

# Rik L.E.M. Ubaghs

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## Education

<b>ETH Zurich, Zurich, Switzerland</b> <i>Ph.D. Neurotechnology</i>	July 2017 - May 2023
<b>University of Amsterdam, Amsterdam, the Netherlands</b> <i>Research Master Brain and Cognitive Sciences, Cum Laude</i>	Sept 2014 - June 2016
<b>Maastricht University, Maastricht, the Netherlands</b> <i>Bachelor Psychology and Neuroscience, Cum Laude</i>	Sept 2011 - June 2014

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## Skills

<b>Languages:</b>	Dutch (Native), English (Fluent), German (Basic)
<b>Programming:</b>	Python, Matlab, Rust, R, SQL
<b>Skills:</b>	Microscopy, Industrial Design and Manufacturing, Biomedical Imaging

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## Research Positions

<b>Institute of Neuroinformatics, ETH Zurich, Zurich, Switzerland</b> <i>Postdoc</i> - Development of a microscope for tumor visualization during invasive surgery.	June 2023 - Current
<b>Institute of Neuroinformatics, ETH Zurich, Zurich, Switzerland</b> <i>Ph.D. Candidate</i> - 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.	July 2017 – June 2023
<b>Center for Neuroengineering, Duke University, Durham, USA</b> <i>Visiting Scientist</i> - Development of hybrid brain decoding methods in Non-human Primates.	Dec 2015 – Nov 2016
<b>Swammerdam Institute for Life Sciences, Amsterdam, The Netherlands</b> <i>Internship</i> - Experimental design for sensory integration in rodents. - Design of data analysis methods for high dimensional data.	Aug 2015 – Dec 2015
<b>Spinoza Center for Neuroimaging, Amsterdam, The Netherlands</b> <i>Junior Research Scientist</i> - MR operator. - Design and supervision of several large research projects.	Nov 2014 - Dec 2015

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## 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