Curriculum Vitæ*

Lorenzo Pareschi

1   Basic Information

Personal data: born in Rimini, Italy on 10th August 1966, living in Ferrara, Italy; married, two daughters; italian citizen.

Current position: Full professor of Numerical Analysis and Head of Department, Mathematics and Computer Science, University of Ferrara, Italy.

Address: Department of Mathematics and Computer Science, University of Ferrara, via Machiavelli 35, 44121 Ferrara, Italy

E-mail: `lorenzo.pareschi@unife.it`, Web site: `www.lorenzopareschi.com`

Phone: +39-0532-974027/46, Fax: +39-0532-247292

2   Academic Degrees

- 31/12/1995 Dottorato in Matematica (Ph.D.), University of Bologna, Italy. Thesis "Approximation and asymptotic behavior of nonlinear kinetic equation", advisor G. Toscani.

- 12/12/1990 Laurea in Matematica (M.Sc.), University of Ferrara, Italy.

3   Previous Positions

- 1/11/2012-today Head of Department, Mathematics and Computer Science, University of Ferrara, Italy

- 1/11/2009-31/10/2012 Head of Department, Mathematics, University of Ferrara, Italy

- 1/11/2007-today Full professor, Numerical Analysis, University of Ferrara, Italy.

- 1/11/2004-today Director of the Center for Modelling Computing and Simulation (CMCS), University of Ferrara, Italy.

_____

*Updated november 2014

- 1/9/2002-31/10/2007 Associate professor, Numerical Analysis, University of Ferrara, Italy.

- 1/7/1995-31/8/2002 Ricercatore (assistant professor) of Numerical Analysis, University of Ferrara, Italy.

4   Visiting & Research positions

- 1/10/2010-30/11/2010 Professeur invite CNRS, Université d'Orléans, Orléans, France

- 1/6/2008-30/6/2008 Professeur Invité, Université Paul Sabatier, Toulouse, France

- 1/9/2005-30/9/2005, 1/3/2006-31/3/2006, 1/3/2007-31/3/2007 Le Studium Research Associate, CNRS and Université d'Orléans, Orléans, France

- 1/3/2004-31/3/2004 Professeur Invité, Université d'Orléans, Orléans, France

- 21/1/2001-21/4/2001 Van Vleck Visiting Assistant Professor Department of Mathematics, University of Wisconsin, Madison, USA

- 1/8/1999-31/8/1999 Research position at the Department of Mathematics of Chalmers Institute of Technology, Gothenburg, Sweden.

- 20/9/1998-20/12/1998 Visiting Assistant Professor School of Mathematics, Georgia Institute of Technology, Atlanta, USA

- 1/10/1994-31/12/1994 and 1/7/1995-31/8/1995 pre-doc position at the University of Paris VI and the Institute National de Recherche en Informatique et en Automatique (INRIA) in Rocquencourt, Paris, France.

5   Scholarships

- 1991-1995 Ministry of Research and University, PhD Scholarship, University of Bologna.

- 1991-1992 Scholarship of Cassa di Risparmio di Ferrara for research on digital imaging systems in radiology.

- 1991 Scholarship of the National Institute of Advanced Mathematics (INDAM), Rome.

6   Research grants

- Co-Principal investigator national interest project (PRIN 2011-2013): "Advanced numerical methods for hyperbolic problems and kinetic equations" with G.Russo, Catania and G.Naldi, Milan.

- Principal investigator in bilateral project Italy-Germany Vigoni (2010-2012): "Adjoint implicit–explicit methods for the numerical solution to optimization problems", with M. Herty, Aachen.

- Principal investigator for the local research projects (FAR) of the University of Ferrara in the years 2006-2014

- Principal investigator for internationalization research project of the University of Ferrara, "Mathematical modeling for collective phenomena in the socio-economic and life sciences" (2010).

- Principal investigator in bilateral project of the Ministry of Foreign Affairs Italy-Sudfarica (2007-2010): "Modeling and simulation of the atmosphere with particulate", with M.K. Banda, Johannesburg.

- Principal investigator in bilateral project Italy-Germany Vigoni (2006-2007): "Optimization and simulation of traffic flows on road network", with M. Herty, Kaiserslautern.

- Principal investigator, grant for the top 10 best research projects of the University of Ferrara (2005): "Numerical methods and statistical applications: analysis and development of mathematical models, algorithms numerical simulations and applications to industry, environment and territory" (NUMSTAT).

- Scientific manager SPINNER project (2005-2006): "Phoenix Air Turbine Plasma modeling and simulation".

- Principal investigator Galileo project Italy-France (2004-2005): "Kinetic models and numerical simulation of complex phenomena in the atmosphere", with L. Boudin, Paris VI.

- Consultant for Small Business Innovation Research (SBIR) Phase II Project: "A uniform hybrid Monte Carlo method for simulation of rarefied material dynamics" , Defense Advanced Research Projects Agency (DARPA), USA (2004-2005), principal investigator R. Caflisch, UCLA.

- Scientific coordinator for Ferrara, Milan, Trieste, Bologna, Udine, Pisa, European project (2002-2005) NTR (Network for Training of Reserachers): "Hyperbolic and kinetic equations with applications" (HYKE) (http://www.hyke. org).

7   Academic Services

- 2010-today Pro-Rector for Teaching at University of Ferrara

- 2012-today Head of Department, Mathematics and Computer Science, University of Ferrara

- 2011-today faculty member in the PhD course in Mathematics, University of Ferrara, University of Modena and Reggio-Emilia, University of Parma.

- 2009-2012 Head of Department, Mathematics, University of Ferrara

- 2004-2009 Vice-head of Department, Mathematics, University of Ferrara.

- 2006-2010 faculty member in the PhD course in Mathematics and Computer Science University of Ferrara.

- 2003-2006 faculty member in the PhD course in Engineering Sciences, University of Ferrara; coordinator of the PhD curriculum in Mathematics.

- 1999-2000 and 2003-2004, elected member of the Committee for the allocation of research funds local (FAR) of the University of Ferrara.

- 2001-2003 faculty member in the Ph.D. course in Mathematics University of Ferrara.

- 1995-1998 Elected representative of the researchers in the Faculty of Science of the University of Ferrara

8   Publications

Journals

1. E.Gabetta, L.Pareschi, Large-time behaviours of some fully discrete kinetic models in bounded domains. Le Matematiche, Vol.XLVI, Fasc. I (1991), 147–157.

2. E.Gabetta, L.Pareschi, Approximating the Broadwell model in a strip, Mathematical Models and Methods in Applied Sciences, Vol.2, No.1 (1992), 1–19.

3. B.Bagni, D.Bollini, C.Leoni, C.Pallotti, L.Pareschi, P.Petazzoni, Computerized detection of clustered microcalcification: A modular approach using nonlinear filters, Physica Medica, Vol.IX, No.4, (1994).

4. E.Gabetta, L.Pareschi, Nonlinear evolution of probability vectors of interest in discrete kinetic theory, Nonlinear Dynamics, Vol.5, No.3 (1994), 375–391.

5. A.V.Bobylev, E.Gabetta, L.Pareschi, On stationary solutions to plane Broadwell model, Transport Theory and Statistical Physics, Vol.24, No.1-3, (1994), 289–305.

6. A.V.Bobylev, E.Gabetta, L.Pareschi, On a boundary value problem for the plane Broadwell model. Exact solutions and numerical simulation, Mathematical Models and Methods in Applied Sciences, Vol.5, No.3, (1995), 253–266.

7. L.Pareschi, Regularity results for the non cutoff Kac equation. Annali Universitá di Ferrara, Sez.VII- Sc. Mat.,Vol.XLII, (1996), 31–50.

8. E.Gabetta, L.Pareschi, G.Toscani, Wild's sums and numerical approximation of non-linear kinetic equations, Transport Theory and Statistical Physics, Vol.25, No.3-5, (1996), 515–531.

9. E.Gabetta, L.Pareschi, About the non cut-off Kac equation: Uniqueness and asymptotic behaviour, Communications on Applied Nonlinear Analisys, Vol.4 , No.1, (1997), 1–20.

10. L.Pareschi, B.Perthame, A Fourier spectral method for homogeneous Boltzmann equations, Transport Theory and Statistical Physics, Vol.25, No.3-5, (1996), 369–383.

11. E.Gabetta, L.Pareschi, G.Toscani, Relaxation schemes for nonlinear kinetic equations, SIAM J. Numerical Analysis, Vol. 34, No. 6, 2168–2194, (1997).

12. L.Pareschi, Characteristic-based numerical schemes for hyperbolic systems with nonlinear relaxation, Rendiconti Circolo Matematico di Palermo, Serie II, Suppl. 57, 375–380, (1998).

13. S.Jin, L.Pareschi, G.Toscani, Diffusive relaxation schemes for multiscale discrete-velocity kinetic equations, SIAM J. Numerical Analysis, Vol. 35, No. 6, 2405–2439, (1998).

14. G.Naldi, L.Pareschi, Numerical schemes for kinetic equations in diffusive regimes, Applied Math. Letters, Vol.11, No.2, 29–35, (1998).

15. R.E.Caflisch, L.Pareschi, An implicit Monte Carlo method for rarefied gas dynamics I: The space homogeneous case, J. Computational Physics, 154, 90–116, (1999).

16. G.Naldi, L.Pareschi, Numerical schemes for hyperbolic systems of conservation laws with stiff diffusive relaxation, SIAM J. Numerical Analysis, Vol. 37, No. 4, 1246–1270, (2000).

17. L.Pareschi, G.Russo, Numerical solution of the Boltzmann equation I: Spectrally accurate approximation of the collision operator, SIAM J. Numerical Analysis, Vol. 37, No. 4, 1217–1245, (2000).

18. S.Jin, L. Pareschi, G. Toscani, Uniformly accurate diffusive relaxation schemes for multiscale transport equations, SIAM J. Numerical Analysis, Vol. 38, No. 13, 913–936, (2000).

19. L.Pareschi, G.Russo, Asymptotic preserving Monte Carlo methods for the Boltzmann equation, Transp. Theo. Stat. Phys. 29, 3-5, 415–430, (2000).

20. E.Gabetta, L.Pareschi, M.Ronconi, Central schemes for hydrodynamical limits of discrete-velocity kinetic equations, Transp. Theo. Stat. Phys. 29, 3-5, 465–477, (2000).

21. L.Pareschi, G.Russo, On the stability of spectral methods for the homogeneous Boltzmann equation, Transp. Theo. Stat. Phys. 29, 3-5, 431–447, (2000)

22. L.Pareschi, G.Russo, G.Toscani, Methode spectrale rapide pour l'equation de Fokker Planck Landau, C. R. Acad. Sci. Paris, t.330, Serie I, 517–522, (2000).

23. L.Pareschi, G.Russo, G.Toscani, Fast spectral methods for the Fokker-Planck-Landau collision operator, J. Comp. Phys. 165, 216–236, (2000).

24. S.Jin, L.Pareschi, Discretization of the multiscale semiconductor Boltzmann equation by diffusive relaxation schemes, J. Comp. Phys. 161, 312–330, (2000).

25. L.Pareschi, G.Russo, Time Relaxed Monte Carlo methods for the Boltzmann equation, SIAM J. Sci. Comput. 23 (2001), no 4, 1253–1273

26. L.Pareschi, Central differencing based numerical schemes for hyperbolic conservation laws with relaxation terms, SIAM J. Numer. Anal. 39 (2001), no. 4, 1395–1417

27. L.Pareschi, G.Russo, An introduction to Monte Carlo methods for the Boltzmann equation. ESAIM: Proceedings, Vol.10, 35–75 (2001)

28. L.Pareschi, B.Wennberg, A recursive Monte Carlo algorithm for the Boltzmann equation in the Maxwellian case, Monte Carlo Methods and Applications, Vol. 7, no. 3-4, 349–357, (2001).

29. O.Ascenzi, L.Pareschi, F.Segala, A precise computation of stress intensity factor on the front of a convex planar crack, International Journal Numerical Methods in Engineering, 54 (2002), 241–261.

30. F.Filbet, L.Pareschi, Numerical solution of the non homogeneous Fokker-Planck-Landau equation. Progress in Industrial Mathematics at ECMI 2000, A.M.Anile, V.Capasso, A.Greco editors, Springer (2002), 325–331.

31. F.Filbet, L.Pareschi, A numerical method for the accurate solution of the Fokker-Planck-Landau equation in the non homogeneous case, Journal of Computational Physics, 179, 1–26 (2002).

32. S.Jin, L.Pareschi, M.Slemrod, A relaxation scheme for solving the Boltzmann equation based on the Chapman-Enskog expansion, Acta Mathematicae Applicatae Sinica, Engl. Ser. 18, (2002), no.1, 37–62.

33. G.Naldi, L.Pareschi, G.Toscani, Relaxation schemes for PDEs and applications to fourth order diffusion equations, Surveys on Mathematics for Industry, 10, 315–343, (2002).

34. L.Pareschi, G.Toscani, C.Villani,Spectral methods for the non cut-off Boltzmann equation and numerical grazing collision limit, Numerische Mathematik, 93, 527–548, (2003).

35. G.Naldi, L.Pareschi, G.Toscani, Spectral methods for one-dimensional kinetic models of granular flows and numerical quasi elastic limit, Mathematical Models and Numerical Analysis, 37, (2003), 73–90.

36. F.Filbet, L.Pareschi, Numerical solution of the Fokker-Planck-Landau equation by spectral methods. Commun. Math. Sci. 1 (2003), no. 1, 206–207.

37. J.A.Carrillo, J.M.Mantas, J.Ortega, L.Pareschi, Parallel Integration of Hydrodinamical Approximations for the Boltzmann Equation on a Cluster of Computers, Journal of Computational Methods in Science and Engineering, Vol. 3, No. 3; 337–346 (2003).

38. A.Klar, L.Pareschi, M.Seaid, Uniformly accurate schemes for relaxation approximations to fluid dynamic equations, Applied Mathematics Letters, 16, (2003) 1123–1127.

39. M.K.Banda, A.Klar, L.Pareschi, M.Seaid, Compressible and Incompressible Limits for Hyperbolic Systems with Relaxation, Journal of Computational and Applied Mathematics, 168 (2004) 41–52.

40. L.Pareschi, G.Russo, G.Toscani, A kinetic approximation to Hele-Shaw flow, C. R., Math., Acad. Sci. Paris, Ser. I 338, No.2, 177–182 (2004).

41. L.Pareschi, M.Seaid, A New Monte Carlo Approach for Conservation Laws and Relaxation Systems, Lecture Notes in Computer Science, Vol. 3037, pp:281-288 (2004)

42. C.Mouhot, L.Pareschi, Fast methods for the Boltzmann collision integral, C. R., Math., Acad. Sci. Paris, Ser. I 339 (2004), 71–76.

43. O.Ascenzi, L.Pareschi, F.Segala, Convergence of a quadrature formula for the approximation of stress intensity factor for planar cracks, Applied Mathematics and Computation, Volume 158, Issue 3, 15 (2004), 597–617.

44. L.Pareschi, G.Puppo, G.Russo, Central Runge-Kutta schemes for hyperbolic conservation laws, SIAM J. Sci. Comp. 26, (2005), 979–999.

45. F.Filbet, L.Pareschi, G.Toscani, Accurate numerical methods for the collisional motion of (heated) granular flows, J. Comp. Phys., 202, (2005), 216–235.

46. P.Markowich, L.Pareschi, Fast, conservative and entropic numerical methods for the Bosonic Boltzmann equation, Numerische Math. 99 (2005), 509–532.

47. L.Pareschi, S.Trazzi, Numerical solution of the Boltzmann equation by Time Relaxed Monte Carlo (TRMC) methods, International Journal of Numerical Methods in Fluids, 48, (2005), 947–983.

48. S.Cordier, L.Pareschi, G.Toscani, On a kinetic model for a simple market economy, Journal of Statistical Physics, 120, (2005), 253–277.

49. A.Klar, M.Herty, L.Pareschi, General kinetic models for vehicular traffic and Monte Carlo methods, Computational Methods in Applied Mathematics, 5, (2005), 154–169.

50. L.Pareschi, Hybrid multiscale methods for kinetic and hyperbolic problems, ESAIM: PROCEEDINGS, Vol.15, T. Goudon, E. Sonnendrucker & D. Talay, Editors, 87–120, (2005)

51. L.Pareschi, G.Russo, Implicit-Explicit Runge-Kutta methods and applications to hyperbolic systems with relaxation, J. Sci. Comput. 25 (2005), no. 1-2, 129–155.

52. L.Pareschi, G.Russo, An introduction to the numerical analysis of the Boltzmann equation, Lecture Notes at M&KT 2004, Riv. Mat. Univ. Parma (7) 4** (2005), 145–250.

53. C.Mouhot, L.Pareschi, Fast algorithms for computing the Boltzmann collision operator, Math. Comp. 75 (2006) 1833–1852.

54. S.Brull, L.Pareschi, Dissipative hydrodynamic models for the diffusion of impurities in a gas, Appl. Math. Lett. 19 (2006), no. 6, 516–521.

55. F.Filbet, C.Mouhot, L.Pareschi, Solving the Boltzmann equation in $N \log N$, SIAM J. Sci. Comput. 28, 1029–1053, (2006).

56. L.Pareschi, G.Toscani, Self-similarity and power-like tails in nonconservative kinetic models, J.Stat. Phys., 124, (2006), 747–779.

57. G.Dimarco, L.Pareschi, Hybrid methods for multiscale problems I: hyperbolic relaxation system, Commun. Math. Sci. 4 (2006), no. 1, 155–177.

58. M.Herty, L.Pareschi, M.Seaid, Discrete velocity models and relaxation schemes for traffic flows, SIAM J. Sci. Comput. 28, 1582–1596, (2006).

59. Dimarco, Giacomo ; Pareschi, Lorenzo . Hybrid multiscale methods. II. Kinetic equations. Multiscale Model. Simul. 6 (2007/08), no. 4, 1169–1197.

60. Herty, Michael ; Pareschi, Lorenzo ; Sead, Mohammed . Enskog-like discrete velocity models for vehicular traffic flow. Netw. Heterog. Media 2 (2007), no. 3, 481–496.

61. Trazzi, Stefano ; Pareschi, Lorenzo ; Wennberg, Bernt . Adaptive and recursive time relaxed Monte Carlo methods for rarefied gas dynamics. SIAM J. Sci. Comput. 31 (2008/09), no. 2, 1379–1398.

62. Ferrari, E. ; Pareschi, L. Modelling and numerical methods for the dynamics of impurities in a gas. Internat. J. Numer. Methods Fluids 57 (2008), no. 6, 693–713.

63. Banda, Mapundi ; Klar, Axel ; Pareschi, Lorenzo ; Sead, Mohammed . Lattice-Boltzmann type relaxation systems and high order relaxation schemes for the incompressible Navier-Stokes equations. Math. Comp. 77 (2008), no. 262, 943–965.

64. Cordier, Stephane ; Pareschi, Lorenzo ; Piatecki, Cyrille . Mesoscopic modelling of financial markets. J. Stat. Phys. 134 (2009), no. 1, 161–184.

65. Herty, Michael ; Pareschi, Lorenzo . Fokker-Planck asymptotics for traffic flow models. Kinet. Relat. Models 3 (2010), no. 1, 165–179.

66. Dimarco G., Pareschi L. Fluid Solver Independent Hybrid Methods For Multiscale Kinetic Equations. Siam Journal On Scientific Computing, Vol. 32; 603–634, (2010).

67. Caflisch R., Dimarco G., Pareschi L., Direct simulation Monte Carlo schemes for Coulomb interactions in plasmas, Comm. App. Ind. Math., 1, (2010), 72–91.

68. Dimarco G., Pareschi L. Fluid Solver Independent Hybrid Methods For Multiscale Kinetic Equations. Siam Journal On Scientific Computing, Vol. 32; 603–634, (2010).

69. Maldarella, D., Pareschi, L. Price dynamics in financial markets: a kinetic approach, Science and Culture, 76, 448–453, (2010).

70. Degond P., Dimarco G., Pareschi L. The Moment Guided Monte Carlo Method. International Journal For Numerical Methods In Fluids, 67, 2, 189-213, (2011).

71. Dimarco G., Pareschi L., Exponential methods for kinetic equations, SIAM J. Num. Anal, 49, 2057–2077, (2011).

72. Boccabella, A., Natalini R., Pareschi L., On a continuous mixed strategy model for evolutionary game-theory, Kinetic and Related Models, 4, 187–213, (2011).

73. Maldarella, D., Pareschi, L. Kinetic models for socio-economic dynamics of speculative markets, Physica A, 391, 715–730, (2012).

74. Kashdan L., Pareschi L., Mean field mutation dynamics and the continuous Luria-Delbruck distribution, Mathematical Biosciences, 240, 223-230 (2012).

75. Dimarco G., Pareschi L., High order asymptotic-preserving schemes for the Boltzmann equation, Comptes Rendus Mathematique, 350, 481–486, (2012)

76. Albi G., Pareschi L., Modelling self-organized systems interacting with few individuals: from microscopic to macroscopic dynamics, Applied Math. Letters 26, (2013), 397-401.

77. Dimarco G., Pareschi L., Asymptotic preserving Implicit-Explicit Runge-Kutta methods for nonlinear kinetic equations, SIAM J. Numer. Anal. 51, (2013), 1064-1087.

78. Albi G., Pareschi L., Binary interaction algorithms for the simulation of flocking and swarming dynamics, Multiscale Modeling and Simulation 11, (2013), 1-29.

79. Herty M., Pareschi L., Steffensen S., Implicit-Explicit Runge-Kutta schemes for numerical discretization of optimal control problems, SIAM J. Num. Anal. 51, (2013), 1875–1899.

80. Mouhot C., Pareschi L., Rey T., Convolutive decomposition and fast summation methods for discrete-velocity approximations of the Boltzmann equation, ESAIM Math. Mod. Num. Anal. 47, (2013), 1515–1531.

81. Boscarino S., Pareschi L., Russo G., Implicit-Explicit Runge-Kutta schemes for hyperbolic systems and kinetic equations in the diffusion limit, SIAM J. Sci. Comp. 35, (2013), 22–51.

82. Li Q., Pareschi L., Exponential Runge-Kutta schemes for inhomogeneous Boltzmann equations with high order of accuracy, J. Comp. Phys. 259, (2014), 402-420.

83. Dimarco G., Pareschi L., Rispoli V., Implicit-Explicit Runge-Kutta schemes for the Boltzmann-Poisson system for semiconductors, Comm. Comp. Phys. 15, (2014), 1291–1319.

84. J. Hu, Q. Li, L. Pareschi, Asymptotic-preserving exponential methods for the quantum Boltzmann equation with high-order accuracy, J. Sci. Comp. (2014), DOI:10.1007 /s10915-014-9869-2.

85. G. Albi, M. Herty, C. Jörres, L. Pareschi, Asymptotic Preserving time-discretization of optimal control problems for the Goldstein-Taylor model, Num. Meth. for PDEs 30, (2014), 1770–1784.

86. G. Dimarco, L.Pareschi, Numerical methods for kinetic equations. Acta Numerica 23, (2014), 369–520.

87. G. Albi, M. Herty, L. Pareschi, Kinetic description of optimal control problems and applications to opinion consensus, preprint arXiv:1401.7798 to appear in Comm. Math. Sci.

88. L. Pareschi, G. Toscani, Wealth distribution and collective knowledge. A Boltzmann approach, Phil. Trans. Royal Soc. A 372, (2014), 20130396.

89. G. Albi, L. Pareschi, M.Zanella, Boltzmann type control of opinion consensus through leaders, Phil. Trans. Royal Soc. A 372, (2014), 20140138.

90. F. Filbet, L. Pareschi, T.Rey, On steady state preserving spectral methods for homogeneous Boltzmann equations, preprint arXiv: to appear in CRAS, Paris.

Proceedings and volumes

1. E.Gabetta, L.Pareschi, Stochastic aspects in nonlinear discrete kinetic theory, Proceedings of the IUTAM Symposium on Nonlinear Stochastic Mechanics, Turin, (1992), Springer-Verlag, Berlin, 237–245.

2. L.Pareschi, Kinetic approach to a diffusion problem, Proceedings of the National AIMETA symposium on Stocastic Mechanics, F. Casciati Ed., Taormina, (1994), pp.249-258.

3. E.Gabetta, L.Pareschi, The Maxwell gas and its Fourier transform towards a numerical approximation, Proceedings WASCOM 93, Series on Advances in Mathematics for Applied Sciences, Vol.23, (1995), 197–201.

4. E.Gabetta, L.Pareschi, Boundedness of moments and trend to equilibrium for the non cutoff Kac equation, Proceedings WASCOM 95, Rendiconti del Circolo Matematico di Palermo, Serie II, Suppl. 45, (1996), 285–298.

5. G.Naldi, L.Pareschi, G.Toscani, Hyperbolic relaxation approximation to nonlinear parabolic problems, Proceedings 7th Int. Conf. on Hyperbolic Problems: Theory, Numerics, Application, ETH Zurich 1998, Internat. Series of Num. Math., Vol. 130, Birkhauser Verlag Basel, (1999), 747–756.

6. L.Pareschi, G.Russo, Fast spectral methods for Boltzmann and Landau integral operators of gas and plasma kinetic theory, con G.Russo. Proceedings Analisi Numerica metodi e software matematico, Annali Universitá di Ferrara, Sez.VII - Sc. Mat., Vol.XLV, (2000), 329–341.

7. V.Comincioli, G.Naldi, L.Pareschi, G.Toscani, Numerical methods for multiscale hyperbolic systems and nonlinear parabolic equations, Proceedings Analisi Numerica metodi e software matematico, Annali Universitá di Ferrara, Sez.VII - Sc. Mat., Vol.XLV, (2000), 255–266.

8. L.Pareschi, G.Russo Implicit-Explicit Runge-Kutta schemes for stiff systems of differential equations, Recent Trends in Numerical Analysis, Edited by L.Brugnano and D.Trigiante, Vol. 3, (2000), 269–289.

9. S.Jin, L.Pareschi, Asymptotic preserving (AP) schemes for multiscale kinetic equations: a unified approach, Proceedings Hyperbolic problems: Theory, Numerics, Applications, Magdeburg, International Series of Numerical Mathematics, Birkhauser, 141, (2001), 573–582..

10. G.Naldi, L.Pareschi, G.Toscani, Convergence of kinetic approximation to nonlinear diffusion problems, Proceedings Conference on Godunov Methods (Oxford, 1999), Kluwer Academic-Plenum Publishers, New York (2001), 655–662.

11. L.Pareschi, On the fast evaluation of kinetic equations for driven granular media, Numerical Mathematics and Advanced Applications, Proceedings of ENUMATH 2001, the 4th conference on numerical mathematics and advanced applications, Ischia, July 2001, Springer-Italia, (2003), 469–479.

12. L.Pareschi, Computational methods and fast algorithms for Boltzmann equations, Chapter 7, Lecture Notes on the discretization of the Boltzmann equation, Series on Advances in Mathematics for Applied Sciences 63, World Scientific, (2003), 159–202.

13. L.Pareschi, G.Russo, Asymptotically SSP schemes for hyperbolic systems with stiff relaxation Hyperbolic Problems: Theory, Numerics, Applications : Proceedings of the Ninth International Conference on Hyperbolic Problems Held in Caltech, Pasadena, March 25-29, 2002, Springer, (2003), 241–255.

14. L.Pareschi, G.Russo, S.Trazzi, A.Shevryn, Ye.Bondar, M.Ivanov, Comparison between TRMC and MFS methods for the space homogeneous Boltzmann equation Proceedings 24th International Symposium on Rarefied Gas Dynamics 2004, America Institute of Physics, (2005) 762, 571–576.

15. L.Pareschi, G.Russo, S.Trazzi, A.Shevryn, Ye.Bondar, M.Ivanov, Plane Couette Flow Computations by TRMC and MFS Methods, Proceedings 24th International Symposium on Rarefied Gas Dynamics 2004, America Institute of Physics, (2005), 577–582.

16. R.E.Caflisch, L.Pareschi, Towards and hybrid Monte Carlo method for rarefied gasdynamics, Ben Abdallah, Naoufel (ed.) et al., Transport in transition regimes. New York, NY: Springer. IMA Vol. Math. Appl. 135, (2004), 57–73.

17. L.Pareschi, G.Toscani, Modelling and numerical methods for granular gases, Chapter 9, Modeling and computational methods for kinetic equations, Series: Modeling and Simulation in Science, Engineering and Technology, Birkhauser (2004), 259–286.

18. P.Markowich, L.Pareschi, W.Bao, Quantum kinetic theory: modelling and numerics for Bose- Einstein condensation, Chapter 10, Modeling and computational methods for kinetic equations, Series: Modeling and Simulation in Science, Engineering and Technology, Birkhauser (2004), 287–320.

19. E.Ferrari, L.Pareschi, Hybrid Monte Carlo schemes for the diffusion of impurities in a gas, Chapter 13, Modelling and Numerics of Kinetic Dissipative Systems, Nova-Science, New York (2006), 177–189.

20. L.Pareschi, G.Toscani, Overpopulated tails in non conservative kinetic models, Chapter 10, Modelling and Numerics of Kinetic Dissipative Systems, Nova-Science, New York (2006), 133–144.

21. Giacomo Dimarco, Piero Foscari, Pareschi L. A Remark On The Finite Number Of Particles Effect In Monte Carlo Methods For Kinetic Equations. Pamm, Vol. 7; (2007), 1041003–1041004.

22. C.Piatecki, S.Cordier, D.Maldarella, L.Pareschi, Microscopic and kinetic models for financial markets, Mathematical modelling of collective behavior in socio-economic and life sciences, Boston: Birkhauser, (2010), 49–80.

23. L.Pareschi, G.Russo, Efficient asymptotic preserving deterministic methods for the Boltzmann equation, AVT-194 RTO AVT/VKI, Models and Computational Methods for Rarefied Flows, Lecture Series held at the von Karman Institute, Rhode St. Gense, Belgium, 24 -28 January (2011), 76 pagg.

24. Herty M., Pareschi L., Steffensen S., Numerical methods for the optimal control of scalar conservation laws, Lecture Notes in Computer Science, System Modeling and Optimization IFIP Advances in Information and Communication Technology 391, (2013), 136–144.

25. L. Pareschi, Kinetic equations: computation, invited contribution to Springer Encyclopedia of Applied and Computational Mathematics, ed. by B. Engquist, 2013.

Books

- Mathematical Modeling of Collective Behavior in Socio-Economic and Life Sciences. Editors: Naldi, Giovanni; Pareschi, Lorenzo; Toscani, Giuseppe, 1st Edition., Hardcover, Birkhuser Boston. ISBN: 978-0-8176-4945-6. Year: 2010, Pages: 438.

- Modeling and numerics of kinetic dissipative systems. Editors: Lorenzo Pareschi, Giuseppe Toscani, Giovanni Russo, Nova Science Publishers, New York. ISBN: 1-59454-503-0. Year: 2006, Pages: 230.

- Modeling and Computational Methods for Kinetic Equations. Editors: Pierre Degond, Lorenzo Pareschi, Giovanni Russo, Series: Modeling and Simulation in Science, Engineering and Technology, Birkhauser, Boston. ISBN: 0-8176-3254-9. Year: 2004, Pages: 372.

- Interacting Multiagent Systems: Kinetic equations and Monte Carlo methods, Lorenzo Pareschi and Giuseppe Toscani, *Oxford University Press*. ISBN: 978-0-19-965546-5. Year: 2013, Pages: 400.

Bibliometric data

- Google Scholar: Citations 2732; h-index: 29.

- Mathscinet: Citations 961 by 444 authors; h-index: 18.

- Scopus: Citations 1019; h-index: 19.

- Researcher ID: Citations 933; h-index: 17.

9 PhD students and post-docs

- Stefano Trazzi, *Efficient Monte Carlo methods for the Boltzmann equation*, Dottorato di Ricerca in Matematica e Informatica, 2004-2006.

- Elisa Ferrari, *Modelling and numerical methods for some problem of interest for the environment*, Dottorato di Ricerca in Matematica e Informatica, 2004-2006.

- Giacomo Dimarco, *Modeling and Numerical Methods for Multiscale Hyperbolic and Kinetic Equations*, Dottorato di Ricerca in Matematica e Informatica, 2006-2008. Winner of INDAM-SIMAI Prize 2008 and best PhD Thesis in Mathematics and Computer Science of the University of Ferrara, 2008.

- Piero Foscari, *Stochastic and Deterministic Simulation Techniques for Traffic and Economy*, Dottorato di Ricerca in Matematica e Informatica, 2006-2009.

- Dario Maldarella, *Microscopic and kinetic models in financial markets*, Dottorato di Ricerca in Matematica e Informatica, 2010-2012.

- Giacomo Albi, *Kinetic approximation, stability and control of collective behavior in self-organized system*, Dottorato di Ricerca in Matematica e Informatica, 2011-2013. Winner of the "Nicolò Copernico" Award 2014 and best PhD Thesis in Mathematics and Computer Science of the University of Ferrara, 2013.

Visiting PhD students supervisor

- Francis Filbet, Strasbourg (1/3-30/4/1999)

- Clement Mouhot, Paris, (1/4-30/6/2004)

- Stephane Brull, Marseille, (1/7/04-31/8/04/2004)

- Michael Herty, Darmstadt, (1/04-30/05/2004)

- Christian Kreuzer, Augsburg, (1/4-30/6/2005)

- GuillarmeRoyat, Marseille(1/3-30/42010)

Postdoctoral fellows supervisor

- Francis Filbet, Research on Spectral methods for kinetic equations, EU Post-doc 1/9-30/9/2003 and 1/4-30/4/2004 and 1/6-30/6/2005.

- Mohammed Seaid, Research on Monte Carlo methods for multiscale hyperbolic equations, EU Post-doc 1/5-31/5/2004.

- Giacomo Dimarco, Research on Hybrid numerical methods for multiscale kinetic equations, Post-doc research grant year 2009.

- Sonja Steffensen, Research on Runge-Kutta methods for optimal control, Vigoni post-doc,1/4-30/4/2011 and 1/11-31/11/2011.

- Vittorio Rispoli, Research on High order numerical methods for semicondutor kinetic equations, Post-doc research grants years 2012 and 2013.

10   Member of Editorial boards

- Communications in Mathematical Sciences

- Annali di Matematica Universitá di Ferrara

- SIAM Journal on Scientific Computing [until 2013]

- SIAM Journal on Multiscale Modelling and Simulations

- International Journal of Computing Science and Mathematics (IJCSM)

- Journal of Hyperbolic Differential Equations (JHDE) [until july 2010]

- Kinetic and Related Models

11 Invited speaker (only recent)

- Workshop on Multiscale kinetic and fluid problems: asymptotic analysis, modelling and numerical simulation, IESC: Institut d'Etudes scientifiques de Cargse, September 28-October 4, 2014

- SIMAI 2014, Taormina, Italy 7-10 luglio 2014 (plenary speaker)

- International Conference on Multiscale Modeling and Simulation for Physical Science and Engineering in honor of Russ Caflisch' 60th birthday, IPAM, UCLA, USA, April 25-26, 2014.

- Kinetic Interaction Team (KIT) activity on Asymptotic-Preserving Schemes for Multiscale Kinetic Equations, February 3-6, 2014, North Carolina State University, Raleigh, North Carolina, USA.

- Workshop on "Stochastic Modelling of Multiscale Systems", Advanced Study Center Eindhoven Multiscale Institute, Eindhoven, The Netherland, December 2-6, 2013 (plenary speaker).

- ICERM Workshop "Issues in Solving the Boltzmann Equation for Aerospace Applications", Brown University, USA, June 3-7, 2013.

- KI-Net conference, Quantum Systems: A Mathematical Journey from Few to Many Particles, Center for Scientific Computation And Mathematical Modeling, University of Maryland, College Park, USA, May 13-16, 2013 (plenary speaker).

- Workshop on "PDEs in the social and life sciences: emerging challenges in modeling, analysis and computations", Banff International Research Station, Canada, Mar 31 - Apr 05, 2013.

- Workshop "From individuals to collectivity: crowds and swarms", CNR Rome, November 15-16, 2012 (plenary speaker).

- Workshop on "Asymptotic-Preserving schemes", MIP Toulouse, Ile de Porquerolles, May 20-26, 2012 .

- Spring School "Kinetic Theory and Fluid Mechanics", Universit Claude Bernard, Lyon 1, France, Mar 26-30, 2012.

- Workshop on "Mathematical theory and computational methods for multiscale problems", National University of Singapore, Jan 9-13, 2012.

- PAL2 Workshop - Modelling instabilities in high-energy plasmas, ALTEC SPA, Torino, Nov 23-24, 2011 (keynote lecture)

- ICERM Semester Program on "Kinetic Theory and Computation", Brown University, USA, Sept 7- Dec 9, 2011.

- Nonlinear Hyperbolic Systems of Balance Laws in Extended Thermodynamics and Kinetic Theory, Cortona, Italy, Sept 4-9, 2011.

- Summer School on Kinetic Theory, Shanghai Jiaotong University. Shanghai, China, June 20-July 1, 2011 (series of lectures).

- Numerical Methods for stiff problems in Hamiltonian systems and kinetic equations, Saint-Malo, France, 26-28 january 2011.

12 Conference/workshop organization (only recent)

- IperMiB2013: XV Italian Meeting on Hyperbolic Equations, University of Milano-Bicocca, Milan, Italy, September 11-13, 2013.

- Workshop on "Numerical aspects of hyperbolic balance laws and related problems", University of Ferrara, April 27-28, 2012

- IperMe2011: XIV Italian Meeting on Hyperbolic Equations, University of Messina, 11-16 february 2011.

- Workshop on "Numerical Aspects of Hyperbolic Balance Laws and Related Problems", University of Ferrara, February 4-5, 2011.

- Workshop on "Boltzmann Models in Kinetic Theory", ICERM, Brown University, USA, November 7-11, 2011.

- European Workshop on "High Order Nonlinear Numerical Methods for Evolutionary PDEs: Theory and Applications", Trento, April 11-April 15, 2011.