

Curriculum Vitae Alexander Rohrbach

Personal Data

Title	Prof. Dr. rer. Nat.
First name	Alexander
Name	Rohrbach
Current position	W3 Professor
Current institution(s)/site(s), country	Lab for Bio- and Nano-Photonics Department of Microsystems Engineering (IMTEK) and Department of Physics University of Freiburg Georges-Koehler-Allee 102, 79110 Freiburg, Germany
Identifiers/ORCID	0000-0002-5089-4909

Qualifications and Career

Stages	Periods and Details
Degree programme	1994 Diploma in Physics, University of Erlangen, Germany
Doctorate	1998 PhD in physics at the Institute of Applied Physics, University of Heidelberg and at the Max-Planck-Institute for Medical Research in Heidelberg. Supervisors: C. Cremer und W. Almers
Stages of academic/professional career	1998 – 2001: Post-Doc at the European Molecular Biology Laboratory (EMBL) in Heidelberg (Light Microscopy Group). 2001 - 2005: ‚Research officer‘ at EMBL, Light Microscopy Group. 2005 Habilitation in Physics, University of Heidelberg. 2006 W3-Professor at the Department for Microsystems Engineering (IMTEK), University of Freiburg 2007 Cooptation at Physics Department, University of Freiburg

Supplementary Career Information

Activities in the Research System

Supervision of Researchers in Early Career Phases

Scientific Results

Category A

1. Jünger, F. and **A. Rohrbach** "Making Hidden Cell Particle Interactions Visible by Thermal Noise Frequency Decomposition." **Small**, 2207032. (2023)
2. Ayala, Y. A., R. Omidvar, W. Römer and **A. Rohrbach**, "Thermal fluctuations of the lipid membrane determine particle uptake into Giant Unilamellar Vesicles." **Nature Communications** 14(1): 65, (2023)
3. Jünger F, Ruh, Strobel, Huber, Michiels, Brandel, Madl, Gavrilov, Mihlan, Daller, Rog-Zielinska, Römer, Lämmermann, **A. Rohrbach** „100 Hz ROCS microscopy correlated with fluorescence reveals cellular dynamics on different spatiotemporal scales“. **Nature Communications**, **13**(1): 1758., (2022)
4. B. Landenberger, Yatish, **A. Rohrbach**,“ Towards non-blind optical tweezing by finding 3D refractive index changes through off-focus interferometric tracking“ **Nature Communications**, 12 (1), 6922, (2021)
5. Friedrich L, **Rohrbach A**, “Surface imaging beyond the diffraction limit with optically trapped spheres”, **Nature Nanotechnology** 10: p. 1064-1069 (2015)
6. Olshausen, P.v., H. J. D. Soufo, P. Graumann, K.Wicker,R. Heintzmann, **A. Rohrbach**, “Superresolution Imaging of Dynamic MreB Filaments in *B. subtilis* - A Multiple-Motor-Driven Transport?”, **Biophys J**, 105, 5, 1171 – 1181, (2013)
7. Koch, M. and **A. Rohrbach**, “Object adapted optical trapping and shape tracking of energy switching helical bacteria”. **Nature Photonics**, 6, 680 - 686 (2012)
8. Fahrbach, F.O. and **A. Rohrbach** (2012), “Propagation stability of self-reconstructing Bessel beams enables contrast-enhanced imaging in thick media”. **Nature Communications**, 3: p. 632, (2012)
9. Fahrbach, F.O., P. Simon, and **A. Rohrbach**, “Microscopy with self-reconstructing beams”, **Nature Photonics**, 4, 780-785, (2010)
10. Kress, H., E.H.K. Stelzer, D. Holzer, F. Buss, G. Griffiths, and **A. Rohrbach** “Filopodia act as phagocytic tentacles and pull with discrete steps and a load-dependent velocity”, **PNAS**, 104, 11633–11638 (2007)

Other Information

A manuscript resulting from CIBSS -1 is currently in review at Nature Communications. Maybe it's the strongest paper (research) I have ever written (produced) in my life. There's a special letter of support and recognition by noble laureate Eric Betzig available about my work.