

CHIARA BOCCATO

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Languages: Italian (native), English (fluent), German (good)

EMPLOYMENT

since 05/2021 **“Ricercatore a tempo determinato di tipo A”, University of Milan**
(assistant professor, non-tenure-track)

11/2017-03/2021 **Postdoc position, IST Austria**
Prof. Robert Seiringer group

EDUCATION

08/2017 ***Ph.D. in Mathematics, University of Zurich***
Thesis title: “Dynamical and Spectral Properties of Bose Gases with Singular Interactions”
Advisor: Prof. Benjamin Schlein

04/2013-09/2017 Graduate studies
Topic: Mathematical aspects of many-body quantum mechanics
University of Zurich (02/2014 – 09 /2017)
Hausdorff Center for Mathematics, University of Bonn (04/2013 – 01/2014)
Advisor: Prof. Benjamin Schlein

11/2012 ***M.Sc. Degree in Physics, University of Milano-Bicocca***
Specialization: Theoretical Physics
Grade: 110/110 cum laude
Thesis title: “Hartree dynamics as the limit of the evolution of a quantum many-body system”
Advisors: Prof. Riccardo Adami, Prof. Alessandro Tomasiello

10/2009-11/2012 Master studies in Theoretical Physics at the University of Milano-Bicocca

04/2009 ***B.Sc. Degree in Physics, University of Milano-Bicocca***
Specialization: Theoretical Physics
Grade: 109/110
Thesis title: “Solitons and instantons in scalar field theories”
Advisor: Prof. Silvia Penati

10/2005-04/2009 Bachelor studies in Physics at the University of Milano-Bicocca

PREPRINT

1. C. Boccato, R. Seiringer. *The Bose gas in a box with Neumann boundary conditions.*
Preprint arXiv:2205.15284

PUBLICATIONS

1. C. Boccato, C. Brennecke, S. Cenatiempo, B. Schlein. *Optimal Rate for Bose-Einstein Condensation in the Gross-Pitaevskii Regime.*
Commun. Math. Phys. 376, 1311–1395 (2020). doi:10.1007/s00220-019-03555-9
2. C. Boccato, C. Brennecke, S. Cenatiempo, B. Schlein. *Bogoliubov Theory in the Gross-Pitaevskii Limit.*
Acta Mathematica 222, no. 2, 219–335 (2019). doi:10.4310/ACTA.2019.v222.n2.a1
3. C. Boccato, C. Brennecke, S. Cenatiempo, B. Schlein. *The Excitation Spectrum of Bose Gases Interacting Through Singular Potentials.*
Journal of the European Mathematical Society **22**, no. 7, 2331–2403 (2020).
doi:10.4171/JEMS/966
4. C. Boccato, C. Brennecke, S. Cenatiempo, B. Schlein. *Complete Bose-Einstein Condensation in the Gross-Pitaevskii Regime.*
Commun. Math. Phys. 359, no. 3, 975–1026 (2018). doi:10.1007/s00220-017-3016-5

5. C. Boccato, S. Cenatiempo, B. Schlein. *Quantum Many-Body Fluctuations Around Nonlinear Schrödinger Dynamics*.
Ann. Henri Poincaré 18, no. 1, 113–191 (2017). doi:10.1007/s00023-016-0513-6

ACCEPTED

1. N. Benedikter, C. Boccato. *Correlation corrections as a perturbation to the quasi-free approximation in many-body quantum systems*.
Invited contribution as a chapter for the Encyclopedia of Complexity and Systems Science, Robert A. Meyers (Ed), Springer (2022)

CONFERENCE PROCEEDINGS

1. C. Boccato. *The Excitation Spectrum of the Bose Gas in the Gross-Pitaevskii Regime*.
Contribution to Proceedings of QMath14. Aarhus, August 2019.
Reviews in Mathematical Physics **32**, 2060006 (2020). doi:10.1142/S0129055X20600065
2. C. Boccato. *The excitation spectrum of the Bose gas in the Gross-Pitaevskii regime*.
Contribution to the Oberwolfach report “Many-Body Quantum Systems”, Report No. 41/2019.
Oberwolfach Reports **16**, no. 3, 2541-2603 (2019). doi:10.4171/OWR/2019/41

TEACHING

At the Department of Mathematics, Università degli Studi di Milano:

Fall 2022	Laboratorio di Metodi e Modelli Matematici per le Applicazioni Exercise session of Fisica Matematica 2
Fall 2021	Laboratorio di Metodi e Modelli Matematici per le Applicazioni Exercise session of Fisica Matematica 2

Teaching assistant at the Department of Mathematics, University of Zurich:

weekly exercise classes, preparation and correction of weekly homeworks.

Spring 2017	Stochastik für die Naturwissenschaften, Dr. Christoph Luchsinger
Fall 2016	Lineare Algebra für die Naturwissenschaften, Prof. Viktor Schroeder
Spring 2016	Analysis II, Prof. Benjamin Schlein
Fall 2015	Analysis I, Prof. Benjamin Schlein
Spring 2015	Mathematik für die Chemie II, Prof. Thomas Kappeler
Fall 2014	Analysis III, Prof. Benjamin Schlein
Spring 2014	Analysis II, Prof. Camillo De Lellis

FELLOWSHIPS AND GRANTS

03/2019	<i>Postdoctoral Fellowship</i> (three weeks), Institut Mittag-Leffler, The Royal Swedish Academy of Sciences
10/2017	<i>FFG (Austria Research Promotion Agency) Career Grant</i> , EUR 2 000, covering relocation costs to Austria when taking up a post in the field of research, development and innovation

REVIEWING ACTIVITY

Referee for Journal of Mathematical Physics and Journal of Statistical Physics

WORKSHOPS BY INVITATION

11/2022 (1 week)	Mathematisches Forschungsinstitut Oberwolfach, <i>Mini-Workshop: A Geometric Fairytale full of Spectral Gaps and Random Fruit</i>
09/2019 (1 week)	Mathematisches Forschungsinstitut Oberwolfach, <i>Many-Body Quantum Systems</i>
03/2019 (3 weeks)	The Royal Swedish Academy of Sciences, Institut Mittag-Leffler, <i>Methods in Mathematical physics</i>
09/2016 (1 week)	Mathematisches Forschungsinstitut Oberwolfach, <i>Many-Body Quantum Systems and Effective Theories</i>

TALKS

- 22/08/2022 Conference Venice 2022 - Quantissima in the Serenissima IV
- 21/04/2022 Invited online lecture for PhD students and early career researchers for the series of lectures “Mathematical Challenges in Quantum Mechanics” (MCQM)
Online seminar jointly organized by Politecnico di Milano,
University of Insubria in Como, Gran Sasso Science Institute,
Sapienza University of Rome and Federico II University of Naples
- 13/04/2022 Condensed matter theory seminar, KTH Royal Institute of Technology (online)
- 30/03 - 01/04/2022 Session ”Mathematical perspectives in quantum mechanics
and quantum chemistry” at ”The 12th IMACS International Conference
on Nonlinear Evolution Equations and Wave Phenomena”
University of Georgia, Athens, USA, *Invitation declined*
- 03/09/2021 Minisymposium “Trends in nonlinear PDEs and applications” at “Biannual
Congress of the Italian Society of Applied and Industrial Mathematics” (SIMAI),
University of Parma, *Invited talk*
- 13/05/2021 Department seminar, Università degli studi di Milano, Italy
- 12/11/2019 Mathematical Physics seminar, Università di Roma Tre
- 09/09/2019 Many-Body Quantum Systems,
Mathematisches Forschungsinstitut Oberwolfach, *Invited talk*
- 15/08/2019 QMath14: Mathematical Results in Quantum Physics,
Aarhus University, *Invited talk*
- 19/03/2019 Many-body theory, effective equations & PDE’s,
Mittag-Leffler Institute, *Invited talk*
- 6/03/2019 GSSI PDEs group seminar, Gran Sasso Science Institute
- 27/09/2018 Trails in Quantum Mechanics and Surroundings 2018,
Politecnico di Torino, *Invited talk*
- 27/07/2018 XIX International Congress on Mathematical Physics (ICMP 2018),
Montréal, *Contributed talk*
- 23/11/2017 Math. Phys. Analysis Seminar, IST Austria

- 16/08/2017 Quantum Lunch, University of Copenhagen
23/01/2017 Analysis Seminar, Politecnico di Torino
29/11/2016 Workshop in Mathematical Physics,
 ETH Zurich, *Invited talk*
16/03/2016 Quantum Lunch, University of Copenhagen
11/02/2016 Mathematical Challenges in Quantum Mechanics,
 Bressanone, *Contributed talk*

POSTER SESSIONS, OUTREACH ACTIVITIES

- 30/11/2018 Introductory talk for undergraduate students at the Student Open Day,
 IST Austria
2/06/2016 SwissMAP meeting,
 ETH Zurich
4-05/07/2013 Bonn International Graduate Schools (BIGS) Poster Exhibition,
 University of Bonn

OTHER ACTIVITIES

- 14/2022 Co-author of the article "*Voices of women in mathematical physics. A series of five interviews.*". Published in the IAMP News Bulletin, April 2022
http://www.iamp.org/page.php?page=page_bulletin

Milano, 06/08/2022