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CONTACT INFORMATION	Janelia Research Campus Advanced Imaging Center 19700 Helix Drive Ashburn, VA 20147 USA	Phone: +1 (202) 527-8121 E-mail: boehmu@janelia.hhmi.org Home: ulrikeboehm.org
RESEARCH INTERESTS	<ul style="list-style-type: none"><li>• Microscope design, development, and application across a wide range of biological models</li><li>• Development of image and data processing and analysis tools</li><li>• Machine learning and its application in microscopic image analysis</li><li>• Statistical methods for large datasets</li></ul>	
POSITIONS	<b>Research Specialist</b> Janelia Research Campus, Advanced Imaging Center, Ashburn, VA, USA	2019 - present
	<ul style="list-style-type: none"><li>• Handling and troubleshooting of advanced instruments (iPALM, Lattice Light Sheet Microscope, SiMView Light Sheet Microscope, Aberration Corrected Multifocal Microscope, MOSAIC, FIB-SEM, cryo-SIM, etc) and sample preparation</li><li>• Support of (inter)national visitors during technical consultations and their imaging sessions at AIC instruments</li><li>• Development and implementation of new image and data analysis strategies for users from around the world</li><li>• Review of AIC proposals</li><li>• Design and realization of imaging and microscopy workshops and conferences</li></ul>	
	<b>Postdoctoral Research Fellow</b> National Institutes of Health, National Cancer Institute, Bethesda, MD, USA	2017 - 2018
	<ul style="list-style-type: none"><li>• Design and construction a microscope for live-cell 5-color single-molecule transcription imaging in eukaryotic cells at high resolution in time and space to capture promoter-enhancer interactions</li><li>• Development of advanced fluorescence labeling strategies for the genome based on dCas9 (CAS-FISH)</li><li>• Computational modeling and data analysis of 4D genome data</li></ul>	
	<b>Ph.D. Student</b> Max Planck Institute for Biophysical Chemistry, Göttingen, Germany Department of NanoBiophotonics (Prof. Dr. Stefan Hell) <i>Dissertation title:</i> "4Pi-RESOLFT nanoscopy" <i>Advisor:</i> Prof. Dr. W. Stefan Hell	2010 - 2016
	<ul style="list-style-type: none"><li>• Design and construction of a 4Pi-RESOLFT nanoscope, including optical and acquisition system. Controlling software was also developed.</li><li>• System / sample testing and optimization</li></ul>	
	<b>Master Student</b> Max Planck Institute of Biochemistry, Martinsried/Munich, Germany Department of Molecular Structural Biology (Prof. Dr. Wolfgang Baumeister) <i>Dissertation title:</i> "Correlative microscopy at liquid nitrogen temperature" <i>Advisors:</i> Dr. Jürgen M. Plitzko, Prof. Dr. Wolfgang Baumeister	2009
	<ul style="list-style-type: none"><li>• Development and testing of a cryo transfer shuttle (CryoStage<sup>2</sup>) for the reliable transfer of amorphous frozen-hydrated samples from a fluorescence to an electron microscope for correlative microscopy</li><li>• Further development and testing of the software based on scale-invariant feature transform (SIFT) for the correlative microscopy approach</li></ul>	

	<b>Undergraduate Researcher</b> - various research assistant positions	2005 - 2008
	<ul style="list-style-type: none"> <li>• Evaluation of the mechanical properties of actin filaments in combination with different actin binding proteins at the Physics Department of the Technical University of Munich, Germany - Prof Andreas Bausch (2008)</li> <li>• Study of HEK cells with FLIC-microscopy at the Max Planck Institute of Biochemistry, Martinsried, Germany - Prof Peter Fromherz (2008)</li> <li>• Analysis of Multi-SANS data (with MIRA) and data of Cytochrom C (with the Neutron Spin Echo RESEDA) at the Research Neutron Source Heinz Maier-Leibnitz (FRM II), Munich, Germany - Dr Robert Georgii and Prof Peter Böni (2007)</li> <li>• Study of surfaces and DNA with an AFM at the Physics Department of the Technical University of Munich, Germany - Prof Thorsten Hugel (2006)</li> <li>• Performance evaluation of an animal PET scanner at the university hospital "rechts der Isar" , Munich, Germany - Prof Sibylle Ziegler (2006)</li> <li>• Data analysis of water levels of the Baltic Sea at the Leibnitz Institute for Baltic Sea Research, Warnemünde, Germany - Dr Torsten Seifert (2005)</li> </ul>	
EDUCATION	<b>MicroMasters in Statistics and Data Science</b> Massachusetts Institute of Technology, Cambridge, MA, USA	2020 - 2021
	<b>Ph.D. in Physics</b> Heidelberg University, Heidelberg, Germany	2010 - 2015
	<b>Diploma in Physics</b> Technical University of Munich, Munich, Germany	2004 - 2009
HONORS & AWARDS	<b>Helmsley Fellowship</b> , Helmsley Charitable Trust	2017
	<b>66th Lindau Nobel Laureate Meeting</b> , Participant	2016
	<b>Excellence Award</b> , Max Planck Society	2010
	<b>Oskar Karl Forster Scholarship</b> , Technical University of Munich	2009
	<b>Study Career Scholarship</b> , Technical University of Munich	2008
PUBLICATIONS	9. Galbraith J., Aaron J., <b>Boehm U.</b> , Chew T.-L. and Galbraith C., <i>Resolving the 3D Nano-architecture of the Actin Cytoskeleton</i> . Microscopy and Microanalysis, p1 (2020). doi:10.1017/S1431927620016736	
	8. <b>Boehm U.</b> , Hell S.W., Schmidt, R., <i>4Pi-RESOLFT nanoscopy</i> . Nature Comm. 7 (10504), p1-8 (2016). doi:10.1038/ncomms10504	
	7. <b>Boehm U.</b> , <i>4Pi-RESOLFT nanoscopy</i> . PhD Thesis, Heidelberg University (2016) doi: 10.11588/HEIDOK.00020200	
	6. <b>Boehm U.</b> , Schmidt R., Hell S.W., <i>Live cell 4pi nanoscopy</i> . European Biophysics Journal with Biophysics Letters 2015 Jul 1 (Vol. 44, pp. S75-S75). 233 SPRING ST, NEW YORK, NY 10013 USA: SPRINGER.	
	5. Ullal C.K., Primpke S., Schmidt R., <b>Boehm, U.</b> , Egner A., Vana P, Hell S.W., <i>Flexible Microdomain Specific Staining of Block Copolymers for 3D Optical Nanoscopy</i> . Macromolecules, 44, p7508–7510 (2011). doi: 10.1021/ma201504f	
	4. Ullal C., Schmidt R., <b>Boehm U.</b> , Primpke S., Vana P, Hell W.S., <i>STED Microscopy as a Characterization Tool for Three Dimensionally Nanostructured Block Copolymer Thin Films</i> . APS. 2011 Mar;2011:A43-002.	
	3. Rigort A., Bäuerlein F.J., Leis A., Gruska M., Hoffmann C., Laugks T., <b>Boehm U.</b> , Eibauer M., Gnaegi H., Baumeister W. and Plitzko J.M., <i>Micromachining tools and correlative approaches for cellular cryo-electron tomography</i> . J. Struct. Biol. 172, p169–179 (2010). doi: 10.1016/j.jsb.2010.02.011	

2. Rigort A., Mathisen C., **Boehm U.**, Leis A., Lich B., Hayles M., Laugks T., Baumeister W. and Plitzko J.M., *Integrative Cryo-Correlative Microscopy Approaches*. Microscopy and Microanalysis. Vol 16(S2), p186–187 (2010). doi: 10.1017/S1431927610058216
1. **Boehm U.**, *Korrelative Mikroskopie bei Flüssigstickstoff-Temperatur*. Diploma Thesis, Technical University of Munich (2010)

PRESENTATIONS	<p><b>Junior Scientist Workshop on Biological Optical Microscopy</b> (<i>invited</i>), 2019 Janelia Research Campus, Ashburn, United States of America</p> <p><b>Transcription Seminar</b> (<i>invited</i>), Albert Einstein College of Medicine 2019 New York, United States of America</p> <p><b>Microscopy Seminar</b> (<i>invited</i>), Havard Medical School 2019 Boston, United States of America</p> <p><b>Microscopy Lunch Seminar</b> (<i>invited</i>), UMass Medical School 2019 Worcester, United States of America</p> <p><b>Single Biomolecules Meeting</b>, Cold Spring Harbor Laboratories 2018 Cold Spring Harbor, United States of America</p> <p><b>NIH Light Microscopy Interest Group Seminar</b> (<i>invited</i>), 2018 Bethesda, United States of America</p> <p><b>Chan Zuckerberg Initiative Imaging Workshop</b> (<i>invited</i>), CZ Biohub 2017 San Francisco, United States of America</p> <p><b>Chesapeake Bay Area Single Molecule Biology Meeting</b>, 2017 Baltimore, United States of America</p> <p><b>Frontiers in Imaging Science Conference</b>, Ashburn, United States of America 2017</p> <p><b>Single Molecule Biophysics Conference</b>, Aspen, United States of America 2017</p> <p><b>Labeling and Nanoscopy Conference</b>, Heidelberg, Germany 2016</p> <p><b>MPIbpc Campus Seminar</b> (<i>invited</i>), Göttingen, Germany 2016</p> <p><b>NCI Departmental Seminar</b> (<i>invited</i>), Bethesda, United States of America 2016</p> <p><b>Departmental Seminar</b> (<i>invited</i>), Wyss Institute at Havard University, 2016 Boston, United States of America</p> <p><b>Lunch Talk</b> (<i>invited</i>), Havard, Cambridge, United States of America 2016</p> <p><b>Biophysical Society Annual Meeting</b>, Los Angeles, United States of America 2016</p> <p><b>Seeing Is Believing Symposium</b>, Heidelberg, Germany 2015</p> <p><b>Deutsche Physikerinnen Tagung</b> (<i>invited</i>), Göttingen, Germany 2015</p> <p><b>Annual meeting of the European Light Microscopy Initiative (ELMI)</b>, 2015 Sitges, Spain</p> <p><b>Focus On Microscopy (FOM)</b>, Göttingen, Germany 2015</p> <p><b>PROSPECTS. First Plenary Meeting</b>, Punta Negra, Majorca/Spain 2010</p>
TEACHING	<p><b>Image Analysis with ImageJ/Fiji</b> (workshop) 2020 Teaching assistant, National Institutes of Health, Bethesda, United States of America</p> <p><b>Open Science in Imaging and Microscopy</b> (breakout session during a workshop) 2019 Lead instructor, Janelia Research Campus, Ashburn, United States of America</p> <p><b>Advanced Imaging Techniques in Biomedical Sciences</b> (summer intern journal club) 2018 Lead instructor, National Institutes of Health, Bethesda, United States of America</p>

	<b>Introduction to microscopy</b> (graduate course)	2017
	Teaching assistant, University of Massachusetts Medical School, Worcester, United States of America	
	<b>Optical Microscopy &amp; Imaging in the Biomedical Sciences</b> (summer intern journal club)	2017
	Lead instructor, National Institutes of Health, Bethesda, United States of America	
	<b>Advanced physics laboratory course for physics students</b> (undergraduate course)	2011
	Teaching assistant, Heidelberg University, Germany	
	<b>Experimental Physics III: Optics</b> (undergraduate course)	2011
	Teaching assistant, University of Göttingen, Germany	
	<b>Experimental Physics IV: Quantum, atomic and molecular physics</b> (undergraduate course), Teaching assistant, University of Göttingen, Germany	2010
	<b>Theoretical Physics I: Theoretical Mechanics</b> (undergraduate course)	2009
	Teaching assistant, Technical University of Munich, Germany	
	<b>Theoretical Physics II: Electrodynamics</b> (undergraduate course)	2008
	Teaching assistant, Technical University of Munich, Germany	
CONFERENCE ORGANIZATION	<b>Combined Janelia / EMBL OIG Seminar Series</b> , Co-organizer	2020 - present
	Ashburn, United States of America	
	<b>COVID-19 Optical Interest Group (OIG) Summer Seminar Series</b> , Co-organizer	2020
	Virtual seminar series with external speakers via Zoom during the COVID-19 lockdown	
	Ashburn, United States of America	
	<b>Imaging Africa Microscopy Club</b> , Webinar support	2020
	Ashburn, United States of America	
	<b>Frontiers in Imaging Science Conference</b> , Member of the local support team	2019
	Ashburn, United States of America	
	<b>Labeling and Nanoscopy Conference 2018</b> , Website and social media support	2018
	Heidelberg, Germany	
	<b>Division of International Services (DIS) Immigration Symposium</b> , Co-organizer	2018
	National Institutes of Health, Bethesda, United States of America	
	<b>International Opportunities EXPO</b> , Co-organizer	2018
	National Institutes of Health, Bethesda, United States of America	
	<b>Division of International Services (DIS) Immigration Symposium</b> , Co-organizer	2017
	National Institutes of Health, Bethesda, United States of America	
	<b>I, Scientist Conference</b> , Co-organizer	2017
	Berlin, Germany	
	<b>Labeling and Nanoscopy Conference 2016</b> , Co-organizer	2016
	Heidelberg, Germany	
	<b>Focus On Microscopy (FOM)</b> , Social media support	2015 - present
	<b>PhDnet General Meeting</b> , Co-organizer	2011
	Bonn, Germany	
PEER REVIEW	<b>Angewandte Chemie (International ed.), Biophysical Journal</b>	
PROFESSIONAL SERVICES	<b>Frontiers in Bioinformatics</b> , Review Editor for Computational BioImaging	2020 - present
	Lausanne, Switzerland	
	<b>CZI Imaging Scientists Round 2</b> , Grant Reviewer	2020 - present

San Francisco, United States of America	
<b>QUAREP-LiMi</b> , Vice-chair of the working groups for image quality	2020 - present
<b>German BioImaging</b> , Committee member of the working groups for (1) Training and Knowledge Transfer and (2) Image Data Analysis & Management	2020 - present
<b>BioImaging North America (BINA)</b> , Committee member of the working group for Quality Control and Data Management	2020 - present
<b>Janelia's Optical Interest Group (OIG)</b> , Co-coordinator Ashburn, Virginia, United States of America	2020 - present
<b>GSO German Scholars Organization e.V.</b> , Coordinator for Local Chapter of German Scientists, Ashburn	2020 - present
<b>Accelerating Science and Publication in Biology (ASAPbio)</b> , Ambassador	2018 - present
<b>eLife Early-Career Advisory Group</b> , Ambassador	2017 - 2019
<b>NIH Laser Safety Advisory Committee</b> , Committee member for the NCI National Institutes of Health, Bethesda, United States of America	2018
<b>NIH Visiting Fellows Committee</b> , Co-chair National Institutes of Health, Bethesda, United States of America	2017 - 2018
<b>NIH Light Microscopy Interest Group</b> , Co-coordinator National Institutes of Health, Bethesda, United States of America	2016 - present
<b>DPG Arbeitskreis für Challengleichheit</b> , Board member Bad Honnef, Germany	2016 - present
<b>Lindau Nobel Laureate Meeting</b> , Freelance writer Lindau, Germany	2016 - present
<b>66th Lindau Nobel Laureate Meeting</b> , "Women in Science"-correspondent Lindau, Germany	2016
<b>Lise Meitner Gesellschaft e.V.</b> , Co-founder and board member Berlin, Germany	2011
<b>Max Planck PhDnet</b> , Steering group 2011 member & deputy spokesperson Max Planck Society, Munich, Germany	2011
<b>PhD/Postdoc Community</b> , PhD/Postdoc representative Max Planck Institute for Biophysical Chemistry, Göttingen, Germany	2011 - 2014

CERTIFICATES &  
TRAINING

<b>Fierce Conversations program</b> A 6-week course offered by Howard Hughes Medical Institute about Feedback, Confrontation, Team, Delegation, Coaching and Accountability.	2020
<b>LabVIEW Core 2</b> A certificate course offered by National Instruments about the LabVIEW basics.	2020
<b>LabVIEW Core 1</b> A certificate course offered by National Instruments about the LabVIEW basics.	2020
<b>HBS Entrepreneurship Essentials</b> Entrepreneurship Essentials is a 4-week, 30-hour online certificate program from Harvard Business School. Entrepreneurship Essentials introduces participants to the entrepreneurial journey from finding an idea to gaining traction in the marketplace to raising capital for a venture. Participants learn an overarching framework - People, Opportunity, Context, Deal - to evaluate opportunities, manage start-ups, and finance ventures.	2020
<b>HBS Management Essentials</b>	2019

Management Essentials is an 8-week, 35-hour online certificate program from Harvard Business School. Management Essentials takes a distinctive, hands-on approach to management. Participants in this course learn to identify, understand, design, and shape critical organizational and managerial processes as a means of getting the work done.

**HBS CORE (Credential of Readiness) 2019**

CORE (Credential of Readiness) is a 150-hour certificate program on the fundamentals of business from Harvard Business School. CORE is comprised of three courses - Business Analytics, Economics for Managers, and Financial Accounting - developed by leading Harvard Business School faculty and delivered in an active learning environment based on the HBS signature case-based learning model.

**Scientists Teaching Science 2018**

at the Office of Intramural Training and Education (OITE) at the National Institutes of Health, Bethesda, United States of America (9-week online pedagogy course)

**Research Mentor Training 2018**

at the Office of Intramural Training and Education (OITE) at the National Institutes of Health, Bethesda, United States of America

**Business of Science for Scientists 2018**

by SciPhD at the National Cancer Institute in Shady Grove, United States of America

**Chromatin, Epigenetics and Gene Expression Course 2018**

at the Cold Spring Harbor Laboratory (CSHL) in Cold Spring Harbor, NY, United States of America, Course instructors: Prof Karen Adelman, Dr Luciano Di Croce, Prof Geeta Narlikar, Prof Ali Shilatifard

**Bio Tech 2: Recombinant DNA Methodology 2017**

at the Foundation for Advanced Education in the Sciences at the NIH (FAES), Bethesda, United States of America

**Management Bootcamp for Postdocs 2017**

at the Office of Intramural Training and Education (OITE) at the National Institutes of Health, Bethesda, United States of America

**Ethics in Research Training for Postdocs 2017**

at the Office of Intramural Training and Education (OITE) at the National Institutes of Health, Bethesda, United States of America

**Workplace Dynamic Series 2016**

about Self-Awareness, Conflict & Feedback, Team Skills, Diversity In A Multicultural Society at the Office of Intramural Training and Education (OITE) at the National Institutes of Health, Bethesda, United States of America

COMPUTER SKILLS Languages: Python, MATLAB, Java, LabVIEW, C++, R  
Software: Inventor (CAD), Zemax

PROFESSIONAL AFFILIATION American Physical Society, German Physical Society, BioImaging North America (BINA), German BioImaging Society, Network of European BioImage Analyst (NEUBIAS), Quantitative BioImaging Society

LANGUAGES German - native language  
English - fluent, spoken and written  
French - basic knowledge  
Swedish - basic knowledge  
Spanish - basic knowledge

REFERENCES

Available upon request

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