

# Europass Curriculum Vitae



## Personal information

Surname(s) / First name(s)

Address(es)

Email(s)

Nationality(-ies)

Gender

**Dr. Sauro Succi, PhD**

66, Via del Pianeta Terra, Rome, Italy

sauro.succi@gmail.com; succi@seas.harvard.edu  
succo@iac.cnr.it

Italian

Male

## Occupational field

**Senior Research Executive, Italian Institute of Technology**

**Visiting Professor**

School of Engineering and Applied Sciences, Harvard University

ORCID ID

Statistics

<https://orcid.org/0000-0002-3070-3079>

**H-Index** - Google Scholar database

**H = 66**

**Number of Citations**

**N = 25000+**

(Google Scholar data bases: these number contain a few spurious entries, but also miss some early papers)

## Education

**1987**

PhD degree in Physics, Ecole Polytechnique Federale de Lausanne, Plasma Physics Research Center;

**1980**

Specialty in Applied Neutronics, Nuclear Engineering Dept., University of Bologna;

**1979**

Degree in Nuclear Engineering, (cum laude), University of Bologna

## Professional Cursus

**2018-current**

Senior Researcher and Principal Investigator, Center for Nano Science of Life at la Sapienza, Roma, Istituto Italiano di Tecnologia, Head of the research line "Computational Medicine";

**1995-2018**

Director of Research, Istituto Applicazioni Calcolo, CNR Roma, Head of the group "Computational Modeling 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

2019 World Class Professor, Indonesian Ministry of Higher Education  
 2019 Visiting Professor, Higher School of Economics, Moscow  
 2018 Guest Researcher, Ctr for Computational Astrophysics, Simons Foundation, NYC  
 2018 Member of the College of Expert Reviewers of the European Science Foundation  
 2017 External Faculty Member of the Institute for Advanced Studies, Amsterdam  
 2017 Founding Editor of the IOP Series in Computational Physics  
 2017 Beta-Plus Foundation Visiting Chair, Institute for Advanced Studies, Amsterdam  
 2016 Weston Visiting Chair, Weizmann Institute, Rehovot, Israel  
 2014-open Visiting Professor of Computational Science, Institute for Applied Computational Science, Harvard University  
 2013-2016 Member of the Scientific Review Group, European Science Foundation, Strasbourg  
 2011-2012 Raman Professor of the Indian Academy of Sciences, Bangalore, India  
 2010-2010 Visiting Professor, Math. Dept., Yale University  
 2009-2013 External Senior Fellow, Freiburg Institute for Advanced Studies, Germany  
 2009-2011 Guest Professor, ETHZ, Zuerich  
 2008-2009 Visiting Scholar, Tufts University  
 2008-2009 Visiting Scholar, Initiative for Innovative Computing, Harvard University  
 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  
 2005-2006 EPSRC Fellow, Queen Mary College, London, UK  
 2001-2001 Visiting Scholar, Cell Biology Dept, Harvard Medical School  
 2000-open Research Affiliate, Physics Department, Harvard University  
 1998-1998 Visiting Scholar, Mathematics Department, Yale University  
 1995-1995 Visiting Professor, Physics and Computer Science Departments, Chicago Univ.  
 1993-1993 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 over 400 papers in international scientific journals, totalling over 12,000 *ISI cites*, ( $h = 53$ , *top-cited* 1300+), over 25,000 *Google Scholar cites*, ( $h = 65$ , *top-cited* 5500+,  $i_{10} = 278$ ) and nearly 100 papers in refereed conference Proceedings.

In addition, I have published three 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*".

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.

My name is included in the list of Top Italian Scientists. ([http://www.topitalianscientists.org/Top\\_italian\\_scientists\\_VIA-Academy.aspx](http://www.topitalianscientists.org/Top_italian_scientists_VIA-Academy.aspx))

## Honors and Awards

- 2019** **Bernie Alder CECAM Prize for microscopic simulation of matter**
- 2017** **European Research Council Advanced Grant**, "Computational Design of Porous mesoscale MATerials" (COPMAT)
- 2017** **Aneesur Rahman Prize for Computational Physics**, American Physical Society
- 2017** Distinguished EPL Referee, European Physical Society
- 2017** Aneesur Rahman Lecture, APS meeting, New Orleans
- 2016** Member of the Editorial Board of Physical Review E: Computational Physics
- 2016** Third Graeme Bird Lecture, 30th Int. Symp. on Rarefied Gas Dynamics, Univ. of Alberta, BC, Canada
- 2016** The paper "Lattice Boltzmann 2038" selected for inclusion in the EPL Highlights 2016
- 2015** **Elected Member of the Academia Europaea** ([www.ae-info.org](http://www.ae-info.org))
- 2015** The paper "Extended self-similarity in turbulent flows", R. Benzi, S. Ciliberto, R. Tripicciono, 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
- 2015** Outstanding reviewer of Physica A: Statistical Mechanics and Applications
- 2014** P.L. Bhatnagar Memorial Lecture, 59th ISTAM Conference, Bangaluru, India (declined for contingent reasons)
- 2013** Outstanding Referee of the Physical Review and Physical Review Letters
- 2013** Senior Visiting Fellow of the Erwin Schrodinger Institute, Vienna
- 2012** Alexander von Humboldt Award renewal
- 2012** **Featured in the list of the Top Italian Scientists**
- 2012** Raman Lecture, Indian Academy of Sciences, Bangalore, India
- 2011** Honorable mention to the Gordon Bell Supercomputing Contest, 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, has been 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

- 2016** Caterina Sforza sigillum, the highest civic honour bestowed by the city of Forlì to her natives.
- 2008** Leonardo Melandri Prize for Culture and Science, from the Chamber of Commerce of Forlì-Cesena

## Plenary Talks

- 2019** Multiscale modelling of soft glassy materials, Platinum seminar, Monash University, Melbourne, June 2019
- 2019** Multiscale modelling of soft glassy materials, Annual meeting of the Australian Material Science Society, Melbourne, June 2019
- 2019** Computational Physics in Modern Industry, Lectio Magistralis, SISSA/ICTP master in High Performance Computing, 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
- 2018** The unreasonable effectiveness of the Boltzmann Equation, Plenary lecture, MAS-COT2018, Sep. 2018, Rome, Italy
- 2018** Computational models of soft flowing crystals, Plenary lecture, Kinetic and Transport Equations 2018, Sep. 2018, Parma, Italy
- 2018** Towards Exascale Lattice Boltzmann Computing, Plenary lecture, Int. Conf. on Co-operative Phenomena, July 2018, Makassar, Indonesia, declined
- 2018** Computational models of soft mesoscale materials, Plenary lecture, HPC-LEAP, July 2018, Cambridge, UK
- 2018** Fluids and Particles for large scale simulations in physics and biology, Keynote lecture, Parallel CFD 2018, Indianapolis, USA
- 2018** 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
- 2017** Computational Explorations of Complex Flowing Matter at the Physics-Biology Interface, Solvay Colloquium, Solvay Institute, Brussels
- 2017** 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, 31st Symposium on Naval Hydrodynamics, Monterey, USA
- 2016** 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
- 2014** Lattice Boltzmann simulation across scales, Plenary talk, 26th IUPAP Int. Conf. on Computational Physics, Boston
- 2014** 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

- Computational design of mesoscale materials, MASCOT Conference, Rome, Oct 2018
- 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,

Lattice Boltzmann modeling for quantum fluids, *Center for Computational Science*, Manno, Switzerland, Dec. 2009,

Multiscale Lattice Boltzmann Molecular Dynamics Simulations: translocation of biopolymers through nanopores, *Freiburg Institute for Advanced Studies*, Freiburg, November 2008,

Multiscale simulation of nano-biological flows, *Lorentz Center workshop on Physics of Micro and Nano-fluids*, Leiden, June 2008,

Multiscale Lattice Boltzmann Molecular Dynamics simulations of biopolymers on the Blue-Gene supercomputer, *5th ICMMES Conference*, Amsterdam, June 2008,

Hydrokinetic approach to microfluidics, *SimBioMa Conference*, Konstanz, April 2008,

Boltzmann approach to fluid turbulence, *Solvay Workshop: A tribute to Professor Radu Balescu*, Brussels, March 2008,

Lattice Boltzmann across scales: from turbulence to DNA translocation, *23rd STAT-PHYS Conference*, Genova, July 2007,

Multiscale Lattice Boltzmann Molecular Dynamics modeling of biopolymer translocation across nanopores, *Computations in Nanotechnology*, Technion University, Haifa, Israel, May 2007,

Lattice Boltzmann across scales: from turbulence to DNA Translocation, *Leicester Distinguished Lecture*, Univ. of Leicester, UK, November, 2006,

New Frontiers of Boltzmann Kinetic Theory: from turbulence to DNA Translocation, *Killam Award Lecture*, Univ. of Calgary, Canada, Sept. 2006,

Lattice Boltzmann Computing, *3rd Int. Conf. on Fluid Mechanics and Fluid Power*, Bombay, December 2006,

Plenty of space in the middle: prospects of computational kinetic theory in nanoscience applications, *Synergy between Experiment and Computation in Nanoscale Science*, Harvard, May 2006,

Lattice kinetic methods for mesoscale dynamics, *MESODYN Workshop*, Juelich, April 2006,

Lattice Boltzmann Computing for Multiscale Applications, *2nd ETHZ Workshop on Multiscale Modeling*, Zuerich, Oct. 2005,

Lattice Boltzmann for Computational Fluid Dynamics, *V Symposium on Computational Heat and Mass Transfer*, Paris, May 2005,

Recent Advances in Lattice Boltzmann Computing, *6th Asian Conference in Computational Fluid Mechanics*, Taiwan, August 2005,

*Third MIT Conference on Computational Fluid and Solid Mechanics*, Boston, June 2005,

*Chemistry Department, Cambridge University, UK, April 2004,*  
*First Reality-Grid Workshop, Royal Society , London, June 2004,*  
*International Workshop on Numerical and Asymptotic Methods for Kinetic Equations,*  
*Saarland, (Germany), April 2004,*  
 Mesoscopic particle methods for complex flows, *ICCS Symposium on Computational Science,* St Petersburg, (Russia), June 2003,  
 Accelerated lattice Boltzmann method for steady-state flows, *11th International Conference on Fluid Dynamics and Soft Condensed Matter,* Shanghai, August 2002,  
 Lattice Boltzmann methods for reactive micro-flows, *SIMU Conference on Computational Physics,* Konstanz, September 2001,  
 Multiphysics applications of the Lattice Boltzmann method, *Europhysics Conference on Computational Physics, CCP01 Aachen,* Sept. 2000,  
 An introduction to the lattice Boltzmann method, *China-Europe-USA Fluid Mechanics Symposium,* Beijing, August 1999,  
 Elimination of fast variables via fictitious lattice dynamics, *Summerschool on "Computer simulations of rare events and the dynamics of classical and quantum condensed phase systems",* Lerici, July 1997,  
 Application of Lattice Boltzmann Methods to Fluid Dynamics, *AGARD Conference 578, Progress and Challenges in CFD Methods and Algorithms,* Sevilla, Sept. 1996,  
 Lattice Boltzmann method: a review with a glance to astrophysics, *Int. Workshop on "Cellular Automata Models: Prospects in Astrophysical Applications",* Lieges, Oct. 1992,  
*Europhysics Conference on Computational Physics,* Prague, CCP92, Sept. 1992,  
*5th Symposium on Discrete Simulation of Fluid Dynamics,* Princeton, June 1992,  
 Hydrodynamic behaviour of the Lattice Boltzmann Equation, *Workshop on "Numerical methods for the Simulation of Multi-Phase and Complex Flow",* Shell Lab, Amsterdam, 1990,  
*2st IBM Academic and Research Symposium on Large Scale Computing,* la Hulpe, Belgium, March 1988.

## 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).

## Didactical 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. 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(1), Canada(1).

## Project management

1995-current

Principal IAC investigator on the following grants:

*COPMAT*, ERC Advanced Grant 739964, (2017-22), 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 automotive 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 heterogeneous catalysis"*, Center for Non-Linear Physics, Universite' Libre Brussels, Belgium-Italy scientific cooperation agreement, (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*  
*Referee*

Transport Theory (1993), Phil. Trans. Roy. Soc. (2000, 2010), Entropy (2015).  
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), INFN (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 Luxembourg, 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.

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.  
Member of the Scientific Board of "Consortio Archimede", (IBM-Finisiel-Catania University), 1993-95;  
Member of the special committee on "Environmental Modelling Project", appointed by the CRS4 (Centro Ricerche Sviluppo Studi Superiori Sardegna), 1991;

*Scientific Committees*

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 assignment, 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 "Programming 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 assignment, 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

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

## Affiliations and Societies

## Languages

Dr Succi is fluent in English and French and survives reasonably on his German and Spanish.

Mother tongue(s)  
Other languages  
Self-assessment  
European level(\*)

**English**  
**French**  
**German**  
**Spanish**

**Top ten cited  
publications  
(chronological order)**

## Italian

### English, French, German and Spanish

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user
C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user

1. MHD-limits to plasma confinement, By: Troyon, F; Gruber, R; Saurenmann, H; et al., PLASMA PHYSICS AND CONTROLLED FUSION Volume: 26 Issue: 1 Pages: 209-215 Published: 1984,
2. Lattice Gas Dynamics with Enhanced Collisions, By: Higuera, FJ; Succi, S; Benzi, R, EUROPHYSICS LETTERS Volume: 9 Issue: 4 Pages: 345-349 Published: JUN 15 1989,
3. Three-dimensional flows in complex geometries with the Lattice Boltzmann method, By: Succi, S; Foti, E; Higuera, F, EUROPHYSICS LETTERS Volume: 10 Issue: 5 Pages: 433-438 Published: NOV 1 1989,
4. The Lattice Boltzmann equation: Theory and Applications, By: Benzi, R; Succi, S; Vergassola, M, PHYSICS REPORTS-REVIEW SECTION OF PHYSICS LETTERS Volume: 222 Issue: 3 Pages: 145-197 Published: DEC 1992,
5. Extended self-similarity in turbulent flows, By: Benzi, R; Ciliberto, S; Tripiccion, R; et al., PHYSICAL REVIEW E Volume: 48 Issue: 1 Pages: R29-R32 Published: JUL 1993,
6. Ground state of trapped interacting Bose-Einstein condensates by an explicit imaginary-time algorithm, By: Chiofalo, ML; Succi, S; Tosi, MP, PHYSICAL REVIEW E Volume: 62 Issue: 5 Pages: 7438-7444 Part: B Published: NOV 2000,
7. Mesoscopic modeling of slip motion at fluid-solid interfaces with heterogeneous catalysis, By: Succi, S, PHYSICAL REVIEW LETTERS Volume: 89 Issue: 6 Article Number: 064502 Published: AUG 5 2002,
8. Extended Boltzmann kinetic equation for turbulent flows, By: Chen, HD; Kandasamy, S; Orszag, S; et al., SCIENCE Volume: 301 Issue: 5633 Pages: 633-636 Published: AUG 1 2003,
9. Surface roughness-hydrophobicity coupling in microchannel and nanochannel flows, By: Sbragaglia, M.; Benzi, R.; Biferale, L.; et al., PHYSICAL REVIEW LETTERS Volume: 97 Issue: 20 Article Number: 204503 Published: NOV 17 2006,
10. Generalized lattice Boltzmann method with multirange pseudopotential, By: Sbragaglia, M.; Benzi, R.; Biferale, L.; et al., PHYSICAL REVIEW E Volume: 75 Issue: 2 Article Number: 026702 Part: 2 Published: FEB 2007,

The first entry in the above list should be *Regime of Improved Confinement and High Beta in Neutral-Beam-Heated Divertor Discharges of the ASDEX Tokamak*, by F. Wagner, G. Becker, K. Behringer, D. Campbell, A. Eberhagen, et al, PRL 49, 1408 (1982), reporting the landmark discovery of a new high-confinement regime, known as H-mode. However, my name does not appear because I left Max-Planck in July 1982 and the paper was submitted in August 1982.