Curriculum vitae

Giuseppe TOSCANI
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- Born november 11, 1949

EDUCATION

- october 1972, Graduated in Mathematics at the University of Pavia - Italy

PROFESSIONAL EXPERIENCE

- 1972-1980, Assistant Professor of Mathematical Physics, Faculty of Sciences, University of Pavia
- 1981-1986, Associated Professor of Rational Mechanics, Faculty of Sciences, University of Pavia
- 1987-1992, Full Professor of Mathematical Physics, Faculty of Sciences, University of Ferrara
- 1993-date, Full Professor of Mathematical Physics, Department of Mathematics, University of Pavia

FIELDS OF RESEARCH

The scientific activity is in the field of (linear and nonlinear) Partial Differential Equations, covering modelling, analysis, numerical analysis and simulation issues. At present main research topics are:

- Kinetic theory of rarefied gases, Boltzmann equation
- Kinetic and hydrodynamics of granular gases
- Kinetic transport equations and their scaling limits
- Entropy methods for nonlinear diffusion equations
- Kinetic modeling of socio-economic multi-agents systems

BIBLIOMETRIC PARAMETERS (January 2022)

- **Google Citations**

  Citations: 11018, 4111 from 2017;

  H-index: 56, 33 from 2017;

  i10-index: 148, 89 from 2017.

- **Web of Science**

  Citations: 5573, Citing Articles: 2734;

  H-index: 39

- **Scopus**

  Citations: 5380

  H-index: 39

SCIENTIFIC ACTIVITIES

Correspondent Member of the Accademia Nazionale dei Lincei in Rome.

Correspondent Member of the Istituto Lombardo di Scienze e Lettere in Milan.

Member of the Academic Senate of the University of Pavia for the period 2008-2012.

Member of the Scientific Council of the National Group of Mathematical Physics (GNFM) of Institute of High Mathematics (INDAM) of Italy for the periods 2005–2008, 2009–2012.

Coordinator of the national project "Kinetic and hydrodynamic equations of complex collisional systems" (2007-2009) founded by the Italian Minister for Research.

He was leader of the North-Italy group of the TMR-Project Asymptotics Methods in Kinetic Theory (1997–2001) (http://www.math.tu-berlin.de/ tmr/).

Member of the Scientific Advisory Board of the EU-funded network "HYperbolic and Kinetic Equations: Asymptotics, Numerics, Analysis" (HYKE) , Contract Number HPRN-CT-2002-00282 (http://www.hyke.org/).

Coordinator of the project Azioni Integrate Italia-Spagna, "Diffusion models in partial differential equations for thin films, viscous fluids and semiconductor devices".

EDITORIAL BOARDS

- Kinetic and Related Models, print ISSN: 1937-5077;
- Rendiconti Lincei Matematica e Applicazioni, print ISSN: 1120-6330;
- Annali dell'Università di Ferrara, Sezione VII, print ISSN: 0430-3202;
- Ricerche di Matematica, print ISSN: 0035-5038.

SHORT CURRICULUM VITAE

Author of about 250 papers, written both individually, or jointly with national and international experts, of two monographs on the mathematical aspects of Boltzmann equation and of Enskog equation in kinetic theory of rarefied gases. Among these publications, at the moment about 200 are quoted in the MathSciNet site, archive where the publications of the main mathematical journals are shortly refereed by independent experts. In the last fifteen years he collaborated, among others, with the French mathematicians Pierre-Louis Lions, winner of a Fields medal in 1998, and Cedric Villani, recent winner of a Fields medal in 2010, and he entertained a constant and intense research activity with the Austrian mathematician Peter Markowich, winner in 2001 of the Wittgenstein prize, one of the most prestigious scientific awards of Austria. In august 2010 he has been appointed with a Rothschild Visiting Professorship at the Isaac Newton Institute for Mathematical Sciences of the University of Cambridge. Starting from 2010, he is member of the Accademia Nazionale dei Lincei, the most prestigious Italian academy, that goes back to Galileo. During the five-years period 1997-2001 he coordinated one of the two Italian teams of the European TMR project Asymptotic Methods in Kinetic Theory. For the period 2003-2008 he was member of the Scientific Council of the National Group of Mathematical Physics of INDAM (Istituto Nazionale di Alta Matematica). The main scientific interests of the last years are concerned with a) theoretical and numerical problems connected to the kinetic theory of rarefied gases, b) kinetic theory of dissipative systems with application to granular gases, c) asymptotic problems linked to the passage from kinetic to macroscopic models through both hyperbolic and parabolic scaling, d) asymptotic problems related to the grazing collision limit, and the passage to Fokker-Planck equations, e) asymptotic behaviour of nonlinear diffusion equations by entropy methods. f) kinetic models for socio-economic multi-agents systems. The findings have been presented in many national and international Conferences, and in various lectures on both Italian and foreign institutions. In 1988, 1994, 1999, 2004 and 2008 he was the organizer of five international Conferences in Italy: the III International Workshop on Mathematical Aspects of Fluid and Plasma Dynamics held in Salice Terme, the II International Workshop on Nonlinear Kinetic Theory and Mathematical Aspects of Hyperbolic Systems held in Sanremo, the Joint TMR Conference on Hyperbolic and Kinetic Problems held in S. Margherita Ligure, the workshop on Modelling and numerics of kinetic dissipative systems held in Lipari, and, last, of the workshop on Kinetic Modelling for Social Economic & Related Problems, held in Vigevano. He has been Editor of a volume of the Series Lecture Notes in Mathematics, devoted to the main lectures of the first Conference, and of the Proceedings of the second Conference. The Proceedings were edited as a Special Issue of the international Journal Transport Theory and Statistical Physics. The lectures of the Workshop of Lipari have been recently published by the Nova Science, while the main content of the workshop in Vigevano have been collected in a book edited by Birkhäuser. On mathematical aspects of socio-economic systems has recently published, coauthored with L. Pareschi, the book "Interacting Multiagent Systems, Kinetic equations & Monte Carlo Methods".

CONFERENCES AND WORKSHOPS 2000–2020

- June 18-21, *2000 TMR-workshop on non-conventional applications of kinetic theory*, Gothenburg, Sweden.
- November 30-December 2 , 2000 *IPERBS 2000 Problemi di Tipo Iperbolico VIII Incontro Nazionale* Brescia, Italy.
- February 8-10, 2001 *TMR-workshop on Numerical methods for hyperbolic and kinetic equations* Catania, Italy.
- June 3-9, 2001 *XI International Conference on WAVES AND STABILITY IN CONTINUOUS MEDIA*, Porto Ercole, Italy.
- June 10-15, 2001 *International Conference on Nonlinear Evolutionary PDEs*, City of Yellow Mountain, China.
- June 16-22, 2001 *TMR summer school on kinetic theory in Anogeia*, Crete, Greece.
- September 2-4 2001, *International Workshop on Kinetic Theory and Applications* Karlstad, Sweden.
- September 17-21, 2001 *EuroConference on Asymptotic Methods and Applications in Kinetic and Quantum-Kinetic Theory*, Granada, Spain.
- June 12-16, 2002 *First Joint Meeting UMI-AMS*, Pisa, Italy.
- June 20-24, 2002 *Workshop on nonlinear models and analysis*, Vienna, Austria.
- September 1-3 2002, *2nd International Workshop on Kinetic Theory and Applications*, Karlstad, Sweden.
- October 10-12 2002, *IPERFE 2002 Problemi di Tipo Iperbolico IX Incontro Nazionale*, Ferrara, Italy.
- February 10-13, 2003, *First EMS -SMAI -SMF Joint Conference on Applied Mathematics and Applications of Mathematics*, Nice, France.
- February 24-28, 2003, *Around HYperbolic and Kinetic Equations, First annual meeting of the HYKE network*, Vienna, Austria.
- June 1-7, 2003, *XII International Conference on WAVES AND STABILITY IN CONTINUOUS MEDIA* Villasimius, Italy
- June 15-17 2003, *3rd International Workshop on Kinetic Theory and Applications*, Karlstad, Sweden
- September 30 - October 3, 2003 *International Silk Road Conference on Quantum Theory, Partial Differential Equations of Mathematical Physics and their Applications*, Tashkent, Uzbekistan
- May 11–15, 2004, *Recent Trends in Kinetic theory and its Applications*, Kyiv, Ukraine
- September 19–23, 2004 *The Sixth International Workshop on Mathematical Aspects of Fluid and Plasma Dynamics*, Kyoto, Japan

- October 6–9, 2004, *HYKE Conference on Complex Flows*, Barcelona, Spain.
- May 5–7, 2005 *Analysis and Numerics of kinetic and hydrodynamic modelling for the environment and the economy*, Castiglione della Pescaia, Italy.
- June 10-12 2005, *4rd International Workshop on Kinetic Theory and Applications*, Karlstad, Sweden.
- April 5–7 2006 *Spring Workshop on Nonlinear Diffusion Equations and related PDE's* Madrid, Spain.
- June 26–30 2006 *Nonlinear PDEs: Homogenization and Kinetic Equations* Vienna, Austria.
- December , 2006 *Oberwolfach meeting on "Nonlinear Equations in Many-Particle Systems"* Oberwolfach, Germany.
- March 15–17, 2007 *Workshop on kinetic theory and socio-economical equilibria modeling*, Orleans, France.
- July 1–7, 2007 *XIV International Conference on Waves and Stability in Continuous Media* Ragusa, Italy.
- September 10–21, 2007 *Summer School on Optimal transportation structures, gradient flows and entropy methods for applied PDE's* Vienna, Austria.
- September 24-29, 2007 *XVIII Congresso Unione Matematica Italiana*, Bari, Italy.
- June 4, 2008 *Workshop on Conservative Economies* Alessandria, Italy.
- June 8 - 14, 2008 *4th Summer School Methods and Models of Kinetic Theory* (M&MKT 2008), Porto Ercole (Grosseto, Italy).
- November 27-29, 2008 *Workshop on Kinetic and Macroscopic Modeling for Socio-Economic and related Problems.* Vigevano, Italy.
- February 11 13, 2009 *IperBA09 XIII Incontro Nazionale Problemi di Tipo Iperbolico* Bari, Italy.
- April 20-23, 2009 *Workshop on Modern Topics in Nonlinear Kinetic Equations* Cambridge, UK.
- June 28- July 1, 2009 *XV International Conference on Waves and Stability in Continuous Media* Palermo, Italy.
- July 12-17, 2009 *XXI International Conference on Transport Theory* Turin, Italy.
- July 20-24, 2009 *Kinetics and statistical methods for complex particle systems*, Lisbon, Portugal.
- September 28-29, 2009 *Madrid Autonoma Math - Cambridge CMS Applied PDEs Days* Cambridge, UK.
- June 7-12, 2010 *Analytical and Numerical Problems in Fluid Dynamics and Applications*, Catania, Italy

- June 23-25, 2010 *ESHIA/WEHIA 2010*, Alessandria, Italy
- September 6-10, 2010 *Fluid-Kinetic Modelling in Biology, Physics and Engineering* Cambridge, UK
- October 12-16, 2010 *ERC Workshop on Optimal Transportation and Applications* Pisa, Italy
- November 01-03, 2010 *Dissipative Systems: Entropy Methods, Classical and Quantum Probability*, Vienna, Austria
- June 12–18, 2011 *XVI Conference on Waves and Stability in Continuous Media WASCOM 2011*, Brindisi, Italy
- September 4–10, 2011 *Non linear hyperbolic systems of balance laws in Extended Thermodynamics and Kinetic Theory*, Cortona, Italy
- October 4–5, 2011 *Stabilitá ed Analisi Qualitativa nei Sistemi Dinamici*, Levico Terme, Italy
- January 12–13, 2012 *Workshop on Functional Inequalities and PDE's in the Life Sciences*, Paris, France
- April 13–14, 2012 *Giornate di studio sui modelli della meccanica dei continui*, Messina, Italy
- August 13-17, 2012 *Summer Course UIMP 2012 Frontiers of Mathematics and Applications III*, Santander, Spain
- September 2–7, 2012 *ESF EMS ERCOM Conference Applied PDE's in Physics, Biology and Social Sciences*, Barcelona, Spain
- February 3–8, 2013 *XXIII Convegno Nazionale Di Calcolo Delle Variazioni*, Levico Terme, Italy
- June 17–21, 2013 *XVII International Conference on Waves and Stability in Continous Media - WASCOM 2013*, Levico Terme, Italy
- December 11–13, 2013 *Mathematical Modelling of Complex Systems*, Paris, France.
- May 19–23, 2014, *Collective Behavior: Macroscopic versus Kinetic Descriptions*, London, UK
- June 02-03, 2014, *Workshop on Advances in Nonlinear PDEs: Analysis, Numerics, Stochastics, Applications* Vienna, Austria
- June 30–July 4, 2014 *First Joint International Meeting RSME-SCM-SEMA-SIMAI-UMI* Bilbao, Spain
- May 27–29, 2015 *BIOMAT-2015: Emergence and self-organization in Social and Biological Systems*, Granada, Spain
- June 1–5, 2015 *XVIII International Conference on Waves and Stability in Continous Media - WASCOM 2015*, Cetraro, Italy

- September 14–18, 2015 *Workshop on Nonlocal Nonlinear Partial Differential Equations and Applications*, Anacapri, Italy
- June 19–21, 2016 *X Forum of PDEs*, Banach Center Bedlewo, Poland
- June 22–23, 2016 *New frontiers in Continuum Mechanics*, Accademia dei Lincei, Rome, Italy
- September 5-7, 2016 *INdAM-ISIMM Workshop on Trends on Applications of Mathematics to Mechanics*, Rome, Italy
- September 13–16, 2016 *SIMAI 2016* , Milan, Italy.
- October 20–21, 2016 *Kinetic Theory and Neighbours*, L'Aquila, Italy
- November 1–4, 2016 *Transport phenomena in collective dynamics: from micro to social hydrodynamics* Zürich, Switzerland
- May 22–29, 2017 *Advanced School and Workshop on Nonlocal PDEs and Applications to Geometry, Physics and Probability*, Trieste, Italy
- June 12–16, 2017 *XIX International Conference on Waves and Stability in Continous Media - WASCOM 2017* , Bologna, Italy
- July 14–18, 2017 *Workshop on Aggregation-Diffusion PDEs, Variational Principles, Non-locality and Systems* Anacapri, Italy
- September 6–8, 2017 *XVII Italian Meeting on Hyperbolic Equations* Pavia, Italy
- April 16–18, 2018 *Conference on Nmerical Aspects of Hyperbolic balance laws and Related problems* Ferrara, Italy
- June 11–15, 2018 *CICAM 9 China–Italy Conference on Applied Mathematics* Assisi, Italy
- May 7–9, 2019 *Spring Workshop on Computational Mathematics, Statistics and Machine Learning* Pavia, Italy
- May 20–24, 2019 *Trails in kinetic theory: foundational aspects and numerical methods* Bonn, Germany
- June 10–14, 2019 *XX International Conference on Waves and Stability in Continous Media - WASCOM 2019* , Maiori, Italy
- June 13–19, 2019 *Biomat 2019, Patterns in Life and Social Sciences* Granada, Spain

RESEARCH EXPERIENCE 2000–2020

- April 2000, Visiting Professor at the École Normale Supérieure of Paris, France (one month).
- December 2000, Mathematics Department of the University of Granada, Spain (one week).
- May 2001, Erwin Schrödinger Institute of Vienna, Austria (one week).
- December 2001, Mathematics Department of the University of Granada, Spain (one week).
- January 2003, Mathematics Department of the University of Granada, Spain (one week).
- May 2003, Wolfgang Pauli Institute of Vienna, Austria (one week).
- May 2003, Mathematics Department of the University of Granada, Spain (one week).
- January 2004, Department of Mathematics of the Autònoma of Barcellona (two weeks)
- July 2004, Wolfgang Pauli Institute of Vienna, Austria (one week).
- January 2005, Department of Mathematics of the Autònoma of Barcellona (two weeks)
- May 2006, Wolfgang Pauli Institute of Vienna, Austria (two weeks).
- May 2007, Visiting Professor at the Mathematics Department of the University of Toulouse, France (one month).
- April 2008, Wolfgang Pauli Institute of Vienna, Austria (one week).
- January 2009, Department of Mathematics of the Autònoma of Barcellona (one week)
- March 2010, Visiting Professor at the Université Paris Pauphine, Paris, France (one month)
- September 2010, Rotschild Visiting Professor at the Isaac Newton Institute, Cambridge, UK (one month)
- March 2014, King Abdullah University od Science and Technology, Jeddah, Saudi Arabia (One week)
- July 2015, Capital Normal University, Beijing, China (One week)

PUBLICATIONS 2000–2021

1. G. Toscani *Remarks on entropy and equilibrium states* Appl. Math. Letters, **12** (1999) 19-25

2. S. Jin, L. Pareschi, G. Toscani *Uniformly accurate diffusive relaxation schemes for multiscale transport equations*,SIAM J. Numerical Analysis **38**, 13, (2000) pp. 913-936.

3. A. Arnold, P. Markowich, G. Toscani *On large time asymptotics for drift-diffusion-Poisson systems*, Transport Theory Statist. Phys. 29 (2000), no. 3-5, 571–581.

4. L. Pareschi, G. Russo, G. Toscani *Fast spectral methods for the Fokker-Planck-Landau equation*, J. Comput. Phys. **165** (2000), 216–236.

5. G. Toscani, C. Villani *On the trend to equilibrium for some dissipative systems with slowing increasing a priori bounds*, J. Statist. Phys., **98** (2000) 1279–1309

6. L. Pareschi, G.Russo, G. Toscani, *Méthode spéctrale rapide pour l'équation de Fokker-Planck-Landau*, CRAS **330**, Série I, (2000) 517–522

7. J. A. Carrillo, G. Toscani *Asymptotic L^1-decay of the porous medium equation to self-similarity* , Indiana Univ. Math. J., **46** (2000), 113–142

8. A. Arnold, P. Markowich, G. Toscani, A. Unterreiter *On generalized Csiszár–Kullback inequalities*, Monatschefte für Mathematik, **131**, (2000) 235–253,

9. G. Toscani *One–dimensional kinetic models with dissipative collisions*, M^2AN, **34** (2000), 1277-1292

10. V. Comincioli, G. Naldi, L. Pareschi, G. Toscani *Numerical methods for multiscale hyperbolic systems and nonlinear parabolic equations*, Ann. Univ. Ferrara, Sez. 7, Vol. XLV Suppl., (2000) 255–266

11. G. Naldi, L. Pareschi, G. Toscani *Convergence of kinetic relaxation approximation to nonlinear parabolic problems*, in Godunov Methods: Theory and Applications, E.F. Toro (Editor), Kluwer Academic/ Plenum Publishers (2000)

12. A. Jüngel, P.A. Markowich, G. Toscani, *Decay rates for solutions of degenerate parabolic systems*, Electron. J. Diff. Eqns., Conf. 06, (2001), pp. 189-202.

13. A. Arnold, P. Markowich, G. Toscani, A. Unterreiter *On convex Sobolev inequalities and the rate of convergence to equilibrium for Fokker-Planck type equations*, Comm. Partial Differential Equations, **26** (2001), pp. 43–100

14. J.A. Carrillo, A. Jüngel, P.A. Markowich, G. Toscani, A. Unterreiter *Entropy dissipation methods for degenerate parabolic equations and systems and generalized Sobolev inequalities*, Monatschefte für Mathematik, **133** (2001), 1–82

15. V. Comincioli, G. Naldi, T. Scapolla, G. Toscani, *Multiscale hyperbolic equations: numerical approximation in the diffusive regime*, in Recent Trends in Numerical Analysis, L. Brugnano& D. Trigiante Eds. Nova Science Publishers, (2001)

16. T. Goudon, S. Junca, G. Toscani, *Fourier-based distances and Berry-Esseen like inequalities for smooth densities*, Monatsch. Math., **135** (2002) 115-136

17. G. Naldi, L. Pareschi, G. Toscani, *Relaxation schemes for partial differential equations and applications to degenerate diffusion problems*, Surv. Math. Ind. **10**, (2002) 315–343

18. J.L. Lopez, J. Soler, G. Toscani, *Time rescaling and asymptotic behavior of some fourth order degenerate diffusion equations*, Comput. Math. Appl. **43** (2002) 721-736

19. J.A. Carrillo, G. Toscani, *Long-time asymptotics for strong solutions of the thin film equation*, Commun. Math. Phys. **225** (2002) 551-571

20. J.A. Carrillo, C. Lederman, P.A. Markowich and G. Toscani, *Poincaré Inequalities for Linearizations of Very Fast Diffusion Equations*, Nonlinearity **15**, (2002) 1-16

21. L. Gosse, G. Toscani, *An asymptotic preserving well–balanced scheme for the hyperbolic heat equation*, CRAS , Série I, **334** (2002) 1-6

22. G. Toscani, *Entropy methods for the asymptotic behaviour of fourth order nonlinear diffusion equations*, Proceedings WASCOM 2001—11th Conference on Waves and Stability in Continuous Media (Porto Ercole), 569–578, World Sci. Publishing, River Edge, NJ, 2002.

23. L. Gosse, G. Toscani, *Space localization and well–balanced schemes for discrete kinetic models in diffusive regimes*, SIAM J. Numer. Anal. **41**, (2) (2003) 641-658

24. L. Pareschi, G. Toscani, C. Villani, *Spectral methods for the non cut-off Boltzmann equation and numerical grazing collision limit*, Numer. Math. **93** (2003), no. 3, 527–548.

25. G. Naldi, L. Pareschi, G. Toscani, *Spectral methods for one-dimensional kinetic models of granular flows and numerical quasi-elastic limit*, M2AN Math. Model. Numer. Anal., **37**, (2003) 73-90

26. A.V. Bobylev, C. Cercignani, G. Toscani, *Proof of an asymptotic property of self-similar solutions of the Boltzmann equation for granular materials*, J. Statist. Phys., **111** (2003) 403-417

27. A. Jüngel, G. Toscani, *Decay rates of solutions to a nonlinear fourth–order parabolic equation*, Z. Angew. Math. Phys. **54**, (2003) 377-386

28. F. Frommlet, J.L. Lopez, J. Soler, G. Toscani, *Nonlinear rescaling, dispersion lemmas and conservation laws for some linear kinetic and quantum-kinetic problems.* Comm. Appl. Nonlinear Anal. **10** (2003) 1–20.

29. M.P. Gualdani, A. Jüngel, G. Toscani, *Exponential decay in time of solutions of the viscous quantum hydrodynamic equations*, Appl.Math. Letters, **16** (2003) 1273-1278

30. L. Pareschi, G. Toscani, C. Villani, *Spectral methods for the non cut-off Boltzmann equation and numerical grazing collision limit*, Numer. Math., **93** (2003) 527-548.

31. A. Pulvirenti, G. Toscani, *Asymptotic properties of the inelastic Kac model*, J. Statist. Phys., **114** (2004) 1453-1480

32. G. Spiga, G. Toscani, *The dissipative linear Boltzmann equation.* Appl. Math. Letters, **17** (2004) (3), 295–301.

33. L.Pareschi, G.Russo, G. Toscani, *A kinetic approximation of Hele-Shaw flow*, CRAS Série I, **338** (2) (2004) 177-182

34. Hailiang Li, G. Toscani *Long-time asymptotics of kinetic models of granular flows*, Arch. Ration. Mech. Anal., **172** (3) (2004) 407-428

35. G. Toscani et al. *Entropy and equilibria of many particle systems: an essay on recent research*, Monatsch. Math. **142** (1-2) (2004) 35-43

36. L. Pareschi, G. Toscani, *Modelling and numerical methods for granular gases*, in "Modeling and Computational Methods for Kinetic Equations", P. Degond, L. Pareschi and G. Russo Eds., Birkhauser, Boston (2004) 259-285

37. G. Toscani, *Kinetic and hydrodinamic models of nearly elastic granular flows*, Monatsch. Math., **142** (1-2) (2004) 179-192.

38. L. Pareschi, G.Russo, G. Toscani, *A kinetic approximation of Hele-Shaw flow*, CRAS Série I, **338** (2) (2004) 177–182

39. M. Bisi, G. Toscani, *Self-similar solutions of a nonlinear friction equation in higher dimensions*, Ann. Univ. Ferrara - Sez 7 - Sc. Mat. **Vol. L**, (2004)

40. J.A. Carrillo, M.P. Gualdani, G. Toscani, *Finite speed of propagation in porous media by mass transportation methods*, CRAS Série I, **338** (10) (2004) 815–818

41. L. Gosse, G. Toscani, *Asymptotic preserving and well-balanced schemes for radiative transfer and the Rosseland approximation*, Numer. Math. **98** (2) (2004) 223–250

42. B. Lods, G. Toscani, *The dissipative linear Boltzmann equation for hard spheres*, J. Statist. Phys., **117** (3-4) (2004) 635–664

43. M. Bisi, G. Spiga, G. Toscani, *Hydrodynamics from grad's equations for weakly inelastic granular flows*, Physics of Fluids **16** (12) (2004) 4235-4247

44. G. Toscani, *A central limit theorem for solutions of the porous medium equation*, J. Evol. Equ. **5** (2005) 185-203

45. F. Salvarani, G. Toscani, *Large-time asymptotics for nonlinear diffusions: the initial-boundary value problem*, J. Math. Phys. **46**, 023502 (2005) (11 pages)

46. B. Lods, G. Toscani, *Long time behavior of non–autonomous Fokker–Planck equations and the cooling of granular gases.*, Ukrainian Math. J., **57** (6) 778-789 (2005)

47. F. Filbet, L. Pareschi, G. Toscani, *Accurate numerical methods for the collisional motion of (heated) granular flows*, J. Comput. Phys. **202**, (1) (2005) 216-235

48. M. Bisi, J.A. Carrillo, G. Toscani, *Contractive Metrics for a Boltzmann equation for granular gases: Diffusive equilibria*, J. Statist. Phys., **118** (1-2) (2005) 301-331

49. M.J. Cáceres, J.A. Carrillo, G.Toscani, *Long-time behavior for a nonlinear fourth order parabolic equation*, Trans. Amer. Math. Soc. **357** (2005) 1161-1175

50. S. Cordier, L. Pareschi, G. Toscani, *On a kinetic model for a simple market economy*, J. Statist. Phys., **120** (2005) 253-277

51. M.P.Gualdani, A. Jüngel, G.Toscani, *A nonlinear fourth-order parabolic equation with nonhomogeneous boundary conditions*, SIAM J. Math. Anal., **37** (6) (2006) 1761-1779

52. L. Gosse, G. Toscani, *Identification of asymptotic decay to self-similarity for one-dimensional filtration equations*, SIAM J. Numer. Anal., **43** (6) (2006) 2590-2606

53. J.A. Carrillo, M. Di Francesco, G. Toscani, *Intermediate asymptotics beyond homogeneity and self-similarity: long time behavior for nonlinear diffusions*, Arch. Ration. Mech. Anal., **180** (1) (2006) 127-149

54. L. Gosse, G. Toscani, *Lagrangian numerical approximations to one-dimensional convolution-diffusion equations*, SIAM J. Sci. Comput., **28** (4) (2006) 1203-1227

55. L. Pareschi, G. Toscani, *Self-similarity and power-like tails in nonconservative kinetic models*, J. Statist. Phys. **124** (2-4) (2006) 747-779

56. M. Bisi, J.A. Carrillo, G. Toscani, *Decay rates in probability metrics towards homogeneous cooling states for the inelastic Maxwell model*, J. Statist. Phys., **124** (2-4) (2006) 625-653

57. G. Toscani, *Kinetic models of opinion formation*, Comm. Math. Sci. **4** (3) (2006) 481-496

58. E. Ferrari, G. Naldi, G. Toscani, *Modelling and fast numerical methods for granular flows*. Systems, control, modeling and optimization, 151–161, IFIP Int. Fed. Inf. Process., 202, Springer, New York, 2006.

59. G. Aletti, G. Naldi, G. Toscani, *First-order continuous models of opinion formation*, SIAM J. Appl. Math., **67** (3) (2007) 837-853

60. J.A. Carrillo, M. Di Francesco, G. Toscani, *Strict Contractivity of the 2-Wasserstein distance for the porous medium equation by mass-centering*, Proc. Amer. Math. Soc. **135** (2007), 353-363

61. M.J. Cceres, G. Toscani, *Kinetic approach to long time behavior of linearized fast diffusion equations*, J. Statist. Phys., **128** (4) (2007) 883-925

62. B. Duering, G. Toscani, *Hydrodynamics from kinetic models of conservative economies*, Physica A: Statistical Mechanics and its Applications, **384** (2007) 493-506

63. J.A. Carrillo, G. Toscani, *Contractive probability metrics ans asymptotic behavior of dissipative kinetic equations* (Notes of the Porto Ercole School, June 2006) Riv. Mat. Univ. Parma, (**7**) 6, (2007) 75-198

64. D. Matthes, G. Toscani, *On steady distributions of kinetic models of conservative economies*, J. Statist. Phys., **130** (2008) 1087-1117

65. D. Matthes, G.Toscani, *Analysis of a model for wealth redistribution*, Kinetic and related Models, **1** (2008), 1-22

66. G. Toscani, *Hydrodynamics from the dissipative Boltzmann equation*, in Mathematical models of granular matters (G. Capriz, P. Giovine and P. M. Mariano Eds.), Lecture Notes in Mathematics n.**1937** (2008) 59-75

67. G. Toscani, *Funzionali entropia ed equilibrio di sistemi di molte particelle*, Bollettino UMI serie IX, Vol. **1** (3) (2008), 509-524

68. B. Duering, D. Matthes, G.Toscani, *Exponential and algebraic relaxation in kinetic models for wealth distribution*, in Proceedings WASCOM 2007 (N. Manganaro, R. Monaco, S. Rionero Eds.), World Scientific, Singapore 2008, 228-238

69. B. Lods, C. Mouhot, G. Toscani, *Relaxation rate, diffusion approximation and Fick's law for inelastic scattering Boltzmann models*, Kinetic and related Models, **2** (2008) 223-248

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