

WIEBKE JAHR

Curriculum Vitæ

Wiebke Jahr
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Germany

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EXPERIENCE

- PhD candidate and Post-doctoral researcher
Jan Huisken, Max Planck Institute for Molecular Cell Biology and Genetics, Dresden, Germany
- Thesis title: "Spectrally resolved, three-dimensional widefield microscopy"
 - Hyperspectral light sheet microscopy
- Feb/2013
– present
- Spectrally resolved optical projection tomography
 - Design, setup and testing of the optical systems
 - Construction of customized parts in Solidworks
 - Programming of the control software in Labview
 - Data evaluation, linear spectral unmixing and spectral phasor analysis in Python, Matlab and Fiji
 - Preparation of living zebrafish and drosophila embryos for imaging
- Diploma thesis and research assistant
Stefan Diez, B Cube – Center for Molecular Bioengineering, Technische Universität Dresden, Germany
- Thesis title: "Investigation of Collective Motor Behaviour by Nanometre-Precise Tracking of Microtubules With Gold Nanoparticles"
 - Assembly and optimization of flow cells for single molecule motility assays
 - High speed image acquisition on a customized prism-type TIRF microscope
 - Data analysis in Origin and Matlab
- Nov/2011
– Dec/2012
- DAAD RISE in Northamerica stipendiary
Stuart Lindsay, Biodesign Institute, Arizona State University, Tempe, Arizona, USA
- Synthesis of graphene by chemical vapor deposition
 - Setup of a DNA translocation experiment utilizing graphene nanopores
- Aug/2010
– Nov/2010
- Student research assistant
Ulrich Schramm, Research Centre Dresden-Rossendorf (HZDR), Rossendorf, Germany
- Set up of a 3rd order auto correlator for measuring laser pulse contrast
 - Programming of an ImageJ plug-in for proton-dosimetry with CR films
 - Set up of a diagnostic laser beam line
 - Preparation and evaluation of irradiation experiments to calibrate charge response of optical stimulated luminescence detectors (imaging plates)
- Aug/2007
– Apr/2010

EDUCATION

- Feb/2013
– Jan/2017
- PhD candidate
Dresden International Graduate School for Biomedicine and Bioengineering (DIGS-BB), Germany
- Oct/2007
– Oct/2012
- Physics (diploma course)
Department of Science, Technische Universität Dresden, Germany
- Oct/2006
– Sept/2008
- Physics and English (teaching degree course)
Department of Science, Technische Universität Dresden, Germany
- Aug/2001
– July/2006
- Abitur
Grammar School Carl-Zeiss with mathematical-scientific-technical classes, Jena, Germany

PUBLICATIONS

PUBLISHED

- Jahr, W., B. Schmid, M. Weber, and J. Huisken (2016). „eduSPIM: Light sheet microscopy in the museum“. In: *PLoS ONE* 11.8, e0161402. DOI: 10.1371/journal.pone.0161402.
- Schmid, B., W. Jahr, M. Weber, and J. Huisken (2016). „Software framework for controlling unsupervised scientific instruments“. In: *PLoS ONE* 11.8, e0161671. DOI: 10.1371/journal.pone.0161671.
- PEER-REVIEWED JOURNALS
- Jahr, W., B. Schmid, C. Schmied, F. O. Fahrbach, and J. Huisken (2015). „Hyperspectral light sheet microscopy“. In: *Nature Communications* 6, p. 7990. DOI: 10.1038/ncomms8990.
- Zeil, K., S. D. Kraft, A. Jochmann, F. Kroll, W. Jahr, U. Schramm, L. Karsch, J. Pawelke, B. Hidding, and G. Pretzler (2010). „Absolute response of Fuji imaging plate detectors to picosecond-electron bunches“. In: *Review of Scientific Instruments* 81.1, 013307, p. 013307. DOI: 10.1063/1.3284524.
- OTHER JOURNALS
- Jahr, W., B. Schmid, and J. Huisken (2017a). „eduSPIM: Light sheet fluorescence microscopy in the museum“. In: *Imaging & Microscopy*. Preprint at: <http://www.imaging-git.com/science/light-microscopy/eduspim-light-sheet-fluorescence-microscopy-museum>.

UNDER REVIEW

- BOOK CHAPTER
- Jahr, W., B. Schmid, and J. Huisken (2017b). „eduSPIM: A light sheet fluorescence microscope for the museum“. In: *Light Sheet Microscopy*. Ed. by E. Renaud.

IN PREPARATION

- PEER-REVIEWED JOURNALS
- Jahr, W., A. Bassi, and J. Huisken. „Spectrally resolved optical projection tomography“.
- Jahr, W. and J. Huisken. „Separation of mixed pixels from Spectral Phasor analysis“.

FUNDING

- Sept/2014
– Jan/2017
- DIGS-BB Fellow Award
Dresden International Graduate School for Biomedicine and Bioengineering
- own position and consumables
- Aug/2010
– Nov/2010
- DAAD RISE in Northamerica Stipend
Biodesign Institute, Arizona State University
- own position and travel expenses

INVITED TALKS

- Aug/2016
- “Combination of light sheet and other modalities“
EMBO practical course on Light Sheet Microscopy, Dresden, Germany
- Dec/2015
- “Light sheet microscopy“
Imaging techniques in the biological sciences lecture series, Helsinki, Finland

AWARDS

- May/2016
- “eduSPIM – Light-sheet microscopy in the museum“, *Poster price*
16th ELMI congress, Debrecen, Hungary

CONFERENCE PARTICIPATION

- Sept/2016 | “eduSPIM – One year of light-sheet microscopy in the museum”, *Display of the instrument and poster presentation*
3rd *Lightsheet Fluorescence Microscopy International Conference and 7th LSFM International Workshop*, Sheffield, UK
- May/2016 | “eduSPIM – Light-sheet microscopy in the museum”, *Poster presentation*
16th *ELMI congress*, Debrecen, Hungary
- Sept/2015 | “A decade of light-sheet microscopy – already a museum piece?”, *Oral presentation*
2nd *Lightsheet Fluorescence Microscopy International Conference and 7th LSFM International Workshop*, Genova, Italy
- Mar/2015 | “Multi-color light-sheet microscopy”, *Oral presentation*
Focus on Microscopy 2015, Göttingen, Germany
- Sept/2014 | “Multi-color light-sheet microscopy”, *Oral presentation*
1st *Lightsheet Fluorescence Microscopy International Conference and 6th LSFM International Workshop*, Barcelona, Spain
- Mar/2012 | “Studying collective motor effects by fast optical tracking of gold nanoparticles”, *Poster presentation*
DPG-Frühjahrstagung, Berlin, Germany

TEACHING EXPERIENCE

- Jan/2015 | Light sheet fluorescence microscopy, lab members
Max Planck Institute for Molecular Cell Biology and Genetics
 - organization, planning and teaching of a 2-day course
 - introduction to basic ray and Gaussian optics
 - hands-on session: building and aligning light sheet microscopes
- Oct/2015 – Feb/2016 | Introduction to biophysics, 1st year master students
Technische Universität Dresden
 - students of nanobiophysics and molecular bioengineering
 - teaching of tutorials, creation and grading of the exam
- Nov/2014 | Light sheet fluorescence microscopy, 1st year PhD students
Max Planck Institute for Molecular Cell Biology and Genetics
 - lab rotation for participants with various backgrounds
 - planning and teaching of a 3-day hands-on course to build a light sheet microscope

OUTREACH ACTIVITIES

- 2015 – present | eduSPIM
I have designed and built a light sheet microscope that was hosted in an interactive exhibition in a technical museum in Dresden. After the exhibition, I demonstrated eduSPIM during the EMBO practical course on Light Sheet Microscopy in Dresden and the 3rd Lightsheet Fluorescence Microscopy International Conference in Sheffield. eduSPIM is currently at the Huisken-lab’s new home in Madison, USA. More information: eduspim.org.
- 2014 – 2015 | School project
International PhD students go to Dresden schools on a mission to spread the passion for science and to show the joy of working in multicultural environments.