

Dr. Isabelle Ripp

Neuroscientist

- Data & Brain Enthusiast
- Human-Machine Interaction
- Science & Technology
- Creative & Analytical Thinking
- Teaching & Mentoring

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EDUCATION

08/2017 – 04/2021	PhD in Neuroscience Graduate School of Systemic Neurosciences, LMU Department of Nuclear Medicine, TUM Supervisor: PD Dr. Igor Yakushev
10/2014 – 03/2017	Master of Science in Neuroscience Graduate School of Systemic Neurosciences, LMU
10/2010 – 09/2014	Bachelor of Science in Neuroscience University of Cologne
2009	Abitur (University-Entrance Diploma) Altkönigschule, Kronberg im Taunus

IT – PROGRAMMING – MATH – SOFTWARE

Linux | Windows | Shell Command | Matlab | Python | SPSS | PCA | ICA | Graph Theory | Statistics

PROFESSIONAL EXPERIENCE

01/2024 – present	Founder and Leader of AI Workshop LUISE Cultural Center Munich	<ul style="list-style-type: none"> • Introduction to current AI topics and technologies • Practical Application of AI technologies to a diverse audience
10/2022 – present	Ethics Committee Member Faculty of Philosophy LMU	<ul style="list-style-type: none"> • Evaluating and guiding ethical aspects of social science research projects.
08/2022 – present	Postdoctoral Associate Faculty of Philosophy LMU	<ul style="list-style-type: none"> • Human-Machine Interaction: philosophy, computer science & cognitive neuroscience • Artificial Human-Proxy Reinforcement Learning

01/2022 – 07/2022	Science Coordinator: Medical technology and digital medicine Fraunhofer-Gesellschaft Munich	<ul style="list-style-type: none"> • Project Lead <i>Neuroscience & AI</i> • Consulting Scientific Content Strategy with External and Internal Stakeholders • Political, Scientific and Industrial Advocacy
04/2021 – 10/2021	Postdoctoral Associate Department of Biomedical Imaging, Yale University, USA	<ul style="list-style-type: none"> • Pharmacokinetic Modelling for Imaging Synaptic Density (11C-UCB-J; 18F-SynVesT-1) • Multimodal Parameter Interrelation
08/2017 – 01/2021	Full-Time Researcher PhD Candidate Department of Nuclear Medicine TUM & LMU	<ul style="list-style-type: none"> • Big Data Analyses (3D & 4D): Neuroimaging (Hybrid PET/MRI) - Brain Connectivity Estimates • Cognitive Training & Transfer Effects on a Brain-Behaviour Relationship Level
08/2016 – 07/2017	Full-Time Researcher Fraunhofer Institute IVV Freising	<ul style="list-style-type: none"> • Multisensory Information Processing - fMRI during Olfactory and Visual Stimulation • Graph Theory
11/2015 – 03/2016	Research Assistant Neuroscience Centre, University of California, San Francisco, USA	<ul style="list-style-type: none"> • Closed Loop Real-Time EEG Neurofeedback during Attention
01/2014 – 08/2014	Research Assistant Department of Psychiatry and Psychotherapy, University of Cologne	<ul style="list-style-type: none"> • Effects of Deep Brain Stimulation
04/2013 – 10/2013	Research Assistant Royal Edinburgh Hospital Psychiatry, University of Edinburgh, UK	<ul style="list-style-type: none"> • Brain Changes in Schizophrenia

TEACHING & SUPERVISION

09/2022 - present	Volunteering: Telefonberaterin - Kinder und Jugend Telefon ("Nummer gegen Kummer") Role/Position: Psychological Counseling
2023	Lecturer – Summer Term Master's Program Course, LMU <i>Mapping the Mind: An Exploration of Cognitive Maps, Neural Representations, and their Implications for Human-AI Interaction</i>
2020 & 2021	Lecturer – Summer Term Master's Program Course, LMU <i>Neurocognitive changes in healthy and pathological ageing</i>

2020 | Master Thesis Supervision – Grade 1.0 & published

SCIENCE COMMUNICATION

11/ 2022	I'm a Scientist, Get me out of here! Online	<ul style="list-style-type: none"> Engaged with students on an online platform to demystify science and technology. Focused on discussions around Artificial Intelligence, robotics, and the future of cities. Utilized live chats and a Q&A feature to make scientific research accessible and relatable. Contributed to breaking down stereotypes about scientists by sharing personal experiences and insights.
01/2024 – present	Founder and Leader of AI Workshop LUISE Cultural Center Munich	<ul style="list-style-type: none"> Introduction to current AI topics and technologies Practical Application of AI technologies to a diverse audience
Forthcoming 04/2024	Ambassador and Organizer - Werner Herzog's Film Screening Munich	<ul style="list-style-type: none"> Organized a screening and post-film Q&A of Werner Herzog's documentary "Theatre of Thought", focusing on the brain and neural technology. Acted as an ambassador, enhancing public engagement with science through dialogue between scientists and the audience.

SCHOLARSHIPS & AWARDS

2022	International Publication Award	Alavi–Mandell Award
2017	Summer School Stipend Bordeaux)	Graduate School of Systemic Neurosciences/Elite Network Bavaria
2016	Research Internship Stipend University of California San Francisco	Graduate School of Systemic Neurosciences/Elite Network Bavaria
2013	Research Internship Stipend University of Edinburgh	Erasmus

CONFERENCE PRESENTATIONS & INVITED TALKS

2024	Invited Talk Munich Neuroscience Lecture Series	<i>Representational Alignment in Biological and Artificial Information Processing Systems</i>
2023	Invited Talk LMU & Peace Research Institute Oslo <i>human-machines interactions</i> workshop	<i>Human-AI Cooperation as a function of neural representational similarity?</i>
2023	Conference Presentation 14th Dubrovnik Conference on Cognitive Science	<i>Deciding together with AI: A compatibility challenge</i>
2022	Invited Talk Cognition, Values and Behaviour Research Group, LMU	<i>From visual working memory training to multisensory human-AI interaction</i>

2019	Invited Talk Deutscher Ärztinnenbund (Frankfurt)	<i>Studying brain connectivity with simultaneous PET/MRI data</i>
2019	Conference Talk Deutsche Gesellschaft für Neurologie (Stuttgart)	<i>Amyloid PET: clinically available diagnostic imaging</i>
2019	Conference Presentation BRAIN & BRAIN PET (Yokohama)	<i>Regional Alterations in Relative FDG Uptake During an Apparent Steady State</i>
2019	Conference Presentation Organization for Human Brain Mapping (Italy)	<i>No Transfer Effects of a Working Memory Training on Resting State Networks: a PET/fMRI study</i>
2018	Conference Presentation Federation of European Neuroscience Societies (Berlin)	<i>Integrity of Neurocognitive Networks in Dementing Disorders as Measured with Functional and Metabolic Neuroimaging</i>

PUBLICATIONS

Under Review: **Ripp I.**, Sun W., Borrmann A. et al. Sensory Modality Influence on Human Reinforcement Learning: Different Response Time but Consistent Performance. Scientific Reports.

Lizarraga A, **Ripp I**, Sala A, et al. (2023). Similarity between structural and proxy estimates of brain connectivity. Journal of Cerebral Blood Flow & Metabolism. <https://doi.org/10.1177/0271678X231204769>

Ripp, I., Emch, M., Wu, Q. et al. (2022). Adaptive working memory training does not produce transfer effects in cognition and neuroimaging. Translational Psychiatry. <https://doi.org/10.1038/s41398-022-02272-7>

Yakushev, I. *, **Ripp, I.***, Wang, M. et al. (2022). Mapping covariance in brain FDG uptake to structural connectivity. European Journal of Nuclear Medicine and Molecular Imaging. <https://doi.org/10.1007/s00259-021-05590-y>

*equally contributed

Ripp I., Wu Q., Wallenwein L. et al. (2022). Neuronal efficiency following n-back training task is accompanied by a higher cerebral glucose metabolism. NeuroImage. <https://doi.org/10.1016/j.neuroimage.2022.119095>

Sala A.*, Lizarraga A.*, **Ripp I.*** et al. (2022). Static versus Functional PET: Making Sense of Metabolic Connectivity. Cerebral Cortex. <https://doi.org/10.1093/cercor/bhab271>

*equally contributed

Ripp I., Wallenwein L., Wu Q. et al. (2021). Working memory task induced neural activation: A simultaneous PET/fMRI study. NeuroImage. <https://doi.org/10.1016/j.neuroimage.2021.118131>

Wu Q., **Ripp I.**, Emch M. et al. (2021). Cortical and subcortical responsiveness to intensive adaptive working memory training: An MRI surface-based analysis. Human Brain Mapping. <https://doi.org/10.1002/hbm.25412>

Ripp I., Stadhouders T., Savio A. et al. (2020). Integrity of Neurocognitive Networks in Dementing Disorders as Measured with Simultaneous PET/Functional MRI. Journal of Nuclear Medicine. <https://doi.org/10.2967/jnumed.119.234930>

Emch M., **Ripp I.**, Wu Q. et al. (2019). Neural and Behavioral Effects of an Adaptive Online Verbal Working Memory Training in Healthy Middle-Aged Adults. Frontiers in Aging Neuroscience. <https://doi.org/10.3389/fnagi.2019.00300>

Ripp I., Savio A. and Yakushev I. (2018). Reply: Neurometabolic Resting-State Networks Derived from Seed-Based Functional Connectivity Analysis. Journal of Nuclear Medicine. <https://doi.org/10.2967/jnumed.118.216150>

Ripp, I., Zur Nieden A.-N., Blankenagel S. et al. (2018). Multisensory integration processing during olfactory-visual stimulation-An fMRI graph theoretical network analysis. Human Brain Mapping. <https://doi.org/10.1002/hbm.24206>

Bois C., Levita L., **Ripp, I.** et al. (2016). Longitudinal changes in hippocampal volume in the Edinburgh High Risk Study of Schizophrenia. Schizophrenia Research. <https://doi.org/10.1016/j.schres.2014.12.003>

Bois C., Levita L., **Ripp I.** et al. (2015). Hippocampal, amygdala and nucleus accumbens volume in first-episode schizophrenia patients and individuals at high familial risk: A cross-sectional comparison. Schizophrenia Research. <https://doi.org/10.1016/j.schres.2015.03.024>