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EDUCATION

1993 Prediploma, Physics, Technical University Clausthal (Germany)

1996 Diploma, Physics, Technical University Berlin (Germany)

1999 Dr. rer. nat. (Ph.D.), Physics, Free University Berlin (Germany)

PROFESSIONAL EXPERIENCE

2009 - now Associate Professor, Department of Biomedical Engineering, Columbia University

2005 - 2009 Assistant Professor, Department of Materials Science and Engineering, University of Florida

2002 – 2005 Research Assistant Professor, Department of Bioengineering, University of Washington

2000-2002 Postdoctoral Associate, Department of Bioengineering, University of Washington

HONORS AND AWARDS

1996 Erwin-Stephan-Award of the Technical University Berlin

2000 Wolfgang-Paul-Award of the German Society for Mass Spectrometry

2000 Feodor Lynen postdoctoral fellowship of the A. von Humboldt foundation

2005 Philip Morris Forschungspreis (together with Viola Vogel)

2006 NSF Career Award

2007 Distinguished Mentor Award of the UF/HHMI "Science for Life" program

2009 Invitation to the National Academies Keck Futures Initiative "Synthetic Biology"

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SELECTED RECENT PUBLICATIONS

23. H. Hess: "Biomolecular motor-powered devices", *Science* 312, 861 (2006), invited perspective

24. H. Hess: "Self-assembly driven by biomolecular motors", *Soft Matter*, 2, 669 - 677 (2006)

26. J. Kerssemakers, J. Howard, H. Hess, S. Diez: "The distance that kinesin holds its cargo from the microtubule surface measured by fluorescence-interference-contrast microscopy", *PNAS* 103, 15812-15817 (2006)

29. T. Fischer, H. Hess: "Materials chemistry challenges in the design of hybrid bionanodevices: Supporting protein function within artificial environments", *J. Mater. Chem.*, 17, 943 - 951 (2007)

30. P. Katira, A. Agarwal, T. Fischer, H.-Y. Chen, X. Jiang, J. Lahann, H. Hess*: "Quantifying the performance of protein-resisting surfaces at ultra-low protein coverages using kinesin motor proteins as probes", *Advanced Materials*, 19, 3171-3176 (2007)

31. H. Hess and Y. Tseng: "Active Intracellular Transport of Nanoparticles: Opportunity or Threat?", *ACS Nano*, 1, 5, 390 - 392 (2007)

33. T. Nitta, A. Tanahashi, Y. Obara, M. Hirano, M. Razumova, M. Regnier, H. Hess: "Comparing Guiding Track Requirements for Myosin- And Kinesin-Powered Molecular Shuttles", *Nano Letters* 8, 2305 - 2309 (2008)

34. P. Katira, A. Agarwal, H. Hess: "A random sequential adsorption model for protein adsorption to surfaces functionalized with poly(ethylene oxide)", *Advanced Materials* 21, 1599-1604 (2009)

37. T. Fischer, A. Agarwal and H. Hess: "A smart dust biosensor powered by kinesin motors", *Nature Nanotechnology*, 4, 162-166 (2009)

40. George D. Bachand, Henry Hess, Banahalli Ratna, Peter Satir and Viola Vogel: "Smart dust biosensors powered by biomolecular motors", *Lab on a Chip*, 9(12), 1661-1666 (2009)

Engineering at the molecular scale, in particular the design of active nanosystems incorporating biomolecular motors, the study of active self-assembly, and the investigation of protein-resistant polymer coatings.