

# Dr. Sauro Succi: Publications in Scientific Journals

## References

- [1] G. Spiga, S. Succi, Integral Form of the Boltzmann Equation for the Forced Diffusion of Charged Particles in Anisotropically Scattering Media, *Meccanica*, 16(1981).
- [2] G. Becker, ASDEX and Neutral Injection teams, Simulation of Transport in ASDEX Divertor discharges with Neutral Injection Heating, *Nuclear Fusion*, 22,12 (1982)
- [3] S. Succi, K. Appert, A. H. Kritz and J. Vaclavik, Geometrical Effects in the Resonant Absorption of MHD Waves, *Helv. Phys. Acta*, 57,121(1984).
- [4] F. Troyon, R. Gruber, H. Saurenmann, S. Semenzato and S. Succi, MHD Limits to Plasma Confinement, 12th Meet. of the E.P.S., Aachen, Sept. 1983 and *Plasma Physics*, 26 IA, p. 209, (1984).
- [5] S. Succi, K. Appert, L. Muschietti, J. Vaclavik and J. Wersinger, On the generation of superthermal electrons in Lower-Hybrid Current Drive experiments, *Phys. Letters*, 106A, 137 (1984).
- [6] S. Succi, K. Appert, D. Moreau and J. Vaclavik, Spectra of Lower Hybrid Waves required to Sustain Significant Currents, IAEA 10th Int. Conf. on Plasma Physics and Controlled Fusion, London, Sept. 1984, *Nuclear Fusion*, vol. 1, 549,(1985).
- [7] S. Succi, K. Appert and J. Vaclavik, Generation of Superthermal Electrons Interacting with Waves in the Lower-Hybrid Range of Frequency Revisited, *Plasma Physics*, 27, 8,(1985).
- [8] G. Spiga, P. Vestrucci, S. Succi, Effects of Anisotropic Scattering on the Distribution of Charged Particles in an Electric Field, *Il Nuovo Cimento*, 85B, 2,(1985).
- [9] S. Succi, K. Appert, W. Core, H. Hamnen, T. Hellsten and J. Vaclavik, Computational Models for Wave-Particle Interaction, NUMOP (Numerical Modelling of Plasmas), Varenna, Sept. 1985 and *Comp. Phys. Comm.*, 40, 137,(1986).
- [10] K. Appert, T. Hellsten, O. Sauter, S. Succi, L. Villard and J. Vaclavik, Computing of RF Heating and Current Drive in Tokamaks, 8th European Conference on Computational Physics, Eibsee, April 1986 and *Comp. Phys. Comm.*, 43,125,(1986)

- [11] S. Succi, R. Iacono, Selfsimilar solutions of the One-Dimensional Fokker-Planck Equation, *Phys. Rev. A*, 33, 4419, (1986).
- [12] K. Appert, S. Succi, L. Villard and J. Vaclavik, Finite Elements Applied to Plasma Waves, Advanced Summerschool "Finite Elements in Physics", Lausanne, September 1986, and *Computer Physics Reports* 6, (1987).
- [13] S. Succi, R. Iacono, On the Selfsimilar evolution of One-Dimensional Fokker-Planck Systems, *Phys. Rev. A*, 36, 5020, (1987).
- [14] S. Succi, K. Appert and J. Vaclavik, Current Generation in Fusion Plasmas by Injection of Radio-Frequency Waves: Finite Element Models on IBM 3090/VF, *Il Nuovo Cimento* 9D, 5, (1987).
- [15] S. Succi, Cellular Automata Modelling on IBM 3090/VF, *Comp. Phys. Commun.*, 47, (1987).
- [16] S. Succi, Triangular versus Square Lattice Gases for the Analysis of 2D Vortex Fields, *J. of Phys. A: Math. and Gen.*, L21, (1988).
- [17] Succi, P. Santangelo and R. Benzi, High Resolution lattice gas simulations of two-dimensional turbulence, *Phys. Rev. Lett.*, 60(26), (1988)
- [18] Succi, R. Benzi and P. Santangelo, An investigation of fractal dimensions in two-dimensional lattice gas turbulence, *J. of Phys. A*, L771-776, (1988)
- [19] S. Succi, K. Appert, J. Vaclavik, G. Radicati and Y. Robert, Finite Element Models of Weak Plasma Turbulence on IBM 3090/VF, 8th Int. Conf. on Comp. Meth. in App. Sc. and Eng., Paris, Dec. 1987, *Comput. Meth. in Applied Mech. and Eng.*, 75, 543, (1989).
- [20] S. Succi, D.d'Humieres and F. Szelenyi, Lattice Gas Hydrodynamics on IBM 3090/VF, *IBM J. of Res. and Dev.*, 33, 2, (1989).
- [21] G. Radicati, Y. Robert and S. Succi, Iterative algorithms for the solution of non-symmetric systems in the modelling of weak plasma turbulence, *J. of Comp. Phys.*, 80, 2, (1989).
- [22] S. Succi and M. Benassi, A four color parallel Gauss-Seidel algorithm for the solution of two-dimensional advection-diffusion equation with the finite element method, *J. Sc. Comp.*, Vol 4, N.1, 61, (1989)
- [23] R. Benzi and S. Succi, Bifurcations of a Cellular Automaton Fluid Under External Forcing, *J. Sta. Phys.*, 56, p.69, (1989).
- [24] F. Higuera and S. Succi, Simulating the Flow past a Cylinder with a Lattice Boltzmann Equation, *Europhys. Lett.*, 8(6), p.517, (1989).
- [25] F. Higuera, S. Succi, R. Benzi, Lattice Gas Dynamics with Enhanced Collisions, *Europhys. Lett.*, 9(4), p. 345, (1989) **Included in the collection of the 25 most cited papers since the inception of Europhysics Letters.**

- [26] S. Succi, E. Foti and F. Higuera, Simulation of Three-Dimensional Flows in Porous Media with the Lattice Boltzmann Method, *Europhys. Lett.*, 10(5), 433, (1989)
- [27] M. Ottaviani, F. Romanelli, R. Benzi, M. Briscolini, P. Santangelo and S. Succi, Numerical Studies of Ion-Gradient Driven Turbulence, *Phys. Fluids B*, 2 (1), 2085, (1990).
- [28] R. Benzi and S. Succi, Two-Dimensional Turbulence with the Lattice Boltzmann Equation, *J. Phys. A: Math. and Gen.*, 23, L1-5, (1990)
- [29] S. Succi, E. Foti, M. Gramignani, Flow through geometrically irregular media with lattice Gas automata, *Meccanica*, 25 p.253-257, (1990).
- [30] R. Benzi, M. Vergassola, S. Succi, Turbulence modeling by non-hydrodynamic variables, *Europhys. Lett.*, 13(8) 727 (1990).
- [31] M. Vergassola, S. Succi, R. Benzi, On the hydrodynamic behaviour of the lattice Boltzmann equation, *Europhys. Lett.*, 13(5) , p.411-416,(1990)
- [32] A. Cancelliere, C. Chang, E. Foti, S. Succi, D. Rothman, The permeability of a random medium; comparison of simulation with theory, *Phys. Fluids A*, 2 (12) 2085 (1990).
- [33] S. Succi, R. Benzi and F. Higuera, The Lattice Boltzmann Equation: a new tool for computational fluid dynamics, Proc. of the Workshop on "Lattice Gas Methods for Partial Differential Equations", Los Alamos, Sept. 1989, *Physica D*, 47, 219, (1991)
- [34] M. Bernaschi, E. Marinari, S. Patarnello and S. Succi, Three-dimensional Visualization of many-body system dynamics, *IBM J. of Res. and Dev.*, vol. 35, No 1/2 (1991).
- [35] S. Succi, R. Benzi, M. Vergassola, Lattice Boltzmann scheme for two-dimensional Magnetohydrodynamics, *Phys. Rev. A* 4, p.4521 (1991).
- [36] R. Benzi, S. Succi e M. Vergassola, The Lattice Boltzmann Equation for Turbulence *Nuclear Phys. B (Proc. Supp.)*, 17, 708, (1990). *Phys. Rev. A*, 43, 4521(1991) .
- [37] R. Benzi, S. Succi and M. Vergassola, The lattice Boltzmann equation: theory and applications, *Physics Reports*, vol.222,n.3, p.145, (1992).
- [38] F. Nannelli and S. Succi, The Finite Volume Lattice Boltzmann Equation, Advanced Research Workshop on Lattice Gas Automata, Nice, June '91, *J. Sta. Phys.*, 68(3/4), p. 401, (1992).
- [39] A. Cali, S. Succi, A. Cancelliere, R. Benzi, M. Gramignani, Diffusion and Hydrodynamic Dispersion with the Lattice Boltzmann Method, *Phys. Rev. A*, 15(4) (1992).
- [40] F. Papetti, S. Golini, M. Maggiore, P. Gaillard, J. Perez and S. Succi, Numerical Combustion in an Advanced Computing Environment, *IBM System Journal*, 31 (4) (1992).
- [41] J. Weimar, D. Dab, J.P. Boon and S. Succi, Fluctuation Correlations in Reaction-Diffusion Systems; Reactive Lattice Gas Automata Approach, *Europhys. Lett.*, 20 (7) 627 (1992).

- [42] G. Betello, G. Richelli, F. Ruello, Succi S., Lattice Boltzmann Method on a cluster of IBM RISC System/6000 workstations, Proceedings of the 1st Symp. on "High Performance Distributed Computing", Ithaca September 1992, and *Concurrency: Practice and Experience*, 5(4) 359 (1993).
- [43] S. Succi, G. Betello, G. Richelli, F. Ruello, Lattice Boltzmann Method on a cluster of IBM RISC System/6000 workstations, Proc. of the 18rd Conf. on "Rarefied Gas Dynamics" Vancouver, August 1992, *Progress in Aeronautics and Astronautics*, 159, 409, (1993).
- [44] S. Succi, R. Benzi, Lattice Boltzmann Equation for Quantum Mechanics, *Physica D*, 69 3-4, 327, (1993).
- [45] R. Benzi, S. Ciliberto, R. Tripiccione, F. Baudet, F. Massaioli and S. Succi, Extended self-similarity in turbulent flows, *Phys. Rev. E, Rap. Comm.* 48(1), R29, (1993).
- [46] F. Massaioli, R. Benzi and S. Succi, Exponential tails in Rayleigh-Benard convection, *Europhys. Lett.* 21(3), 305, (1993).
- [47] S. Succi, R. Benzi, F. Massaioli, A review of the Lattice Boltzmann Method, *Int. J. of Modern Physics C*, 4(2) (1993).
- [48] S. Succi, D. d'Humieres, Y.H. Qian, S. Orszag, On the near-subgrid behaviour of Lattice BGK and Lattice Boltzmann schemes, *J. Sc. Comp.*, vol. 8 n.3, (1993).
- [49] G. Chiatti, S. Golini, M. Maggiore, F. Papetti, S. Succi, Improving the KIVA-II vaporization model on an advanced computing environment, *Comp. Fluid Dynamics Journal*, 2,(1) (1993).
- [50] S. Succi, F. Nannelli, The finite-volume formulation of the Lattice Boltzmann equation, *Transp. Theory and Statistical Physics*, 23(1-3) 167 (1994).
- [51] M. Briscolini, R. Benzi, P. Santangelo, S. Succi, Extended Self Similarity in three-dimensional homogeneus turbulence, *Phys. Rev. E, Rapid Comm.*, 50(3), R1745, (1994).
- [52] P. Falsaperla, S. Motta, S. Succi, Parallel Efficiency of the CRF method on a IBM RS/6000 cluster platform, *J. Scient. Comp.*, Vol. 9, N.3, 293, (1994).
- [53] G. Punzo, F. Massaioli, S. Succi, High-resolution Lattice Boltzmann Computing on the IBM SP1, *Computers in Physics*, vol.8, n.6, (1994).
- [54] R. Benzi, S. Ciliberto, F. Massaioli, R. Tripiccione, S. Succi, On the scaling of velocity and temperature structure functions in Rayleigh-Benard convection, *Europhysics Letters*, 25(5), p.34, (1994).
- [55] F. Massaioli, R. Benzi, F. Tripiccione and S. Succi, Temperature PdF's in Rayleigh-Benard convection, *Europ. J. of Fluid Mech.*, vol.14, n.1, (1995).
- [56] Y. Qian , S. Succi, and S. Orszag, Recent advances in Lattice Boltzmann computing, *Annual Review of Comput. Phys.*, vol. 3, p.195, (1995).

- [57] S. Zaleski, J. Li and S. Succi, Full Navier-Stokes simulation of liquid droplet deformation and breakup, *Phys. Rev. Lett.* 1995, vol. 75, n.2, p.244, (1995).
- [58] R. Benzi, S. Ciliberto, R. Tripiccione, F. Baudet, F. Massaioli and S. Succi, Reply to "Comment on Extended self-similarity in turbulent flows", *Phys. Rev. E, Comments* 51(3), 2672, (1995).
- [59] S. Succi, G. Amati, R. Benzi, Challenges in lattice Boltzmann computing, *J. Sta. Phys.*, vol. 81, 1/2, p. 5, (1995).
- [60] S. Succi, Numerical solution of the Schrödinger equation using Discrete Kinetic Theory, *Phys. Rev. E*, 53,2, 1969, (1996)
- [61] M. Bernaschi, F. Papetti, S. Succi., G. Bachler, R. Greimel, Parallel combustion on a scalable parallel platform, *SIAM Column*, 16, June 1996.
- [62] G. Amati, S. Succi, R. Benzi, Turbulent channel flow simulations with a coarse-grained extension of the lattice Boltzmann method, *Fluid Dyn. Res.* 19, p. 289-302, (1997).
- [63] S. Succi, G. Bella, F. Papetti, Lattice Kinetic theory for numerical combustion, *J. Scient. Computing*, vol.12, n.4, p.395, (1997).
- [64] G. Amati, R. Benzi, S. Succi, Extended self similarity in boundary layer turbulence, *Phys. Rev. E*, vol. 55, 6, p.6985 (1997).
- [65] S. Succi, J. Wang, Y. Qian, Clustering instability in granular gases, *Int. J. Mod. Phys. C*, vol. 8 (4), p. 999, (1997).
- [66] G. Amati, S. Succi, R. Piva, Massively parallel lattice Boltzmann simulations of turbulent channel flow, *Int. J. Mod. Phys. C*, vol. 8 (4), p. 869, (1997).
- [67] S. Succi, Lattice Boltzmann Equation: Failure or Success?, *Physica A*, vol. 240,1-2,p.221, (1997)
- [68] M. Bernaschi, F. Castiglione, S. Succi, Simulating the immune response on a distributed memory parallel computer, *Int. J. Mod. Phys. C*, vol.8 (4), p.569, (1997)
- [69] S. Succi, M. Bernaschi, F. Castiglione, Entropy gain in the immune system response, *Phys. Rev. Lett.*, 79,22,p.4493 (1997).
- [70] G. Bella, M. Presti, S. Succi, Lattice BGK simulations of catalytic conversion, *Society Automotive Engineers paper n. 972907*, p.1,(1997).
- [71] A. Renda, S. Succi, G. Bella, I. Karlin, Thermohydrodynamic lattice BGK schemes with non-perturbative equilibria, *Europhys. Lett.* 41, 3, p.279, (1998).
- [72] I. Karlin, N. Gorban, S. Succi, V. Boffi, Exact equilibria for lattice kinetic equations, *Phys. Rev. Lett.* 81-1, p.6, (1998).

- [73] S. Succi, H. Chen, I. Karlin, Internal symmetries of lattice kinetic equations, *J. Phys. IV France*, 8, 271, (1998)
- [74] I. Karlin, S. Succi, Equilibria for discrete kinetic equations, *Phys. Rev. E, Rap. Comm.* 58, R4053, (1998).
- [75] S. Succi, P. Vergari, A Lattice Boltzmann scheme for semiconductor dynamics, *VLSI Design*, (1-4), p. 137, (1998).
- [76] S. Succi, Lattice quantum mechanics: an application to Bose-Einstein condensation, *Int. J. Mod. Phys. C*, 9(8), p. 1577, (1998),
- [77] G. De Fabritiis, A. Mancini, D. Mansutti, S. Succi, Mesoscopic models for melting/solidification processes, *Int. J. Mod. Phys. C*, 9(8), p.1405, (1998)
- [78] S. Succi, G. Amati, R. Piva, Unified lattice Boltzmann schemes for turbulence and combustion, *Zeit. Angew. Mathem. und Mech.*, 78, suppl.(1), p.129, (1998)
- [79] S. Succi, M. De Cicco, G. Bella, Nonlinear stability of compressible thermal lattice BGK models *SIAM J. Scient. Comput.*, vol.1 (1), p.366 (1999)
- [80] G. Amati, S. Succi, R. Piva, Preliminary evaluation of scaling exponents in channel flow turbulence, *Fluid Dyn. Res.* 24(4), p.201, (1999)
- [81] S. Succi, H. Chen, C. Teixeira, G. Bella, A. De Maio, K. Molvig, An integer realization of the Lax scheme for the transport of multiple components, *J. Comp. Phys.* 152, p.493, (1999).
- [82] F. Toschi, R. Benzi, L. Biferale, S. Succi, Intermittency of shell models with eddy viscosity, *Phys. Fluids*, 11(5), p. 1221, (1999).
- [83] I. Karlin, S. Succi, S. Orszag, Lattice Boltzmann formulation in irregular grids, *Phys. Rev. Lett.*, 82, 26, p. 5245, (1999).
- [84] H. Chen, S. Succi, S. Orszag, Analysis of subgrid scale turbulence using the Boltzmann BGK kinetic equation, *Phys. Rev. E, Rap. Comm.*, 59(3), R2527, (1999).
- [85] M. Bernaschi, F. Castiglione, S. Succi, High performance simulator of the immune system response, *Future Generation Computer System Journal*, 15, 333, (1999).
- [86] M. Bernaschi, F. Castiglione, P. Seiden, S. Succi, Learning cascade in the immune system dynamics: a numerical simulation *Comp. Phys. Comm.*, 121, 122, (1999).
- [87] M. Bernaschi, G. Bella, S. Succi, H. Chen, Digital physics simulations of reactive flow in a catalytic converter, *J. Sc. Comp.* 14(3), p. 211, (1999).
- [88] I. Karlin, S. Succi, On the H-theorem in lattice kinetic theory, *Rivista Matematica Universita' di Parma*, Centennial issue, vol. 6(2), p. 143, (1999).

- [89] M. Chiofalo, S. Succi, M. Tosi, Output coupling of Bose condensates from atomic tunnel arrays: a numerical study, *Phys. Lett. A* 260, 86, (1999).
- [90] F. Toschi, G. Amati, S. Succi, R. Benzi and R. Piva, Intermittency and structure functions in channel flow turbulence, *Phys. Rev. Lett.* 82(25), p. 5044, (1999).
- [91] M. Adamo, M. Bernaschi, G. Bella, S. Succi, Multi-representation techniques for multiscale problems, *Molecular Simulation*, 25, 1-2, p.13, (2000).
- [92] M. Bernaschi, F. Castiglione, S. Succi, Large scale cellular automata simulation of the Immune System response, *Phys. Rev. E*, 61(2), p. 1851, (2000).
- [93] M. Cerimele, M. Chiofalo, F. Pistella, S. Succi and M. Tosi, Explicit scheme for the numerical solution of the Gross-Pitaeski equation: an application to Bose-Einstein condensation, *Phys. Rev. E*, 62(1), p.1382, (2000),
- [94] F. Mazzocco, W. Arrighetti, G. Bella, S. Succi, An application of multiscale Lattice Boltzmann methods to turbine flow calculations, *Int. J. Mod. Phys. C*, vol. 11, 2, 233, (2000),
- [95] M. Cerimele, F. Pistella, S. Succi, Particle-like scheme for the Gross-Pitaeski equation: an application to Bose-Einstein condensation, *Comp. Phys. Comm.*, 129, p.82, (2000).
- [96] S. Succi, I. Karlin, H. Chen and S. Orszag, Exact resummation techniques in the kinetic approach to subgrid turbulence modeling, *Physica A*, 280, p. 92, (2000).
- [97] P. Ilg, I. Karlin, S. Succi, Supersymmetric solution of the FENE-P dumbell model, *Europhys. Lett.* 51(3), p.355, (2000).
- [98] M. L. Chiofalo, S. Succi, M. P. Tosi, Ground-state of trapped interacting Bose-Einstein condensates by an explicit imaginary-time algorithm, *Phys. Rev. E*, 62(5), p.7438, (2000).
- [99] M. Bernaschi, S. Succi, H. Chen, Accelerated Lattice Boltzmann method for steady-state flow simulations, *J. Scient. Computing*, 16(2), p. 135, (2001).
- [100] O. Filippova, F. Mazzocco, S. Succi, C. Arrighetti, G. Bella, Multiscale Lattice Boltzmann with turbulence modeling, *J. Comp. Phys.* 170(2), p. 812, (2001).
- [101] W. Miller, S. Succi, D. Mansutti, A mesoscopic Lattice Boltzmann model for melting and solidification, *Phys. Rev. Lett.*, 86(16), p.3578, (2001).
- [102] M. L. Chiofalo, S. Succi, M. P. Tosi, Probing the energy bands of a Bose-Einstein condensate in a optical lattice, *Phys. Rev. A*, 6306(6), p.3613, (2001).
- [103] S. Succi, G. Smith, A. Gabrielli, E. Kaxiras, Chemical efficiency of reactive microflows with heterogeneus catalysis: a lattice Boltzmann study, *Europ. Phys. J.: Appl. Phys.* 16(1), p.71, (2001).
- [104] S. Succi, O. Filippova, G. Smith, E. Kaxiras, Applying the Lattice Boltzmann equation to multiscale fluid problems, *Computing in Science and Engineering*, 3(6), p.26, (2001).

- [105] S. Succi, G. Smith, E. Kaxiras, Lattice Boltzmann simulation of reactive microflows over catalytic surfaces, *J. Stat. Phys.*, 107(1-2), p. 343, (2002).
- [106] P. Ilg, A. De Angelis, C. Casciola, I. Karlin and S. Succi, Polymer dynamics in wall turbulent flow, *Europhys. Lett.*, 58(4), p. 616, (2002)
- [107] S. Succi, O. Filippova, H. Chen, S. Orszag, Towards a renormalized Lattice Boltzmann equation for fluid turbulence, *J. Stat. Phys.*, 107(1-2), p. 261, (2002).
- [108] G. De Fabritiis, S. Succi, P. Coveney, Electronic structure calculations using self-adaptive multiscale Voronoi basis functions, *J. Stat. Phys.*, 107(1-2), p. 159, (2002).
- [109] S. Succi, Lattice Boltzmann schemes for quantum applications, *Comp. Phys. Comm.* 146(3) p. 317, (2002).
- [110] W. Miller, S. Succi, A Lattice Boltzmann model for anisotropic crystal growth from melt, *J. Stat. Phys.*, 107(1-2), p. 173, (2002).
- [111] S. Succi, I. Karlin, H. Chen, Role of the H-theorem in Lattice Boltzmann hydrodynamic simulations, *Review of Modern Physics Colloquia* 74(4), p.1203, (2002).
- [112] A. Gabrielli, S. Succi, E. Kaxiras, Lattice Boltzmann study of reactive microflows *Comp. Phys. Comm.*, 147, p. 516, (2002)
- [113] S. Succi, Lattice Boltzmann equation for relativistic quantum mechanics, *Phil. Trans. Royal Soc. Lond. A: 360(1792)*, p. 429, (2002).
- [114] M. Bernaschi, S. Succi, H. Chen, R. Zhang, Computing steady-state flows with an Accelerated Lattice Boltzmann scheme, *Int. J. Mod. Phys. C*, 13(5), p. 675 (2002).
- [115] S. Succi, Book Review: an introduction to chaos in non-equilibrium statistical mechanics (by J.R. Dorfman) *SIAM Review*, in press.
- [116] M. Pilotti, S. Succi, Energy dissipation and permeability in porous media, *Europhys. Lett.* 60(1), p. 72, (2002)
- [117] S. Succi, Mesoscopic modelling of slip motion at fluid-solid interfaces with heterogeneus catalysis *Phys. Rev. Lett.* 89, 064502, 2002, selected for the July 29 2002 issue of the Virtual Journal of Nanoscale Science and Technology.
- [118] F. Castiglione, M. Bernaschi, S. Succi, M. Kirschner, R. Heinrich, Intracellular signal propagation in a two-dimensional auto-catalytic reaction model, *Phys. Rev. E* 66(3), 031905, (2002).
- [119] P. Vignolo, M.L. Chiofalo, S. Succi, M.P. Tosi, Explicit Finite-Difference and Particle Method for the Dynamics of Mixed Bose-condensate and Cold-Atom Clouds, *J. Comp. Phys.* 182, p.368, (2002).

- [120] A. Lamura, S. Succi, Lattice Boltzmann model of glassy behaviour, *Physica A*, 325, p. 477, (2003).
- [121] A. Lamura, S. Succi, A Lattice Boltzmann glass model, *Int. J. Mod. Phys. B* 17, p.145, (2003).
- [122] M. Bernaschi, S. Succi, Lattice Boltzmann scheme for steady state flows, *Int. J. Mod. Phys. B* 17, p.1 (2003).
- [123] A. D'Orazio, S. Succi, C. Arrighetti, Lattice Boltzmann simulation of open thermal flows, *Phys. Fluids*, 15(9), 2778, (2003).
- [124] F. Toschi, P. Vignolo, S. Succi, M. Tosi, Dynamics of trapped two-component Fermi gas: temperature dependence of the transition from collisionless to collisional regime *Phys. Rev. A, Rap. Comm.* 67(4), art. 041605, (2003).
- [125] P. Love, B. Boghosian, I. Karlin, S. Succi, J. Yepez, Galilean invariant Lattice Boltzmann models with H-theorem, *Phys. Rev. E*, 68, art. 025103(R), (2003).
- [126] H. Chen, S. Kandasamy, S. Orszag, R. Shock, S. Succi, V. Yakhot, Extended-Boltzmann Kinetic Equation for Turbulent Flows, **Science**, 301, p.633, (2003)
- [127] S. Ubertini, G. Bella, S. Succi, Lattice Boltzmann method on unstructured grids: Further developments *Phys Rev E* 68 (1) 016701, (2003)
- [128] R. Rotondi, G. Bella, S. Succi, Multiscale Lattice Boltzmann simulation of mass transport at irregular fluid-solid interfaces, *Applied Rheology*, 14(1), p.12–21, (2004).
- [129] S. Melchionna, S. Succi, Electro-rheology in nanopores via Lattice Boltzmann simulation, *J. Chem. Phys.*, 120(9), p.4492, (2004).
- [130] F. Toschi, P. Vignolo, P. Capuzzi, S. Succi, M. Tosi, Dynamics of trapped Fermion clouds, *Laser Phys.*, 14(2), p.302, (2004).
- [131] A. D'Orazio, S. Succi, C. Arrighetti, Thermal boundary conditions for a doubled-populations Lattice Boltzmann model: simulation of channel flows, *Future Generation Computer Systems*, 20, p.935, (2004).
- [132] A. Lamura, S. Succi, A Lattice Boltzmann model with random dynamical constraints, *Europ. Phys. J. B*, 39, p. 241 (2004).
- [133] S. Ubertini, S. Succi and G. Bella, Lattice Boltzmann without coordinates, *Phil. Trans. R. Soc. London A*, 362, p. 1763 (2004).
- [134] F. Toschi, P. Capuzzi, S. Succi, M. Tosi, P. Vignolo, Fermion vapours simulation, *J. Phys. B: At. Mol. Opt. Physics*, 37, S91-99 (2004).
- [135] S. Ansumali, I. Karlin, S. Succi, Kinetic theory of turbulence modeling: smallness parameter, scaling and derivation of Smagorinsky model, *Physica A*, 338(3-4), p. 379 (2004).

- [136] H. Chen, S. Orszag, I. Staroselsky and S. Succi, Expanded analogy between Boltzmann Kinetic Theory of Fluids and Turbulence, *J. Fluid Mech.*, 519, p. 301-314, (2004).
- [137] W. Miller, I. Rasin and S. Succi, Lattice Boltzmann simulations of flows with phase transitions, *Trends in Statistical Physics*, 4, 123-133, (2004) .
- [138] A. Minguzzi, S. Succi, F. Toschi, M. Tosi, P. Vignolo, Numerical simulation of Bose-Einstein condensates and Fermi vapours *Phys. Reports*, 395, issue 4-5 (June 2004) p. 223-355.
- [139] S. Succi, F. Toschi, P. Capuzzi, P. Vignolo and M. Tosi, A particle-dynamics study of dissipation in colliding clouds of ultracold fermions, *Phil. Trans. R. Soc. London A*, 362, p.1605 (2004).
- [140] P. Capuzzi, P. Vignolo, F. Toschi, S. Succi and M. Tosi, Effects of collisions against thermal impurities in the dynamics of a trapped fermion gas, *Phys. Rev. A*, 70, 043623, (2004).
- [141] R. Benzi, L. Biferale, M. Sbragaglia, S. Succi and F. Toschi, Non hydrodynamic modes in shell models of turbulence: a Lattice Boltzmann study, *Physica D*, 197, 303, (2004).
- [142] F. Toschi, S. Succi, Lattice Boltzmann simulation at finite Knudsen numbers, *Europhys. Lett.*, 69(4), p. 549, (2005).
- [143] S. Ubertini, S. Succi, Recent advances of lattice Boltzmann techniques on unstructured grids, *Progress in Computational Fluid Dynamics*, 5, (1/2), p. 85, (2005).
- [144] F. Castiglione, S. Succi, Simulating the G-protein cAMP pathway with a two-compartment reactive lattice gas, *Theory in Biosciences*, 123, p.413, (2005).
- [145] I. Rasin, W. Miller and S. Succi, A multi-relaxation lattice kinetic method for passive scalar diffusion, *J. Comp. Phys.*, 206, p.45, (2005).
- [146] S. Melchionna, S. Succi, Electro-rheology in nanopores via Lattice Boltzmann simulation *Comp. Phys. Commun.*, 169, p.203, (2005).
- [147] M. Sbragaglia and S. Succi, Analytical calculation of slip flow in lattice Boltzmann models with kinetic boundary conditions, *Phys. Fluids*, 17, 093602 (2005).
- [148] N. Rossi, S. Ubertini, S. Succi and G. Bella, Unstructured lattice Boltzmann in three dimensions, *Int. J. Num. Meth. in Fluids*, 49(6), p. 619, (2005)
- [149] S. Succi, F. Toschi, M.P. Tosi and P. Vignolo, Exploring Bose-Einstein condensates by numerical solution of the Gross-Pitaevskii equation, *Computing in Science and Engineering*, 7(6), p. 48-57, (2005).
- [150] H. Basagaoglu, P. Meakin and S. Succi, Energy Dissipation measures in Three-Dimensional Porous Media, *Phys. Rev. E*, 72, 046705, (2005).

- [151] F. Federici, C. Cherubini, S. Succi and M.P. Tosi, Excised black-holes: the scattering problem in the time domain, *Phys. Rev. D*, **72**, 084016, (2005).
- [152] A. Lamura, S. Succi, Lattice mesoscopic model for dynamic heterogeneus fluids, *Phys. Rev. Lett.*, **95**, 224502, (2005).
- [153] F. Castiglione, F. Toschi, M. Bernaschi, S. Succi, R. Benedetti, B. Falini, A. Liso, Computational modelling of immune response to tumor antigens, *J. Theor. Biology*, **237**(4), p. 390-400, (2005).
- [154] R. Benzi, L. Biferale, M. Sbragaglia, S. Succi, and F. Toschi, Mesoscopic modelling of heterogeneus boundary conditions for microchannel flows, *J. Fluid Mech.*, **548**, p.257-280 (2006).
- [155] I. Rasin, W. Miller and S. Succi, Phase-field lattice kinetic scheme for the numerical simulation of dendritic growth, *Phys. Rev. E*, **72**, 066705, (2006).
- [156] M. Sbragaglia and S. Succi, A note on Lattice Boltzmann models beyond the Chapman-Enskog limit, *Europhys. Lett.*, **73**, p.370-376 (2006).
- [157] S. Melchionna, S. Succi, and J.P. Hansen, Simulation of single-file ion transport with the Lattice Fokker-Planck equation, *Phys. Rev. E*, **73**, 017701, (2006).
- [158] S. Succi, Discrete dispersion relations and the breaking of Lorentz invariance, *Classical and Quantum Gravity*, **23**, p.1989-1997, (2006).
- [159] S. Succi, H. Chen, S. Orszag, A note on relaxation approximations in lattice kinetic theory, *Physica A*, **362**, 1-5 (2006).
- [160] J. Latt, B. Chopard, S. Succi and F. Toschi, Numerical analysis of the averaged flow field in a turbulent lattice Boltzmann simulation, *Physica A*, **362**, 6-10 (2006).
- [161] I. Rasin, W. Miller and S. Succi, Lattice Boltzmann phase-field modelling of binary-alloy solidification, *Physica A*, **362**, 257-280 (2006).
- [162] F. Federici, C. Cherubini, S. Succi and M.P. Tosi, Superradiance from hydrodynamic vortices: a numerical study, *Phys. Rev. A*, **73**(3), 033604, (2006).
- [163] H. Basagaoglu, P. Meakin, R. Rotondi, S. Succi, Boundary effects on the onset of nonlinear flow in porous domains, *Europhys. Lett.*, **73**, 858-863, (2006)
- [164] S. Succi, S. Melchionna and J.P. Hansen, Lattice Fokker-Planck equation, *Int. J. Mod. Phys. C*, **17**, 459-470, (2006).
- [165] R. Benzi, L. Biferale, M. Sbragaglia, S. Succi, and F. Toschi, Mesoscopic two-phase model to describe apparent slip flow in microchannels, *Europhys. Lett.*, **74**, 651-657, (2006).
- [166] J. Horbach, S. Succi, Lattice Boltzmann versus Molecular Dynamics simulation of nano-hydrodynamic flows, *Phys. Rev. Lett.*, **96**, 224503, (2006).

- [167] S. Succi, Review on '*Invariant Manifolds for Physical Kinetics*' (by A. Gorban and I. Karlin), *Bulletin of the London Mathematical Society: Book Reviews*, 521-525, (2006).
- [168] A. Lamura, S. Succi, Lattice Boltzmann scheme for fluids with dynamic heterogeneities, *Phys. Rev. E*, 73(6), art. 066707, (2006)
- [169] D. Moroni, B. Rotenberg, J.P. Hansen, S. Melchionna, and S. Succi, Solving the Fokker-Planck kinetic equation on a lattice, *Phys. Rev. E*, 73(6), art. 066706, (2006).
- [170] D. Moroni, J.P. Hansen, S. Melchionna and S. Succi, On the use of the lattice Fokker-Planck models for hydrodynamics, *Europhys. Lett.*, 75(3), p. 399-405, (2006).
- [171] S. Orszag, H. Chen, B. Chopard, J. Latt and S. Succi, Turbulence effects on kinetic equations, *J. Sci. Computing*, 28(2-3), p. 459-466, (2006).
- [172] A. Xu, S. Succi and B. Boghosian, Lattice BBGKY scheme for non ideal-fluid flows *Mathematics and Computers in Simulation*, 72, p.249-252, (2006).
- [173] S. Ubertini, G. Bella and S. Succi, Unstructured lattice Boltzmann equation with memory *Mathematics and Computers in Simulation*, 72,(2-6), p.237-241, (2006).
- [174] M. Sbragaglia, R. Benzi, L. Biferale, S. Succi, and F. Toschi, Surface roughness-hydrophobicity coupling in microchannel and nanochannel flows, *Phys. Rev. Lett.*, 97, 204503, (2006)
- [175] F. Tosi, S. Ubertini, S. Succi, H. Chen and I. Karlin, Numerical stability of entropic versus positivity enforcing schemes *Mathematics and Computers in Simulation*, 72,(2-6), p.227-231, (2006).
- [176] M. Chinappi, E. de Angelis, S. Melchionna, C.M. Casciola, S. Succi and R. Piva, Molecular dynamics simulation of ratchet motion in an asymmetric nano-channel, *Phys. Rev. Lett.*, 97, 144509, (2006).
- [177] F. Tosi, S. Ubertini, S. Succi H. Chen and I.V. Karlin, A Comparison of single-time relaxation Lattice Boltzmann schemes with enhanced stability, *Int. J. Mod. Phys C*, 17, 1375-1390, (2006).
- [178] R. Benzi, L. Biferale, M. Sbragaglia, S. Succi, and F. Toschi, Mesoscopic modeling of two-phase flow in presence of boundaries: the Contact Angle, *Phys. Rev. E*, 74(2), 021509 (2006).
- [179] M. Fyta, S. Melchionna, S. Succi and E. Kaxiras, Multiscale coupling of molecular dynamics and hydrodynamics: application to DNA translocation through a nanopore, *Multiscale Modeling and Simulation*, 5, 1156, (2006).
- [180] H. Basagaoglu, P. Meakin, S. Succi and R. Rotondi, Density Fluctuations in lattice Boltzmann simulations of multiphase fluids in a closed system, *Physica A*, 374, 691 (2007).

- [181] M. Sbragaglia, R. Benzi, L. Biferale, S. Succi, K. Sujiyama and F. Toschi, Generalized Lattice Boltzmann Method with multi-range pseudo-potential, *Phys. Rev. E*, **75**, 026702, (2007).
- [182] F. Castiglione, A. Liso, M. Bernaschi and S. Succi, Microscopic simulation in Biology and Medicine, *Current Medicinal Chemistry*, **14**, 675, (2007).
- [183] F. Tosi, S. Ubertini, S. Succi and I.V. Karlin, Optimization strategies for the entropic Lattice Boltzmann method, *J. of Scientific Computing*, **30**, 369 (2007)
- [184] S. Succi, Lattice Boltzmann for quantum field theory, *J. Phys. A: Math. Theor.*, *J. Phys. A: Math. Theor.* **40** (2007) F559-F567.
- [185] S. Palpacelli, S. Succi, Numerical validation of the quantum Lattice Boltzmann scheme in two and three-dimensions, *Phys. Rev. E*, **75**, 066704, (2007).
- [186] S. Succi, R. Benzi, L. Biferale, M. Sbragaglia, and F. Toschi, Lattice kinetic theory as a form of supra-molecular dynamics for computational microfluidics, *Bulletin of the Polish Academy of Sciences*, **55**(2), p.151, (2007).
- [187] M. Fyta, S. Melchionna, S. Succi and E. Kaxiras, Exploring DNA translocation through a nanopore via a multiscale lattice-Boltzmann Molecular-Dynamics methodology, *Int. J. Mod. Phys. C*, **18**(4), 685, (2007)
- [188] S. Succi, A.A. Mohamad and J. Horbach, Lattice-Boltzmann simulation of dense nanoflows: a comparison with molecular dynamics and Navier-Stokes solutions, *Int. J. Mod. Phys. C*, **18**(4), p. 667, (2007)
- [189] R. Benzi, L. Biferale, M. Sbragaglia, S. Succi, and F. Toschi, Mesoscopic modeling of fluid flows in micro and nano-channels, *Int. J. Mod. Phys. C*, **18**(4), p. 758, (2007).
- [190] W. Miller and S. Succi, Lattice gas modeling of nanowhisker growth, *Physical Review E*, **73**, 031601, (2007).
- [191] S. Palpacelli, S. Succi and R. Spigler Ground state computation of Bose-Einstein condensates by an imaginary-time quantum Lattice Boltzmann scheme, *Phys. Rev. E* **76**, 036712, (2007).
- [192] G. Falcucci, G. Bella, G. Chiatti, S. Chibbaro, M. Sbragaglia and S. Succi, Lattice-Boltzmann models with mid-range repulsive interactions, *Commun. in Comp. Phys.*, **2**, 1055, (2007)
- [193] R. Benzi, L. Biferale, M. Sbragaglia, S. Succi and F. Toschi, Wetting-dewetting transition of two-phase flows in nano-corrugated channels, *J. of Computer Aided Materials Design*, **14**, 447, (2007)

- [194] M. Fyta, S. Melchionna, S. Succi and E. Kaxiras, Multiscale modeling of biopolymer translocation through a nanopore, *Springer Series in Computer Science*, **Best Workshop Paper Award, 7th Int. Conf. on Computational Science, Lecture Notes in Computational Science, 4487, 786, (2007)** Beijing, May 2007.
- [195] S. Ubertini and S. Succi, A generalised lattice Boltzmann equation on unstructured grids, *Commun. in Comp. Phys., 3, 342 (2008)*
- [196] M. Fyta, S. Melchionna, E. Kaxiras and S. Succi, Multiscale simulation of nano-biological flows, *Computing in Science and Engineering, 4, 10, July/August (2008)*
- [197] M. Bernaschi, S. Melchionna, S. Succi, M. Fyta and E. Kaxiras, Quantized current blockade and hydrodynamic correlations in biopolymer translocation through nanopores: evidence from multiscale simulations, *Nanoletters, 8, 1115 (2008)*
- [198] H. Basagaoglu, P. Meakin, S. Succi and T. Ginn, Two-dimensional lattice-Boltzmann simulation of colloidal migration in rough-walled narrow flow channels, *Phys. Rev. E, 77, 031405, (2008)*
- [199] D. Bini and S. Succi, Analogy between capillary motion and Friedmann-Robertson-Walker cosmology *Europhys. Lett., 82, 34003, (2008)*
- [200] G. Falcucci, S. Chibbaro, S. Succi, X. Shan and H. Chen, Lattice Boltzmann spray-like fluids, *Europhys. Lett., 82, 24005, (2008)*
- [201] S. Palpacelli and S. Succi, Quantum Lattice Boltzmann simulation of expanding Bose-Einstein condensates in random potentials, *Phys Rev E, 77, 066708, (2008)*.
- [202] A. Kuzmin, A. M. Mohamad, S. Succi, Multi-relaxation time Lattice Boltzmann Model for multiphase flows, *Int. J. Mod. Phys. C, 19, 875, (2008)*
- [203] S. Chibbaro, S. Succi, G. Falcucci, G. Chiatti, X. Shan and H. Chen, Lattice Boltzmann models for non-ideal fluids with arrested phase-separation, *Phys. Rev. E, 77, 036705 (2008)*
- [204] S. Succi, Lattice Boltzmann across scales: from turbulence to DNA translocation, *European Physical Journal B: Condensed Matter, 64, 471 (2008)*
- [205] M. Fyta, S. Melchionna, S. Succi and E. Kaxiras, Hydrodynamic correlations in the translocation of a biopolymer through a nanopore: Theory and multiscale simulations, *Phys. Rev. E, 78, 036704 (2008)*
- [206] M. Chinappi, S. Melchionna, C. Casciola and S. Succi, Hydrodynamic versus single-file transport in asymmetric nano-channels, *J. Chem. Phys., 129, 124717, (2008)*
- [207] F. Diotallevi, L. Biferale, S. Chibbaro, A. Puglisi and S. Succi, Front pinning in capillary filling of chemically coated channels *Phys. Rev. E, 78, 036305, (2008)*
- [208] R. Adhikari and S. Succi, Duality in matrix lattice Boltzmann models, *Phys. Rev. E, 78, 066701 (2008)*

- [209] S. Palpacelli and S. Succi, The quantum Lattice Boltzmann equation: recent developments, *Commun. in Comp. Phys.*, 4, 980 (2008)
- [210] Melchionna S, Rybicki FJ, Mitsouras D, et al. Non-invasive Prediction of Localization and Progression of Coronary Disease in Man Using Shear Stress Profiles Derived from 320-Row Detector Computed Tomography: Implications for Widespread Screening *Circulation*, 118, S845-S845, Suppl. 2 (2008)
- [211] E. Kaxiras and S. Succi, Multiscale simulations of complex systems: computation meets reality, *Scientific Modeling and Simulation*, 15, 59 (2008)
- [212] S. Chibbaro, L. Biferale, F. Diotallevi, S. Succi, A. Dimitrov, A. Milchev, K. Binder, S. Girardo and D. Pisignano, Evidence of thin-film precursors formation in hydrokinetic and atomistic simulations of nano-channel capillary filling *Europhys. Lett.*, 84, 44003 (2008)
- [213] R. Benzi, S. Chibbaro and S. Succi, Mesoscopic Lattice Boltzmann modeling of flowing soft systems, *Physical Review Letters*, 102, 026002 (2009)
- [214] F. J. Rybicki et al, Prediction of Coronary Artery Plaque Progression and Potential Rupture from 320-Detector Row Prospectively ECG-gated Single Heart Beat CT Angiography: Lattice Boltzmann Evaluation of Endothelial Shear Stress, *Int. J. of Cardiovascular Imaging*, DOI 10.1007/s10554-008-9418-x, (2009)
- [215] F. Diotallevi, L. Biferale, S. Chibbaro, G. Pontrelli, S. Succi and F. Toschi, Capillary filling using lattice Boltzmann equations: the case of multi-phase flows, *European Physical Journal-Special Topics*, 166, 111 (2009)
- [216] S. Melchionna, M. Bernaschi, M. Fyta, E. Kaxiras and S. Succi, Quantized biopolymer translocation through nanopores: departure from simple scaling, *Phys. Rev. E*, 79, 030901(R), (2009)
- [217] S. Girardo, R. Cingolani, S. Chibbaro, F. Diotallevi, S. Succi and D. Pisignano, Thin film precursor formation during capillary penetration in microchannels, *Applied Physics Letters*, 94, 171901 (2009)
- [218] S. Chibbaro, L. Biferale, F. Diotallevi and S. Succi, Capillary filling for multi-component fluids using the pseudo-potential Lattice Boltzmann method, *European Physical Journal-Special Topics*: 171, 223-228, (2009)
- [219] F. Diotallevi, L. Biferale, S. Chibbaro, G. Pontrelli and S. Succi, Lattice Boltzmann simulations of capillary filling: finite vapour density effects, *European Physical Journal-Special Topics*: 171, 237-243, (2009)
- [220] A. Mohamad and S. Succi, A note on equilibrium boundary conditions in lattice Boltzmann fluid dynamic simulations, *European Physical Journal-Special Topics*: 171, 213-221, (2009)

- [221] M. Sbragaglia, H. Chen, X. Shan and S. Succi, Continuum free-energy formulation for a class of lattice Boltzmann multiphase models, *Europhys. Lett.*, 86, 24005, (2009)
- [222] G. Falcucci, G. Chiatti, S. Succi, A. A. Mohamad, A. Kuzmin, Rupture of a ferrofluid droplet in external magnetic fields using a single-component lattice Boltzmann model for non-ideal fluids, *Phys. Rev. E*, 79, 056706 (2009).
- [223] F. Diotallevi, A. Puglisi, A. Lamura and S. Succi, Capillary filling with randomly coated walls, *J. Stat. Phys: Theory and Experiment*, L02001, (2009)
- [224] M. Fyta, S. Melchionna, M. Bernaschi, S. Melchionna, E. Kaxiras and S. Succi, Numerical simulation of conformational variability in biopolymer translocation through wide nanopores, *J. Stat. Mechanics: Theory and Experiment*, P06009, (2009)
- [225] G. Pontrelli, S. Ubertini and S. Succi, The unstructured Lattice Boltzmann method for non-newtonian flows, *J. Stat. Mechanics: Theory and Experiment*, P06005, (2009)
- [226] S. Chibbaro, L. Biferale, K. Binder, D. Dimitrov, F. Diotallevi, A. Milchev and S. Succi, Hydrokinetic simulations of nanoscopic precursor films in rough channels, *J. Stat. Mechanics: Theory and Experiment*, P06007, (2009)
- [227] M. Sbragaglia, R. Benzi, L. Biferale, H. Chen, X. Shan and S. Succi, Lattice Boltzmann method with self-consistent thermo-hydrodynamic equilibria, *J. Fluid Mech.*, 628, 299-309, (2009)
- [228] H. Basagaoglu, S. Succi, C. Manepally, R. Fedors, D.Y. Wyryck, Sensitivity of the active fracture model parameter to fracture network orientation and injection scenarios, *Hydrogeology Journal*, 17, 1347-1358, (2009)
- [229] M. Bernaschi, S. Melchionna, S. Succi, M. Fyta, E. Kaxiras and J. Sircar, MUPHY: a parallel MULTIPHYsics/scale code for high-performance bio-fluidic simulations, *Comp. Phys. Comm.*, 180, 1495-1502, (2009)
- [230] S. Chibbaro, F. Diotallevi, E. Costa, D. Dimitrov, A. Milchev, D. Palmieri and S. Succi Capillary filling in microchannels with wall corrugations- A comparative study by continuum, kinetic and atomistic approaches, *Langmuir*, 25, 12653 (2009)
- [231] D. Chiappini, G. Bella, S. Succi and S. Ubertini, Applications of finite-difference lattice Boltzmann method to breakup and coalescence in multiphase flows, *Int. J. Mod. Phys. C*, 20, 1803, (2009)
- [232] R. Benzi, M.Sbragaglia, S. Succi, M. Bernaschi and S. Chibbaro, Mesoscopic lattice Boltzmann modeling of soft-glassy systems: theory and simulations, *J. Chem. Phys.*, 131, 104903, (2009)
- [233] S. Melchionna, M. Bernaschi, S. Succi et al, Hydrokinetic approach to large-scale cardiovascular flows, *Comp. Phys. Comm.*, 181, 462-472, (2010)

- [234] D. Chiappini, G. Bella, S. Succi, F. Toschi and S. Ubertini, Improved Lattice Boltzmann without parasitic currents for Rayleigh-Taylor instability, *Commun. in Comp. Phys.*, 7, 423-444, (2010)
- [235] M. Bernaschi, M. Fatica, S. Melchionna, S. Succi and E. Kaxiras, A flexible high performance Lattice Boltzmann GPU code for the simulations of fluid flows in complex geometries, *Concurrency: Practice and Experience*, 22, 1-14, (2010)
- [236] M. Bernaschi, L. Rossi, R. Benzi, M. Sbragaglia and S. Succi, GPU implementation of lattice Boltzmann models for flowing soft systems, *Phys. Rev. E*, 80, 066707 (2010)
- [237] S. Ubertini, P. Asinari and S. Succi, Three ways to lattice Boltzmann: a unified time-marching procedure, *Phys. Rev. E*, 81, 016311, (2010)
- [238] J. Russo, J. Horbach, F. Sciortino and S. Succi, Nanoflows through disordered media: a joint Lattice Boltzmann and Molecular Dynamics investigation, *Europhys. Letters*, 89, 44001, (2010)
- [239] H. Basagaoglu and S. Succi, Lattice Boltzmann simulations of repulsive particle-particle and particle-wall interactions: coughing and chocking *J. Chem. Phys.*, 132, 134111, (2010)
- [240] S. Succi, M. Sbragaglia, S. Ubertini, The Lattice Boltzmann method, **Scholarpedia** 5(5):9507, (2010)
- [241] S. Palpacelli and S. Succi, Quantum state reduction in Bose-Einstein condensates with attractive interactions, *Int. J. Mod. Phys. C*, 21, 629-646 (2010)
- [242] G. Falcucci, S. Succi and S. Ubertini, Magnetic-driven droplet break-up and vaporization: a lattice Boltzmann study, *JSTAT*, P05010, (2010)
- [243] J. Janela, G. Pontrelli, A. Sequeira, S. Succi, S. Ubertini, Unstructured Lattice-Boltzmann method for shear dependent viscosity, *Int. J. Mod. Phys. C*, 21, 795 (2010)
- [244] M. Mendoza, B. Boghosian, H. Hermann and S. Succi, Fast Lattice Boltzmann solver for relativistic hydrodynamics, *Phys. Rev. Lett.*, 105, 014502 (2010) **Cover page of the PRL issue, July 2, 2010**
- [245] F. Chen, A. Xu, G. Zhang, Y. Li and S. Succi, Multiple-relaxation-time lattice Boltzmann approach to compressible flows with flexible specific-heat ratio and Prandtl number, *EPL*, 90, 54003, (2010)
- [246] G. Falcucci, S. Ubertini and S. Succi, Lattice Boltzmann simulations of phase-separating flows with large density ratios: the case of doubly-attractive pseudo-potentials, *Soft Matter*, 6, 4357 (2010)
- [247] R. Benzi, M. Bernaschi, M. Sbragaglia and S. Succi, Emergent Herschel-Bulkley rheology from mesoscopic simulations, *EPL*, 91, 14003, (2010)

- [248] M. Mendoza, B. Boghosian, H. Herrmann and S. Succi, Derivation of the Lattice Boltzmann Model for Relativistic Hydrodynamics, (Isaac Newton Institute preprint, NI10029-KIT, 2010, Cambridge, UK), *Phys. Rev. D*, 82, 105008 (2010)
- [249] S. Succi, A note on the analogy between quantum gravity and fluid turbulence, *Int. J. Mod. Phys. C*, 21, 1329–1340 (2010)
- [250] A. Peters et al, Multiscale simulation of cardiovascular flows on the IBM Bluegene/P: full heart circulation system at near red-cell resolution, 2011, *Gordon Bell Prize Finalist*.
- [251] D. Kauzlaric et al, Bottom-up coarse-graining of a simple graphene model, *J. Chem. Phys.*, 134, 064106, (2011)
- [252] S. Succi, S. Palpacelli, A prospective merger between Car-Parrinello and Lattice Boltzmann methods, *Comm. in Comp. Phys.*, 9, 1137, (2011)
- [253] A. De Maio, S. Palpacelli and S. Succi, A new boundary condition for three-dimensional Lattice Boltzmann simulations of capillary filling in rough microchannels *Comm. in Comp. Phys.*, 9, 1284, (2011)
- [254] A. Gizzi et al, Three-band decomposition analysis of wall shear stress in pulsatile flows, *Phys. Rev. E*, 83, 031902 (2011)
- [255] G. Falcucci et al, Lattice Boltzmann methods for multiphase flow simulations across scales, *Comm. in Comp. Phys.*, 9(2), 269, (2011)
- [256] A11.06 D. Lapitski, P. Dellar, S. Palpacelli and S. Succi, On the isotropy of the three-dimensional quantum Lattice Boltzmann scheme, *Phys. Rev. E*, 83, 046706, (2011)
- [257] R. Benzi, M. Sbragaglia, M. Bernaschi and S. Succi, Phase-field model of long-time glass-like relaxation in binary fluid mixtures, *Phys. Rev. Lett.*, 106, 164501, (2011)
- [258] M. Mendoza, H. Hermann and S. Succi, Pre-turbulent regimes in graphene flows, *Phys. Rev. Lett.*, 106, 156601, (2011)
- [259] S. Melchionna et al, Endothelial shear stress hemodynamic simulation, *Phil. Trans. Roy. Soc.*, 369, 2354, (2011)
- [260] I. Karlin, P. Asinari and S. Succi Matrix Lattice Boltzmann reloaded, *Phil. Trans. Roy. Soc.*, 369, 2202, (2011)
- [261] L. Biferale, P.V. Coveney, S. Ubertini and S. Succi, *Preface to the Special Issue of the Phil. Trans. Roy. Soc.*, Discrete Simulation in Fluid Dynamics: Methods, *Phil. Trans. Roy. Soc.*, 369, 2152, (2011)
- [262] M. Fyta, S. Melchionna and S. Succi, Translocation of biomolecules through solid-state nanopores: theory meets experiments, *J. of Polym. Sci. B: Polymer physics*, 49(14), 985 (2011), **Cover page of the issue**

- [263] R. Benzi, M. Sbragaglia, M. Bernaschi and S. Succi, Shear Banding from lattice kinetic models with competing interactions, *Phil. Trans. Roy. Soc.*, 369, 2439, (2011)
- [264] L. Biferale, P.V. Coveney, S. Ubertini and S. Succi, *Preface to the Special Issue of the Phil. Trans. Roy. Soc., Discrete Simulation in Fluid Dynamics: Applications*, 389, 2384, (2011)
- [265] D. Kauzlaric, P. Espanol, A. Greiner, and S. Succi, Three routes to the friction matrix and their application to the coarse-graining of atomic lattices, *Macromolecular Theory and Simulations*, 20, 526, (2011)
- [266] P. Romatsche, M. Miller and S. Succi , A fully relativistic lattice Boltzmann algorithm, *Phys. Rev. C* 84, 034903 (2011)
- [267] G. Pontrelli, C. Koenig, I. Halliday, M. Collins, and S. Succi, Modelling wall shear stress in small arteries using LBM and FVM: influence of the endothelial wall profile, *Medical Engineering and Physics*, 33, 832 (2011)
- [268] I. Mazzitelli, M. Venturoli, S. Melchionna and S. Succi, Towards a mesoscopic model of water-like fluids with hydrodynamic interactions, *J. Chem. Phys.* 135, 124902 (2011)
- [269] A. Zarghami , M.J.Maghrebi, S. Ubertini, and S. Succi , Modeling of bifurcation phenomena in suddenly expanded flows with a new finite volume lattice Boltzmann method *Int. J. Mod. Phys. C*, 22(9), 977-1003, (2011)
- [270] S. Hanasoge, S. Succi and S. Orszag, Lattice BGK formulation of Electromagnetic Wave Propagation, *EPL* 96, 14002, (2011)
- [271] A. Petersen, E.H. Stanley and S. Succi, Statistical regularities in the rank-citation profile of scientists, **Scientific Reports**, 1, 181, (2011)
- [272] M. Bernaschi et al, Petaflop biofluidic simulations on a two-million core system, **Gordon Bell finalist and Honorable Mention (2011)**, High Performance Computing, Networking, Storage and Analysis (SC), 2011 International Conference, 1-12, Issue 12-18 Nov. 2011
- [273] R. Benzi, M. Bernaschi, M. Sbragaglia and S. Succi, Heterogeneous diffuse interfaces: a new mechanism for arrested coarsening in binary mixtures, *Europ. J. of Phys. E*, (2011)
- [274] I. Karlin and S. Succi, Comment on "Numerics of the lattice Boltzmann method: Effects of collision models on the lattice Boltzmann simulations, *Physical Review E* 84, 068701 (2011)
- [275] D. Hupp, M. Mendoza, I. Bouras S. Succi and H. J. Herrmann On the relativistic Lattice Boltzmann method for quark-gluon plasma simulations *Physical Review D*, 84, 125015 (2011)
- [276] G. Falcucci, S. Ubertini, D. Chiappini and S. Succi, Modern Lattice Boltzmann methods for multiphase microflows, *IMA Journal of Applied Mathematics*, 76, 712, (2011)

- [277] , D. Bini, A. Geralico and S. Succi, Particle scattering by a test fluid on a Schwarzschild spacetime: the equation of state matters, *Europ. J. Phys. C*, 72, 1913, (2012)
- [278] C. Colosqui, G. Falcucci, S. Ubertini and S. Succi, Mesoscopic simulation of non-ideal flows with dynamically self-tuned equation of state, *Soft matter*, 8, 3798, (2012)
- [279] M. Bisson, M. Bernaschi, S. Melchionna, E. Kaxiras and S. Succi, Multiscale hemodynamics using clusters of GPU, *Comm. in Comp. Phys.*, 11, 48, (2012)
- [280] S. Palpacelli, A. De Maio, S. Girardo, D. Pisignano and S. Succi, Interplay between shape and roughness effects on capillary front propagation, *Langmuir*, 28, 2596, (2012)
- [281] S. Succi, Analogy between turbulence and quantum gravity: beyond Kolmogorov's 1941 theory *Int. J. Mod. Phys. C*, 23, 1250001, (2012)
- [282] D. Bini, D. Gregoris and S. Succi, Kinetic theory in a curved spacetime: applications to the Poynting-Robertson effect, *EPL*, 97, 40007, (2012)
- [283] V. Yermakou and S. Succi, Lattice Boltzmann scheme for the KPZ equation, *Physica A*, 391, 4557, (2012)
- [284] R. Benzi, M. Bernaschi, M. Sbragaglia and S. Succi, The emergence of supramolecular forces from lattice kinetic models of non-ideal fluids: applications to the rheology of soft-glassy materials, *Soft Matter*, 8, 10773-10782 (2012)
- [285] H. Basagaoglu, S. Melchionna, S. Allwein, S. Succi, V. Yakhot, H. Dixon, Particle Thermal Fluctuations in an Isothermal Flow in Two-Dimensional Flow Channels via Fluctuating Colloidal Lattice-Boltzmann Model, *EPL*, 99, 64001, (2012)
- [286] M. Miller, N. Araujo, S. Succi and H.J. Herrmann, Transition in the Equilibrium Distribution Function of Relativistic Particles, *Nature Scientific Reports*, 2, 611, (2012)
- [287] S. Palpacelli, M. Mendoza, H. J. Herrmann, S. Succi, Klein Tunneling in the presence of random impurities, *Int. J. Mod. Phys. C*, 23, 1250080, (2012)
- [288] D. Kauzlaric, P. Espanol, A. Greiner and S. Succi, Markovian Dissipative Coarse Grained Molecular Dynamics for simple 2D graphene model *J. Chem. Phys.*, 137, 234103, (2012)
- [289] D. Bini, D. De Gregoris, S. Knell and S. Succi, Particle motion in a photon gas: friction matters *General Relativity and Gravitation*, 44, 2669, (2012)
- [290] M. Bernaschi at al. Petaflop hydrokinetic simulations of complex flows on massive GPU clusters, *Comp. Phys. Comm.*, 11, 48, (2013)
- [291] S. Thampi, S. Ansumali, R. Adhikari and S. Succi, Isotropic discrete Laplacian operators from lattice hydrodynamics, *J. Comp. Phys.*, 234, 1-7, (2013)
- [292] M. Mendoza, I. Karlin, S. Succi and H. J. Herrmann, Ultrarelativistic Transport Coefficients in Two Dimensions *J. Sta. Mech.: Theory and Experiment*, P020036 (2013)

- [293] X. Descovich, G. Pontrelli, S. Melchionna, S. Succi and M. Bammer, Modelling elastic walls in lattice Boltzmann simulations for hemodynamic applications, *Int. J. Mod. Phys. C*, **24**, 1350030 (2013)
- [294] D. Bini, D. de Gregoris, S. Knell and S. Succi, Effects of friction forces on the motion of objects in smoothly matched interior/exterior spacetimes, *Classical and Quantum Gravity*, **30**, 025009, (2013)
- [295] R. Ramadugu, S. Thampi, S. Ansumali, R. Adhikari and S. Succi, Lattice operators from discrete hydrodynamics, *EPL*, **101**, 50006, (2013)
- [296] D. Bini, A. Geralico, D. de Gregoris and S. Succi, Friction forces in cosmological models, *Europ. Phys. J.*, **73**, 2334 (2013)
- [297] M. Miller, H. J. Herrmann and S. Succi , Hydrodynamic model of graphene conductivity, *Nature Scientific Reports*, **3**, 1052, (2013)
- [298] F. Mohseni, M. Mendoza, S. Succi and H. J. Herrmann, Relativistic Lattice Boltzmann model for ultra-high velocities, *Phys. Rev. D*, **87**, 083003, (2013)
- [299] M. Mendoza, I. Karlin, S. Succi and H. J. Herrmann, Relativistic lattice Boltzmann with improved dissipation, *Phys. Rev. D*, **87**, 065027 (2013)
- [300] G. Falcucci, S. Ubertini, G. Bella, and S. Succi, Lattice Boltzmann simulations of cavitating flows, *Comm. in Comp. Phys.*, **3**, 13, 685, (2013)
- [301] S. Singh, S. Krishivasan, I. Karlin, S. Succi and S. Ansumali, Energy conserving lattice Boltzmann models for in-compressible flow simulations, *Comm. in Comp. Phys.*, **3**, 13, 603, (2013)
- [302] A. Fuchs, D. Kauzlaric, A. Greiner, S. Succi and J. Korvink, Molecular dynamics simulations of nanoparticle interactions with a planar wall: does shape matter? *Comm. in Comp. Phys.*, **3**, 13, 900, (2013)
- [303] A. De Rosis, G. Falcucci, S. Ubertini, F. Ubertini and S. Succi, Lattice Boltzmann Analysis of Fluid-Structure Interaction with Moving Boundaries, *Comm. in Comp. Phys.*, **13**, 3, 823, (2013)
- [304] S. Succi, In memory of Steven Alan Orszag, *Comm. in Comp. Phys.*, **13**, 3 (2013)
- [305] T. Chakradhar, D.V. Patil, S. Succi and S. Ansumali, Universal mechanism for the saturation of vorticity growth in fully-developed fluid turbulence *J. of Fluid Mech., Fast Track*, **728**, UNSP R4, (2013)
- [306] G. Falcucci, S. Ubertini, E. Iannelli and S. Succi, Direct Numerical Evidence of Stress-Induced Cavitation, *J. Fluid. Mech.*, **728**, 362, (2013).
- [307] M. Sega, L. Biferale, M. Sbragaglia and S. Succi, Water slippage on non-ideal surfaces: the role of static and dynamic roughness, *Soft Matter*, **9**, 8526, (2013)

- [308] A. Petersen and S. Succi, The Z-index: a geometrical measure of productivity and impact which rewards highly-cited papers, *Journal of Infometrics* 7, 823–832 (2013)
- [309] D. Bini, A. Geralico, D. de Gregoris and S. Succi, Dark energy from cosmological fluids obeying a Shan-Chen nonideal equation of state *Phys. Rev. D*, 88, 063007, (2013)
- [310] X. Descovich, G. Pontrelli, S. Melchionna, S. Succi, and S. Wassertheurer, A. Zhargami, C. Biscarini, S. Succi and S. Ubertini, Modeling fluid flows in distensible tubes for applications in hemodynamics, *Int. J. Mod. Phys. C*, 24, 1350030, (2013)
- [311] N. Moradi, A. Greiner, F. Rao and S. Succi, Modeling water-like fluids with a 3d lattice Boltzmann approach, *J. Chem. Phys.*, 138, 124105 (2013)
- [312] S. Melchionna et al, Risk assessment of atherosclerotic plaques based on global biomechanics, *Medical Engineering and Physics*, 35, 1290 (2013)
- [313] F. Fillion, M. Miller, H.J. Herrmann, S. Palpacelli and S. Succi, Formal analogy between the Dirac equation in its Majorana form and the discrete-velocity version of the Boltzmann kinetic equation, *Phys. Rev. Lett.*, 111, 160602, (2013)
- [314] M. Miller, S. Succi and H.J. Herrmann, Flow through randomly curved media, *Scientific Reports*, 3, 3106, (2013)
- [315] S. Palpacelli, P. Romatschke and S. Succi, One-dimensional quantum lattice Boltzmann for the non-linear Dirac equation *Int. J. Mod. Phys. C*, 24, 1340001 (2013)
- [316] C. Thantapally , S. Singh, D. Patil, S. Succi and S. Ansumali, Quasiequilibrium Lattice Boltzmann Models With Tunable Prandtl Number For Incompressible Hydrodynamics. *Int. J. Mod. Phys. C*, 24, 1340004 (2013)
- [317] H. Basagaoglu, S. Allwein, S. Succi, H. Dixon and J.T. Carrola, Two and Three-Dimensional lattice-Boltzmann Simulations of Particle Migration in Microchannels, *Microfluidics and Nanofluidics*, 15, 785, (2013)
- [318] D. Kauzlaric, J. Meier, P. Espanol, A. Greiner and S. Succi , Markovian equations of motion for non-Markovian coarse-graining and properties of graphene blobs, *New J. of Physics*, 15, 12505, (2013)
- [319] A. Zarghami, S. Ubertini and S. Succi, Finite-volume lattice Boltzmann modeling of thermal transport in nanofluids *Computers and Fluids*, 77, 56 (2013)
- [320] S. Succi, A note on the Lattice Boltzmann method versus finite-differences for the numerical solution of the Fisher's equation, *Int. J. Mod. Phys. C*, 25, 1340015 (2014)
- [321] S. Succi, S. Palpacelli, M. Mendoza and H.J. Herrmann, Majorana returns: the Boltzmann-Dirac connection, *Electr. J. of Theoret. Phys.* , 11(30), 1-18, (2014).
- [322] Chuandong Lin; Aiguo Xu; Guangcai Zhang; Yingjun Li; Sauro Succi, Polar coordinate lattice Boltzmann modeling of compressible flows, *Phys. Rev. E*, 89, 013307 (2014)

- [323] A. Zhargami, C. Biscarini, S. Succi and S. Ubertini, Hydrodynamics in Porous Media: a Finite Volume Lattice Boltzmann Study, *J. Sci. Computing*, 59, 80:103 (2014).
- [324] S. Succi, N. Moradi. A. Greiner, S. Melchionna, Lattice Boltzmann Models of Water-like Fluids, *Frontiers in Physics*, 2, art. 22, 1-12, (2014)
- [325] A. Zarghami, S. Ubertini and S. Succi , Finite Volume Formulation of Thermal Lattice Boltzmann Method, *Int. J. Num. Methods for Heat and Fluid Flow*, 24(2) (2014)
- [326] I. Coluzza, G. Pontrelli, D. Pisignano and S. Succi, Ultrathin Fibers from Electrospinning Experiments under Driven Fast-Oscillating Perturbations, *Phys. Rev. Applied*, 2, 054011 (2014)
- [327] S. Succi, M. Mendoza, F. Mohseni et al, Relativistic lattice kinetic theory: Recent developments and future prospects, *Europ. Phys. Journal, Special Topics*, 2233, 2177 (2014)
- [328] G. Pontrelli, D. Gentili, I. Coluzza, D. Pisignano and S. Succi, Effects of non-linear rheology on the electrospinning process: a model study, *Mech. Res. Comm.*, 61, 41 (2014)
- [329] G. Pontrelli, I. Halliday, S. Melchionna and S. Succi, *Mathematical and Computer Modelling of Dynamical Systems*, 20, 470 (2014)
- [330] M. Mendoza, S. Succi and H.J. Herrmann, Kinetic formulation of the Kohn-Sham equations for electronic structure calculations, *Phys. Rev. Lett.*, 113, 096402 (2014)
- [331] D. Gregoris, D. Bini, A. Geralico and S. Succi, Scalar field inflation and Shan-Chen fluid models, *Phys. Rev. D*, 90, 044021 (2014)
- [332] A. Montessori, M. La Rocca, G. Falcucci, Regularized Lattice BGK model for cavity flow simulations, *Phys. Rev. E* 89, 013307, (2014)
- [333] Amin Amiri Delouei, Mohsen Nazari, M.H. Kayhani, S. Succi, Non-Newtonian Unconfined Flow over a Cylinder Using the Direct Forcing Immersed Boundary-Lattice Boltzmann Method Based on Split Forcing, *PRE*, 89, 053312 (2014)
- [334] N. Moradi. A. Greiner, S. Melchionna, F. Rao and S. Succi , Hydro-kinetic scheme for the dynamics of hydrogen bonds in water-like fluids, *Physical Chemistry Chemical Physics*, 16, 15510 (2014)
- [335] R. Benzi, M. Bernaschi, P. Prasad, M. Sbragaglia, S. Succi and F. Toschi , Direct evidence of plastic events and dynamic heterogeneity in soft-glassy materials, *Soft Matter*, 10, 4615 (2014)
- [336] F. Mohseni, M. Mendoza, I. Karlin and S. Succi, Relativistic lattice kinetic theory: recent developments and future prospects, *Europ. Phys. J. Special Topics*, 223, 2177, (2014)
- [337] F. Mohseni, M. Mendoza, I. Karlin and S. Succi, Relativistic lattice kinetic theory: recent developments and future prospects, *Phys Rev D*, 90, 125028, (2014)

- [338] A. Montessori, M. La Rocca, G. Falcucci, Regularized Lattice BGK versus highly-accurate spectral methods for cavity flow simulations, *Int. J. Mod. Phys. C*, **12**, 1441003 (2014)
- [339] A. Zarghami, S. Ubertini and S. Succi , Finite Volume Lattice Boltzmann Method for Nanoflows, *Int. J. of Num. Meth. for Heat and Fluid Flow*, **24**, 270 (2014) .
- [340] A. Zarghami, G. Falcucci, M. Porfiri, S. Succi, E. Jannelli and S. Ubertini, Lattice Boltzmann modeling of water entry problems, *Int. J. Mod. Phys C*, **25**, 1441012 (2014)
- [341] A. Zarghami, C. Biscarini and S. Succi, Hydrodynamics in porous mediaL a finite volume Lattice Boltzmann study, *J. of Sci. Comp.*, **59**, 80 (2014)
- [342] O. Furtmaier, M. Mendoza, I. Karlin, S. Succi and H.J. Herrmann, Rayleigh-Benard instability in graphene, *Phys. Rev. B*, **91**, 085401, (2015)
- [343] S. Succi, Lattice Boltzmann 2038, *EPL Perspective*, **109**, 5001, (2015)
- [344] B. Soufiene, F. Kuznik, E. Sediki and S. Succi, Numerical Study on Thermosolutal Mixed Convection with Soret Effect in a Lid-driven Differentially Heated and Salted Cavity by Lattice Boltzmann Method, *Comm. in Comp. Phys.* **63**, 91, (2015)
- [345] M. La Rocca, A. Montessori, P. Prestininzi and S. Succi, *J. Comp. Phys.*, **284**, 117 (2015)
- [346] R. Benzi, M. Sbragaglia, M. Bernaschi, S. Perlekar, S. Succi and F. Toschi, Internal dynamics and activated processes in Soft-Glassy materials, *Soft Matter*, **11**, 1271 (2015)
- [347] S.Succi, F. Fillion and S. Palpacelli, Quantum Lattice Boltzmann is a Quantum Walk, *EPJ Quantum Technology* **2**, 12 (2015)
- [348] P. Mocz and S. Succi, Numerical Solution of the nonlinear Schroedinger equation using Smoothed-Particle Hydrodynamics, *Phys Rev E*, **91**, 053304 (2015)
- [349] H. Basagaoglu, J. Carrola, J Freitas, J. Christopher and S. Succi, Lattice Boltzmann simulations of vortex entrapment of particles in a microchannel with curved or flat edges, *Microfluidics and nanofluidics* **18**, 1165, (2015)
- [350] H. Mendoza, H. Herrmann and S. Succi, Higher order kinetic relaxation schemes as high accuracy Poisson solvers, *Int. J. Mod. Phys. C*, **26**, 1550055 (2015)
- [351] M. Mortinaro, D. Pisignano, M. Lauricella, S. Succi, Sub-ms dynamics of the instability onset of electrospinning, *Soft Matter*, **11**, 3424 (2015)

## In press and submitted

## References

- [1] D. Kauzlaric, A. Liba, Y. Hanein, P. Espanol, A. Greiner, S. Succi and J. Korvink, Top-down vs Bottom-up coarse-graining of graphene and CNT's for nanodevice simulations, *IEEE Explore*, accepted

- [2] X. Descovich et al, Lattice Boltzmann method for hemodynamic flows with compliant walls, *Math. and Comput. Modelling of Dynamical Systems*, accepted
- [3] S. Succi, Mesoscopic particle methods for fluid flows, *in press*.
- [4] M. Mendoza, S. Succi and H.J. Herrmann, Lattice kinetic scheme for generalized coordinates and curved spaces, *accepted*,
- [5] A. Montessori, G. Falcucci, M. La Rocca, S. Ansumali and S.Succi, Multi-range pseudopotentials for multiphase simulations at high density ratios, *accepted*, (2014)
- [6] A. Delouei, M. Nazari, Mohsen, MH Kayhani, S. Succi, S. S. Kang, Non-Newtonian Particulate Flow Simulation: A Direct-Forcing Immersed Boundary- Lattice Boltzmann Approach *accepted*, (2015)
- [7] R. Benzi, M. Bernaschi, M. Sbragaglia and S. Succi, Kinetic characterization of non-linear soft-glassy rheology, *in press*
- [8] S. Toppaladoddi, S. Succi and J. Wettlaufer, Turbulent Transport Processes att Rough Surfaces with Geophysical Applications, *Procedia IUTAM Symp. on Multiphase Flows*, *to appear* (2014)
- [9] M. Lauricella, G. Pontrelli, D. Pisignano and S. Succi, NonLinear Langevin Model for electrospinning, *accepted*, (2015)
- [10] A. Mezzacapo, M. Sanz, L. lamata, I.L. Egusquiza, S. Succi, E. Solano, Quantum Simulator for Transport Phenomena in Fluid Flows, *accepted*, (2015)
- [11] G. Falcucci, S. Melchionna, S. Ubertini and S. Succi, The lattice Boltzmann equation for complex flows: a selective review *invited paper for the Handbook of Fluid Mechanics* (2013).
- [12] T. Shinbrot, A. Montessori, P. Prestininizi and S. Succi, Paradoxical ratcheting in cornstarch, *accepted*, (2015)
- [13] Y. Gan, A. Xu, G. Zhang and S. Succi, Discrete Boltzmann modeling of multiphase flows: hydrodynamic and thermodynamic non-equilibrium effects *accepted*, (2015)
- [14] M. Lauricella, G. Pontrelli, I. Coluzza, D. Pisignano and S. Succi, JETSPIN: a specific-purpose open-source software for simulations of nanofiber electrospinning, *accepted*, (2015)
- [15] R. Benzi, M. Bernaschi, P. Prasad, M. Sbragaglia, S. Succi and F. Toschi , Stochastic Resonance in Soft-Glassy Materials, *submitted* (2014)
- [16] Amin Amiri Delouei, Mohsen Nazari, M.H. Kayhani, S. Succi, Immersed Boundary Thermal Lattice Boltzmann Methods for Non-Newtonian Flows over a Heated Cylinder: A Comparative Study, *submitted*, (2014)
- [17] M. Lauricella. G. Pontrelli, I. Coluzza, D. Gentili, D. Pisignano and S.Succi, Dynamical regimes of electrically charged viscoelastic jets in the presence of air drag, *submitted*, (2014)

- [18] S. Toppaladoddi, S. Succi and J. Wettlaufer, Breaking the boundary layer symmetry in turbulent convection using wall geometry, *submitted*, (2014)
- [19] A. De Rosis, F. Ubertini, S. Ubertini and S. Succi, Hydrodynamic effects on spreading consensus among active agents, *submitted*, (2014)
- [20] F. Mohseni, M. Mendoza, S. Succi and H.J. Herrmann, Lattice Boltzmann for resistive relativistic hydrodynamics, *accepted*, (2015)
- [21] A. Montessori, P. Prestininizi, M. La Rocca and S. Succi, Extended kinetic theory for non-equilibrium flows, *submitted*, (2015)
- [22] A. Montessori, P. Prestininizi, M. La Rocca and S. Succi, Reassessing the Single Relaxation Time Lattice Boltzmann Method for the simulation of Darcy flows *accepted*, (2015)
- [23] S. Toppaladoddi, S. Succi and J. Wettlaufer, Tayloring boundary geometry to optimize heat transport in turbulent convection, *accepted*, (2015)
- [24] M. Mendoza and S. Succi, Ephemeral lattice quasiparticles for strongly interacting fluids, *accepted*, (2015)
- [25] M.G. Nestola, A. Gizzi, C. Cherubini, S. Filippi and S. Succi, Novel risk predictor for thrombus deposition in abdominal aortic aneurysm, *accepted*, (2015)
- [26] O. Furtmaier, M. Mendoza and S. Succi, Numerical scheme for the Wigner Equation, *accepted*, (2015)
- [27] H. Lai, A. Xu, G. Zhang, Y. Gan, Y. Ying and S. Succi, Non-equilibrium thermo-hydrodynamic effects on the Rayleigh-taylor instability in compressible flows, *submitted*, (2015)
- [28] H. Nguyen, H. Basagaoglu, C. Mac Kay, A.J. Carpenter and S. Succi, Couple Rapid-Cell and lattice-Boltzmann models to simulate hydrodynamics of bacterial transport in response to chemoattractant gradients in confined domains, *submitted*, (2015)
- [29] I. Karlin, F. Boesch, S. Chikatamarla and S. Succi, Entropy-assisted computing and guardian angels of low-dissipative systems, *accepted* 2015
- [30] M. Segal, L. Biferale, M. Sbragaglia and S. Succi, Wetting of water on corrugated nanosurfaces, *accepted* 2015
- bibitemS15.19 G. Falcucci, A. Montessori, S. Succi, E. Kaxiras, B. Zivic, J. Biener, M. Biener et al, Mesoscale modeling of nanoporous catalysts, *submitted* 2015
- [31] MR Banerjee, S. Succi, R. Adhikari and S. Ansumali. Detailed balance preserving discretization of stochastic conservation laws *submitted* 2015
- [32] S. Succi, Minimal kinetic theory, a mathematical framework for non-equilibrium flowing matter, submitted (2015)

- [33] A. Montessori, P. Prestininzi, M. La Rocca, S. Succi, E. Kaxiras, Effects of Knudsen diffusivity on the effective reactivity of nanoporous catalysts, submitted (2015)
- [34] G. Di Staso, M. Clerkx, S. Succi and F. Toschi, Coupling Direct Simulation Monte Carlo and Lattice Boltzmann schemes for rarefied and non-rarefied gas flows, submitted (2015)
- [35] M. Lauricella, D. Pisignano and S. Succi, Dynamic mesh refinement for modeling electrohydrodynamic instabilities, gas counterflows, submitted (2015)
- [36] M. Lauricella, D. Pisignano and S. Succi, Three-dimensional for electrospinning processes in controlled gas counterflows, submitted (2015)