

Lucas L. Treffenstädt

M. Sc. Physics

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🌐 github.com/mithodin
married, one child



Skills

Computer Skills

- Programming** Proficient in C, Python and Bash scripting, basic knowledge of Java and PHP
- Libraries** Parallel programming with Unix pthreads and Nvidia CUDA
Numerical nonlinear optimisation with NLOpt
Data processing with NumPy
- Tools** Debugging with GDB and Valgrind, version control with Git
- OS** Use and administration of GNU/Linux (e.g. Gentoo, Debian, Linux Mint)

Languages

- German **Mother tongue (C2).**
- English **fluent (C1), DAAD Certificate (2014).**
- Swedish **intermediate (B2).**

Soft Skills

- **Organisation** – project management
- **Self-Motivation** – getting things done
- **Scheduling** – long-term planning
- **Teamwork** – reaching common goals
- **Creativity** – finding & executing ideas
- **Constructive Feedback** – evaluation

Professional Experience

- 11/2013-now **Teaching Assistant, University of Bayreuth.**
Weekly exercises for lectures in: Mathematics for Physicists, Theory of Mechanics, Theory of Electrodynamics, Nonequilibrium Thermodynamics
- 08/2014-12/2014 **Research Assistant, São Paulo State University (UNESP), Guaratinguetá, Brazil.**
Numerical simulation of the N-body-problem in the Saturnian system to investigate formation scenarios for a co-orbital moon pair [4]

Education

- 04/2017-now **PhD Student in Theoretical Physics, University of Bayreuth.**
 - Event driven Brownian dynamics simulation of hard spheres
 - Power Functional Theory with nonlinear numerical optimisation [1]
- 04/2015-03/2017 **Master of Physics - score 1.5 (very good), University of Bayreuth.**
Thesis: Simulation of Patchy Colloids on Patterned Substrates [2]
- 10/2011-03/2015 **General Physics (B. Sc.) - score 2.2 (good), University of Bayreuth.**
Thesis: Monte Carlo Simulation of a Binary Mixture of Patchy Colloids [3]

Personal Projects & Voluntary Activities

- 04/2017-now **„Making a Physicist“ - bi-weekly podcast project.**
- Reporting on the daily life of a PhD student in theoretical physics
 - Recording and postproduction of all episodes
- map.podigee.io
- 08/2013-now **Pfadfinder, Deutsche Pfadfinderschaft St. Georg (DPSG).**
- **Leader of a boy and girl scout troop** (12 - 20 scouts aged 10 - 15)
 - Planning of weekly meetings in a team of three
 - Planning and realisation of weekend trips and week-long camps
 - **10/2015-10/2018: Head Leader (in a team of two)** for a group of 15 leaders and 80 scouts age 6 to 17
 - Organisation of group-wide events (e.g. hiking trips and camps)
 - Coordination of leader's work and activities
 - **12/2015: Woodbadge Award of the Scout Movement** – for completion of the Scout leader training
 - Personal development, identity and leadership style
 - Methods and pedagogy of the Scout movement
 - Communication, feedback and conflict management
- 10/2013-jetzt **Flutist, Municipal Wind Band Bayreuth (until 05/2019).**
Amateur orchestra of the municipal music school
- 12/2015-10/2017 **Planning team, International Scout Camp „Tätläger Blåbär“.**
- Organization of a camp in Sweden for a group of 170 Scouts with a team of twelve
 - Communication with participants, foreign Scouts and the event site
 - Recording and editing of videos to advertise the event
- 04/2012-09/2014 **Head organizer, Colloquium of Physics of the Students.**
- Invitation of and communication with national and international researchers for a research talk
 - Creation of posters to advertise the events
 - Organisation of dinner meetings after the events

Publications

- [1] Lucas L. Treffenstädt und M. Schmidt. „Motion reversal of Brownian hard spheres after cessation of inhomogeneous shear“. (unpublished). 2019.
- [2] Lucas L. Treffenstädt, Nuno A. M. Araújo und Daniel de las Heras. „Percolation of functionalized colloids on patterned substrates“. In: *Soft Matter* 14 (2018), S. 3572–3580. DOI: 10.1039/C8SM00406D.
- [3] Daniel de las Heras, Lucas L. Treffenstädt und Matthias Schmidt. „Reentrant network formation in patchy colloidal mixtures under gravity“. In: *Phys. Rev. E* 93 (2016), S. 030601. DOI: 10.1103/PhysRevE.93.030601.
- [4] Lucas L. Treffenstädt, Décio C. Mourão und Othon C. Winter. „Formation of the Janus-Epimetheus system through collisions“. In: *A&A* 583 (2015). DOI: 10.1051/0004-6361/201425543.