

Zala Lenarčič

Curriculum Vitae

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Personal Information

Date of birth June 2nd, 1987
Place of birth Postojna, Slovenia
Gender Female
Citizenship Slovenian

Employment

Oct 2020 - Present **Jozef Stefan Institute, Slovenia**, *Independent researcher.*
Oct 2018 - Sept 2020 **University of California, Berkeley, USA**, *Postdoctoral Employee at the Physics Department, group of Prof. Ehud Altman.*
Sept 2015 - Sept 2018 **University of Cologne, Germany**, *Postdoctoral Employee at the Institute for theoretical physics, group of Prof. Achim Rosch.*
Nov 2011 - Aug 2015 **Jožef Stefan Institute, Slovenia**, *Young Researcher, Department of Theoretical Physics.*
Jan 2012 - Mar 2015 **University of Ljubljana, Slovenia**, *Teaching Assistant, Faculty of Mathematics and Physics.*

Education

2011–2015 **PhD Physics, University of Ljubljana**, Faculty of Mathematics and Physics, Slovenia.
○ Thesis: Nonequilibrium properties of Mott insulators (supervisor: **Prof. Peter Prelovšek**)
2006–2011 **BSc Physics, University of Ljubljana**, Faculty of Mathematics and Physics, Slovenia.
○ Thesis: Dielectric breakdown of Mott-Hubbard insulator (supervisor: Prof. Peter Prelovšek)

Awards and Scholarships

2020 **Martin and Beate Block Winter award**, *Aspen center for physics.*
2018 **Jozef Stefan Golden Emblem - Award for best PhD thesis in Physics and Mathematics**, *Jozef Stefan Institute, Slovenia.*
2017 **Network and Exchange - NetEx**, *University of Cologne, 4500eur.*

- 2017 **Independence grant**, *SFB 1238, Institute for Theoretical Physics, Cologne*, 3000eur.
- 2015 **National scholarship "For Women in Science"**, *L'Oréal foundation and UNESCO*, 5000eur.
- 2011 **Prešeren's award - Award for the best thesis in Natural Sciences**, *University of Ljubljana, Slovenia*.

Publication List

List contains links to the corresponding journal site.

1. Z. Lenarčič, O. Alberton, A. Rosch, and E. Altman, *Critical behavior near the many-body localization transition in driven open systems*, **Phys. Rev. Lett.** 125, 116601 (2020)
2. F. Reiter, F. Lange, and Z. Lenarčič, *Engineering generalized Gibbs ensembles with trapped ions*, arXiv: 1910.01593 (2019)
3. Z. Lenarčič, E. Altman and A. Rosch, *Activating many-body localization in solids by driving with light*, **Phys. Rev. Lett.** 121, 267603 (2018)
4. F. Lange, Z. Lenarčič, and A. Rosch, *Time-dependent generalized Gibbs ensembles in open quantum systems*, **Phys. Rev. B** 97, 165138 (2018)
5. Z. Lenarčič, F. Lange, and A. Rosch, *Perturbative approach to weakly driven many-particle systems in the presence of approximate conservation laws*, **Phys. Rev. B** 97, 024302 (2018)
6. F. Lange, Z. Lenarčič, and A. Rosch, *Pumping approximately integrable systems*, **Nat. Comm.** 8, 15767 (2017)
7. Z. Lenarčič and T. Prosen, *Exact asymptotics of the current in boundary-driven dissipative quantum chains in large external fields*, **Phys. Rev. E** 91, 030103(R) (2015) (Editors' suggestion)
8. Z. Lenarčič, M. Eckstein, and P. Prelovšek, *Exciton Recombination in One-Dimensional Organic Mott Insulators*, **Phys. Rev. B** 92, 201104(R) (2015)
9. P. Prelovšek, J. Kokalj, Z. Lenarčič, and R. H. McKenzie, *Holon-doublon binding as the mechanism for the Mott transition*, **Phys. Rev. B** 92, 235155 (2015)
10. Z. Lenarčič and P. Prelovšek, *Charge recombination in undoped cuprates* **Phys. Rev. B** 90, 235139 (2014)
11. J. Kogoj, Z. Lenarčič, D. Golež, M. Mierzejewski, P. Prelovšek and J. Bonča, *Multistage dynamics of the spin-lattice polaron formation* **Phys. Rev. B** 90, 125104 (2014)
12. Z. Lenarčič, D. Golež, J. Bonča, and P. Prelovšek, *Optical response of highly excited particles in a strongly correlated system* **Phys. Rev. B** 89, 125123 (2014)
13. Z. Lenarčič and P. Prelovšek, *Ultrafast Charge Recombination in a Photoexcited Mott-Hubbard Insulator* **Phys. Rev. Lett.** 111, 016401 (2013)
14. Z. Lenarčič and P. Prelovšek, *Dielectric Breakdown in Spin-Polarized Mott Insulator* **Phys. Rev. Lett.** 108, 196401 (2012)

Experience in co-advising

- 2018-Present **PhD**, Ori Alberton, University of Cologne, Germany.
2016-2018 **PhD**, Florian Lange, University of Cologne, Germany.
2015-2016 **Master thesis**, *Weakly driven many-particle quantum systems*, Florian Lange, University of Cologne, Germany.
2016-2017 **Master thesis**, *Quantum coherence of driven Majorana states*, Terenz Feng, University of Cologne, Germany.

Refereeing

I am an active referee for the Americal Physical Society (reviewing Phys. Rev. X, Phys. Rev. Lett, Phys. Rev. B journals)

Outreach (with corresponding web pages)

A short interview for the **Nature Blog** about my resent research on activating many-body localization in solids

A report about a new **Transregional Collaborative Research Center** involving an international collaboration of the University of Cologne, Freie Universität Berlin, the University of Copenhagen and the Weizmann Institute of Science in Israel.

An **interview for Elle** after I received the National scholarship for Women in Science.

Prominent schools, talks at visits and international conferences

- March 2020 **2020 Aspen Winter Conference on 'Quantum Matter: Computation Meets Experiments'**, *Invited Talk*, Aspen, USA.
- Oct 2019 **Workshop on Ordering and Dynamics of Correlated Quantum Systems**, *Talk: Critical behavior near the many-body localization transition in driven open systems*, Evora, Portugal.
- Oct 2019 **École Normale Supérieure**, *Seminar: Pumping (realistic) approximately integrable and many-body localized systems*, France.
- Sept 2019 **Fundamental Aspects of Statistical Mechanics and the Emergence of Thermodynamics in Non-Equilibrium Systems**, *Invited talk: Time-dependent generalized Gibbs ensembled in open systems*, Delmenhorst, Germany.
- March 2019 **APS March meeting**, *Talk: Activating many-body localization in solids by driving with light*, Boston, USA.
- Sept 2018 **Anderson Localization and Interactions**, *Talk: Activating many-body localization in solids by driving with light*, Dresden, Germany.
- Sept 2018 **Harvard University**, *Talk: Activating many-body localization in solids by driving with light*, Cambridge, USA, Seminar and visit.
- April 2018 **Quantum Gases and Quantum Coherence**, *Invited talk: Time-dependent generalized Gibbs ensembles in open quantum systems*, Bad Honnef, Germany.
- Oct 2017 **Harvard University**, *Talk: Pumping approximately integrable systems*, Cambridge, USA, Seminar and visit.

- Jun 2017 **19th Conference on Recent Progress in Many-Body Theories**, *Invited talk: Pumping approximately integrable systems*, South Korea.
- Aug 2016 **Workshop on Many-body dynamics and Open Quantum systems, Hot topic talk**, *Pumping approximately integrable systems*, Glasgow, UK.
- Feb 2015 **Weizmann Institute of science**, *Talk: Nonequilibrium properties of Mott insulators*, Rehovot, Israel, Seminar and visit.
- Jul 2014 **The Boulder School in Condensed Matter and Materials Physics**, Boulder, USA.
- Jun 2014 **The New Generation in Strongly Correlated Electron Systems**, *Talk: Nonequilibrium properties of Mott insulators*, Nice, France.
- Sep 2012 **School, Statistical Physics 2012**, *Les Houches*, France.

All seminars and visits

- Jan 2020 Job talk, Symmetries and quantum pumping, *University of Nottingham*, UK.
- Jan 2020 Seminar, Pumping (realistic) approximately integrable and many-body localized systems, *University of California, San Diego*, USA.
- Dec 2019 Job talk, Symmetries and quantum pumping, *Flatiron institute*, USA.
- Dec 2019 Job talk, Pumping (realistic) approximately integrable and many-body localized systems, *New York University*, USA.
- Oct 2019 Seminar, Pumping (realistic) approximately integrable and many-body localized systems, **École Normale Supérieure**, France.
- Dec 2018 Seminar, Reviving integrability and many-body localization in real solids, *Johann Wolfgang Goethe-Universität*, Germany.
- Sept 2018 Seminar and short visit, Activating many-body localization in solids by driving with light, **Harvard University**, US.
- Sept 2018 Seminar, Activating many-body localization in solids by driving with light, *Boston University*, US.
- Dec 2017 Colloquium, Nonequilibrium properties of Mott insulators, *University Duisburg-Essen*, Germany.
- Nov 2017 Seminar, Reviving the integrability in weakly open systems, *SISSA*, Italy.
- Oct 2017 Seminar and short visit, Pumping approximately integrable systems, **Harvard University**, US.
- Feb 2017 Seminar, Pumping approximately integrable systems, *University of St. Andrews*, UK.
- Jan 2017 Seminar, Pumping approximately integrable systems, *University of Amsterdam*, Netherlands.
- Jan 2017 Seminar, Pumping approximately integrable systems, *University of Augsburg*, Germany.
- Nov 2016 Seminar, Pumping approximately integrable systems, *University of Osnabrück*, Germany.

- Jul 2016 Seminar and short visit, Nonequilibrium properties of Mott insulators, *University of Göttingen*, Germany.
- Feb 2015 Seminar and short visit, Nonequilibrium properties of Mott insulators, **Weizmann Institute of science**, Israel.
- Jan 2015 Seminar: Nonequilibrium properties of Mott insulators, *University of Cologne*, Germany.
- Dec 2014 Seminar and short visit, Nonequilibrium properties of Mott insulators, **University of Tokyo**, Japan.
- Feb 2014 Seminar: Ultrafast relaxation and optical response of excited charged particles in a strongly correlated system, *SISSA*, Italy.
- Jun 2013 Seminar: Ultrafast charge recombination in photoexcited Mott-Hubbard insulator, *Max Planck Research Department for Structural Dynamics at the University of Hamburg*, Germany.

All Conferences

- Oct 2019 Talk, **Workshop on Ordering and Dynamics of Correlated Quantum Systems**, Evora, Portugal.
- Sept 2019 Invited talk, **Fundamental Aspects of Statistical Mechanics and the Emergence of Thermodynamics in Non-Equilibrium Systems**, Delmenhorst, Germany.
- May 2019 Poster, *Exploring Open Quantum Systems in Quantum Simulations*, KITP, USA.
- March 2019 Talk, *APS March Meeting*, Boston, USA.
- Sept 2018 Talk, **Anderson Localization and Interactions**, Dresden, Germany.
- June 2018 Poster (prize), *Conference on Quantum Dynamics of Disordered Interacting Systems*, Trieste, Italy.
- April 2018 Invited talk, **Quantum Gases and Quantum Coherence**, Bad Honnef, Germany.
- Jun 2017 Invited talk, **19th Conference on Recent Progress in Many-Body Theories**, South Korea.
- June 2017 Poster (prize), *Emergent Phenomena and Universality in Correlated Quantum Systems Far Away from Equilibrium*, Bad Honnef, Germany.
- May 2017 Poster, *Non-equilibrium Quantum Matter*, Mainz, Germany.
- Dec 2016 Invited talk, Nonequilibrium Phenomena in Quantum Systems, *Krvavec*, Slovenia.
- Dec 2016 Invited talk, QM2 Meeting Daun, *Daun*, Germany.
- Nov 2016 Invited talk, Langeoog workshop 2016, *Langeoog*, Germany.
- Nov 2016 Poster (prize), *Low dimensional quantum systems*, Bad Honnef, Germany.
- Aug 2016 **Hot topic talk, Workshop on Many-body dynamics and Open Quantum systems**, *Glasgow*, UK.
- Jul 2016 Poster, Conference on Entanglement and Non-Equilibrium Physics of Pure and Disordered Systems, *ICTP*, Italy.
- Dec 2014 **Poster, Novel Quantum States in Condensed Matter 2014**, *Kyoto*, Japan.

- Jun 2014 **Talk, The New Generation in Strongly Correlated Electron Systems**, *Nice*, France.
- Dec 2013 Invited talk, Non-equilibrium dynamics of correlated electron systems, *Krvavec*, Slovenia.
- Oct 2013 Poster, Ultrafast Dynamics of Correlated Materials, *ICTP*, Italy.
- Aug 2013 Poster, Quantum many body systems out of equilibrium, *Dresden*, Germany.
- Feb 2013 Poster, Workshop on Short-time Dynamics in Strongly Correlated Systems and Novel Superconductors, *Bochum*, Germany.
- Dec 2012 Invited talk, Nonequilibrium Phenomena in Complex Matter, *Krvavec*, Slovenia.

All schools

- Jul 2014 School on Non-linear Dynamics, Dynamical Transitions and Instabilities in Classical and Quantum Systems, *partial attendance*, *ICTP*, Italy.
- Jul 2014 **The Boulder School in Condensed Matter and Materials Physics**, *Boulder*, USA.
- Sep 2012 **School, Statistical Physics 2012**, *Les Houches*, France.

Skills

- Languages Slovenian (native), English (fluent), German (functional).
- Programming Julia, C, C++, Fortran, Mathematica.
- Software Latex, Linux, Unix, Adobe Illustrator.