



Faculty of Physics

*Quantum Optics, Quantum
Nanophysics and Quantum Information*

Max F. Perutz Laboratories

*Department of Structural
and Computational Biology*

Campus Vienna Biocenter 5
Austria - 1030 Vienna

RESEARCH AND WORK EXPERIENCE

- 03/2018 Group leader at the Faculty of Physics and the Max F. Perutz Laboratories – **Univ. of Vienna**
- 01/2017 – 03/2018 Fellow of the Human Frontier Science Program – Lab. Kastler Brossel, **École normale supérieure**, Paris (Prof. S. Gigan)
- 04/2013 – 12/2016 Postdoc at **Stanford Univ.** (physics - Prof. M. Kasevich)
- 06/2008 – 01/2013 Ph.D. at the **Univ. of Vienna** (Prof. M. Arndt)
- 12/2006 – 06/2008 Master thesis at the **Univ. of Vienna** (Prof. M. Arndt) and the **Vienna Univ. of Technology** (Prof. J. Schmiedmayer).
- 04/2006 – 06/2006 Internship at the Laboratoire de Physique des Solides of the **Université Paul Sabatier in Toulouse**, France

EDUCATION

- 06/2008 – 01/2013 **Ph.D., Physics**, Univ. of Vienna, Austria.
- 10/2002 – 06/2008 **Bachelor & Masters, Applied Physics**, Vienna Univ. of Technology, Austria

RESEARCH INTERESTS

- Quantum/Cavity enhanced microscopy
- Low damage electron microscopy
- Ultrafast electron optics & optoelectronics
- Quantum physics at mesoscopic scales & in biological systems

AWARDS AND HONORS

- 2017 Stanford Arts and Science Prize
- Results of PhD thesis in physics textbook: *Experimentalphysik 3, Atome, Moleküle und Festkörper* by Demtröder, Wolfgang (ISBN 978-3-662-49094-5), p. 87
- *Poster prize* at the ICAP 2012, French Physical Society
- 2012 *micrograph award*, Australian Microscopy & Microanalysis Research Facility

- *ESG-Nano-Prize 2010*, Erwin Schrödinger Society for Nanosciences

PUBLICATIONS / PRESENTATIONS / PATENTS

- 17 publications in peer-reviewed journals. Selected publications:
 - T. Juffmann et al., Multi-pass transmission electron microscopy, *Scientific Reports* 7, 1699 (2017).
 - T. Juffmann et al., Multi-pass microscopy, *Nat. Comm.* 7, 12858 (2016).
 - T. Juffmann et al., Cavity enhanced RF photoelectron streaking, *Phys. Rev. Lett.* 115, 264803 (2015).
 - C. Brand et al., An atomically thin matter-wave beam splitter, *Nat. Nanotechnology* 10, 845–848 (2015).
 - T. Juffmann et al., Real-time single-molecule imaging of quantum interference, *Nat. Nanotechnology* 7, 297-300, (2012).
 - T. Juffmann, Wave and Particle in Molecular Interference Lithography, *Phys. Rev. Lett.* 103, 263601 (2009).
 - M. Arndt et al., Quantum physics meets biology, *HFSP J.* 3 386 (2009).
- > 30 invited and contributed talks at international conferences and seminars
- 1 U.S. patent application / 2 disclosures



THIRD PARTY FUNDING

2017-2022	ERC Starting grant - MicroMOUPE
2017-2020	Gordon and Betty Moore Foundation – QEM II (co-author)
2016-2018	Human Frontier Science Fellowship
2015/2016	Karl A. Van Bibber Fellowship

COMMUNITY SERVICE

- Referee for: *Phys. Rev. Lett.*, *Ultramicroscopy*, *Current Organic Chemistry*, *Measurement*
- Poster Juror and chairman at EIPBN 2017, Orland, Florida
- Organization of the 2016 Free Quantum Electron Optics workshop in Half Moon Bay, California
- Chairman of *Nanooptics 3*, a session at the 2016 spring meeting of the German physical society, Hannover, Germany
- Chairman (2015) and organizer (2014 and 2015) of focus sessions at the annual symposium of the Stanford Photonics Research Center.

OUTREACH

- Art & Science, Photography at the speed of light (www.seecphotography.com); Exhibitions, events and talks at Aggregate Space Gallery, Berkeley Art Museum and Pacific Film Archive, Ars Electronica, Science @ Cal, SF Exploratorium, Univ. of San Francisco, Stanford University
- Youtube videos ([vid1](#), [vid2](#)) on experimental results.
- Introductory lectures on ‘Quantum Biology’ and ‘Matter Waves’ for high school teachers.