

Martin Loose

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Nationality: German
Date of birth: 25.11.1980
Married, two children

1. Academic Employment

- Since 2021** **IST Austria, Klosterneuburg, Austria**
Professor with tenure
- 2015-2021** **IST Austria, Klosterneuburg, Austria**
Assistant Professor
- 2011 - 2014** **Harvard Medical School, Boston**
Departmental Fellow
- 2010 - 2011** **Technical University Dresden**
Max Planck Institute of Molecular Cell Biology and Genetics, Dresden
Postdoctoral Researcher

2. Academic Education

- 2010** **Technical University Dresden**
Faculty for Biology
Doctorate (Dr. rer. nat, Biology, summa cum laude)
- 2008** **Marine Biological Laboratory, Woods Hole, MA.**
Physiology course
- 2006-2010** **Technical University Dresden**
Biotechnology Center (Biotec)
Max Planck Institute of Molecular Cell Biology and Genetics, Dresden
Graduate Student (with Prof. Petra Schwille)
- 2006** **University of Heidelberg**
Faculty for Chemistry
Diploma in Chemistry
(subjects: biochemistry, physical chemistry, organic chemistry, inorganic chemistry;
very good)
- 2005-2006** **European Molecular Biology Laboratory (EMBL) Heidelberg**
Cell Biology and Biophysics Unit
University of Heidelberg
Faculty for Chemistry, Department for Physical Chemistry
Diploma student (with Dr. Francois Nedelec and Prof. Joachim Spatz)
- 2001-2006** **University of Heidelberg**
Faculty for Chemistry
Undergraduate student

3. Distinctions and Grants

Since 2019	EMBO Young Investigator
Since 2016	HFSP Young Investigator Grant
Since 2015	ERC Starting Grant
2012-2014	HSFP Long-Term Fellowship
2011-2012	EMBO Long-Term Fellowship
2011-2014	Harvard Medical Systems Biology Departmental Fellowship
2010	Dr. Walter Seipp Award for best dissertation at TU Dresden
2001 - 2009	Fellowship of the German National Scholarship Foundation (Studienstiftung)

4. Publications

1. Víctor M. Hernández-Rocamora, Natalia Baranova, Katharina Peters, Eefjan Breukink, Martin Loose, Waldemar Vollmer. **Real time monitoring of peptidoglycan synthesis by membrane-reconstituted class A penicillin binding proteins.** *In revision*, bioRxiv (2020).
2. Keisuke Ishihara, Franziska Decker, Paulo Caldas, James Pelletier, Martin Loose, Jan Brugues, Timothy J. Mitchison. **Spatial Variation of Microtubule Depolymerization in Large Asters.** *Molecular Biology of the Cell* (2021), in press.
3. Christian Duellberg, Albert Auer, Nicola Canigova, Katrin Loibl, Martin Loose. **In vitro reconstitution reveals phosphoinositides as cargo-release factors and activators of the ARF6 GAP ADAP1.** *PNAS* (2021), vol. 118 (1) e2010054118.
4. Paulo Caldas, Philipp Radler, Christoph Sommer and Martin Loose. **Computational analysis of filament polymerization dynamics in cytoskeletal networks.** *Methods in Cell Biology* (2020), vol. 158:145-161.
5. Urban Bezeljak, Hrushikesh Loya, Beata Kaczmarek, Timothy E. Saunders and Martin Loose. **Stochastic activation and bistability in a Rab GTPase regulatory network.** *PNAS* (2020), vol. 117(12):6540-6549.
6. Natalia Baranova, Philipp Radler, Victor M. Hernandez-Rocamora, Carlos Alfonso, Mar Lopez-Pelegri, German Rivas, Waldemar Vollmer, Martin Loose. **Diffusion and capture permits dynamic coupling between treadmilling FtsZ filaments and cell division proteins.** *Nature Microbiology* (2020), vol. 5(3):407-417.
7. Paulo Caldas, Mar Lopez-Pelegri, Daniel J.G. Pearce, Nazmi B. Budanur, Jan Brugues, Martin Loose. **Cooperative ordering of treadmilling filaments in cytoskeletal networks of FtsZ and its crosslinker ZapA.** *Nature Communications* (2019), vol. 10 (1), 5744.
8. Natalia Baranova and Martin Loose. **Single molecule measurements to study polymerization dynamics of FtsZ-FtsA copolymers.** *Methods in Cell Biology* (2017) vol. 137:355-370.
9. Martin Loose, Katja Zieske and Petra Schwillle. **Reconstitution of protein dynamics involved in bacterial cell division.** *Springer Subcellular Biochemistry: Prokaryotic Cytoskeleton* (2017), vol. 84:419-444.

10. Phuong A. Nguyen, Christine M. Field, Aaron C. Groen, Timothy J. Mitchison, **Martin Loose**. **Using supported bilayers to study the spatiotemporal organization of membrane-bound proteins**. *Methods in Cell Biology* (2015) vol. 128:223-41.
11. Phuong A. Nguyen*, Aaron C. Groen*, Martin Loose, Keisuke Ishihara, Martin Wühr, Christine M. Field, Timothy J. Mitchison. **Spatial Organization of Cytokinesis Signaling Reconstituted in a Cell-Free System**. *Science* (2014) vol. 346, 244-24 *equal contribution.
12. Martin Loose and Timothy J. Mitchison. **The bacterial cell division proteins FtsA and FtsZ self-organize into dynamic cytoskeletal patterns**. *Nature Cell Biology* (2014) vol. 16, 38-46.
13. Mike Bonny, Elisabeth Fischer-Friedrich, Martin Loose, Petra Schwille, Karsten Kruse. **Membrane Binding of MinE Allows for a Comprehensive Description of Min-Protein Pattern Formation**. *PLoS Comput Biol* (2013) vol.9(12): e1003347.
14. Jakob Schweizer+, Martin Loose+*, Mike Bonny, Ingolf Mönch, Karsten Kruse and Petra Schwille. **Geometry sensing by self-organized protein patterns**. *PNAS* (2012) vol. 109(38) pp. 15283-8. *corresponding authors, +equal contribution.
15. Martin Loose, Karsten Kruse and Petra Schwille. **Protein self-organization: Lessons from the Min system**. *Annual Reviews for Biophysics* (2011) vol. 40 pp. 31536.
16. Martin Loose, Elisabeth Fischer-Friedrich, Christoph Herold, Karsten Kruse and Petra Schwille. **Min protein patterns emerge from rapid rebinding and direct membrane interaction of MinE**. *Nature Structural & Molecular Biology* (2011) vol. 18(5) pp. 577-83.
17. Ana Dinarina*, Céline Pugieux*, Maria Corral, Martin Loose, Joachim Spatz and François Nédélec. **Chromatin shapes the mitotic spindle**. *Cell* (2009) vol. 138(3) pp. 502-13.
18. Martin Loose and Petra Schwille. **Biomimetic membrane systems to study cellular organization**. *Journal of Structural Biology* (2009) vol. 168(1) pp. 143-51. (Review)
19. Martin Loose, Elisabeth Fischer-Friedrich, Jonas Ries, Karsten Kruse and Petra Schwille. **Spatial regulators for bacterial cell division self-organize into surface waves in vitro**. *Science* (2008) vol. 320 (5877) pp. 789-92