

Curriculum Vitae

FABIO TONINELLI

Present Position: Directeur de Recherche de 2^{ème} Classe du CNRS

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Editorial activities:

- Member of the editorial board of *Communications in Mathematical Physics*, 2006-2016
- Member of the editorial board of *Probability Theory and Related Fields*, 2015-...
- Member of the editorial board of *International Journal of Mathematics*, 2010-2014
- Member of the editorial board of *Journal of Statistical Physics*, 2013-...

Prizes and Distinctions:

- **2018:** invited speaker at *International Congress of Mathematicians 2018*, Rio de Janeiro
- **2018:** plenary speaker at *XIX International Congress on Mathematical Physics*, Montreal
- “Best **2016-17** article” prize at *Annales Henri Poincaré B*, for “*Height fluctuations in interacting dimers*”, co-authored with A. Giuliani and V. Mastropietro (Vol. 53, Number 1 (2017), 98-168)
- **2014:** Marie Curie IEF Fellowship
- **2014:** plenary speaker at *37th Stochastic Processes and Applications*, Buenos Aires
- **2007:** Médaille de bronze du CNRS (CNRS bronze medal).
- **1999:** “Enrico Persico” prize for undergraduate physics students, awarded by Accademia Nazionale dei Lincei.

Academic history

- **Since February 2020:** Full Professor, Technical University of Vienna (on leave from CNRS)

- **Since October 2012:** CNRS “Directeur de Recherche de 2^{ème} classe” at Institut Camille Jordan, Université Claude Bernard Lyon 1
- **May 2010:** Habilitation à Diriger des Recherches en Mathématiques, ENS Lyon. Title: *Polymères en milieu aléatoire: Localisation, Phénomènes critiques et Critère de Harris*
- **November 2009-February 2011:** on leave at Dipartimento di Matematica, Università di Roma Tre
- **Since February 2009:** Chargé de Recherche de 1^{ère} Classe du CNRS at Laboratoire de Physique, ENS Lyon
- **October 2004 - January 2009:** Chargé de Recherche de 2^{ème} Classe du CNRS at Laboratoire de Physique, ENS Lyon
- **March 2004 - February 2005:** postdoc position at Institut für Mathematik der Universität Zürich, with a grant by Swiss Science Foundation.
- **February 2003 - February 2004:** postdoc position at EURANDOM (Technische Universiteit Eindhoven).
- **November 2002 - January 2003:**
Guest at Institut für Mathematik der Universität Zürich, with a grant by Swiss Science Foundation.

Studies

- **January 2000 - December 2002:**
PhD in Physics at Scuola Normale Superiore in Pisa, final mark 70/70 *cum laude*.
Defended: April 2003
Supervisor: Prof. Francesco Guerra.
Thesis title: *Rigorous results for mean field spin glasses: thermodynamic limit and sum rules for the free energy*.
- **May 1999:** degree in Physics at the University of Rome I “La Sapienza”, final mark 110/110 *cum laude*.
Title of the 1-year laurea thesis: *Analysis of quantum suppression of classical dynamical instability by means of the effective action formalism*, in Italian.
Supervisor: Prof. Giovanni Jona-Lasinio.
- **1994 - 1999:**
Undergraduate Physics student at the University of Rome I “La Sapienza”.

Teaching and students

- 2017-present: supervision of the PhD thesis of Vincent Lerouvillois
- 2015-present: supervisor of the PhD Thesis of Martin Legras

- 2012-2015: supervisor of the PhD Thesis of Niccolò Torri: “Localization and concentration phenomena for random polymers”
defended in 2015
- 2011-2014: supervisor of the PhD Thesis of Benoît Laslier: “Stochastic dynamics of random discrete interfaces”
Defended: 2/7/2014
- 2009-2012: supervisor of the PhD Thesis of Quentin Berger: “Effect of disorder correlations on disordered pinning models”
Defended: 15/6/2012
Quentin Berger was awarded the Jacques Neveu Prize 2012 for his thesis.
- Academic year 2017-18: *The dimer model*. Level: Master 2
- Academic year 2015-16 and 2016-2017: *Glauber dynamics and convergence to equilibrium*.
Level: Master 2
- Academic year 2005-2006: *Systèmes désordonnés et méthodes probabilistes*. Level: école doctorale (PhD students)
- Academic year 2007/08, 2008/09, 2011/12 and 2012/13: *Introduction à la physique des systèmes désordonnés*. Level: Master 2 (fifth year undergraduate students)
- 2011/12: tutorials on Mathematical Methods for Physics, Level: 3rd year undergraduate students.
- various mini-courses (doctoral level): at EURANDOM, at Institut für Mathematik der Universität Zürich, at Università di Roma “La Sapienza”, ESI Vienna, etc.

Grants

- ANR Grant “*Large stochastic dynamics*, 2016-2020.
Coordinators: S. Olla, T. Bodineu, F. Toninelli.
- MIT-France Seed Fund Award “Two-dimensional Interface Growth and Anisotropic KPZ Equation” (together with A. Borodin, MIT)
- ANR grant “*Polymères, interfaces et systèmes désordonnés : entre mathématiques, Physiques et biologie*”, 2006-2008.
Coordinator: G. Giacomin (LPMA, Paris 7)
- ANR grant “*Limites hydrodynamiques et mécanique statistique hors équilibre*”, 2007-2009.
Coordinator: T. Bodineau (DMA, ENS Paris)
- ERC Advanced Grant “*Phase transitions in random evolutions of large-scale structures*”, 2009-2012.
Coordinator: F. Martinelli (Dip. Matematica, Roma 3)
- ANR grant “*Systèmes Hors Equilibre de Particules en Interaction*”, 2010-2012.
Coordinator: E. Saada (Rouen)

Organization of workshops

- co-organizer of the Oberwolfach Workshop "Scaling Limits in models of Statistical Mechanics", september 2015 and september 2018
- co-organizer of the Oberwolfach Workshop "Large scale stochastic dynamics", november 2016
- co-organizer of the trimester ProbabLYon (Lyon, Spring 2017) and of the conference "Statistical Mechanics, random planar geometry and interacting random walks", Lyon, June 2017
- organizer of the session "*Equilibrium and non-equilibrium Statistical Mechanics*", ICMP, Santiago (2015)
- organizer of the session "*Random Media*" at the 8th World Congress in Probability and Statistics, Istanbul, July 2012
- organizer of the session "*Spin glasses and disordered systems*" at the IMS Annual Meeting in Gothenburg, 2010
- co-organizer of the workshop "*Disorder and Localization Phenomena: from Theory to Applications*", Paris, March 17-19, 2008
- co-organizer of the Lyon-Marseille "Hypatie seminar"

Invited talks at international conferences (past and upcoming)

1. “Challenges in probability and statistical mechanics”, Technion, June 2020
2. “100 years of the Ising model”, IHES, June 2020
3. Summer school “New frontiers in SPDEs and Scaling Limits”, Bonn, mini-course (September 2019)
4. “Universality in Interacting Particle Systems”, Cologne, September 2019
5. “International conference on Probability Theory and Mathematical Physics”, Moscow, June 2019
6. “Spring School on Random Interfaces”, March 2019, Augsburg, mini-course
7. trimestre *Scaling limits, rough paths, quantum field theory*, October 2018, Cambridge (UK), mini-course
8. “États de la recherche: mécanique statistique”, IHP, December 2018
9. *International Congress of Mathematicians*, Rio de Janeiro, August 2018
10. *XIX International Congress on Mathematical Physics*, Montreal, July 2018
11. Minicourse at *XXII Brazilian School of Probability*, Rio de Janeiro, July 2018
12. *Integrable probability in Boston*, MIT, May 2018
13. Minicourse at *Universality in Probability Theory and Statistical Mechanics*, EMS-IAMP Summer School in Mathematical Physics, Ischia (Italy), June 2018
14. *16th International symposium “Stochastic Analysis on Large Scale Interacting Systems”*, Tokyo, November 2017
15. *First Italian meeting on Probability and Mathematical Statistics*, Torino, June 2017
16. *Stochastic Dynamics Out of Equilibrium*, IHP (Paris), June 2017
17. *Stochastic analysis: geometry of random processes*, Oberwolfach, May 2017
18. *Qualitative Methods in KPZ Universality*, CIRM (Luminy), April 2017
19. *Columbia-Princeton Probability day* (plenary speaker), Princeton University, March 31, 2017
20. *Random Media in Atacama*, San Pedro de Atacama (Chile), December 2016
21. Workshop in Honor of Erwin Bolthausen’s 70th birthday, Zurich, September 2016
22. *Meeting of Statistical Mechanics*, Paris (Creteil), June 2016
23. *Dimers day in Cambridge*, Cambridge (UK), May 2016

24. *Random Interfaces and Integrable Probability*, Galileo Galilei Institute, May 2015
25. *Spin glasses, random graphs and percolation*, IHP, February 2015
26. *Topics in low dimensional statistical mechanics*, Les Diablerets (Switzerland), February 2015
27. *Minerva Foundation Lectures* (5h course), Columbia University, April 2015
28. *Limit Shapes*, ICERM, Providence RI, April 2014
29. *Charles River lectures in Probability*, Harvard Univ., October 2014
30. *Advances in probability: universality, integrability and beyond*, Oxford, September 2014
31. *Selected Problems in Mathematical Physics*, La Spezia, September 2014
32. *Stochastic Processes and Applications* (plenary speaker), Buenos Aires, July 2014
33. *Non-equilibrium problems in physics and mathematics*, Ascona, June 2014
34. *Large scale stochastic dynamics*, Oberwolfach, November 2013
35. *Inhomogeneous random systems*, IHP, January 2013
36. *International Conference on Applied Mathematics*, Heraklion, September 2013
37. *Workshop on disordered systems*, CIRM, June 2013
38. *Emerging trends in Probability Theory*, Max Planck Institute, Leipzig 2013
39. *Random Networks & Environments*, Istanbul, July 2012
40. *Conference in honor of Giovanni Gallavotti's 70th birthday*, Rome, July 2012
41. *Computation and phase transitions*, Georgia Tech (USA), June 2012
42. *Random Polymers*, Singapour, May 2012
43. *Dissipative evolutions and convergence to equilibrium*, Toulouse, September 2011
44. *Phase boundaries and random polymers*, Bath, September 2011
45. Minicourse at *ESI Summer school in Mathematical Physics*, Vienna, August 2011
46. Minicourse at *Rencontres de Probabilités 2011*, Rouen, May 2011.
47. *Seminaire Hypatie*, Marseille, Decembre 2010
48. *Large scale stochastic dynamics*, Oberwolfach, November 2010
49. *Statistical Mechanics meeting, celebrating Joel Lebowitz's 80th birthday*, Paris, May 2010
50. *Workshop on Probabilistic Techniques in Statistical Mechanics*, Berlin, October 2010
51. *IMS Annual Meeting*, Gothenburg, August 2010

52. *Phase transitions*, Oberwolfach, June 2010.
53. *International Congress on Mathematical Physics*, Prague, 3-8 August 2009.
54. *Disordered Systems; Spin Glasses*, CRM, University of Montreal, 8-13 June 2009.
55. *Random Walks in Random Environments*, Vancouver, June 2009
56. *Statistical Mechanics*, Institut Henri Poincaré, December 2008
57. *Stochastics Meeting Lunteren 2008*, Lunteren (The Netherlands), November 2008
58. *High-Dimensional Phenomena in Mathematical Physics*, Marne-la-Vallée, June 2008.
59. Minicourse *Quenched disorder and critical phenomena: the polymer depinning transition*, given at the workshop *Stochastic dynamics and probability*, CIRM (Marseille), March 2008.
60. XI Brazilian School of Probability, Sao Sebastiao, August 5-11, 2007.
61. *Summer school "Spin glasses"*, Paris, June 25-July 6, 2007.
62. *Random polymers*, EURANDOM, Eindhoven (The Netherlands), June 18-22, 2007.
63. *Dynamical Systems: Classical, Quantum and Stochastic*, Rome (Italy), October 2-5, 2006.
64. Minicourse *Localization-delocalization phenomena in random polymer models* at 5th Prague Summer School 2006: *Mathematical Statistical Mechanics*, Prague, September 2006.
65. *Spatial Random Processes and Statistical Mechanics*, Oberwolfach, September 3-9, 2006.
66. *Seminar on percolation and disordered systems*, parallel session of 9th International Vilnius Conference on Probability Theory and Mathematical Statistics, Vilnius (Lithuania), June 25-30, 2006.
67. *Stochastic models for polymers*, parallel session of *Stochastic Processes and their Applications*, Paris, July 17–21 2006.
68. 95th *Statistical Mechanics Conference*, Rutgers (New Brunswick, NJ), 7–9 May 2006.
69. *Relaxation Dynamics of Macroscopic Systems*, Cambridge (UK), 9–13 January 2006.
70. *Interacting Stochastic Systems*, Eindhoven (The Netherlands), 20–23 September 2005.
71. *Mathematical Physics of Spin Glasses*, Cortona (Italy), 27 June–2 July 2005.
72. *Spin Glasses and Scaling Limits in Physics*, Bielefeld (Germany), 2–4 May 2005.
73. *Workshop on statistical mechanics*, IHES, Bures-sur-Yvette (France), February 24th, 2005.
74. *Journées de Physique Statistique 2005*, Paris, January 2005.

75. *School and Conference on Fundamental Aspects of Complexity*, Trieste (Italy), 6–10 September 2004.
76. *Rencontre de Probabilités: Systèmes de Particules, Mécanique Statistique*, Rouen (France), June 2004.
77. *International Conference on Equilibrium and Dynamics of Spin Glasses*, Ascona (Switzerland), April 2004.
78. *24th Swiss probability seminar*, Bern (Switzerland), November 2002.
79. *Perspectives in Quantum Field Theory, Statistical Mechanics and Stochastics*, Pontignano (Italy), July 2002.
80. *Probabilistic models and disordered systems*, Rome, February 2002.