

Benjamin Judkewitz

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Curriculum vitae

Since 2014	Junior research group leader (W2, tenure track), Bioimaging and Neurophotonics, NeuroCure – Cluster of Excellence, Berlin
2010 – 2014	Sir Henry Wellcome postdoctoral fellow, California Institute of Technology, Departments of Bioengineering and Electrical Engineering, Pasadena, US
2006 – 2010	PhD in Physiology and Neuroscience, University College London, UK
2005	Master's (Diplom) thesis, Max Planck Institute for Medical Research, Heidelberg
2000 – 2005	Studies in Biology, Universität Heidelberg and University of California, Berkeley, US

Research fields

Our group is active in the field of:

- Bioimaging and Neurophotonics
- Deep-tissue imaging
- Whole-brain microscopy
- Neuronal ensembles

Activities in the scientific community, honors, awards

2016	Starting Grant, European Research Council (ERC)
2016	Krupp Foundation Award
2015	FEI Technology Award, German Neuroscience Society (NWG)
2013	Patents: Time-Reversal of Variance-Encoded Light (TROVE), Physical Key-Protected One Time Pad, Spatial Frequency Swept Interference Illumination, Deep Tissue Fluorescence Imaging using Digitally Time-Reversed Ultrasound Encoded Light
2012	Patent: Light-Guided Pixel
2010 – 2014	Sir Henry Wellcome Postdoctoral Fellowship, Wellcome Trust, UK
2008	Young Investigator Award in Neuroimaging Techniques, University College London, UK
2006 – 2010	PhD Fellowship, Boehringer Ingelheim Fonds
2006 – 2010	PhD scholarship, Medical Research Council, UK
2003 – 2004	University of California exchange student scholarship, US
2003 – 2004	German Academic Exchange Service (DAAD) scholarship
2000 – 2005	Studienstiftung des deutschen Volkes, German Academic Scholarship Foundation
1993	1 st prize in the German Federal Competition Mathematics

Selected publications

- Papadopoulos IN, Jouhannau JS, Poulet JF, Judkewitz B, (2016) Scattering compensation by focus scanning holographic aberration probing (F-SHARP), *Nat Photon* 2017;11:116-123
- Judkewitz B, Horstmeyer R, Vellekoop IM, Papadopoulos IN, Yang CH. Translation correlations in anisotropically scattering media. *Nat Phys* 2015; 11:684-689
- Judkewitz B, Wang YM, Horstmeyer R, Mathy A, Yang CH. Speckle-scale focusing in the diffusive regime with time reversal of variance-encoded light (TROVE). *Nat Photon* 2013; 7:300-305
- Wang YM, Judkewitz B, DiMarzio CA, Yang CH. Deep-tissue focal fluorescence imaging with digitally time-reversed ultrasound-encoded light. *Nat Commun* 2012; 3:928
- Wiechert MT, Judkewitz B, Riecke H, Friedrich RW. Mechanisms of pattern decorrelation by recurrent neuronal circuits. *Nat Neurosci* 2010; 13:1003-U1132
- Judkewitz B, Rizzi M, Kitamura K, Hausser M. Targeted single-cell electroporation of mammalian neurons in vivo. *Nat Protoc* 2009; 4:862-869
- Kitamura K, Judkewitz B, Kano M, Denk W, Hausser M. Targeted patch-clamp recordings and single-cell electroporation of unlabeled neurons in vivo. *Nat Methods* 2008; 5:61-67
- Yaksi E, Judkewitz B, Friedrich RW. Topological reorganization of odor representations in the olfactory bulb. *PLoS Biol* 2007; 5:1453-1473
- Porter J, Craven B, Khan RM, Chang SJ, Kang I, Judkewitz B, Volpe J, Settles G, Sobel N. Mechanisms of scent-tracking in humans. *Nat Neurosci* 2007; 10:263-263
- Judkewitz B, Roth A, Hausser M. Dendritic enlightenment: Using patterned two-photon uncaging to reveal the secrets of the brain's smallest dendrites. *Neuron* 2006; 50:180-183