Alberto Mario Maiocchi

Curriculum Vitae

Assistant Professor at Università degli Studi di Milano–Bicocca

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Personal Information

Date of birth:	March 3, 1986	Languages:	Italian (native speaker) French (fluent) English (fluent) German (basic)
Place of birth:	Milan, Italy		
Nationality:	Italian		

Current Position

10/2021–present Assistant Professor, Università degli Studi di Milano–Bicocca, Dipartimento di Matematica e Applicazioni.

Experience

7/2019–7/2021	Post–doctoral researcher, Università degli Studi di Padova, Dipartimento di Matematica.
9/2018–7/2019	Quantitative analyst at Exprivia. Consultant at Financial Engineering Group, Banca IMI (Intesa Sanpaolo Group).
9/2014–8/2018	Post–doctoral researcher, Università degli Studi di Milano, Dipartimento di Matematica.
3/2013–8/2014	Post–doctoral researcher, Université de Cergy–Pontoise, Laboratoire AGM.

Education

2010–2012	Ph.D. in Mathematics under the direction of Andrea Carati, Dipartimento di Matematica, Università degli Studi di Milano. Subject: *Perturbation theory at the thermodynamic limit*. Thesis defended on February 26, 2013.
2007–2009	Master degree in Physics, Università degli Studi di Milano
2004–2007	Degree in Physics, Università degli Studi di Milano

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Teaching

2021–2022	Exercise sessions for the undergraduate course “Mathematical analysis 2”, Università degli Studi di Milano–Bicocca.
2020–2021	Exercise sessions for the undergraduate course “Linear algebra and geometry” and for the graduate course “Mathematical Physics”, Università degli Studi di Padova.
2014–2018	Exercise sessions for the undergraduate course “Analitical Mechanics 1”, Università degli Studi di Milano.
2015–2016	Exercise sessions for the graduate course “Hamiltonian Systems”, Università degli Studi di Milano.

2015	PhD course "Stochastic PDEs and averaging theorem", Università Federico II, Naples.
2014	Exercise sessions for the undergraduate course "Mathematics 1", Université de Cergy–Pontoise.

Invited Seminars

September 2013, Paris, France	"Problèmes stochastiques en physique mathematique" series, Institut Henri Poincaré, invitation by Prof. S. Kuksin.
October 2013, Cergy-Pontoise, France	Université de Cergy-Pontoise, invitation by Prof. A. Shirikyan
December 2013, Genève, Switzerland	Université de Genève, invitation by Prof. J.P. Eckmann.
April 2015, Naples, Italy	Università Federico II, invitation by Prof. P. Baldi.
March 2019, Padua, Italy	Università degli Studi di Padova, invitation by Prof. F. Fassò.
November 2019, Atlanta, USA	Georgia Institute of Technology, invitation by Prof. F. Bonetto.
January 2020, Paris, France	"Stochastic problems in Mathematical Physics and economics" series, Institut de Mathématiques de Jussieu, invitation by Prof. S. Kuksin.
February 2020, Rome, Italy	Università di Roma Tre, invitation by Prof. L. Corsi.
July 2020, Moscow, Russia	Steklov Mathematical Institute, invitation by Dr. A. Dymov.

Invited Talks at Conferences

December 2014, Milan, Italy	*KAM in Milano*
June 2015, Sant Petersburg, Russia	*Hamiltonian systems and their applications.*
December 2015, Milan, Italy	*Localization and reducibility in Hamiltonian PDEs and quantum mechanics.*
April 2016, Linz, Austria	*WIN-2016.*
April 2018, Padua, Italy	*Il problema di Fermi–Pasta–Ulam: stato dell'arte e prospettive.*
June 2019, Marseille, France	*Integrability and nonlinear dispersive equations.*
September 2019, Erice, Italy	*New Trends in Propagation of Linear and Nonlinear Phenomena.*

Selected Visits

December 2013, Genève, Switzerland	Université de Genève, Section de Mathématiques.
September 2014, Linz, Austria	Johannes Kepler Universität, Institut für Analysis.
October 2019, Jinan, China	Shandong University, Mathematics Department.

November 2019, Atlanta, USA	Georgia Institute of Technology, School of Mathematics.
January 2020, Paris, France	Institut de Mathématiques de Jussieu.

Projects

2012–2016	Participation to PRIN project 2010-2011 "Teorie geometriche e analitiche dei sistemi Hamiltoniani in dimensioni finite e infinite".
2013–2014	Participation to STOSYMAP project, financed by Agence Nationale de la Recherche (ANR).

Awards

2014	Habilitation to the function of *Maître de Conférence* in Mathematics (CNRS section 25), valid in France up to December 31st, 2019.
3/30/2018	National scientific habilitation to the function of *Professore Universitario di II fascia*, for the section 01/A4 — Mathematical Physics, valid up to March 30th, 2027.

Organizational Roles

2017–2018	Member of the Information Technology Committee, Dipartimento di Matematica, Università degli Studi di Milano.

Master Thesis Supervised

2017–2018	R. Sgarbi, "Studio numerico del calore specifico nel sistema FPU a bassa temperatura", master degree in Physics.

Publications

[1] A.M. Maiocchi, A. Carati, *Relaxation times for Hamiltonian systems*, Commun. Math. Phys. **297** (2010), pp. 427–445.

[2] A. Carati, A.M. Maiocchi, *Exponentially long stability times in a nonlinear lattice at the thermodynamic limit*, Commun. Math. Phys. **314** (2012), pp. 129–161.

[3] A. Carati, M. Zuin, A.M. Maiocchi, M. Marino, E.Martines, L. Galgani, *Transition from order to chaos, and density limity, in magnetized plasmas*, Chaos **22** (2012), 033124.

[4] A.M. Maiocchi, A. Carati, A. Giorgilli, *A series expansion for the time autocorrelation of dynamical variables*, J. Stat. Phys **148** (2012), pp. 1054–1071.

[5] A. Carati, F. Benfenati, A.M. Maiocchi, M. Zuin, L. Galgani, *Chaoticity threshold in magnetized plasmas: numerical results in the weak coupling regime*, Chaos **24** (2014), 013118.

[6] A.M. Maiocchi, D. Bambusi, A. Carati, *An averaging theorem for FPU in the thermodynamic limit*, J. Stat. Phys **155** (2014), pp. 300–322.

[7] S. Kuksin, A.M. Maiocchi, *Derivation of a wave kinetic equation from the resonant-averaged stochastic NLS equation*, Physica D **309** (2015), pp. 65–70

[8] S. Kuksin, A.M. Maiocchi, *The limit of small Rossby numbers for the randomly forced quasi-geostrophic equation on the β-plane stochastic NLS equation*, Nonlinearity **28** (2015), pp. 2319–2341.

[9] D. Bambusi, A. Carati, A.M. Maiocchi, A. Maspero, *Some analytic results on the FPU paradox*, in *Hamiltonian Partial Differential Equations and Applications,* P. Guyenne, D. Nicholls, C. Sulem (Eds.), Springer (Berlin, 2015).

[10] G. Huang, S. Kuksin, A.M. Maiocchi, *Time-Averaging for Weakly Nonlinear CGL Equations with Arbitrary Potentials*, in *Hamiltonian Partial differential equations and applications,* P. Guyenne, D. Nicholls, C. Sulem (Eds.), Springer (Berlin, 2015).

[11] F. Gangemi, A. Carati, L. Galgani, R. Gangemi, A.M. Maiocchi, *Agreement of classical Kubo theory with the infrared dispersion curves $n(\omega)$ of ionic crystals*, EPL **110** (2015), 47003.

[12] A. Carati, A.M. Maiocchi, L. Galgani, G. Amati, *The Fermi-Pasta-Ulam system as a model for glasses*, Math. Phys. Anal. and Geom. **18** (2015), 31.

[13] S. Kuksin, A.M. Maiocchi, *The effective equation method*, in *New Approaches to Nonlinear Waves,* a cura di E. Tobisch, Lecture Notes in Physics, vol. 908, Springer (Berlin, 2016), pp. 21–41.

[14] A. Carati, A.M. Maiocchi, *Replacement of the Lorentz law for the shape of the spectral lines in the infrared region*, J. Opt. Soc. Am. A, **33** (2016).

[15] A. Carati, L. Galgani, A.M. Maiocchi, F. Gangemi, R. Gangemi, *Persistence of regular motions for nearly integrable Hamiltonian systems in the thermodynamic limit*, Regul. Chaot. Dyn., **21** (2016), pp. 660–664.

[16] F. Gangemi, R. Gangemi, A. Carati, A.M. Maiocchi, L. Galgani, *Infrared optical properties of α quartz by molecular dynamics simulations*, EPL **116** (2016), 37001.

[17] A. Carati, A.M. Maiocchi, L. Galgani, *Statistical thermodynamics for metaequilibrium or metastable states*, Meccanica, **52** (2017), pp. 1295–1307.

[18] S. Kuksin, A.M. Maiocchi, *Resonant averaging for small-amplitude solutions of stochastic nonlinear Schrödinger equations*, Proc. R. Soc. Edinburgh A, **148** (2018), pp. 357–394.

[19] A. Carati, L. Galgani, A.M. Maiocchi, F. Gangemi, R. Gangemi, *Classical infrared spectra of ionic crystals and their relevance for statistical mechanics* , Physica A, **506** (2018), pp. 1–10.

[20] A. Carati, L. Galgani, A.M. Maiocchi, F. Gangemi, R. Gangemi, *The FPU problem as a statistical–mechanical counterpart of the KAM problem, and its relevance for the foundation of physics*, Regul. Chaot. Dyn., **23** (2018), pp. 704–719.

[21] A.M. Maiocchi, *Freezing of the optical–branch energy in a diatomic FPU chain*, Commun. Math. Phys., **372** (2019), pp. 91–117.

[22] D. Bambusi, A.M. Maiocchi, L. Turri, *A large probability averaging theorem for the defocusing nonlinear Schrödinger equation*, Nonlinearity **32** (2019), 3661.

Total citations from Web of Science Core Collection on 1/24/2022: 132, H–index: 7.