

CURRICULUM VITAE STEFANO UBERTINI

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Current position:

Professor of Fluid Machinery and Energy Systems, University of Tuscia, Italy

Rector of the University of Tuscia, Italy

Education & professional records:

1 November 2019 – today **Rector** of the University of Tuscia, Italy

2017 – 2019 **Director of the Department** of Economics, Engineering, Society and Organization and **Member of the Academic Senate** of the University of Tuscia.

2012 – today **Professor** of Fluid Machinery and Energy Systems at the School of Engineering, University of Tuscia.

2015-2016 **Coordinator of the International PhD program** in "Engineering for Energy and Environment" at the University of Tuscia.

2015-2016 **Chairman of the MSc in Mechanical Engineering** at the University of Tuscia.

2012-2017 **Chairman of the BSc in Industrial Engineering** at the University of Tuscia.

2012-2015 **Visiting Research Professor** in the Department of Mechanical and Aerospace Engineering of the New York University.

2007 - 2012 **Associate Professor** of Fluid Machinery and Energy Systems at the School of Engineering, University of Naples "Parthenope".

2004– 2007 **Assistant Professor** of Fluid Machinery and Energy Systems at the School of Engineering, University of Rome "Tor Vergata".

2002–2004 **Research Grant** at the Dept. of Mechanical Engineering Dipartimento di Ingegneria Meccanica, University of Rome "Tor Vergata".

1999 - 2002 **Ph.D. Student** "Fluid Machinery and Internal Combustion Engines", at the Polytechnic of Bari in consortium with the University of Perugia

1998 March **MSc in Mechanical Engineering**, 110/110 cum laude, University of Perugia.

He has held several periods of study/research abroad (Von Karman Institute, University of Durham, Drexel University, New York University, Istituto Superior Tecnico of Lisboa).

Didactical activity:

He is currently lecturer of the courses “Applied Thermodynamics” and “Fluid Machinery and Energy systems” for undergraduate students in Industrial Engineering at the Universities of Tuscia and of “Energy Management” and “Advanced Fluid Machinery” for graduate students in Mechanical Engineering at the Universities of Tuscia.

2001 – 2012 He has been teaching “Advanced energy systems”, “Fluid Machinery”, “Internal combustion engines” and “Gas dynamics and combustion” for undergraduate students in Mechanical Engineering at the Universities of Perugia, Rome “La Sapienza”, Rome “Tor Vergata” and Naples “Parthenope”.

He has codirected over 100 Degree, Master and Phd thesis works in Mechanical, Industrial, Environmental and Mechatronics Engineering.

He has been member of several PhD Thesis Jury Committees in several universities in Italy (Rome “La Sapienza”, Rome “Tor Vergata”, Perugia, Trieste, Cassino, and Naples “Parthenope”) and abroad (New York University, University of Seville).

Scientific activity:Research activity:

My research activity has been focused on thermo-fluid dynamics and energy systems with low environmental impact for both propulsion and stationary power production.

I’ve been working in the last 15+ years on the mathematical modelling and computer simulation of complex multiphysics problems, covering thermo-fluid dynamics, aerodynamics, fluid-structure interaction, multiphase flows, flows in porous media, biofluids, ferrofluids, micro and nanofluidics. I also contributed to the development of several original numerical models for injection system hydraulics, air-fuel mixture formation, combustion for the three-dimensional simulation of chemically reactive flows in engine cylinders, fluid structure interaction with buoyant bodies. The activity has been focused on both traditional CFD and kinetic methods (i.e. Lattice Boltzmann Method - LBM), which allow flow modeling at an intermediate level between atomic/molecular interactions and a continuum representation. In particular, I developed and tested novel formulations of the LBM for non-uniform and hybrid grids and variants to model multiphase flows and fluid-structure interaction.

I’ve been also working on experimental fluid dynamics, as the flow field and performance characterization of gas turbine components, vehicle aerodynamics, fluid structure interaction in free surface flows, fuel spray formation and combustion.

In the area of energy systems, I’ve been working on the design and development of energy storage systems and innovative energy systems based on renewable energy sources and hydrogen technologies, as fuel cells and electrolysers, through experimental analyses, three-dimensional simulations and thermodynamic studies of fuel cell based energy systems. I’m currently working also on the development of an extensive set-point optimization concept in the field of distributed generation, through neural networks, deep learning and reinforcement learning methodologies.

This activity resulted in over 100 papers in international scientific journals, totalling over 2,000 SCOPUS cites, (h-index = 30), over 3,000 Google Scholar cites, (h = 35, i10 = 90) and over 50 papers in refereed conference proceedings.

Roles in scientific organizations:

2018 – *today* **Research Foundation - Flanders (FWO)** – Member of the Expertpanels, Science and Technology, W&T7: Energy, Electrical Engineering, Electronics and Mechanics, Belgium.

2013-*today* Member of the **Board of SAENA** – Italian Section of the Society of Automotive Engineers.

2015 – *today* Member of the **Coordination Committee** of the framework agreement between ENEA and the University of Tuscia.

2015 – *today* Member of the **Joint Address Committee** of the framework agreement between the CNR and the University of Tuscia.

2006-2012 Member of the **Board of Directors** of the Scientific Consortium for the Industrial Research and Engineering (SCIRE) for the development and the industrial application of Computational Fluid Dynamics.

2009-*today* Member of the **Board of Directors** of the Centro per l’Innovazione Tecnologica e lo Sviluppo del Territorio (CINTEST) - Università degli Studi della Tuscia.

2011-2012 Member of the **Board of Directors** of the COMETA Consortium (CONSORZIO Multi Ente per la promozione e l'adozione di Tecnologie di calcolo Avanzato).

2007-2013 Member of the **Scientific Committee** of the Honors Center for Italian Universities - H2CU.

2008-2012 **Secretary** of the Automotive Technical Association (Associazione Tecnica dell’Automobile (ATA))- Campania Region Section.

Organization and coordination of scientific initiatives:

2019 Member of the **scientific committee** of the International Conference on Renewable Energy – ICREN 2019, 24-26 April, 2019.

2019 Member of the **scientific committee** of the 1st Conference on Sustainable Mobility (CSM2019), October 2019, Catania, Italy.

2019 Member of the **scientific committee** of the “7th European Fuel Cell Technology & Applications Conference”, Naples, December 2019.

2018 Member of the **scientific committee** of the International Conference on Renewable Energy – ICREN 2018, 25-27 April, 2018.

2017 Member of the **scientific committee** of the “6th European Fuel Cell Technology & Applications Conference”, Naples, December 2017.

2015 Member of the **scientific committee** of the “5th European Fuel Cell Technology & Applications Conference”, Naples, December 2015.

2012 Member of the **scientific committee** of the 25th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS2012), 26-29 June, Perugia.

2011 **Technical Program Chair** of the “4th European Fuel Cell Technology & Applications Conference”, Roma, December 2011.

- 2011 Member of the **Local Organizing Committee** of the workshop "Fuel Cell in the Carbon Cycle", Napoli, 12-13 July, 2010
- 2010 Member of the **Local Organizing Committee** of the 19th International Conference on the Discrete Simulation of Fluid Dynamics (DSFD 2010), Roma, 5-9 July, 2010
- 2009 **Technical Program Manager** and member of the scientific committee of the ASME "3rd European Fuel Cell Technology & Applications Conference", Roma, Dicembre 2009.
- 2009 **Session organizer** at the ThermoComp 2009 First International Conference on Computational Methods for Thermal Problems, Napoli, 8-10 September, 2009
- 2008 Member of the **organizing committee** of the course "An introduction to Lattice Boltzmann Methods for complex flow simulations", 3-8 March, 2008, CNR, Roma.
- 2007 **Technical Program Manager** and member of the scientific committee of the ASME "2nd European Fuel Cell Technology & Applications Conference", Roma, Dicembre 2009.
- 2006 Member of the **Program Committee** of "The 2006 International Conference on High Performance Computing and Communications (HPCC-06)"
- 2005 Member of the **scientific committee** of the ASME "1st European Fuel Cell Technology & Applications Conference".
- 2005 **Session organizer** "Lattice Boltzmann Methods for Computational Fluid Dynamics" at the Third M.I.T. Conference on Computational Fluid and Solid Mechanics, Cambridge.
- 2004 **Minisymposium organizer** "Recent developments in lattice kinetic theory" at the VII international conference SIMAI 2004.

He has served as chairman of technical sessions in several international conferences.

Honors, Awards & Distinctions:

- 2019 Included in the list of the **Top Italian Scientists**.
- 2017 **Best Paper Award** - ICAE 2016.
- 2006 **SAE Excellence in Oral Presentation Award** for the paper "Evaluation of Splash Models with High-Pressure Diesel Spray", SAE World Congress 2006.
- 2005 **ASME Certificate of Appreciation** for a significant contribution to the ASME European Fuel Cell Technology & Applications Conference, 2005.
- 2005 **The Young Researcher Fellowship Award** for exemplary research in computational mechanics at the Third M.I.T. Conference on Computational Fluid and Solid Mechanics".
- 2003 **Invited member** at the first general assembly for the establishment of "The European Hydrogen and Fuel Cell Technology Platform" by the European Commission.
- 2002 **SAE International: Certificate of Appreciation** (Vehicle Configuration Committee); SAE World Congress 2002.

Main invited talks and seminars:

- 2016 Lattice Boltzmann Methods on Unstructured Grids, **Invited lecture**, The Abdus Salam International Centre for Theoretical Physics - College on Multiscale Modeling.
- 2016 Lattice Boltzmann Method for Complex Fluid Flows, **Invited seminar**, Tandon School of Engineering, New York University, New York, USA, 28 April 2016.

2012 Distributed Energy Generation, **Invited lecture**, MSc Sistemas de Energía Termica, University of Seville.

2011 Lattice Boltzmann Methods for Multiphase Flows, **Invited talk**, DSFD 2011 - 20th International Conference on Discrete Simulation of Fluid Dynamics (2011), Fargo, North Dakota, USA, August 8-12, 2011.

2009 Modelling Combustion, **Invited seminar**, New York University, New York, USA

2004 Lattice Boltzmann Methods on Unstructured Grids, **Invited talk**, DSFD 2004 - 13th International Conference on the Discrete Simulation of Fluid Dynamics, Cambridge, Massachusetts, USA, 16-20 August 2004.

2003 Finite volume approach of the discrete lattice Boltzmann equation, Inst. für Computeranwendungen im Bauingenieurwesen, **Invited seminar**, University of Braunschweig, Germany.

2006 Experimental and Numerical Methods for Investigating the Spray-Wall Interaction, **Invited talk** DITICE, Bergamo Italy.

Editorial activity:

2019-today **Member of the Editorial Board** of the journal *Nature Scientific Reports*

2017-today **Guest Editor** of the journal *Applied Energy*, Issue still in progress.

2015-2016 **Guest Editor** of the journal *Applied Energy*, Volume 192.

2013-today **Review Editor** of the journal *Frontiers in Computational Physics*

2008-2013 **Associate Editor** of the journal *ASME Journal of Fuel Cell Science and Technology*

2013-2016 **Member of the editorial board** of the journal *Conference Papers in Energy*

2012-2016 **Member of the editorial board** of the journal *The Scientific World Journal*

2012-2017 **Member of the editorial board** of the journal *Journal of Applied Mathematics*

2010 **Guest editor** of the journal *ASME Journal of Fuel Cell Science and Technology* Volume 6, Issue 2.

2011 **Guest editor** of the journal *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, vol. 369, no. 1944 e no. 1945.

Referee activity:

He has served as a **referee** for several **journals** (among the others International Journal of Hydrogen Energy, Journal of Fuel Cell Science and Technology, International Journal for Numerical Methods in Fluids, International Journal of Modern Physics C, Computer and fluids, Energy, Applied Energy, Environmental Science & Technology, Europhysics letters, Physical review E, Experimental Thermal and Fluid Science, International Journal of Computational Fluid Dynamics, International Journal of Multiphase Flow, International Journal for Numerical Methods in Engineering, International Journal of Numerical Methods for Heat and Fluid Flow, Journal of Statistical Physics, Journal of Power Sources, Physica A, Applied energy, Computers and Mathematics with Applications, International

Journal of Greenhouse Gas Control), **conference proceedings** (i.e. ASME, SAE), and **scientific book publishers** (CRC press).

Research Projects:

Expert activity:

He has been serving as an expert for several **funding organizations**. Among the others:

- European Union – Horizon 2020 research projects.
- Ministry of Education, University and Research, Italian Ministry of Scientific Development, Italy.
- Research Foundation – Flanders, Belgium.
- Portuguese Foundation for Science and Technology (FCT), Portugal.
- Executive Agency for Higher Education, Research, Development and Innovation Funding, Romania.
- Czech Academy of Science, Czech Republic.

Research project coordination:

He has been **principal investigator** of several national and international research projects in the energy sector. Among the others:

2019 – 2022 Research unit leader – Projects of Relevant National Interest (PRIN) 2017 HERMES - High Efficiency Reversible technologies in fully renewable Multi-Energy System.

2015 - 2019 Research unit leader, task leader and member of the General Assembly - “AUTORE - AUTomotive deRivative Energy system” - Horizon 2020, Call: H2020-JTI-FCH-2014-1, (partners: Alstom power, Daimler, Nucellsys, Helbio, Sintef, University of Split).

2018 –2020 Research unit leader - PNR 2015 – 2020 –PON RI 2014-2020, “BIOFEEDSTOCK - Development of integrated technological platforms for the exploitation of residual biomass”.

2018 – 2019 Research unit leader - POR FESR 2014 European Structural and Investment Funds - 2020 Lazio Region - ”HORTA - Humidity Observation by Reflectometer Technique for Agriculture”.

2017 – 2019 Research unit leader - POR FESR 2014 European Structural and Investment Funds - 2020 Lazio Region - “BE POSITIVE - Electric Mobility on Innovative Sustainable and Energetically Optimized Platform”

2015-2019 Scientific responsible of the research activity on energy efficiency on compressed air systems within industrial plants within the Agreement between the Italian Ministry of Economic Development and ENEA, Area: “Efficiency and energy saving in the final use of electrical energy”.

2011-2014 Research unit leader - INDUSTRIA 2015 Made in Italy "HI-ZEV - Innovative Zero Emission Vehicle and Ultra Low Emission Vehicles with High Performances, funded by the Italian Ministry of Economic Development.

2009 –2012 Research unit leader - POR FESR 2007-2013 - European Structural and Investment Funds Lazio Region – “GNSS-based Integrated Aircraft Support System”

2009–2012 Research unit leader - POR FESR 2007-2013 - European Structural and Investment Funds - Regione Lazio – “Remote Supervision And Control Method Of Multiple Power Generation System Using Renewable Energy”.

2007–2011 Research unit leader - POR FESR 2007-2013 - European Structural and Investment Funds - Call TIC 2009 - Regione Umbria – “Design and development of a prototype interrogation system for Fiber Bragg Gratings - FBG”.

2010-2012 National Coordinator – Projects of Relevant National Interest (PRIN) 2008 “Integrated numerical-experimental analysis, prototyping and characterisation of high temperature polymer electrolyte fuel cells” funded by the Italian Ministry of University - MIUR - PRIN 2008 - contract 2008CZWPA9.

2011-2012 Principal investigator - M.I.S.E.-ICE-CRUI – 2010 "Integrated theoretical-numerical-experimental methodology for fluid-structure interaction in the naval sector" in cooperation with Polytechnic Institute NYU, Indian Institute of Technology, Ecole Polytechnique Montreal, CNR - "Istituto per le Applicazioni del Calcolo", project no. 55.

2007–2009 Research unit leader in the research project FIRB “Study, design, development and testing of a new competitive generation of innovative low consumption and low environmental impact MOTORi throughout the entire life cycle” - Italian Ministry for Instruction, University and Scientific Research (MIUR): Bando “Idee progettuali” –contract n. RBIP06YLMY_002.

He has been **member of the research team** in several national and international research projects on competitive calls regarding energy systems, thermo-fluid dynamics and propulsion systems.

He has also **coordinated over 30 research contracts** funded by public and private entities and he has been collaborating on over 50 research projects on fuel cells, internal combustion engines, hybrid vehicles and thermo-fluid dynamics funded by industries or public entities.

Main publications:

1. Ubertini, S., Desideri, U., 2000, Flow Development and Turbulence Length Scales Within an Annular Gas Turbine Exhaust Diffuser, *Experimental Thermal and Fluid Science*, vol. 22/1-2, pp. 55-70.
2. Ubertini, S., Desideri, U., 2000, Experimental Performance Analysis of an Annular Diffuser With and Without Struts, *Experimental Thermal and Fluid Science*, 22/3-4, pp. 183-195.
3. Lunghi, P., Ubertini, S., Desideri, U., 2001, Highly Efficient Electricity Generation Through a Hybrid Molten Carbonate Fuel Cell-Closed Loop Gas Turbine Plant, *Energy Conversion & Management*, vol. 42/14, pp. 1657-1672.
4. Ubertini, S., Lunghi, P., 2001, Assessment of an Ambient Pressure MCFC: External Heated GT Hybrid Plant With Steam Injection and Post-Combustion, *Fuel Cells-From Fundamentals to Systems*, vol. 1 (No.3-4), pp. 174-180.
5. Lunghi, P., Ubertini, S., 2002, Efficiency Upgrading of an Ambient Pressure Molten Carbonate Fuel Cell Plant Through the Introduction of an Indirect Heated Gas Turbine, *ASME Journal of Engineering for Gas Turbines & Power*, vol. 124, issue 4, pp. 858-866.
6. Ubertini, S., Desideri, U., 2003, Design of a Solar Collector For Year-Round Climatisation, *Renewable Energy*, vol. 28 (4), pp. 623-645.

7. Ubertini, S., Desideri, U., 2003, Performance Estimation and Experimental Measurements of a Photovoltaic Roof, *Renewable Energy*, vol. 28 (12), pp. 1833-1850.
8. Ubertini, S., Bella, G. and Succi, S., 2003, Lattice Boltzmann Method on Unstructured Grids: Further Developments, *Physical Review E*, vol. 68, 016701.
9. Lunghi, P., Ubertini, S., 2003, First steps towards fuel cells testing harmonisation: procedures and parameters for single cells performance evaluation, *Fuel Cells-From Fundamentals to Systems*, vol. 3 (No.4), pp. 208-219.
10. Bella, G., Rocco, V., Ubertini, S., 2003, Combustion and Spray Simulation of a DI Turbocharged Diesel Engine, *Journal of Engines - SAE Transactions*, vol. 2002, pp. 2549-2565.
11. Ubertini, S., Succi, S., Bella, G., 2004 Lattice Boltzmann schemes without coordinates, *Philosophical Transactions of the Royal Society of London: Mathematical, Physical & Engineering Sciences*, vol. 362, Issue 1821, pp. 1763-1771.
12. Bella, G., Ubertini, S., Angeletti, M., Sclafani, L., 2004, The Role of CFD on the Aerodynamic Investigation of Motorcycles, *Journal of Passenger Car-Mechanical Systems - SAE Transactions*, vol. 2003, pp. 1103-1112.
13. Ubertini, S., Succi, S., 2005 Recent advances of Lattice Boltzmann Techniques on Unstructured Grids, *Progress in Computational Fluid Dynamics*, vol. 5 (1/2), pp. 84-95.
14. Ubertini, S., Rossi, N., Succi, S., Bella, G., 2005, Unstructured Lattice Boltzmann method in three dimensions, *International Journal for Numerical Methods in Fluids*, vol. 49, pp. 619-633.
15. Pontoppidan, M., Ausiello, F., Ubertini, S., Bella, G., 2005, Study of the impact of the spray shape stability and the combustion process of supply pressure fluctuations in CR-Diesel Injectors, *Journal of Engines - SAE Transactions*, vol. 3 (2004), pp. 15-41
16. Bove, R., Ubertini, S., 2006, Modeling solid oxide fuel cell operation: approaches, techniques and results, *Journal of Power Sources*, 159 (2006) 543–559.
17. Ubertini, S., 2006, Injection pressure fluctuations model applied to a multi-dimensional code for diesel engines simulation, *ASME Journal of Engineering for Gas Turbines & Power*, vol. 128, pp. 1-8.
18. Tosi, F., Ubertini, S., Succi, S., Chen, H., Karlin, I., 2006, A comparison of single-time relaxation lattice Boltzmann schemes with enhanced stability, *International Journal of Modern Physics C*, Vol. 17, No. 10 (2006), 1-16.
19. Tosi, F., Ubertini, S., Succi, S., Chen, H., Karlin, I., 2006, Numerical stability of entropic versus positivity-enforcing lattice Boltzmann schemes, *Mathematics and Computers in Simulation*, 72, 227 – 231.
20. Ubertini, S., Bella, G., Succi, S., 2006, Unstructured Lattice Boltzmann Equation with Memory, *Mathematics and Computers in Simulation* 72 (2006) 237–241.
21. Tosi, F., Ubertini, S., Succi, S., Karlin, I., 2007, Optimization strategies for the entropic lattice Boltzmann method, *Journal of Scientific Computing*, 30(3): 369-387 (2007).
22. Allocca, L., Andreassi, L., Ubertini, S., 2007, Enhanced Splash Models for High Pressure Diesel Sprays, *ASME Journal of Engineering for Gas Turbines & Power*, Volume 129, Issue 2, pp. 609-621.
23. Andreassi, L., Ubertini, S., Allocca, L., 2007, Experimental and numerical analysis of high pressure diesel spray–wall interaction, *International Journal of Multiphase Flow*, 33, 7, pp. 742-765.

24. Andreassi, L., Rubeo, G., Ubertini, S., Lunghi, P., Bove, R., 2007, Experimental and numerical analysis of a radial flow solid oxide fuel cell, *International Journal of Hydrogen Energy* 32 (2007) 4559– 4574.
25. Ubertini, S., Succi, S., 2008, A generalised lattice Boltzmann equation on unstructured grids, *Commun. Comput. Phys.*, 3 (2008), pp. 342-356.
26. Ubertini, S., Andreassi, L., Toro, C., 2009, Modeling Carbon Monoxide Direct Oxidation in Solid Oxide Fuel Cells, *ASME Journal of Fuel Cell Science and Technology*, Vol. 6, Issue 2, 021307, 1-15.
27. Pontrelli, G., Ubertini, S., Succi, S., 2009, The Unstructured Lattice Boltzmann method for Non-Newtonian flows, *Journal of Stat. Mechanics: Theory and Experiment* P06005 doi: 10.1088/1742-5468/2009/06/P06005.
28. Andreassi, L., Ciminelli, M.V., Feola, M., Ubertini, S., 2009, Innovative method for energy management: Modelling and optimal operation of energy systems, *Energy & Buildings*, 41, Issue 4, pp. 436-444.
29. Chiappini, D., Bella, G., Succi, S, Ubertini, S., 2009, Applications of Finite-Difference Lattice Boltzmann Method to Breakup and Coalescence in Multiphase Flows, *International Journal of Modern Physics C*, Vol. 20, No. 11 (2009) 1803-1816.
30. Bove, R., Ubertini, S., 2009, European Fuel Cell Technology and Applications, December 2007, Preface, *J. Fuel Cell Sci. Technol.*, vol. 6, issue 2, 020301 (Preface) IF 2010: 0.884.
31. Bella, G., Chiappini, D., Ubertini, S., 2009, Modeling liquid break-up through a kinetic approach, *SAE International Journal of Engines*, Vol. 2010, No. 2, 390-399.
32. Falcucci, G., Ubertini, S., Palpacelli, S., De Maio, A., Bella, G., 2010, Lattice Boltzmann Modeling of Diesel Spray Formation and Break-Up, *SAE Int. J. Fuels Lubr.* vol. 2010, n. 3, 582-593.
33. Ubertini, S., Asinari, P., Succi, S., 2010, Three ways to lattice Boltzmann: a unified time-marching picture, *Physical Review E*, 81, 1, Article number 016311.
34. Andreassi, L., Facci, A., Ubertini, S., 2010, Numerical simulation of gaseous fuel injection: a new methodology for multi-dimensional modelling, *International Journal for Numerical Methods in Fluids*, 64, 6, 609-626.
35. Chiappini, D., Bella, G., Succi, S, Toschi, F., Ubertini, S., 2010, Improved Lattice Boltzmann without parasitic currents for Rayleigh-Taylor instability, *Commun. Comput. Phys.*, 7 (2010), pp. 423-444.
36. Andreassi, L., Facci, A., Ubertini, S., 2010, Three-dimensional simulation of gaseous fuel injection through a hybrid approach, *ASME Journal of Engineering for Gas Turbines & Power*, vol 132, Issue 7, 074502 doi:10.1115/1.4000288.
37. Falcucci, G., Succi, S., Ubertini, S., 2010, Magnetically driven droplet break-up and vaporization: a lattice Boltzmann study, *Journal of Stat. Mechanics: Theory and Experiment*, P05010, doi: 10.1088/1742-5468/2010/05/P05010.
38. Janela, J., Sequeira, A., Pontrelli, G., Succi, S. Ubertini, S., 2010, Unstructured Lattice Boltzmann Method For Hemodynamic Flows With Shear-Dependent Viscosity, *International Journal of Modern Physics C*, Vol. 21, No. 6 (2010) 795-811.
39. Falcucci, G., Ubertini, S., Succi, S., 2010, Lattice Boltzmann simulations of phase-separating flows at large density ratios: the case of doubly-attractive pseudo-potentials, *Soft Matter*, 6, 18, 4357-4365.

40. Andreassi, L., Krastev, V., Facci, A.L., Ubertini, S., 2010, Multidimensional Modelling of Gaseous Injection: Analysis of an Impinging Jet, *International Journal of Heat and Fluid Flow*, Vol. 31, Issue 5, 909-915.
41. Falcucci, G., Ubertini, S., Biscarini, C., Di Francesco, S., Chiappini, D., Palpacelli, S., De Maio, A., Succi, S., 2011, Lattice Boltzmann Methods for multiphase flow simulations across scales, *Commun. Comput. Phys.*, Vol. 9, No. 2, pp. 269-296.
42. Andreassi, L., Chiappini, D., Jannelli, E., Ubertini, S., 2011, Ultra Low Carbon Dioxide Emission MCFC Based Power Plant, *Journal of Fuel Cell Science and Technology*, Vol. 8, Issue 3, 031003.
43. Chiappini, D., Facci, A., Tribioli, L., Ubertini, S., 2011, SOFC Management in Distributed Energy Systems, *Journal of Fuel Cell Science and Technology*, Vol. 8, Issue 3, 031015.
44. Falcucci, G., Ubertini, S., Chiappini, D., Succi, S., 2011, Modern Lattice Boltzmann Methods for Multiphase Micro-Flows, *IMA Journal of Applied Mathematics*, 76-5, pp. 712-725.
45. Falcucci, G., Aureli, M., Ubertini, S., Porfiri, M., 2011, Transverse Harmonic Oscillations of Laminae in Viscous Fluids: a Lattice Boltzmann Study, *Philosophical Transactions of the Royal Society of London: Mathematical, Physical & Engineering Sciences*, 369- 1945, pp. 2456-2466.
46. Biferale, L., Coveney, P.V., Ubertini, S., Succi, S. 2011, Discrete simulation of fluid dynamics: Applications, *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, vol. 369, no. 1945, pp. 2384-2386.
47. Biferale, L., Coveney, P.V., Ubertini, S., Succi, S. 2011, Discrete simulation of fluid dynamics: Methods, *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, vol. 369, no. 1945, pp. 2384-2386.
48. Zarghami, A., Maghrebi, M.J., Ubertini, S., Succi, S., 2011, Modeling of bifurcation phenomena in suddenly expanded Flows with a new finite volume lattice Boltzmann method, *Int. J. of Mod. Phys. C*. Vol: 22 - 9, pp. 977.
49. Zarghami, A., Maghrebi, M.J., Ghasemi, J., Ubertini, S., 2012, Lattice Boltzmann Finite Volume Formulation with Improved Stability, *Commun. Comput. Phys.*, 12 (2012), pp. 42-64.
50. Colosqui, C., Falcucci, G., Ubertini, S., Succi, S., 2012, Mesoscopic simulation of non-ideal fluids with self-tuning of the equation of state, *Soft Matter*, 8, 14, 3798-3809.
51. G. Falcucci, S. Ubertini, M. Minutillo, E. Jannelli, 2012, Fluid Dynamic Investigation of Channel Design in High Temperature PEM Fuel Cells, *Journal of Fuel Cell Science and Technology*, vol. 9, issue 2, 021014.
52. Falcucci, G., Ubertini, S., Bella, G., Succi, S., 2013, Lattice Boltzmann Simulation of Cavitating Flows, *Commun. Comput. Phys.*, Vol. 13, No. 3, pp. 685-695.
53. De Rosis A., Falcucci, G., Ubertini, S., Ubertini F., Succi, S., 2013, Lattice Boltzmann Analysis of Fluid-Structure Interaction with Moving Boundaries, *Commun. Comput. Phys.*, Vol. 13, No. 3, pp. 823-834.
54. Falcucci, G., Jannelli, E., Minutillo, M., Ubertini, S., Han, J., Yoon, S.P., Nam, S.W., 2012, Integrated numerical and experimental study of a MCFC-plasma gasifier energy system, *Applied Energy*, 97, 734-742.
55. Zarghami, A., Ubertini, S., Succi, S., 2013, Finite-volume lattice Boltzmann modeling of thermal transport in nanofluids, *Computer & Fluids*, 77 (2013) 56–65.

56. Zarghami, A., Ubertini, S., Succi, S., 2013, Finite Volume Formulation of Thermal Lattice Boltzmann Method, *International Journal of Numerical Methods for Heat and Fluid Flow*, Vol. 24 issue 2, 270 - 289.
57. Sánchez, D., Ubertini, S., Muñoz de Escalona, J. M., Chacartegui, R., 2013, Potential of Molten Carbonate Fuel Cells to reduce the carbon footprint of large reciprocating engines, *International Journal of Hydrogen Energy*, 39 (8), 4081-4088.
58. Falcucci, G., Jannelli, E., Succi, S., Ubertini, S., 2013, Direct Numerical Evidence of Stress-Induced Cavitation, *Journal of Fluids Mechanics*, Vol. 728, 2013, 362-375.
59. De Rosis, A., Falcucci, G. Ubertini, F., Ubertini, S., 2013, A coupled lattice Boltzmann-finite element approach for two-dimensional fluid-structure interaction, *Computers & Fluids*, Vol. 86, 2013, 558-568.
60. Facci, A.L., Andreassi, L., Ubertini, S., Sciubba, E., 2013, Analysis of the influence of thermal energy storage on the optimal management of a trigeneration plant, *Energy Procedia*, Vol. 45, 2013, 1295-1304.
61. Falcucci, G., Jannelli, E., Ubertini, S., Bella, G., 2013, Direct Numerical Simulation of Flow Induced Cavitation in Orifices, *SAE International Journal of Fuels and Lubricants*, Volume 6, Issue 3.
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Ai sensi del D.Lgs. 196/2003, autorizzo il trattamento dei miei dati personali

Viterbo 02/12/2020

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