Europass Curriculum Vitae

Personal information

Surname(s) / First name(s)	**Dr. Sauro Succi, PhD**
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Email(s)	sauro.succi@gmail.com; sauro.succi@iit.it succi@iac.rm.cnr.it, succi@seas.harvard.edu
Nationality(-ies)	Italian
Date of birth	Jan 15, 1954
Gender	Male
Occupational field	**Senior Research Executive and Principal Investigator, Italian Institute of Technology**
ORCID ID	https://orcid.org/0000-0002-3070-3079
Bibliometrics	**H–Index** - Google Scholar database **H = 71** **Number of Citations** **N = 29000+** (Like for most of us, these numbers contain a few spurious entries)
Link to additional information	**https://www.iit.it/people/sauro-succi**

Education

1987	PhD degree in Physics, Ecole Polytechnique Federale de Lausanne, Plasma Physics Research Center;
1980	Specialisation degree in Applied Neutronics, Nuclear Engineering Dept., University of Bologna;
1979	Degree in Nuclear Engineering, (cum laude), University of Bologna

Professional Cursus

2018-current	Senior Research Executive and Principal Investigator, Center for Life Nano Science at la Sapienza, Roma, Istituto Italiano di Tecnologia, Head of the research line "Mesoscale Simulations";
1995-2018	Director of Research, Istituto Applicazioni Calcolo, CNR Roma, Head of the group "Computational Modelling of Complex Systems in Fluid Dynamics and Biology";
1986-95	Research scientist, senior research scientist, industry sector coordinator at the IBM European Center for Scientific and Engineering Computing, Roma, (1986-95);
1981-82	Euratom fellowship at Max-Planck Institut fuer Plasmaphysik, Garching, Germany;

1980-81	ENEA (Italian Energy Committee) Fellowship, Bologna, Italy
1979-80	Military service

Further appointments

2020-	Member of the PRACE Scientific Access Committee
2020-	Adjunct Professor, Scuola Normale Superiore di Pisa
2020-	IIT representative in the CompBioMed Consortium
2018	Member of the College of Expert Reviewers of the European Science Foundation
2017	External Faculty Member of the Institute for Advanced Studies, Amsterdam
2016-open	Chairman of the UKCOMES Consortium, UK
2014-2019	Visiting Faculty, Professor of Computational Science, Institute for Applied Computational Science, Harvard University, (discontinued because of covid-19)
2013-2016	Member of the Scientific Review Group, European Science Foundation, Strasbourg
2009-2013	External Senior Fellow, Freiburg Institute for Advanced Studies, Germany
2008-2012	CNR representative in the Standing Committee and Core Group of the Physical-Engineering-Science Committee (PESC) of the European Science Foundation, Strasbourg, France
2000-open	Research Associate, Physics Department, Harvard University

Visiting appointments

2019	World Class Professor, Indonesian Ministry of Higher Education (not undertaken for contigental reasons)
	Visiting Professor, Higher School of Economics, Moscow
2018	Guest Researcher, Ctr for Computational Astrophysics, Simons Foundation, NYC
2017	Beta-Plus Foundation Visiting Chair, Institute for Advanced Studies, Amsterdam
2016	Weston Visiting Chair, Weizmann Institute, Rehovot, Israel
2011-2012	Raman Chair of the Indian Academy of Sciences, Bangalore, India
2010	Visiting Professor, Math. Dept., Yale University
2009-2011	Guest Professor, ETHZ, Zuerich
2008-2009	Visiting Scholar, Tufts University
2008-2009	Visiting Scholar, Initiative for Innovative Computing, Harvard University
2005-2006	EPRSC Fellow, Queen Mary College, London, UK
2001	Visiting Scholar, Cell Biology Dept, Harvard Medical School
1998	Visiting Scholar, Mathematics Department, Yale University
1995	Visiting Professor, Physics and Computer Science Departments, Chicago Univ.
1993	Visiting Professor, Mechanics Department, Paris VI University

Research activity

My research is centred about the mathematical modelling and computer simulation of complex states of flowing matter, with special focus on the physics of fluids across its interfaces with material sciences and biology (soft matter). This work covers a wide range of problems in non-equilibrium statistical mechanics, from nuclear fusion plasmas to fully developed turbulence for industrial design, flows in porous media, micro and nanofluidics, all the way down to biopolymer translocation through cell membranes. It also includes quantum and relativistic fluids, such as Bose-Einstein condensates, quark-gluon plasmas and relativistic electron flows in graphene, as well as the other extreme, i.e flows of astrophysical and cosmological relevance.

This activity resulted in nearly 500 papers in international scientific journals, totalling over $14,500$ *ISI cites, ($h = 57$, top-cited 1500)*, over $29,000$ *Google Scholar cites, ($h = 71$, top-cited $6000+$, $i10 = 310+$)* and nearly 100 papers in refereed conference Proceedings.

In addition, I have published four books: Automi Cellulari, Franco Angeli, Milan, 1991; An introduction to parallel computational fluid-dynamics, Nova Science, NY, 1995 and The Lattice Boltzmann equation, Oxford University Press, Oxford, 2001. In 2014, Sonke Adlung, Senior Editor of Oxford University Press, praised the book as "*an outstanding success, which has established itself as a landmark publication in the field*". In 2018, published an extended update, "The Lattice Boltzmann Equation for Complex States of Flowing Matter", always with OUP. Finally I am in the process of delivering a new book for the more general public, "Sailing Ocean Complexity: Lessons from the Physics-Biology Frontier", due out in early 2021, always with OUP

I have also published three edited Lecture Notes:

An introduction to computational physics I: Grid methods Collana “Appunti”, Scuola Normale Superiore di Pisa, 102 p., 2002;

An introduction to computational physics II: Particle methods; Collana “Appunti”, Scuola Normale Superiore di Pisa, 100 p., 2003;

Numerical methods for atomic quantum gases, (coauthor). Collana “Appunti”, Scuola Normale Superiore di Pisa, 177 p., 2004.

Awards, Honors, Distinctions

2020 Associazione Big Data, COVID-19 Fast Track Committee Award, “Multiscale simulations of the SARS-CoV-2 spike protein in interaction with the human ACE2 receptor”, (2.2 M CRESCO hours)

DECI-16 award, Rheology and Dynamics of Bijels, Partnership for Advanced Computing in Europe (4.16M Cray-XC40 hours)

2019 **Bernie Alder CECAM Prize for microscopic simulation of matter**

The paper "Of Naturalness and Complexity" selected as an EPJ Plus Highlight, see https://epjb.epj.org/epjplus-news/1678-epjplus-highlight-turbulences-theory-closer-high-energy-physics-than-previously-thought

2018 **Sigillum Magnum of the University of Bologna**

2017 **European Research Council Advanced Grant**, “Computational Design of Porous mesoscale MATerials” (COPMAT)

Aneesur Rahman Prize for Computational Physics, American Physical Society

Distinguished EPL Referee, European Physical Society

Aneesur Rahman Lecture, APS meeting, New Orleans

2016 Member of the Editorial Board of Physical Review E: Computational Physics

Third Graeme Bird Lecture, 30th Int. Symp. on Rarefied Gas Dynamics, Univ. of Alberta, BC, Canada

The paper “Lattice Boltzmann 2038” selected for inclusion in the EPL Highlights 2016

2015 **Elected Member of the Academia Europaea** (www.ae-info.org)

The paper “Extended self-similarity in turbulent flows”, R. Benzi, S. Ciliberto, R. Tripiccione, C. Baudet, F. Massaioli, and S. Succi, Phys. Rev. E 48, R29 (1993), featured as a PRE milestone paper on occasion of PRE 50,000th publication, PRE Oct. 2015

Outstanding reviewer of Physica A: Statistical Mechanics and Applications

2014 P.L. Bhatnagar Memorial Lecture, 59th ISTAM Conference, Bangaluru, India (declined for contingental reasons)

2013 Outstanding Referee of the Physical Review and Physical Review Letters

Senior Visiting Fellow of the Erwin Schroedinger Institute, Vienna

2012 **Raman Chair of Indian Academy of Sciences, Bangalore, India**

Alexander von Humboldt Award renewal

Featured in the list of the Top Italian Scientists (https://www.topitalianscientists.org)

2011 The paper "Petaflop biofluidic simulations on a two-million core systems, received a Honorable mention to the ACM Gordon Bell Prize, the major supercomputing contest worldwide, Seattle, November 2011

2010 Co-finalist of the Gordon Bell Supercomputing Contest, New Orleans, November 2010

2009	Fellow of the Freiburg Institute of Advanced Studies, Freiburg, Germany
2008	The paper "Lattice Gas Dynamics with Enhanced Collisions", F. Higuera, S. Succi, R.Benzi, Europhys. Lett. 9, 345, 1989, is included in the selection of the 40 most cited papers in Europhys. Lett. since its inception (1986)
2007	Best Workshop Paper Award, 7th Int. Conf. on Computational Science, Beijing, May 2007, M. Fyta, S. Melchionna, E. Kaxiras, S. Succi, "Multiscale modeling of biopolymer translocation through a nanopore", Lecture Notes in Computational Science, 4487, 786 (2007)
2006	Distinguished Annual Lecture, Leicester University, UK
2005	**Killam Award**, Calgary University, Canada
2002	**Alexander von Humboldt Award in Physics**, Germany
1998	**Fellow of the American Physical Society**, (Computational Physics)
1986-95	Three IBM certificates for outstanding scientific publications

Other Distinctions

2020	Member of the Fondazione Cassa dei Risparmi, Forli'
2016	Caterina Sforza Sigillum, the highest civic honour bestowed by the city of Forli' to her natives.
2008	Leonardo Melandri Prize for Culture and Science, from the Chamber of Commerce of Forli'-Cesena

Plenary Talks (2010 on)

2020	Dropland: computational design of droplet-based materials, Keynote talk (virtual) at 5th Workshop on Momentum, heat and mass transfer, 2020, Lisboa, Oct. 2020
	Big Data meets Big Theory: the dawn of a new scientific method? Keynote talk (in presence) at ESOF2020, Trieste, Sept.2020
	Six invited talks canceled because of covid-19
2019	Multiscale modelling of soft glassy materials, Platinum seminar, Monash University, Melbourne, June 2019
	Multiscale modelling of soft glassy materials, Annual meting of the Australian Material Science Society, Melbourne, June 2019
	Computational Physics in Modern Industry, Lectio Magistralis, SISSA/ICTP master in High Performance Computing, Trieste, Feb 2019
2018	Multiscale modelling of Soft Flowing Crystals, 2018 UKCOMES International Workshop on Mesoscale Simulation and Modelling, The Royal Society, London, UK, 5 -6 Nov 2018, declined
	Towards Exascale Lattice Boltzmann Computing, Plenary lecture, Int. Conf. on Cooperative Phenomena, July 2018, Makassar, Indonesia, declined
	Computational models of soft mesoscale materials, Plenary lecture, HPC-LEAP, July 2018, Cambridge, UK
	Fluids and Particles for large scale simulations in physics and biology, Keynote lecture, Parallel CFD 2018, Indianapolis, USA
	Lectio Magistralis, University of Bologna, "Big data science: the end of the scientific method?"
2017	Multiscale modelling of complex flows in physics and biology, Keynote lecture, 29th IUPAP Conf. on Computational Physics, Paris
	Computational Explorations of Complex Flowing Matter at the Physics-Biology Interface, Solvay Colloquium, Solvay Institute, Brussels
	Lattice Boltzmann modeling of complex flowing matter, Opening Invited Lecture, Israeli Society of Computational Mechanics, Israel
2016	Lattice Boltzmann simulation of fluid-structure interactions, Plenary talk, 31th Symposium on Naval Hydrodynamics, Monterey, USA
	Lattice Boltzmann simulations across scales, from turbulence to quark-gluon plasmas, Keynote lecture, 16th Int. Conf. on Computational Science, San Diego, USA
2015	Multiscale computing with Lattice Boltzmann and Particle Methods, Plenary talk, Int. Conf. on Computer Simulations in Physics and Beyond, Moscow

2014 Lattice Boltzmann Fluid Mechanics and beyond, Plenary talk, 10th Europ. Conf. on Fluid Mechanics, Copenhagen

Lattice Boltzmann simulation across scales, Plenary talk, 26th IUPAP Int. Conf. on Computational Physics, Boston

Keynote lecture, Techfest IIT Bombay (declined)

2011 Hydrokinetic approach to complex flow problems: the legacy of P.L. Bhatnagar, Special Lecture, J. Nehru Ctr for Advanced Scientific Research, Bangalore, India

2010 Lattice Boltzmann simulation of complex flows, Keynote talk, MULTIFLOW 2010, Brussels

Main Invited talks (2010 on)

Machine Learning for spotting cryptic pockets in the spike protein, CompBioMed Meeting, Rome, Apr 2020

The unreasonable effectiveness of the Boltzmann Equation, plenary lecture, MASCOT2018, Sep. 2018, Rome, Italy

Computational models of soft flowing crystals, Plenary lecture, Kinetic and Transport Equations 2018, Sep. 2018, Parma, Italy

Multilevel computational kinetic theory: from biopolymers to quark-gluon plasmas, *Tufts Colloquium*, Boston, Sep 2017

Multiscale simulations in physics and biology, *Institute for Advanced Studies*, Amsterdam, May 2017,

Lattice Boltzmann across scales, *IACS Colloquium*, Harvard, Feb 2017,

Lattice Boltzmann simulation of complex flow, *Solvay Symposium*, Brussels, 2016,

Lattice Boltzmann simulations at the interface between physics and biology, Ctr. for Theoretical Biology, Houston, Oct 2016

"Lattice Boltzmann: a computational chimera", CECAM Workshop on Multiscale Modelling, Madrid, May 2015,

Relativistic kinetic theory, *Hans Herrmann Festschrift*, Zuerich, 2014

A crash course in Lattice Boltzmann: in his own city! *Erwin Schroedinger Institute* Vienna, May, 2013,

Remembering Steve: Flows, codes and computers, *Steven Orszag memorial*, Yale Univ., Feb. 2013,

An Introduction to the Lattice Boltzmann method, *Wide Applied Math Seminar*, Harvard University, Nov. 2012,

The Legacy of P.L. Bhatnagar in statistical physics, *Raman Lecture*, Indian Academy of Sciences, Bangalore, Feb. 2012,

Relativistic lattice Boltzmann for quark-gluon plasma simulations, *Brookhaven National Lab Colloquium*, Jan 2012 (invited, but not delivered),

Lattice Boltzmann for quantum physics, *Center for quantum simulation*, University of Bilbao, Feb 2013

Multiscale modelling of Soft Flowing Crystals, 2018 KTE Symp. on Kinetic and Transport Equations, Oct 2018, Parma, Italy

Mesoscopic models of soft-flowing materials, *Novel Simulation Approaches to Soft Matter Systems*, Dresden, Sept. 2010,

Lattice Boltzmann across scales: from turbulence to DNA translocation *Int. Workshop on the numerical treatment of soil erosion*, Baeza, Spain, Sept. 2010,

Scientific Dissemination

Besides professional talks, I have given several dissemination lectures on the science of complex systems to high-school audiences across Italy, in collaboration with the major italian scientific Editor (Zanichelli).

Teaching activity

I have taught several courses on computational physics and mathematical modelling of complex systems at the Universities of Rome, Catania, Parma and Tuscia. I have also held series of lectures on Lattice Boltzmann methods at the University of Harvard, Geneva, Zurich, Jyvaskyla, Haifa, Taiwan, Academia Sinica, Amsterdam, Nordita and RTH Stockholm, the Erwin Schroedinger Institute, Vienna and the ICTP Trieste. In the period 1998-2006, I held graduate courses on lattice kinetic theory and undergraduate classes on numerical modelling of quantum fluids at the Scuola Normale di Pisa. In 2009-11 I have taught non-recurrent graduate courses on computational physics at ETHZ Zuerich. In 2008-9, I held a series of lectures on Multiscale Computing at Harvard University. Since 2014, I hold the course “Computational Methods for the Physical Sciences (AM227)” at the John Paulson School of Engineering and Applied Sciences (SEAS) at Harvard University. Since 2020 I hold the course "Computational Physics" at Scuola Normal di Pisa. I have supervised over 30 Master and PhD students, many of which have gone for successful academic careers in Italy and abroad.

Mentoring and supervision

Co-supervisor of over 30 (master and PhD) thesis works in Mathematics, Physics and Engineering at the Universities of Rome I,II, III, Catania and Florence.

Member PhD Dissertation Juries

Member of nearly 25 PhD Thesis Jury Committees in Italy (4), Switzerland (17), Germany (2), France (1), Finland (1), Ireland (1), Norway (1), Holland(2), Canada(1).

Project management

1995-current

Principal investigator of the following grants:

COPMAT, ERC Advanced Grant 739964, (2017-23), 1,886 Meur; Full-scale computational design of mesoscale porous materials,

NANOJETS, Nanofluidics, ERC Starting Grant Project 306357, (2013-18), 180 Keur; Development of numerical simulation methods for electrohydrodynamic jet flows, with special focus on the electrospinning process;

INFLUS, Microfluidics, European Community STREP Project NMP-031980, (2006-9), 500 Keur; Development of numerical simulation tools for the design of microfluidic devices

"Modellistica di flussi turbolenti con metodi di cinetica su reticolo Lattice Boltzmann", Research contract, ETA srl-IAC, (2005-6), 15Keur; Development of numerical methods for the simulation of turbulent flows for aerodynamic design,

Lattice BGK simulator, Research contract with Regione Lazio, Roma, (2005), 50Keur; Development of numerical methods for the simulation of turbulent flows for aerodynamic design, 50Keur

Mathematical modelling of microreactors, Research contract with Unilever (UK) and Numidia (ITA), (2003), 10KEur; Lattice kinetic methods for the design of microfluidic reactors,

Numerical methods for complex flows of industrial interest, (CNRC00BCBF-001), National Research Council Grant "Agenzia 2000", (2001), 30Keur; Lattice Boltzmann methods for automotve design

Mathematical modeling of the collective dynamics of multi-cellular biochemical systems, Armenise-Harvard Foundation Research Grant, Cell Biology Dept., Harvard Medical School and IAC, (2001), 20Keur; Development of an immune system simulator,

"Multiscale modelling of damaging effects from reactive microflows in disordered media", IAC, Harvard University, Russian Acad. Sciences, Krasnoyarsk, NATO grant (PST.CLG.976357), (2000), 10Keur; Multiscale models for chemical reactive flows in porous media, with focus on heterogeneous catalysis,

"Kinetic theory method for Large Eddy Simulation of Turbulence", DMS-9974289, National Science Foundation (USA), Math. Dept. Yale, IAC, (1999), 250KUSD; Theoretical and computational tools for turbulence modelling,

"Bridging the space and time scales: a computational approach", European Science Foundation, (1999-2003).

"Analisi del campo di moto dell'aria all'interno del vano motore di un autoveicolo", Research contract Univ. Roma I,II-IAC-FIAT, (1998-2000), 30Keur; Lattice Boltzmann models for turbulent flows in complex geometries,

"Microscopic simulation of heterogeneus catalysis", Center for Non-Linear Physics, Universite' Libre Brussels, Belgium-Italy scientific cooperation agremeent, (1997-8), 5Keur; Lattice gas and lattice Boltzmann methods for the simulation of heterogeneous catalysis

"Turbulence and Combustion Modeling on Massively Parallel Machines", ENEA- University of Rome, (1996-98), 15Keur, Development of massively parallel codes for the simulation of turbulent combustion

1986-1995 IBM coordinator of several projects with industrial partners, such as Fiat, Piaggio, ENI, Air Liquide, Rhone-Poulenc, Meteofrance, Renault, Daimler-Benz, Shell, Brown-Boveri, Boeing, Ford Motors, EXA Corporation.

Professional services

Editorial activity
Associate Editor: Physical Review E, J. Sci. Comp., Int. J. Mod. Phys C: Physics and Computers, Applied Rheology, Physica A, Commun. in Comput. Phys., Europhys. Lett., J. Stat. Phys.: Theory and Experiment, Computing, Frontiers of Computational Physics, Scientific Reports, Journal of Computational Science.

Guest Editor Transport Theory (1993), Phil. Trans. Roy. Soc. (2000, 2010,2020), Entropy (2015).

Referee for nearly 100 international Journals, including: Nature Phys., Nature Comm.,Phys. Rev. Lett., Phys. Rev. A,B,D,E,X, PNAS, Phys. Fluids, EPL, J. Comp. Phys, J. Chem. Phys, Nature Sci. Rep..

Evaluator for numerous national and international research funding Agencies, Foundations and Academies, including:
World Cultural Council, ERC (European Research Council), INFM (National Institute for the Physics of Matter), MURST (Italian Ministry for University and Research), Italian SuperComputing Resource Allocation (ISCRA), Knuth and Alice Wallenberg Foundation (Sweden), Dublin Research Institute, Ireland, Swiss Supercomputing Center, The Partnership for Advanced Computing in Europe (PRACE), Swiss Polytechnic Institute Zuerich, Ministry of Education, Hellenic Republic, ICTP, Trieste, Deutsche Forschung Gesellschaft, Centre Europeen de Calcul Atomique and Moleculaire (CECAM), Academy of Finland, Academie Wallonie-Bruxelles, NATO Scientific Exchange Program, Alexander von Humboldt Foundation, Philip Leverhulme Prize Foundation (UK), Trinity College, Cambridge (UK) Branco-Weiss Foundation, (Switzerland), Josef Krainer Prize, (Austria), Paul-Scherrer Institute, (Switzerland), Romanian National Authority for Scientific Research and Innovation, European Science Foundation, Swiss National Science Foundation, Dutch Basic Science Funding Program, Fonds National de Recherche Luxenburg, Netherlands e-Science Center, National Science Foundation, USA, Research Council of Canada, Stony Brook, Princeton, Columbia University, Haverford College. Hong-Kong Research Council, American University in Armenia, Israeli Science Foundation, Tata Institute of Fundamental Research (India), Jawarhal Nehru Research Center, (India), Indian Center of Science Education and Research, Harvard Society of Fellows, Carnegie Mellon.

Boards and Scientific Committees Member of over fifty internal scientific Committees and Advisory boards of scientific/industrial Consortia.

Scientific Consortia

Member of the Scientific Advisory Committee of the European Center for Atomic and Molecular Computing (CECAM), 2016;

Chairman of the Scientific Advisory Board of the UK Consortium on Mesoscale Engineering Sciences (COMES), 2013-current;

Member of the Scientific Committee of CRS4 (Centro Ricerche Sviluppo Studi Superiori Sardegna), 2001;

Member of the scientific advisory board of EXA Corporation, Boston (USA), 2000-current;

Member of the scientific board of SCIRE: Scientific Consortium for Industrial Research, (FIAT Elasis-University of Rome),2001-2.

Scientific Committees

Member of the Scientific Board of “Consorzio Archimede”, (IBM-Finsiel-Catania University), 1993-95;

Member of the special committee on “Environmental Modelling Project”, appointed by the CRS4 (Centro Ricerche Sviluppo Studi Superiori Sardegna), 1991;

Member and twice chairman of the scientific committee on “Discrete Simulation of Fluid Dynamics” for the last $20+$ years, 1994-current, Princeton, Oxford, Tokyo, Santa Fe, Cargese, Beirut, Boston, Kyoto, Geneva, Banff, Florianopolis, Beijing, Rome, Fargo, Bangalore, Yerevan, Paris, Edinburgh;

Member of the National Research Council committee for national fellowship assignement, Mathematics Group, October 1996.

Chairman appointed by IBM Europe of the IBM Summer Institute on Computational Fluid Dynamics (Oberlech, August 1992)

Chairman appointed by the European Mechanic Council, of EUROMECH 287 "Discrete Models in Fluid Dynamics: theory, numerical simulation, experiment", (Cagliari, Sept. 1992)

Member of Scientific Advisory Committee of Physics Computing ’94, appointed by Computational Physics Group, European Physical Society, 1994;

Member of Scientific Committee of the Symposium “Automi cellulari per Ricerca e Industria”, Rende (Italy), September 1994;

Chairman of the tutorial on "Programmming Tools in High performance Computing", High Performance Computing and Networking European conference, Milan, 1995;

Chairman of the ’Special Technological Session’ on Parallel Computing, ECCOMAS conference, Paris, Sept. ’96;

Member of Scientific Committee of the Euroconference "Microscopic approach to complexity in non-equilibrium molecular simulations", Lyon, July ’96;

Member of Scientific Committee of the Symposium "Automi cellulari per Ricerca e Industria", Milan (Italy), Oct. ’96;

Member of the National Research Council committee for international fellowship assignement, Mathematics Group, April ’97;

Member of the scientific committee of the Year Study "Mathematical Problems in Fluid Dynamics", Rome, July, 1997;

Member of the European organizing committee of "ECCOMASS 98", Athens, Sept. ’98;

Member of the organizing committee of "High-Performance Computing Symp.", Boston, April ’98;

Member of the organizing committee of "High-Performance Computing Symp.", San Diego, April 99;

Member of the organizing committee of "High-Performance Computing Symp.", Washington D.C., April 2000;

Member of the organizing committee of "High-Performance Computing Symp.", San Diego, April 2001;

Member of the scientific committee of the Int. Symp. "Bridging the time scales", Konstanz, Sept. 2001;

Member of the National Research Council Selection Committee for the appointment of a permanent research position at Istituto Applicazioni Calcolo, 2001;

Member of the scientific committee, Picone Lectures, Roma, 2002;

Member of the organizing committee of "High-Performance Computing Symp. 2002", San Diego, April 2002;

Member of the International scientific committee, Int. Conf. Comp. Sci. ICCS 2003, St Petersburg, 2003;

Member of the International scientific committee, Conference on Computational Physics 2004, Genoa, Italy, Sept. 2004;

Member of the international scientific committee, INFM Meeting, Genoa, Italy, June 2004;

Co-chairman of the minisymposium on Advances in Discrete Kinetic Theory, National Symp. of Italian Industrial and Applied Math Soc., Venice, Sept. 2004;

Co-chairman of the minisymposium on Lattice Boltzmann methods, 3rd MIT Conference on Computational Fluid and Solid Dynamics, Boston, USA, June 2005;

Member of the international scientific committee, Int. Conf. on Comput. Heat and Mass Transfer, Paris, May 2005;

Member of the International scientific committee, Conference on Computational Physics 2007, Brussels, Belgium, Sept. 2007;

Chairman of the European Science Foundation Workshop "Microfluidics: Theory and Experiments", Frascati, September 2007;

Member of the International scientific committee, 1st Black Forest Conference on Soft Matter Simulation, Freiburg, Germany, July 2009;

Co-organizer of the workshop "Multiscale Fluid Dynamics with Lattice Boltzmann", Lorentz Center, Leiden University, Feb. 2011;

Member of the International Scientific/Advisory Committee of Conference on Mathematical Modeling in Physical Sciences, Budapest, 2012

Co-organizer of the *Solvay Symposium* on Multiscale Modeling at the Biology/Chemistry/Physics interface, Brussels, Belgium, 2016;

Member of the APS 2018 Aneesur Rahman Prize Committee

Affiliations and Societies

American Physical Society, European Physical Society, Italian Institute of Matter Physics (INFM, 1998-2006) and Italian Institute Nuclear Physics (INFN, 2012-13).

Personality and communication skills

I have reasons to believe that my personality and communication skills are generally well received by my peers. This is witnessed by a large number of invitations to deliver talks worldwide, including a number for the general public and also by the high evaluation scores I receive by my students at Scuola Normale di Pisa and Harvard. Having spent a significant part of my activity abroad, I am well accustomed to international relationships. My mother tongue is Italian, I am fluent in English and French and I survive reasonably on my German and Spanish.

Knowledge of the European Scientific Institutions

My professional profile is characterised by an intense international mobility, especially Europe and USA. This said, my activity has been always strongly rooted in European Institutions, as witnessed by the long-term continued support to my research by European agencies, including an ERC Advanced Grant (2017). In addition, I have held a number of visiting teaching/research appointments in several European research institutions and also contributed to the governance of European Science through my contribution to various European Panels, Boards and Committees.