

# NANO KOREA 2020

## July 1~3, KINTEX, Korea

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### *EDUCATION*

<b>Max-Planck-Institute for Quantum Optics, Germany</b>	Ph.D.	Physics	1999
<b>Rutgers University</b>	M.Sc.	Physics	1995
<b>Universität Bayreuth, Germany</b>	B.S.s	Physics and Chemistry	1994

### *PROFESSIONAL ACTIVITIES*

- **University of Colorado-Boulder, U.S.A.:** since 2/2015 to Present; Associate Professor 2010-2014, Department of Chemistry, Affiliate Professor JILA, Fellow Adjunct.
- **University of Washington, U.S.A.:** Associate Professor of Chemistry 9/2009 – 8/2010, Adjunct Associate Professor of Physics 9/2007 – 8/2010, Assistant Professor of Chemistry 9/2006 – 8/2009
- **Max-Born-Institute, Berlin, Germany:** Staff Scientist, Group Leader 1/2004 – 7/2006. Postdoctoral Associate (Host: Prof. T. Elsaesser) 2002-2003
- **Humboldt University, and Free University, Berlin, Germany:** Instructor, Departments of Physics 2003 – 2006.
- **University of California at Berkeley, U.S.A.:** Postdoctoral Research Associate (Host: Prof. Y. R. Shen) 1999-2001

### *AWARD AND HONORS*

- 2018 Visiting Fellow, Center for Advanced Studies, Ludwig-Maximilians-University Munich
- 2018 Distinguished Visiting Professor, Tongji University, Shanghai
- 2017 Friedrich Wilhelm Bessel Award, Humboldt Foundation
- 2017 Fellow, American Association for the Advancement of Science (AAAS)
- 2016 Visiting Professor, Fritz-Haber-Institute, Max-Planck-Society, Berlin

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- 2015 Klaus Halbach Award, Lawrence Berkeley National Laboratory
- 2013 Fellow of the American Physical Society
- 2013 Visiting Professor, ETH Zürich, 6-7/2013
- 2012 Fellow of the Optical Society of America
- 2012 Wiley Research Fellow, Pacific Northwest National Laboratory
- 2012 Visiting Professor, Abbe School of Photonics, Jena, 6-8/2012
- 2008 National Science Foundation CAREER Award
- 1999 Alexander von Humboldt Foundation, Feodor Lynen Fellowship
- 1999 Otto-Hahn-Medal of the Max-Planck-Society, Award
- 1994 Fulbright Award and Fellowship, to study at Rutgers University
- 1992 Friedrich Naumann Foundation, Fellowship, Universität Bayreuth

### **MAIN SCIENTIFIC PUBLICATION**

- E. A. Muller, T. P. Gray, Z. Zhou, X. Cheng, O. Khatib, H. A. Bechtel, and M. B. Raschke, “Vibrational exciton nanoimaging of phases and domains in porphyrin nanocrystals”, *PNAS* **117**, 7030 (2020).
- J. Nishida, A. H. Alfaifi, T. G. Gray, S. E. Shaheen, and M. B. Raschke, “Heterogeneous cation-lattice interaction and dynamics in triple-cation perovskites revealed by infrared nanoscopy”, *ACS Energy Letters*. **5**, 1636 (2020).
- M. A. May, D. Fialkow, T. Wu, K.-D. Park, H. Leng, J. A. Kropp, T. Gougousi, P. Lalanne, M. Pelton, and M. B. Raschke, “Nano-cavity QED with tunable nano-tip interaction”, *Adv. Quantum Technol.* **3**, 1900097 (2020).
- B. Metzger, E. Muller, J. Nishida, B. Pollard, M. Hentschel, and M. B. Raschke, “Purcell-enhanced spontaneous emission of molecular vibrations”, *Phys. Rev. Lett.* **123**, 153001 (2019).
- T. Jiang, V. Kravstov, M. Tokman, A. Belyanin, and M. B. Raschke, “Ultrafast coherent nonlinear nano-optics and nano-imaging of graphene”, *Nature Nanotechnology* **14**, 838 (2019).

### **RESEARCH INTERESTS**

Linear, nonlinear, and ultrafast near-field optics for imaging and spectroscopy with nanometer spatial and femtosecond temporal resolution: study and control of light-matter interaction on the nanoscale; engineering plasmonic structures for optical nanofocusing; single molecule spectroscopy; intra- and intermolecular electron and vibrational dynamics and coupling in molecular systems; and phase behavior, domains, and defects in 2D and correlated quantum materials.