

Curriculum Vitae



Personal Details

Laurentius Huber
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date of birth: 09. Nov. 1985

born in Salzburg, Austria

Education

2015–dato	Postdoctorial fellow at the National Institute of Mental Health, Bethesda, USA
2011–2015	PhD project (marked with summa cum laude) at the Max Planck Institute for Human Cognitive and Brain Sciences Leipzig, Germany
2010–2011	Master thesis at the Max Planck Institute for Human Cognitive and Brain Sciences Leipzig, Germany (marked with 1.0)
2009–2010	Master courses of physics at the Ludwig-Maximilians-Universität Munich, Germany
2009	Bachelor thesis (marked with 1.0) at the LHC ATLAS detector at CERN in Genf, Switzerland
2006–2009	Bachelor courses of physics at the Ludwig-Maximilians-Universität Munich, Germany
2006	General qualification for university Matura (with distinction) at Waldorf school Salzburg, Austria

Professional Experience

2013–2014	employed consultant on MRI at the Fraunhofer Institute in Leipzig, Germany: Sequence development and protocol development at small bore 7T MRI scanner
2009–2010	academic assistant at the Ludwig-Maximilians-Universität Munich, Germany: PHP, SQL programming, budgeting, activity accounting at the department of computational physics at the LMU
2010	trainee ship at Leibniz-Rechenzentrum der Bayrischen Akademie der Wissenschaften Garching, Germany: system administrator for Unix
2005–dato	honorary member of a children home in Kathmandu, Nepal: public relations, financial relations, web design and technical support
2004–2005	Shamanistic Studies and Research Center in Kathmandu, Nepal: documenting and archiving

Teaching Experience

- 2008–2009 student assistant at the Ludwig-Maximilians-Universität Munich, Germany: Theoretical Quantum Mechanics: class leader, tasks include correcting of tutorials and examinations
- 2008–2009 student assistant at the Ludwig-Maximilians-Universität Munich, Germany: Calculation in Physics: designing and building of experiments for practical work of younger students

Awards and Stipends

- 2016 Otto Hahn Medal, for the development of a method to map cerebral blood volume at high resolution as an indicator of neuronal activation, Germany.
- 2016 ISMRM Summa Cum Laude Merit Award for the Conference Talk: Directional Connectivity Measured with Layer-Dependent Resting-State Blood Volume fMRI in Humans. At the 25th ISMRM Annual Meeting and Exhibition in Singapore.
- 2016 ISMRM Summa Cum Laude Merit Award for the Conference Talk: Fast Dynamic Measurement of Functional T1 and Grey Matter Thickness Changes During Brain Activation at 7T. At the 25th ISMRM Annual Meeting and Exhibition in Singapore.
- 2014 Young Investigator Award at the ISMRM Workshop Functional MRI: Emerging Techniques and New Interpretations for the talk entitled: Layer-Dependent CBV and BOLD Responses in Humans, Monkeys, and Rats at 7T, Charleston, USA.
- 2014 Educational Stipend, for the ISMRM Brain Function Workshop in Charleston, USA.
- 2014 ISMRM Magna Cum Laude Merit Award for the Conference Presentation: Trial-wise Investigation of Cerebral Blood Volume Change in Human Brain at 7T. At the 23rd ISMRM Annual Meeting and Exhibition in Milan, Italy.
- 2014 ISMRM Summa Cum Laude Merit Award for the Conference Talk: Measuring Changes in Arterial and Venous Cerebral Blood Volume in Human Brain at 7T. At the 23rd ISMRM Annual Meeting and Exhibition in Milan, Italy.
- 2014 ISMRM Trainee (Educational) Stipend, for the 23rd ISMRM Annual Meeting and Exhibition in Milan, Italy.
- 2013 ISMRM Magna Cum Laude Merit Award for the Conference Talk: Cerebral Blood Volume Changes in Negative BOLD Regions during Visual Stimulation in Humans at 7T. At the 22nd ISMRM Annual Meeting and Exhibition in Salt Lake City, USA.
- 2013 ISMRM Trainee (Educational) Stipend, for the 22nd ISMRM Annual Meeting and Exhibition in Salt Lake City, USA.
- 2012 ISMRM Trainee (Educational) Stipend, for the 21st ISMRM Annual Meeting and Exhibition in Melbourne, Australia.
- 2011 Certificate of Merit at ESMRMB Annual Meeting in Leipzig, Germany.

Research Experience

- MPI Leipzig, Germany: High field MRI and fMRI at 7T at MPI Leipzig: quantitative brain mapping, MRI reconstruction, RF-pulse design 3T/7T

- University Leipzig, Germany: clinical 3T (Verio) MRI; resting state fMRI in children with PWS
- MPI Leipzig, Germany: MRI related hardware: breathing manipulation, stimulus presentation, liquid helium handling
- University Sheffield, UK: functional imaging in rat brain; optical imaging spectroscopy, MION, VASO, BOLD fMRI
- TU Munich, Germany: gas compositions for particle detectors tracking myons
- LMU-University Munich, Germany: simulations of artificial neural networks
- MPI Tübingen, Germany: functional Fe contrast agent, VASO, negative BOLD, layer-dependent fMRI
- Fraunhofer Institute Leipzig, Germany: fat imaging, diffusion weighted imaging, cartilage imaging
- University Maastricht, The Netherlands: Siemens MR-sequence development (simultaneous multi-slice acquisition)

Selected Publications

- Maria Guidi, **Laurentius Huber**, Leonie Lampe, Claudine J Gauthier, and Harald E Möller. Lamina-Dependent Calibrated BOLD Response in Human Primary Motor Cortex. *NeuroImage*, 2016. ahead of print.
- Dimo Ivanov, Benedikt A Poser, **Laurentius Huber**, Joseph Pfeuffer, and Kamil Uludag. Optimization of simultaneous multi-slice EPI for functional perfusion measurements at 7 T. 2017, *Magnetic Resonance in Medicine*, ahead of print.
- Samira M Kazan, Siawoosh Mohammadi, Martina Callaghan, Guillaume Fladin, **Laurentius Huber**, Robert Leech, Aneurin Kennerley, Christian Windischberger, and Nikolaus Weiskopf. Vascular autoresizing of fMRI (VasA fMRI) improves sensitivity of population studies: A pilot study. *NeuroImage*, 2016; 124:794–805.
- **Laurentius Huber**, Dimo Ivanov, Maria Guidi, Robert Turner, Kamil Uludag, Harald E Möller, and Benedikt A Poser. Functional cerebral blood volume mapping with simultaneous multi-slice acquisition. *Magnetic Resonance in Medicine*. 2015; 72(1):137–148.
- Audrey P Fan, Andreas Schäfer, **Laurentius Huber**, Leonie Lampe, Steffen N vSmuda, Harald E Möller, Arno Villringer, and Claudine Gauthier. Baseline oxygenation in the brain: Correlation between respiratory-calibration and susceptibility methods. *NeuroImage*, 2015; 125:920–931.
- **Laurentius Huber**, Jozien Goense, Aneurin J Kennerley, Maria Guidi, Dimo Ivanov, Nicole Neef, Robert Trampel, Robert Turner, and Harald E Möller. Cortical lamina-dependent blood volume changes in human brain at 7 T. *NeuroImage*, 2015; 107:23–33.
- Steffen N Krieger, **Laurentius Huber**, Benedikt A Poser, Robert Turner, and Garry F Egan. Simultaneous acquisition of cerebral blood volume-, blood flow-, and blood oxygenation-weighted MRI signals at ultra-high magnetic field. *Magnetic Resonance in Medicine*, 2015; 74(2):513–517.
- Robert Trampel, Enrico Reimer, **Laurentius Huber**, Dimo Ivanov, Robin M Heidemann, Andreas Schäfer, and Robert Turner. Anatomical Brain Imaging

at 7T using Two-Dimensional GRASE. *Magnetic Resonance in Medicine*, 2014; 72(5):1291–1301.

- **Laurentius Huber**, Jozien Goense, Aneurin J Kennerley, Dimo Ivanov, Steffen N Krieger, Jöran Lepsien, Robert Trampel, Robert Turner, and Harald E Möller. Investigation of the Neurovascular Coupling in Positive and Negative BOLD Responses in Human Brain at 7T. *NeuroImage*, 2014; 97:349–362.
- Steffen N Krieger, Dimo Ivanov, **Laurentius Huber**, Elisabeth Roggenhofer, Bernhard Sehm, Robert Turner, Gary F Egan, and Claudine J Gauthier. Using Carbogen for Calibrated fMRI at 7Tesla: Comparison of Direct and Modelled Estimation of the M Parameter. *NeuroImage*, 2014; 84:605–614.
- **Laurentius Huber**, Dimo Ivanov, Steffen N Krieger, Markus N Streicher, Toralf Mildner, Benedikt A Poser, Harald E Möller, and Robert Turner. Slab-Selective, BOLD-Corrected VASO at 7 Tesla Provides Measures of Cerebral Blood Volume Reactivity with High Signal-to-Noise Ratio. *Magnetic Resonance in Medicine*. 2014; 72(1):137–148.
- Steffen N Krieger, Claudine Gauthier, Dimo Ivanov, **Laurentius Huber**, Elisabeth Roggenhofer, Bernhard Sehm, Robert Turner, and Gary F Egan. Regional reproducibility of calibrated BOLD functional MRI: implications for the study of cognition and plasticity. *NeuroImage*, 2014; 101:8–20.



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