



Curriculum Vitæ
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KEYWORDS: Multimodal Neuroimaging · Optogenetics · Psychopharmacology · Electrical Engineering · Free and Open Source Software · Python · Statistics · Machine Learning · Reproducibility · Technology Transfer · Neuroenhancement

METRICS: 167 RG Research Interest · 8 h-index

EDUCATION

- Swiss Federal Institute of Technology** Jan. 2015 – Jul. 2019
DrSc. in Neuroscience & Biomedical Engineering Zurich, CH
Thesis: “Imaging Monoaminergic Systems and their Pharmacological Control”
- Heidelberg University, Ruperto Carola** Sep. 2011 – Jan. 2014
MSc. in Molecular Biosciences & Neuroscience Heidelberg, DE
Thesis: “Neuronal Correlates of Occulometric Parameters in Face Recognition”
GPA: 1.2 — German
- Saint Petersburg State University** Sep. 2010 – Jan. 2011
Exchange Student Saint Petersburg, RU
Focus: Practical experience in Neuroimaging and Electrophysiology
- Heidelberg University, Ruperto Carola** Sep. 2008 – Sep. 2011
BSc. in Molecular & Cellular Biology Heidelberg, DE
Thesis: “Intrinsic Optical Imaging of Biogenous Magnetoception”
GPA: 1.5 — German
- Goethe High School** Sep. 1996 – Jun. 2008
School Diploma Bucharest, RO
Focus: Natural Sciences, Social Sciences, German Language
GPA: 1.1 — German (9.95 — Romanian)

WORK EXPERIENCE

- Dartmouth College - Psychological and Brain Sciences** Sep. 2021 – present
Research Scientist Hanover, NH/USA
Advisors: Prof. Dr. Yaroslav Halchenko
Work: Data standardization (fMRI, Electrophysiology, Microscopy) · Data analysis (AFNI, FSL, nipy) · Software development (Python, Bash, MATLAB)
- Massachusetts Institute of Technology - Biological Engineering** Mar. 2020 – Aug. 2021
Postdoctoral Researcher Cambridge, MA/USA
Advisors: Prof. Dr. Alan Jasanoff
Work: Animal fMRI · Protein Biosynthesis · Optogenetics · Psychopharmacology · Electrical engineering · Machine learning · Data analysis (AFNI, FSL, nipy) · Software development (Python, Bash, MATLAB)
- Swiss Federal Institute of Technology - Biomedical Engineering** Jan. 2015 – Feb. 2020
Post/Doctoral Researcher Zurich, CH
Advisors: Prof. Dr. Markus Rudin, Prof. Dr. Marks von Kienlin, Prof. Dr. Klaas Enno Stephan
Work: Animal fMRI · Optogenetics · Psychopharmacology · Sequencing · Histology · Electrical engineering · Hardware design · Machine learning · Data analysis (AFNI, FSL, nipy) · Software development (Python, Bash)

- Central Institute of Mental Health - Clinical Psychology** Jun. 2013 – Jan. 2014
Junior Researcher Mannheim, DE
 Advisors: Prof. Dr. Peter Kirsch, Prof. Dr. Daniel Durstewitz, Prof. Dr. Rainer Spanagel
 Work: Human fMRI · Pupillometry · Emotional face recognition · Eye tracking · Psychometrics · Image processing · Data analysis (SciPy, SPM, R) · Software development (Python, MATLAB)
- University of Oxford - Experimental Psychology** Oct. 2012 – Apr. 2013
Department Staff Oxford, UK
 Advisors: Prof. Dr. Glyn Humphreys
 Work: Behavioural testing · Experimental design · Photography · Computer vision · Eye tracking · Data analysis (scikits, SciPy) · Software development (Python)
- MPI for Medical Research - Molecular Neurobiology** Feb. 2012 – Jul. 2012
Intern, Student Assistant Heidelberg, DE
 Advisors: Dr. Valery Grinevich, Prof. Dr. Peter Seeburg
 Work: Molecular cloning · Viral vector production, purification, and delivery · Immunohistology
- Carl von Ossietzky University of Oldenburg** Jun. 2011 – Dec. 2012
Visiting Researcher Oldenburg, DE
 Advisors: Dr. Dominik Heyers, Prof. Dr. Henrik Mouritsen, Dr. Nils-Lasse Schneider
 Work: Pigeon visual vulst Intrinsic Optic Imaging · Hardware design · Magnetic field stimulation · Data analysis (SciPy)
- MPI for Medical Research - Biomedical Optics** Mar. 2011 – Apr. 2012
Guest Scientist Heidelberg, DE
 Advisors: Dr. Andreas Schäfer, PD. Thomas Hahn, Dr. Damian Wallace
 Work: Mouse barrel cortex Intrinsic Optic Imaging · Experimental design · Hardware design · Data analysis (MATLAB)
- Sechenov Institute of the Russian Academy of Science** Nov. 2010 – Jan. 2011
Student Assistant Saint Petersburg, RU
 Advisor: Prof. Dr. Konstantin Bolshakov
 Work: Isolation and cultivation of brain slices · Patch clamp · Pharmacology

MENTORING

- [BSc Project] Massachusetts Institute of Technology** Mar. 2021 – present
Increasing Throughput in neurotransmitter-sensitive opto-pharmacofMRI Cambridge, MA/USA
 Topics: Protein biosynthesis · Stereotaxic surgery design · Biomedical engineering · MRI · Workflow automation
 Students (grades): Tetiana Husak (TBD — US)
- [BSc Project] Massachusetts Institute of Technology** May. 2020 – Jan. 2021
Quality Assurance and Template Standardization for preclinical MRI Cambridge, MA/USA
 Topics: Image processing · Software Engineering · Biomedical engineering · MRI
 Students (grades): Caroline Bao, Vivian Vu, Brianna Yao (pass, pass, pass — US)
- [MSc Project] Swiss Federal Institute of Technology** Aug. 2019 – Feb. 2020
Machine Learning Enabled Brain Extraction Zurich, CH
 Topics: Machine learning · Image processing · Biomedical engineering · MRI
 Student (grade): Hendrik Klug (5.75 — Swiss)
- [MSc Thesis] Swiss Federal Institute of Technology** Aug. 2018 – Feb. 2019
High Throughput Pattern Matching of fMRI Maps and Molecular Features Zurich, CH
 Topics: Image processing · Data structures · Information theory · Databases · Gene expression
 Student (grade): Tina Segessemann (5.5 — Swiss)

[MSc Project] Swiss Federal Institute of Technology <i>Advanced Scientific Software Management with Gentoo Linux</i>	Sep. 2017 – Jan. 2018 Zurich, CH
Topics: Software management · Continuous integration · Build systems · Containers	
Student (grade): Dominik Schmidt (5.7 — Swiss)	
[MSc Thesis] Swiss Federal Institute of Technology <i>Experimental Design Optimization and Stimulus Train Automation for fMRI</i>	Mar. 2017 – Sep. 2017 Zurich, CH
Topics: General Linear Model · Genetic algorithms · Electrical engineering · Python · Standards	
Student (grade): Florian Aymanns (6.0 — Swiss)	
[Internship] Psychiatric University Clinic Zurich <i>Electrophysiological and Optogenetic Targeting of the Hippocampus</i>	Feb. 2015 – Jul. 2015 Zurich, CH
Topics: Histology · Fluorescent microscopy · Data analysis	
Student (grade): Ridouane Achargui (4.5 — Swiss)	

TEACHING

Swiss Federal Institute of Technology <i>Experimental Neuroimaging</i>	Nov. 2018 – Jan. 2020 Zurich, CH
Topics: fMRI · Data structures · Data processing · Modelling	
Swiss Federal Institute of Technology <i>Biomedical Imaging Tutorial</i>	Oct. 2017 – Jan. 2020 Zurich, CH
Topics: Nuclear imaging · Positron Emission Tomography · Data analysis · Python · MATLAB	
Swiss Federal Institute of Technology, University of Zurich <i>EXCITE Summer School on Biomedical Engineering</i>	Sep. 2016 – Jan. 2020 Zürich, CH
Topics: fMRI · Data analysis	
Swiss Federal Institute of Technology, University of Zurich <i>Linux Days</i>	Sep. 2015 – present Zurich, CH
Topics: Free and Open Source Software · Scientific software · Package management	
Heidelberg University — Centre for Organismal Studies <i>Molecular Biology and Microbiology Practical Course</i>	Sep. 2009 – Feb. 2010 Heidelberg, DE
Topics: DNA extraction and digestion · Gel electrophoresis	

GRANTS AND SCHOLARSHIPS

Swiss National Science Foundation <i>Postdoc Mobility Fellowship</i>	Mar. 2020 – Sep. 2021
Scope: Personal and research conference expenses	
Amazon Web Services <i>Amazon Research Credits Grant</i>	Dec. 2017 – Dec. 2018
Scope: Computational expenses	
German Academic Exchange Service <i>German Foreign Schools Scholarship</i>	Oct. 2008 – Nov. 2013
Scope: Tuition and personal expenses in Germany	
Baden-Württemberg Foundation <i>Baden-Württemberg Universities' Foreign Exchange Scholarship</i>	Sep. 2010 – Jan. 2011
Scope: Tuition and living expenses in Russia	