CURRICULUM VITÆ of Paolo Lorenzoni

EDUCATION

- 1998: Degree in Physics at the Universiy of Genova.

  Thesis: *Geometria anolonoma e calcolo variazionale.*

  Supervisor: Prof. Enrico Massa.

- 1998-2002: Phd in Mathematical Physics at SISSA (International School for Advanced Studies) of Trieste.

  Thesis: *Bihamiltonian hierarchies and Deformations of Integrable Systems.*

  Supervisor: Prof. Boris Dubrovin.

POST-DOC

- from 4/11/2002 to 31/12/2002: scientific collaboration at SISSA (International School for Advanced Studies) of Trieste. Title of the project: *Weakly non local Poisson brackets and sine-Gordon equation.*

- 2003-2006: postdoc at Dipartimento di Matematica e applicazioni, Università di Milano Bicocca.

EMPLOYMENT

April 2007-October 2015: Assistant Professor (ricercatore) of Mathematical Physics at Dipartimento di Matematica e Applicazioni, Università di Milano-Bicocca.

November 2015-October 2020: Associate Professor of Mathematical Physics at Dipartimento di Matematica e Applicazioni, Università di Milano-Bicocca.

Since November 2020: Professor of Mathematical Physics at Dipartimento di Matematica e Applicazioni, Università di Milano-Bicocca.

VISITS

- from 28/02/2007 to 27/03/2007: Imperial College of London, Department of Mathematics, UK (MISGAM Exchange Grant 1414).
- from 11/04/2010 to 18/04/2010: U.C. Davis, Department of Mathematics, US.
- from 19/04/2010 to 25/05/2010: University of Toledo (Ohio), Department of Mathematics and Statistics, US.
- from 13/09/2010 to 17/09/2010: Glasgow University, School of Mathematics and Statistics, UK.
- from 13/01/2013 to 19/01/2013: Loughborough University, Department of Mathematical Sciences, UK.
- from 29/09/2013 to 14/10/2013 and from 31/10/2013 to 14/11/2013: Loughborough University, University of Northumbria at Newcastle, Glasgow University, supported by the London Mathematical Society (Visitors Grant Scheme 2 Ref.No. 21226).
- from 03/02/2014 to 09/02/2014: Korteweg-de Vries Institute for Mathematics of Amsterdam.
- from 03/01/2015 to 10/01/2015: Loughborough University, Department of Mathematical Sciences, UK.
- from 11/01/2015 to 16/01/2015: Northumbria University (Newcastle), Department of Mathematics, Physics and Electrical Engineering, UK.
- from 16/02/2018 to 22/02/2018: Northumbria University (Newcastle), Department of Mathematics, Physics and Electrical Engineering , UK.
- from 30/10/2018 to 14/11/2018: Tsinghua University, Department of Mathematical Sciences, Beijing.
- from 14/01/2019 to 18/01/2019: Università del Salento, Dipartimento di Matematica e Fisica "Ennio de Giorgi", Lecce.
- from 11/02/2019 to 17/02/2019: Northumbria University (Newcastle), Department of Mathematics, Physics and Electrical Engineering , UK.
- from 28/10/2019 to 12/11/2019: Tsinghua University, Department of Mathematical Sciences, Beijing.
- from 04/12/2019 to 06/12/2019: University of Surrey (Guilford), Department of Mathematics, UK.
- from 25/01/2020 to 30/01/2020: Università del Salento, Dipartimento di Matematica e Fisica "Ennio de Giorgi", Lecce.

- from 14/02/2022 to 19/02/2022, from 6/04/2022 to 9/04/2022 and from 5/06/2022 to 10/06/2022: Korteweg-de Vries Institute for Mathematics, Amsterdam.
- from 31/08/2022 to 07/09/2022: Isaac Newton Institute di Cambridge during the program *Dispersive hydrodynamics: mathematics, simulation and experiments, with applications in nonlinear waves.*
- from 22/01/2023 to 05/02/2023, from 05/06/2023 to 10/06/2023 and from 08/11/2023 to 11/11/2023: Korteweg-de Vries Institute for Mathematics di Amsterdam.

GRANTS

1. European Science Foundation (ESF) Scientific Programme *Methods of Integrable Systems, Geometry, Applied Mathematics (MISGAM).*
   Proponents: Prof. B.Dubrovin, Prof. P.Van Moerbecke, coordinator: Prof. T.Grava.
   From 01-05-2004 to 01-05-2009
2. *European Network in Geometry, Mathematical Physics and Applications (ENIGMA).*
   Coordinator Prof. G. Falqui.
   From 01-01-2005 to 31-12-2008
3. PRIN (Progetti di Rilevante Interesse Nazionale) *Metodi geometrici nella teoria delle onde non lineari ed applicazioni.*
   PI: Prof. Boris Dubrovin.
   From 09-02-2007 to 09-02-2009.
4. PRIN (Progetti di Rilevante Interesse Nazionale) *Strutture geometriche, onde non lineari e sistemi integrabili.*
   PI: Prof. Boris Dubrovin.
   From 22-03-2010 to 22-09-2012.
5. PRIN (Progetti di Rilevante Interesse Nazionale) *Teorie geometriche e analitiche dei sistemi Hamiltoniani in dimensioni finite e infinite.*
   PI: Prof. Boris Dubrovin.
   From 01-02-2013 to 01-02-2016.
6. Coordinator of "Progetto Giovani 2008" of GNFM: *Gerarchie non-dispersive, loro riduzioni e dinamica di mappe conformi.*
7. Coordinator of "Progetto Giovani 2014" of GNFM *Aspetti geometrici e analitici della teoria dei sistemi integrabili.*
8. Marie Curie Research and Innovation Staff Exchange IpaDEGAN.
   Coordinator: Prof. G. Falqui.
9. FFABR (Funding for Basic Activities Related to Research) 2017.
10. Local coordinator of the INFN project Mathematical methods of nonlinear Physics (MMNLP). National coordinator: Prof. R. Vitolo.

LIST OF PUBLICATIONS

1. E. Massa, E. Pagani and P. Lorenzoni, *On the gauge structure of Classical Mechanics*, Transport theory and statistical Physics 29, No 1-2, 69-91, Special Issue: Proceedings of the International Conference on Models and Numerical Methods in Transport Theory and in Mathematical Physics (2000).

2. P. Lorenzoni, *Deformations of bihamiltonian structures of hydrodynamic type*, Journal of Geometry and Physics 44, no. 2-3, 331-375 (2002).

   Preprint version arXiv:nlin/0108015 (2001).

3. P. Lorenzoni, *A bi-Hamiltonian approach to the sine-Gordon and Liouville hierarchies*, Letters in Mathematical Physics 67, 83-94 (2004).

   Preprint version arXiv:nlin/0309011 (2003).

4. P. Lorenzoni and M. Pedroni, *On the bi-Hamiltonian structures of the Camassa-Holm and Harry Dym equations*, International Mathematics Research Notices 75, 4019-4029 (2004).

   Preprint version arXiv:nlin/0407057 (2004).

5. P. Casati, P. Lorenzoni, G. Ortenzi and M. Pedroni, *On the local and nonlocal Camassa-Holm hierarchies*, Journal of Mathematical Physics 46 (2005).

6. P. Lorenzoni and F. Magri, *A cohomological construction of integrable hierachies of hydrodynamic type*, International Mathematics Research Notices 34, 2087-2100 (2005).

   Preprint version arXiv:nlin/0504064 (2005).

7. P. Lorenzoni and S. Paleari, *Metastability and dispersive shock waves in Fermi-Pasta-Ulam system*, Physica D 221, 110-117 (2006).

   Preprint version arXiv:nlin/0511026 (2005).

8. L. Fontanelli, P. Lorenzoni and M. Pedroni, *A Three-component Extension of the Camassa-Holm hierarchy*, Letters in Mathematical Physics 78, no. 2, 125-137 (2006).

   Preprint version arXiv:nlin/0604040 (2006).

9. P. Lorenzoni, *Flat bidifferential ideals and semihamiltonian PDEs*, Journal of Physics A: Mathematical and General 39 13701-13715 (2006).

   Preprint version arXiv:nlin/0604053 (2006).

10. L. Fontanelli, P. Lorenzoni and M. Pedroni and J.P. Zubelli, *Bi-Hamiltonian aspects of a matrix Harry Dym hierarchy*, Journal of Mathematical Physics 49, no. 9 (2008).

    Preprint version arXiv:nlin/0612002 (2006)

11. J. Gibbons, P. Lorenzoni and A. Raimondo, *Hamiltonian Structures of Reductions of the Benney System*, Communications in Mathematical Physics 287, 291–322 (2009).

    Preprint version arXiv:0802.1984 (2008).

12. J. Gibbons, P. Lorenzoni and A. Raimondo, *Purely nonlocal Hamiltonian formalism for systems of hydrodynamic type*, Journal of Geometry and Physics 60, no. 9, 1112–1126 (2010).

    Preprint version arXiv:0812.3317 (2008).

13. P. Lorenzoni, M. Pedroni and A. Raimondo, *F-manifolds and integrable systems of hydrodynamic type*, Archivum Mathematicum (Brno) 47, no. 3, 163–180 (2011).

    Preprint version arXiv:0905.4054 (2009).

14. G. Carlet, P. Lorenzoni and A. Raimondo, *The reductions of the dispersionless 2D Toda hierarchy and their Hamiltonian structures*, Journal of Physics A: Mathematical and Theoretical 43,13 pp (2010).

    Preprint version arXiv:0910.1210 (2009).

15. P. Lorenzoni and M. Pedroni, *Natural connections for semi-Hamiltonian systems: the case of the ϵ-system*, Letters in Mathematical Physics 97, no. 1, 85–108 (2011). Preprint version arXiv:0912.3697 (2010).

16. A. Arsie and P. Lorenzoni, *On bi-Hamiltonian deformations of exact pencils of hydrodynamic type*, Journal of Physics A: Mathematical and Theoretical 44 31 pp (2011).

    Preprint version arXiv:1101.0167 (2011).

17. G. Falqui and P. Lorenzoni, *Exact Poisson pencils, tau-structures and topological hierarchies*, Physica D-Nonlinear Phenomena, vol. 241, 2178–2187 (2012).

    Preprint version arXiv:1106.1546 (2011).

18. A. Arsie and P. Lorenzoni, *Inherited structures in deformations of Poisson pencils*, Journal of Geometry and Physics 62, no. 5, 1114–1134 (2012).

    Preprint version arXiv:1107.2327 (2011).

19. A. Arsie and P. Lorenzoni, *F-manifolds with eventual identities, bidifferential calculus and twisted Lenard-Magri chains*, International Mathematics Research Notices, Volume 2013, No. 17, 3931–3976 (2013).

    Preprint version arXiv:1110.2461 (2011).

20. A. Arsie and P. Lorenzoni, *From the Darboux-Egorov system to bi-flat F-manifolds*, Journal of Geometry and Physics 70, 98–116 (2013).

    Preprint version arXiv:1205.2468 (2012).

21. A. Arsie and P. Lorenzoni. *Poisson bracket on 1-forms and evolutionary partial differential equations*, Journal of Physics A: Mathematical and Theoretical 45, 27 pp (2012).

    Preprint version arXiv:1207.3042 (2012).

22. A. Arsie and P. Lorenzoni, *Reciprocal F-manifolds*, Journal of Geometry and Physics 70, 185–204 (2013).

    Preprint version arXiv:1207.5731 (2012).

23. P. Lorenzoni, *Darboux-Egorov system, bi-flat F-manifolds and Painlevé VI*, International Mathematics Research Notices, IMRN Volume 2014, No. 12, 3279–3302 (2014).

    Preprint version arXiv:1207.5979 (2012).

24. G. De Nittis, P. Lorenzoni and A. Moro, *Integrable multi-phase thermodynamic systems and Tsallis' composition rule*, IOP Conference Series 482, Physics and Mathematics of Nonlinear Phenomena 22–29 June 2013, Gallipoli (2014).

    Preprint version arXiv:1310.6330 (2013).

25. A. Arsie, P. Lorenzoni and A. Moro, *Integrable viscous conservation laws*, Nonlinearity 28, 1859-1895 (2015).

    Preprint version arXiv:1301.0950 (2013).

26. E.V. Ferapontov, P. Lorenzoni and A. Savoldi, *Hamiltonian operators of Dubrovin-Novikov type in 2D*, Letters in Mathematical Physics 105, 341-377 (2015).

    Preprint version arXiv:1312.0475 (2013).

27. A. Arsie, P. Lorenzoni and A. Moro, *On integrable conservation laws*, Proceedings of the Royal Society A vol. 471 no. 2173 (2015).

    Preprint version arXiv:1401.1166 (2014).

28. A. Arsie and P. Lorenzoni, *Purely non-local Hamiltonian formalism, Kohno connections and $\vee$-systems*, Journal of Mathematical Physics 55 (2014).

    Preprint version arXiv:1407.5886 (2014).

29. A. Della Vedova, P. Lorenzoni and A. Savoldi *Deformations of non-semisimple bi-Hamiltonian structures of hydrodynamic type*, Nonlinearity 29 (2016).

    Preprint version arXiv:1506.02309 (2015).

30. P. Lorenzoni and A. Savoldi, *First order Hamiltonian operators of differential-geometric type in 2D*, In Lie Theory and Its Applications in Physics (pp.371-378) (2016) Springer New York.

31. A. Arsie and P. Lorenzoni, *Complex reflection groups, logarithmic connections and bi-flat F-manifolds*, Letters in Mathematical Physics 107 1919–1961 (2017).

    Preprint version arXiv:1604.04446 (2016)

32. P. Lorenzoni, A. Savoldi and Vitolo, *Bi-Hamiltonian structures of KdV type*, Journal of Physics A: Mathematical and Theoretical, Volume 51, Number 4 (2017).

    Preprint version arXiv:1607.07020 (2016).

33. A. Arsie and P. Lorenzoni, *Flat F-manifolds, Miura invariants and integrable systems of conservation laws*, Journal of Integrable Systems (2018).

Preprint version arXiv:1709.10300 (2017).

34. P. Lorenzoni, M. Pedroni and A. Raimondo, *Poisson pencils: reduction, exactness, and invariants*, Journal of Geometry and Physics 138, 154–167 (2019).

Preprint version arXiv:1811.11830 (2018).

35. P. Lorenzoni and A. Moro, *Exact analysis of phase transitions in mean field Potts models*, Phys. Rev. E Vol. 100 Iss. 2, 2019.

Preprint version arXiv:1903.03384 (2019).

36. A. Arsie and P. Lorenzoni, *F-manifolds, multi-flat structures and Painlevé transcendents*, Asian J. Math, Vol. 23, No. 5, pp. 877–904, (2019).

Preprint version arXiv:1501.06435 (2015).

37. P. Lorenzoni and R. Vitolo, *Weakly nonlocal Poisson brackets, Schouten brackets and supermanifolds*, Journal of Geometry and Physics Volume 149, (2020).

Preprint version arXiv:1909.07695 (2019).

38. M. Casati, P. Lorenzoni and R. Vitolo, *Three computational approaches to weakly nonlocal Poisson brackets*, Stud Appl Math. 144:412–448 (2020).

Preprint version arXiv:1903.08204 (2019).

39. A. Arsie and P. Lorenzoni, *Bi-flat F-manifolds: a survey*, cotributo al volume "Integrability and Related Areas: A recognition of Emma Previato's work in algebra and geometry", Volume 1: Integrable systems, Cambridge University Press: LMS Lecture Notes Series. Editori: Ron Donagi and Tony Shaska.

40. A. Arsie, A. Buryak, P. Lorenzoni and P. Rossi, *Flat F-manifolds, F-CohFTs, and integrable hierarchies*, Communications in Mathematical Physics 388, pages 291–328 (2021). Open access.

Preprint version arXiv:2012.05332 (2020).

41. A. Arsie, A. Buryak, P. Lorenzoni and P. Rossi, *Riemannian F-manifolds, bi-flat F-manifolds, and flat pencils of metrics*, International Mathematics Research Notices 2021.

Preprint version arXiv:2104.09380 (2021).

42. M. Casati, P. Lorenzoni, R. Vitolo and D. Valeri, *Weakly nonlocal Poisson brackets: tools, examples, computations*, Computer Physics Communications 274 (2022).

Preprint version arXiv:2101.06467 (2020).

43. A. Arsie, P. Lorenzoni, I. Mencattini and G. Moroni, *A Dubrovin-Frobenius manifold structure of NLS type on the orbit space of B_n*, Selecta Mathematica volume 29, Article number: 2 (2023). Open access.

Preprint version arXiv:2111.03964 (2021).

44. P. Lorenzoni and S. Perletti, *Regular non-semisimple Dubrovin-Frobenius manifolds*, Journal of Mathematical Physics Volume 63, Issue 10 (2022).

    Preprint version arXiv:2202.07383 (2022).

45. A. Arsie, A. Buryak, P. Lorenzoni and P. Rossi, *Semisimple flat F-manifolds in higher genus*, Communications in Mathematical Physics volume 397, pages 141–197 (2023).

    Preprint version arXiv:2001.05599 (2020).

46. P. Lorenzoni and R. Vitolo, *Projective-geometric aspects of bi-Hamiltonian structures of KdV type*, Contemporary Mathematics 788, pp. 165–178 (2023).

47. P. Lorenzoni and S. Perletti, *Integrable systems, Frölicher–Nijenhuis bicomplexes and Lauricella bi-flat structures*, Nonlinearity 36(12), pp. 6925–6990 (2023). Open access.

    Preprint version (with title *Integrable systems, Nijenhuis geometry and Lauricella bi-flat structures*) arXiv:2208.14817 (2022).

48. P. Lorenzoni, S. Shadrin and R. Vitolo, *Miura-reciprocal transformations and localizable Poisson pencils*, Nonlinearity 37 (2024). Open access.

    Preprint version arXiv:2301.04475 (2023).

PREPRINT

1. P. Lorenzoni and R. Vitolo, *Bi-Hamiltonian structures of KdV type, cyclic Frobenius algebrae and Monge metrics*, arXiv:2311.13932 (2023).

CONFERENCES AS A SPEAKER

• *Workshop on Integrable systems*, University of Glasgow, 23-24/04/2004. Title: *Deformations of bihamiltonian structures of hydrodynamic type.*

• *Workshop on The interplay of representations*, Poisson geometry and quantization, Università di Roma Tor Vergata, 28-29/04/2004. Title: *Deformations of bihamiltonian structures of hydrodynamic type.*

• *Workshop on Analytic and Geometric theory of the Camassa-Holm equation and Integrable Systems*, Università di Bologna, 22-25/09/2004. Title: *On the bi-Hamiltonian structures of the Camassa-Holm and Harry Dym equations.*

• *Riemann-Hilbert problems, integrability and asymptotics* SISSA Trieste, 20-25/09/2005. Title: *A cohomological construction of integrable hierarchies of hydrodynamic type.*

• *Integrable Systems in Applied Mathematics*, a satellite conference of the International Congress of Mathematicians, Colmenarejo (Madrid), 7-12/09/2006. Title: *Flat bidifferential ideals and semihamiltonian PDEs.*

• *Conference on Moduli spaces, enumerative problems and integrability*, Università di Genova 25-28/06/2008. Title: *Hamiltonian Structures of Reductions of the Benney chain.*

• *Bihamiltonian Systems and all that, Conference in honour of Franco Magri's 65th birthday*, Università di Milano - Bicocca 27/09/2011 - 01/10/2011. Title: *Deformations of exact and homogeneous Poisson pencils of hydrodynamic type.*

• *International Conference Geometrical Methods in Mathematical Physics*, Moscow University, 12-17/12/2011.Title: *Deformations of exact and homogeneous Poisson pencils of hydrodynamic type.*

• *Christmas Workshop on Moduli Spaces and Integrable Systems*, Università di Genova, 19-21/12/2012. Title: *Darboux-Egorov system, bi-flat F-manifolds and Painlevé VI.*

• *Conference Nonlinear Waves and Integrable Systems*, SISSA Trieste 6-8/02/2013. Title: *Darboux-Egorov system, bi-flat F-manifolds and Painlevé VI.*

• *Integrable Systems in Newcastle*, Northumbria University, Newcastle upon Tyne, Department of Mathematics and Information Sciences, 4-5/10/2013. Title: *Integrable conservation laws*

• PRIN meeting, Roma 24/10/2013.Title: *Integrable conservation laws*

• *10th AIMS Conference*, Madrid 7-11/07/2014. Title: *Integrable conservation laws*

• *Conference Integrability and All That*, Università del Salento, 18-19/09/2014. Title: *Darboux-Egorov system, bi-flat F-manifolds and Painlevé VI.*

• *Christmas Workshop 2014 on Moduli Spaces and Integrable Systems*, Università di Genova, 18-20/12/2014. Title: *Hamiltonian operators of Dubrovin-Novikov type in 2D.*

• *XI International Workshop: Lie theory and its applications in physics*, Varna 15-21/06/2015. Title: *Hamiltonian operators of Dubrovin-Novikov type in 2D.*

• *Workshop on Integrable Nonlinear Equation*, Mikulov 18-24/10/2015. Title: *F-manifolds, multi-flat structures and Painlevé transcendents.*

• *Geometric and Algebraic Aspects of Integrability*, London Mathematical Society EPSRC Durham Symposium, Durham 25/07/2016-04/08/2016. Title: *Bi-flat F-manifolds, Painlevé transcendents and complex reflection groups.*

• *Workshop on Integrable Systems and Gromov-Witten Invariants*, Beijing, 18-20/11/2016. Title: *Bi-flat F-manifolds, complex reflection groups and Painlevé transcendents.*

• *Geometry of Integrable systems*, SISSA Trieste 7-9/07/2017. Title: *Complex reflection groups, logarithmic connections and bi-flat F-manifolds.*

• *Workshop on Frobenius manifolds*, Glasgow 22-23/03/2018. Title: *Bi-flat F-manifolds, complex reflection groups and integrable systems of conservation laws.*

• *Geometric Structures in Integrable Systems*, conference in honor of Boris G. Konopelchenko's 70th birthday, Lecce 19-21/09/2018.Title: *Bi-flat F-manifolds, complex reflection groups and integrable systems of conservation laws.*

• *DINAMICI VI* , the sixth workshop of the Italian dynamicists, Pisa, Centro di Ricerca Matematica Ennio De Giorgi 4-7/06/2019. Title: *Flat F-manifolds, Miura invariants and integrable systems of conservation laws.*

• *Geometric Structures in Integrable Systems 2020*, online conference for the 60th birthday of Jenya Ferapontov, 30-31/10/2020. Title: *Flat F-manifolds, Riemannian F-manifolds and integrable hierarchies.*

• *Excursions in integrability*, SISSA-Trieste 23-27/05/2022. Title: *A Dubrovin-Frobenius manifold structure of NLS type on the orbit space of B_n.*

• *Integrable systems, Frobenius manifolds and related topics*, Institut de Mathématiques de Bourgogne, Dijon 6-9/07/2022. Title: *A Dubrovin-Frobenius manifold structure of NLS type on the orbit space of B_n.*

• *Workshop on Analysis of dispersive systems*, Isaac Newton Institute Cambridge 5-9/09/2022. Title: *Integrable PDEs and Miura invariants.*

• *5th Christmas Workshop on Moduli Spaces and Integrable Systems*, Università di Genova, 19-20/12/2022. Title: *A Dubrovin-Frobenius manifold structure of NLS type on the orbit space of B_n.*

COURSES AT SCHOOLS

• Minicourse at *Mathematical Physics Summer School of Ravello*, 13-15/09/2021. Title: *Frobenius manifolds, flat F-manifolds and integrable systems of conservation laws.*

• Advanced course at the School on Topological Recursion *TRSALENTO2022*, Otranto 5-16/09/2022. Title: *Hamiltonian systems and Dubrovin–Frobenius manifolds*.
The slides of the course can be found here TRsalento22-slides.

OTHER SEMINARS

• Cambridge, 27/04/2004. Title: *Deformations of bihamiltonian structures of hydrodynamic type.*

• London, Imperial College, 7/03/2007. Title: *Flat bidifferential ideals and semihamiltonian PDEs.*

• Bergamo, Dipartimento di Ingegneria dell'Informazione e Metodi Matematici, 30/09/2009. Title: *Sistemi di tipo idrodinamico e geometria differenziale.*

• U.C. Davis, Mathematics Colloquia and Seminars, 14/04/2010. Title: *F-manifolds and integrable systems of hydrodynamic type.*

• University of Toledo (Ohio), Colloquium Department of Mathematics, 30/04/2010. Title: *F-manifolds and integrable systems of hydrodynamic type.*

• University of Glasgow, 15/09/2010. Title: *Integrable systems of hydrodynamic type and F-manifolds.*

• SISSA Trieste, 19/09/2011. Title: *Deformations of exact and homogeneous Poisson pencils of hydrodynamic type.*

• Loughborough University, School of Mathematical Sciences, Mathematical Physics Seminars, 16/01/2013. Title: *Darboux-Egorov system, bi-flat F-manifolds and Painlevé VI.*

• Loughborough University, School of Mathematical Sciences, Mathematical Physics Seminars, 2/10/2013. Title: *Deformations of Poisson pencils of hydrodynamic type: an introduction.*

• Northumbria University, Newcastle upon Tyne, Department of Mathematics and Information Sciences, 9/10/2013. Title: *Deformations of Poisson pencils of hydrodynamic type: an introduction.*

• University of Glasgow, School of Mathematics and Statistics, 12/11/2013. Title: *Deformations of Poisson pencils of hydrodynamic type: an introduction*

• Korteweg-de Vries Institute for Mathematics Amsterdam, 402/2014. Title: *Hamiltonian operators of Dubrovin-Novikov type in 2D.*

• SISSA Trieste 18/12/2015. Title: *F-manifolds, multi-flat structures and Painlevé transcendents.*

• Loughborough, 21/09/2016. Title: *F-manifolds, multi-flat structures and Painlevé transcendents.*

• Dijon, 15/11/2017. Title: *Flat F-manifolds, Miura invariants and integrable systems of conservation laws.*

• Leeds, 16/02/2018. School of Mathematics Seminar. Title: *Bi-flat F-manifolds, complex reflection groups and integrable systems of conservation laws.*

• Tsinghua University Beijing, 8/11/2018. Department of Mathematical Sciences seminar. Title: *Bi-flat F-manifolds and complex reflection groups.*

• Tsinghua University Beijing, 6/11/2019. Department of Mathematical Sciences seminar. Title: *Hamiltonian operators of Dubrovin-Novikov type in 2D.*

• University of Surrey (Guilford), 5/12/2019. Title: *Integrable systems of conservation laws and generalized WDVV equations.*

• University of Leeds, 3/12/2021, Integrable Systems Seminar Virtual Series. Title: *A Dubrovin-Frobenius manifold structure of NLS type on the orbit space of B_n.*

OTHER CONFERENCES

International conference *Mathematics towards the third Millenium*, Accademia Nazionale dei Lincei, 27-29 maggio 1999, Summer school on algebraic geometry and physics, CentreInternational de Rencontres Mathematiques, Marseille-Luminy, France, 6-14 Settembre 1999, *INdAM intensive bimester on Integrable Systems*, Università di Milano-Bicocca, Novembre 1999- Marzo 2000, *Poisson 2000*, CIRM - Luminy, 26-30 Giugno 2000, *Algebraic geometry and integrable systems*, SISSA Trieste, 16-19 Ottobre 2000, *Workshop on Whitham equations and their applications in Mathematicsand Physics*, SISSA Trieste, 27 Novembre- 3 Dicembre 2000, *Summer school: What is integrability?*, Newton institute, Cambridge, Agosto 2001, *Workshop FPU Metastabilità e Turbolenza*, Grezzana, Settembre 2005, *Enigma Conference on Integrable Systems, Geometry, Matrix Models and Applications*, SISSA - Trieste, 14-18 Ottobre 2008, *Nonlinear Waves and Integrable Systems*, Dipartimento di Fisica, Università di Roma Tre, Roma 19-21 Febbraio 2009, *Integrable Systems in Pure and Applied Mathematics, Conference in honour of Boris Dubrovin's 60th birthday*, Alghero 8-12 Giugno 2010, *UK-Japan Winter School, Topology and Integrability*, Department of Mathematical Sciences, Loughborough University, 5-8 Gennaio 2015.

CONFERENCES AS A (CO)-ORGANIZER

1. *Junior Bicocca Workshop on Integrable Systems*, Università di Milano-Bicocca, Milano, 25-27/09/2007.
2. *Bicocca Workshop on Integrable systems II*, Milano 25-26/06/2009, Università di Milano-Bicocca.
3. *Workshop on Geometric and Analytic Aspects of Integrable Systems* Università di Milano-Bicocca, Milano, 13-15/06/2012.
4. *Workshop on Geometric and Analytic Aspects of Integrable and nearly-Integrable Hamiltonian Systems*, Università di Milano-Bicocca, Milano, 18-20/06/2014.
5. *Integrability, Recursion, Geometry And Mechanics*, celebrating Franco Magri's 70th birthday, 5-9/09/2016, RISM Villa Toeplitz (Varese).
6. *Workshop on Hamiltonian PDEs: Models and Applications*, Università di Milano-Bicocca, Milano, 25-27/06/2018.
7. *Integrable Systems in Geometry and Mathematical Physics*, an online conference in memory of Boris Dubrovin 28/06/2021-02/07/2021.

TEACHING ACTIVITY

- Batchelor courses of *Mathematics II* (calculus for several variables for first year students of Materials Science) and *Dynamical systems and Classical Mechanics* (for second year math students),
- Master courses *Higher Mechanics* (with Prof. Gregorio Falqui) and *Geometry and Physics* for math students.
- Phd courses *Integrable Systems* (with Prof. Marco Pedroni), *Integrable systems, Frobenius manifolds, and infinite dimensional Lie algebras* (with Dr. Andrea Raimondo) and *Integrable PDEs: theory and applications* (with Prof. Gregorio Falqui, in progress).

Supervisor (or co-supervisor) of 26 batchelor thesis, 4 master thesis 3 phd thesis (Andrea Savoldi, Gugliemo Moroni and Sara Perletti, the last two in progress).

ACADEMIC AND RESEARCH DUTIES

Member of GNFM (GruppoNazionale di Fisica Matematica) and INFN (Istituto Nazionale di Fisica Nucleare).

Member of PhD admission committee for the joint PhD Program in Mathematics of Milano-Bicocca, Pavia, INdAM and member of PhD award committees in Glasgow (School of Mathematics and Statistics) and Trieste (SISSA).

Member of the faculty board of joint *PhD Program in Mathematics of Milano-Bicocca, Pavia, INdAM*.

Since March 2023 member of the managing board of the *Riemann International School of Mathematics (RISM)*.

Referee for the following journals: Advances in Mathematics, AIMS proceedings, American Journal of Mathematics; Communications in Mathematical Physics; Discrete and Continuous Dynamical Systems Series B; International Mathematics Research Notices; Journal of high energy physics; Journal of Differential Geometry; Journal of Geometry and Physics; Journal of the London Mathematical Society; Journal of Mathematical Physics; Journal of Physics A: Mathematical and Theoretical; Mathematical Physics, Analysis and Geometry; Nonlinearity; Physica D; Physics Letters A; SIGMA; Theoretical and Mathematical Physics.

Member of the guest editorial board of the special issue of Letters in Mathematical Physics in memory of Boris Dubrovin *LMP-Boris Dubrovin Memorial Issue*.