Amin Saberi

Postdoctoral Researcher at Lise Meitner Research Group Neurobiosocial
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EDUCATION

2021–   Ph.D., Heinrich Heine University Düsseldorf

2011–19   M.D., Mashhad University of Medical Sciences

PROFESSIONAL EXPERIENCE

2025–   Max Planck Institute for Human Cognitive and Brain Sciences
Postdoctoral Researcher

2025–   Research Center Jülich
Guest Researcher

2021–25   Max Planck Institute for Human Cognitive and Brain Sciences / Research Center Jülich
Doctoral Researcher

2018–21   Institute of Medical Science and Technology, Shahid Beheshti University
Research Intern

2017–18   Mashhad University of Medical Sciences
Medical Intern

RESEARCH AREAS

Brain imaging, Computational neuroscience, Psychiatry, Meta-analyses, Cortical dynamics, Neurodevelopment

SKILLS

Programming (Python, C/C++, CUDA, R & Matlab), Structural and functional MRI analysis, Brain network modelling, Neuroimaging and clinical meta-analysis, Statistical analysis, High performance computing

PUBLICATIONS

2025   John, A.*, Hettwer, M. D., Schaare, H. L., Saberi, A., Bayrak, Ş., Wan, B., . . . Valk, S. L.* "**A multimodal characterization of low-dimensional thalamocortical structural connectivity patterns.**" *Communications Biology*, 8(1), 1–15. doi:10.1038/s42003-025-07528-8

2024   Wan, B.*, Saberi, A., Paquola, C., Schaare, H. L., Hettwer, M. D., Royer, J., . . . Valk, S. L.* "**Microstructural asymmetry in the human cortex.**" *Nature Communications*, 15(1), 10124. doi:10.1038/s41467-024-54243-9

2024   Magielse, N.*, Manoli, A., Eickhoff, S. B., Fox, P. T., Saberi, A.†, Valk, S. L.†* "**Bias-accounting meta-analyses overcome cerebellar neglect to refine the cerebellar behavioral topography.**" *bioRxiv*. doi:10.1101/2024.10.31.621398

2024   Saberi, A., Ebneabbasi, A., Rahimi, S., Sarebannejad, S., Sen, Z. D., Graf, H., . . . Tahmasian, M.* "**Convergent functional effects of antidepressants in major depressive disorder: A neuroimaging meta-analysis.**" *Molecular Psychiatry*. doi:10.1038/s41380-024-02780-6

2024   Lotter, L. D., Saberi, A., Hansen, J. Y., Misic, B., Paquola, C., Barker, G. J., . . . Dukart, J.* "**Regional patterns of human cortex development correlate with underlying neurobiology.**" *Nature Communications*, 15(1), 7987. doi:10.1038/s41467-024-52366-7

2024   Küchenhoff, S., Bayrak, Ş., Zsido, R. G., Saberi, A., Bernhardt, B. C., Weis, S., . . . Valk, S. L.* "**Relating sex-bias in human cortical and hippocampal microstructure to sex hormones.**" *Nature Communications*, 15(1), 1–19. doi:10.1038/s41467-024-51459-7

2024   Elberse, J. D., Saberi, A., Ahmadi, R., Changizi, M., Bi, H., Hoffstaedter, F., . . . Tahmasian, M.*, Alzheimer's Disease Neuroimaging Initiative. "**The interplay between insomnia symptoms and Alzheimer's Disease across three main brain networks.**" *Sleep*, zsae145. doi:10.1093/sleep/zsae145

2024   Saberi, A., Wischnewski, K. J., Jung, K., Lotter, L. D., Schaare, H. L., Banaschewski, T., . . . Valk, S. L.* "**Adolescent maturation of cortical excitation-inhibition balance based on individualized biophysical network modeling.**" *bioRxiv*. doi:10.1101/2024.06.18.599509

2023   Saberi, A., Paquola, C., Wagstyl, K., Hettwer, M., Bernhardt, B.C., Eickhoff, S.B., Valk, S.L.* "**The regional variation of laminar thickness in the human isocortex is related to cortical hierarchy and interregional connectivity.**" *PLOS Biology*. doi:10.1371/journal.pbio.3002365

2023   Maleki Balajoo, S., Eickhoff, S. B., Masouleh, S. K., Plachti, A., Waite, L., Saberi, A., Bahri, M. A., Bastin, C., Salmon, E., Hoffstaedter, F., Palomero-Gallagher, N., Genon, S.* "**Hippocampal metabolic subregions and networks: Behavioral, molecular, and pathological aging profiles.**" *Alzheimer's & Dementia*. doi:10.1002/alz.13056

2022   Hettwer, M. D., Saberi, A., Fan, Y.-S., Valk, S. L.* "**Schizophrenia and Macroscale Brain Structure: Genes in Context.**" *Biological Psychiatry*, 92(4), 258–260. doi:10.1016/j.biopsych.2022.06.010

2022   Kamalian, A.†, Khodadadifar, T.†, Saberi, A., Masoudi, M., Camilleri, J. A., Eickhoff, C. R., . . . Tahmasian, M.* "**Convergent regional brain abnormalities in behavioral variant frontotemporal dementia: A neuroimaging meta-analysis of 73 studies.**" *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring*, 14(1), e12318. doi:10.1002/dad2.12318

2022   Ghodsi, H., Rahimi, H. R., Aghili, S. M., Saberi, A., Shoeibi, A.* "**Evaluation of curcumin as add-on therapy in patients with Parkinson's disease: A pilot randomized, triple-blind, placebo-controlled trial.**" *Clinical Neurology and Neurosurgery*, 107300. doi:10.1016/j.clineuro.2022.107300

2022   Rahimi Jafari, S.†, Sareban Nejad, S.†, Saberi, A., Khazaie, H., Camilleri, J. A., Eickhoff, C. R., Eickhoff, S. B., Tahmasian, M.* "**Is there any consistent structural and functional brain abnormality in narcolepsy? A meta-analytic perspective.**" *Neuroscience & Biobehavioral Reviews*, 132, 1181–1182. doi:10.1016/j.neubiorev.2021.10.034

2021   Saberi, A., Mohammadi, E., Zarei, M., Eickhoff, S. B., Tahmasian, M.* "**Structural and functional neuroimaging of late-life depression: A coordinate-based meta-analysis.**" *Brain Imaging and Behavior*, 16, 518–531. doi:10.1007/s11682-021-00494-9

2021   Saberi, A., Abdolalizadeh, A., Mohammadi, E., Nahayati, M. A., Bagheri, H., Shekarchi, B., Kargar, J.* "**Thalamic shape abnormalities in patients with multiple sclerosis-related fatigue.**" *Neuroreport*, 32(6), 438–442. doi:10.1097/WNR.0000000000001616

2021   Tahmasian, M.*, Aleman, A., Andreassen, O. A., Arab, Z., Baillet, M., Benedetti, F., Bresser, T., Bright, J., Chee, M. W. L., Chylinski, D., Cheng, W., Deantoni, M., Dresler, M., Eickhoff, S. B., Eickhoff, C. R., Elvsåshagen, T., Feng, J., Foster-Dingley, J. C., Ganjgahi, H., ... Saberi, A., ... Zarei, M. "**ENIGMA-Sleep: Challenges, opportunities, and the road map.**" *Journal of Sleep Research*, e13347. doi:10.1111/jsr.13347

2021   Bijari, M., Jangjoo, S., Emami, N., Raji, S., Mottaghi, M., Moallem, R., Jangjoo, A., Saberi, A.* "**The Accuracy of Visceral Adiposity Index for the Screening of Metabolic Syndrome: A Systematic Review and Meta-Analysis.**" *International Journal of Endocrinology*, 2021, e6684627. doi:10.1155/2021/6684627

2021   Ghodsi, A., Bijari, M., Alamdaran, S. A., Saberi, A., Mahmoudabadi, E., Balali, M. R., Ghahremani, S.* "**Chest computed tomography findings of COVID-19 in children younger than 1 year: A systematic review.**" *World Journal of Pediatrics*, 17, 234–241. doi:10.1007/s12519-021-00424-1

2021   Khorrampazhouh, N., Omranzadeh, A., Fazeli, B., Zarifian, A., Ghodsi, A., Amirkhanlou, F., Saberi, A., ... Moghadam, M. D.* "**A Systematic Review and Meta-analysis of Clinical Studies on Ankylosing Spondylitis and Neutrophil to Lymphocyte Ratio.**" *Current Rheumatology Reviews*, 18, 160-167. doi:10.2174/1573397117666210921114431

2020   Rezaeitalab, F., Esmaeili, M.*, Saberi, A., Vahidi, Z., Emadzadeh, M., Rahimi, H. R., Ramezani, N., Mirshabani-Toloti, S. Z. "**Predictive value of inflammatory markers for functional outcomes in patients with ischemic stroke.**" *Current Journal of Neurology*, 19(2), 47–52. doi:10.18502/cjn.v19i2.4940

2017   Ganji, A., Esmaeilzadeh, A., Ghanaei, O., Saberi, A.*, Taherzadeh, D., Sazgarnia, S., Mayabi Joghal, Z., Zirak, M., AbdolahRamazani, S., Zarifmahmoudi, L. "**Predictive value of red blood cell distribution width for mortality in patients with acute pancreatitis: A systematic review and meta-analysis.**" *Medical Journal of the Islamic Republic of Iran*, 31, 124. doi:10.14196/mjiri.31.124

* corresponding author, † equal contribution

INVITED TALKS

2024   "Adolescent maturation of cortical excitation-inhibition balance based on individualized and GPU-accelerated biophysical network modeling." *Gradients of Brain Organization Workshop* (Seoul, South Korea)

CONFERENCE PRESENTATIONS

2024   "cuBNM: GPU-Accelerated Biophysical Network Modeling." *30th Annual Meeting of the Organization for Human Brain Mapping* (Seoul, South Korea) / *8th BigBrain Workshop* (Padua, Italy) / *Bernstein Conference* (Frankfurt, Germany)

2023-24   "Adolescent maturation of cortical excitation-inhibition balance based on individualized biophysical network modeling." *29th Annual Meeting of the Organization for Human Brain Mapping* (Montreal, Canada) / *32nd Annual Computational Neuroscience Meeting* (Leipzig, Germany) / *7th BigBrain Workshop* (Reykjavík, Iceland) / *30th Annual Meeting*

of the Organization for Human Brain Mapping (Seoul, South Korea) / *Bernstein Conference* (Frankfurt, Germany)

2021-23 "Laminar thickness covariance in the BigBrain in association to cortical hierarchy and connectivity." *5th BigBrain Workshop* (Online) / *28th Annual Meeting of the Organization for Human Brain Mapping* (Glasgow, United Kingdom) / *6th BigBrain Workshop* (Zadar, Croatia) / *qMRI Conference* (Online)

2020 "Brain mediators of the vicarious facilitation of pain." *7th Iranian Human Brain Mapping Congress* (Online)

2019 "A coordinate based meta-analysis on the brain functional and structural changes in late life depression." *6th Iranian Human Brain Mapping Congress* (Tehran, Iran)

2017 "Neutrophil to lymphocyte ratio as a prognostic marker in glioblastoma multiforme: a systematic review and meta-analysis." *The 1st International Neuroinflammation Congress* (Mashhad, Iran)

2016 "Cerebral blood volume as a prognostic marker in glioblastoma patients treated with bevacizumab: a systematic review." *1st International Razavi Cancer Congress* (Mashhad, Iran)

2012 "The effect of stress on working memory in individuals with different personality traits." *1st International Anxiety Congress* (Mashhad, Iran)

SOFTWARE DEVELOPMENT

"cuBNM", a toolbox for biophysical network modeling on GPUs.

"NiMARE-GPU", GPU-accelerated activation likelihood estimation meta-analysis.

"Review Speed Analytics", an app for extracting and presenting peer review speed data of journal articles

TEACHING & SUPERVISION

2024 Co-supervisor for BSc internship of Delaram Roozbehani

2024 "Methods in Neuroscience" (1 session, co-taught), Leipzig University, Leipzig, Germany

2023 Co-supervisor for BSc internship of Anna-Lea Beyer

2022 Co-supervisor for MSc internship of Marie Rademacher

2022 Co-supervisor for BSc internship of Julia Rakowski

2021 "Python for Data Science" (10 sessions), Online

2020 "NeuromatchAcademy, an international computational neuroscience crash course" (15 days, teaching assistant), Online

2017 "Meta-analysis of prognostic and diagnostic studies workshop" (1 session), Mashhad University of Medical Sciences, Mashhad, Iran

GRANTS AND AWARDS

2024 Heine Research Academies Travel Grant (1500 €), Germany

2023 Granted access to Jülich Supercomputing Center, Germany

2015   Awarded membership of National Elites Foundation, Iran

PEER REVIEW

Reviewed academic journal articles for *Nature Reviews Neuroscience* (as co-reviewer), *Brain Structure and Function*, *Translational Neuroscience*, *Scientific Reports* and *Communications Biology.*

PROFESSIONAL MEMBERSHIPS

Organization for Computational Neurosciences

Organization for Human Brain Mapping

Iranian Medical Council