

Rik L.E.M. Ubaghs

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Education

ETH Zurich, Zurich, Switzerland

July 2017 - May 2023

Ph.D. Neurotechnology

University of Amsterdam, Amsterdam, the Netherlands

Sept 2014 - June 2016

Research Master Brain and Cognitive Sciences, Cum Laude

Maastricht University, Maastricht, the Netherlands

Sept 2011 - June 2014

Bachelor Psychology and Neuroscience, Cum Laude

Skills

Languages: Dutch (Native), English (Fluent), German (Basic)

Programming: Python, Matlab, Rust, R, SQL

Skills: Microscopy, Industrial Design and Manufacturing, Biomedical Imaging

Research Positions

Institute of Neuroinformatics, ETH Zurich, Zurich, Switzerland

June 2023 - Current

Postdoc

- Development of a microscope for tumor visualization during invasive surgery.

Institute of Neuroinformatics, ETH Zurich, Zurich, Switzerland

July 2017 – June 2023

Ph.D. Candidate

- Development of a MRI compatible florescence microscope (full-cycle product design).
- Design of a paradigm to combine microscopy and MR imaging methods in awake rodents.
- Design of data pipelines for multi-modal data analysis.

Center for Neuroengineering, Duke University, Durham, USA

Dec 2015 – Nov 2016

Visiting Scientist

- Development of hybrid brain decoding methods in Non-human Primates.

Swammerdam Institute for Life Sciences, Amsterdam, The Netherlands

Aug 2015 – Dec 2015

Internship

- Experimental design for sensory integration in rodents.
- Design of data analysis methods for high dimensional data.

Spinoza Center for Neuroimaging, Amsterdam, The Netherlands

Nov 2014 - Dec 2015

Junior Research Scientist

- MR operator.
- Design and supervision of several large research projects.

Industry Positions

Agora Technology, Maastricht, The Netherlands

Nov 2016 - Feb 2018

Co-Founder

- Agora Technology builds data solutions to streamline/automate daily operations in the medical sector.
- Creation, maintenance, and analysis of large-scale data solutions using advanced machine learning approaches.

Medtronic/Maastricht University Medical Centre, Maastricht, The Netherlands

Dec 2016 - Jun 2017

Data Scientist

- Design of a pipeline to process medical procedural data.
 - Development of a centralized database for surgical protocols.
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Extracurricular Positions

Natural Movements, The Netherlands

March 2007 - May 2012

Co-Founder

- Natural Movements is a non-profit organization that aims to engage underprivileged youth in the local community through physical education and behavioral coaching.
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Publications

Papers:

- Simultaneous single-cell calcium imaging of neuronal population activity and brain-wide BOLD fMRI Ubaghs, R.L.E.M., Boehringer, R., Marks, M., Hesse, H.K., Yanik, M.F., Zerbi, V., Grewe, B.F., bioRxiv 2023.11.14.566368; doi: <https://doi.org/10.1101/2023.11.14.566368>

Conferences:

- Ubaghs, R.L.E.M., Böhringer, R., Marks, M., Yanik, M.F. and Grewe, B.F., The Effect of Somatostatin+ Interneurons on the Negative BOLD Response. Proc. Intl. Soc. Mag. Reson. Med. 29 (2021)
 - Ubaghs, R.L.E.M., Dermutz, H., Böhringer, R., Marks, M., Yanik, M.F. and Grewe, B.F., Shaping the BOLD signal through Excitatory and Inhibitory Interaction. Proc. Intl. Soc. Mag. Reson. Med. 29 (2020)
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Honors

Committees:

Educational Committee, IIS, University of Amsterdam

Sept 2014 - June 2015

Vice-President Student Council, FPN, Maastricht University

Sept 2012 - June 2013

Program Committee, FPN, Maastricht University

Sept 2012 - June 2013

Grants:

Hendrik Muller Memorial Foundation

2016

Bekker - La Bastide Memorial Foundation

2015

Vrijvrouwe van Renswoude Foundation

2015