific Council of the Department of Materials and Devices, National Research Council, (INR), Rome, Italy
Board of Centro E. Fermi, Rome, Italy
Scientific Council of CINECA, Casalecchio di Reno (Bologna), Italy

Editorial activities

Has been or is a member of the editorial advisory board of:

Chemical Physics
Chemical Physics Letters
ChemPhysChem
Computational Materials Science
Computing in Science and Engineering
Journal of Computer-Aided Materials Design
Journal of Physics
Science
Theoretical Chemistry Accounts

Refereeing

Research proposals from Austria, Canada, Germany, Italy, Netherlands, Switzerland, United Kingdom, United States.
Scientific articles from *Europhysics Letters*, *Journal of Chemical Physics*, *Journal of Physical Chemistry*, *Journal of the American Chemical Society*, *Molecular Physics*, *Nature*, *Physical Review*, *Physical Review Letters*, *Science*, and many others.

Lectures

Several hundred seminars and colloquia delivered throughout the world at major universities, research and industrial laboratories and professional meetings.

