Sina Mansour L. | Curriculum Vitae

Postdoctoral Research Fellow
Centre for Sleep and Cognition, National University of Singapore, Singapore
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For the most recent CV, you may check sina-mansour.github.io/cv/

Education & Employment

Postdoctoral Research Fellow — **2023–present**
Centre for Sleep and Cognition, National University of Singapore — *Singapore, Singapore*

Honorary Research Fellow — **2023–present**
Department of Psychiatry, The University of Melbourne — *Melbourne, Australia*

Postdoctoral Research Fellow — **2022–2023**
Department of Psychiatry, The University of Melbourne — *Melbourne, Australia*

Ph.D., Dept. of Biomedical Engineering — **2018–2022**
Melbourne School of Engineering, The University of Melbourne — *Melbourne, Australia*

Double degrees in electrical engineering and computer sciences — **2011–2017**
Depts. of Electrical Engineering & Mathematical Sciences, Sharif University of Technology, — *Tehran, Iran*

Awards & Honors

2023: Awarded the Runner-Up International Open Science Trainee Prize from the Neuro.

2022: Awarded the Best Student Paper Prize from the IEEE Victorian Section.

2021: Awarded the best poster ECR award at Maths in the Brain 2021.

2021: Awarded the Open Science fellowship from the OHBM Open Science Special Interest Group.

2021: Awarded the IEEE Special Recognition Award from the IEEE Region 10 (Student Branch chair).

2020: Awarded a Student Engagement Grant (SEG) 2020 as chair of the IEEE student branch at the University of Melbourne to organize programming workshops tailored for undergraduate and graduate students.

2019: Best graphical abstract from SOBR symposium 2019

2019: Poster presentation excellence award in engineering, computational and systems neuroscience, SOBR symposium 2019

2019: Awarded a grant from the Graduate Students' Association (GSA) to support the Programming for Neuroimaging Data Analysis (PNDA) workshop series under SONR.

2018: Melbourne Research Scholarship for postgraduate research

2017: Ranked 2nd among participants in Nationwide Graduate University Entrance Exam for Computer Sciences (for Masters Degree)

2015: Ranked 23rd in the IEEEXtreme 9.0 worldwide programming contest as a member of team CoDeFX (3rd in Iran)

Research Experience

For the complete list of publications, refer to my Google Scholar profile.

Publications

2024: **Mansour L., S.**, Behjat, H., Van De Ville, D., Smith, R. E., Yeo, B. T., & Zalesky, A. (2024). Eigenmodes of the brain: revisiting connectomics and geometry. *bioRxiv*, 2024.04.16.589843. https://doi.org/10.1101/2024.04.16.589843

2024: Oldham, S., **Mansour L., S.**, & Ball, G. (2024). Development of thalamocortical connectivity during the third trimester. *bioRxiv*, 2024.04.29.591770. https://doi.org/10.1101/2024.04.29.591770

2023: **Mansour L., S.**, Di Biase, M. A., Smith, R. E., Zalesky, A., & Seguin, C. (2023). Connectomes for 40,000 UK Biobank participants: A multi-modal, multi-scale brain network resource. *NeuroImage*, 283, 120407. https://doi.org/10.1016/j.neuroimage.2023.120407

2023: Tanner, J., **Mansour L., S.**, Coletta, L., Gozzi, A., & Betzel, R. F. (2023). Functional connectivity modules in recurrent neural networks: function, origin and dynamics. *arXiv preprint*, arXiv:2310.20601. https://doi.org/10.48550/arXiv.2310.20601

2023: Dehestani, N., Vijayakumar, N., Ball, G., **Mansour L., S.**, Whittle, S., & Silk, T. J. (2023). "Puberty age gap": new method of assessing pubertal timing and its association with mental health problems. *Molecular Psychiatry*. https://doi.org/10.1038/s41380-023-02316-4

2023: Girard, G., Rafael-Patiño, J., Truffet, R., Aydogan, D. B., ..., **Mansour L., S.**, ... & Thiran, J. P. (2023). Tractography passes the test: Results from the diffusion-simulated connectivity (disco) challenge. *NeuroImage*, 277, 120231. https://doi.org/10.1016/j.neuroimage.2023.120231

2023: Liu, Y., Seguin, C., **Mansour L., S.**, Oldham, S., Betzel, R., Di Biase, M. A., & Zalesky, A. (2023). Parameter estimation for connectome generative models: Accuracy, reliability, and a fast parameter fitting method. *Neuroimage*, 270, 119962. https://doi.org/10.1016/j.neuroimage.2023.119962

2023: Seguin, C., Jedynak, M., David, O., **Mansour L., S.**, Sporns, O., & Zalesky, A.. (2023). Communication dynamics in the human connectome shape the cortex-wide propagation of direct electrical stimulation. *Neuron*. https://doi.org/10.1016/j.neuron.2023.01.027

2023: Smout, C, Holford, D. L., Garner, K., Martinez, P. A., Campbell, M., ..., **Mansour L., S.**, ... & Coelho, L. P. (2023). An open code pledge for the neuroscience community. *Aperture Neuro* Proceedings of the OHBM Brainhack 2021. https://apertureneuropub.cloud68.co/articles/87/

2022: Eisenmann, M., Reinke, A., Weru, V., Tizabi, M. D., ..., **Mansour L., S.**, ... & Finzel, R. (2022). Biomedical image analysis competitions: The state of current participation practice. *arXiv preprint*. https://doi.org/10.48550/arXiv.2212.08568

2022: **Mansour L., S.**, Seguin, C., Winkler, A., Noble, S., & Zalesky, A.. (2022). Topological Cluster Statistic (TCS): Towards structural-connectivity-guided fMRI cluster enhancement. *Research Square*. https://doi.org/10.21203/rs.3.rs-2059418/v1

2022: Seguin, C., **Mansour L., S.**, Sporns, O., Zalesky, A., & Calamante F. (2022). Network communication models narrow the gap between the modular organization of structural and functional brain networks. *NeuroImage*, 257, 119323. https://doi.org/10.1016/j.neuroimage.2022.119323

2022: **Mansour L., S.**, Seguin, C., Smith, R. E., & Zalesky, A. (2021). Connectome spatial smoothing (CSS): Concepts, methods, and evaluation. *NeuroImage*, 250, 118930. https://doi.org/10.1016/j.neuroimage.2022.118930

2021: Levitis, E., van Praag, C. D. G., Gau, R., Heunis, S., DuPre, E., Kiar, G., ..., **Mansour L., S.**, ... & Maumet, C. (2021). Centering inclusivity in the design of online conferences–An OHBM–Open Science perspective. *GigaScience*, 10(8), giab051. https://doi.org/10.1093/gigascience/giab051

2021: Gau, R., Noble, S., Heuer, K., Bottenhorn, K. L., Bilgin, I. P., Yang, Y. F., ..., **Mansour L., S.**, ... & Marinazzo, D. (2021). Brainhack: Developing a culture of open, inclusive, community-driven neuroscience. *Neuron*, 109(11), 1769-1775. https://doi.org/10.1016/j.neuron.2021.04.001

2021: Omidvarnia, A., Zalesky, A., **Mansour L., S.**, Van De Ville, D., Jackson, G. D., & Pedersen, M. (2021).

Temporal complexity of fMRI is reproducible and correlates with higher order cognition. *NeuroImage*, 230, 117760. https://doi.org/10.1016/j.neuroimage.2021.117760

2021: **Mansour L., S.**, Tian, Y., Yeo, B. T., Cropley, V., & Zalesky, A. (2021). High-resolution connectomic fingerprints: Mapping neural identity and behavior. *NeuroImage*, 229, 117695. https://doi.org/10.1016/j.neuroimage.2020.117695

2020: Cropley, V. L., Tian, Y., Fernando, K., **Mansour L., S.**, Pantelis, C., Cocchi, L., & Zalesky, A. (2021). Brain-predicted age associates with psychopathology dimensions in youths. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 6(4), 410-419.

2020: Rakesh, D., Fernando, K. B., & **Mansour L., S.** (2020). Functional dedifferentiation of the brain during healthy aging. *Journal of neurophysiology*, 123(4), 1279-1282. https://doi.org/10.1152/jn.00039.2020

Conferences (peer-reviewed abstracts)

July 2023: **"Topological Cluster Statistic (TCS): Linking tractography and brain activation to make anatomically-informed inference"** Featured talk at the symposium on "Inference on the Brain, advances and practices in brain activity inference" at the Organization for Human Brain Mapping Annual Meeting (OHBM 2023), Montreal, Canada.

July 2023: **"Connectomes for 40,000 UK Biobank participants: A multi-modal, multi-scale dataset for network neuroscience"** Poster presentation at the Organization for Human Brain Mapping Annual Meeting (OHBM 2023), Montreal, Canada.

November 2022: **"Topological Cluster Statistic (TCS): fMRI cluster enhancement using anatomically-guided inference"** Poster Presentation at the "Maths in the Brain 2022" Conference organized by the Turner Institute for Brain and Mental Health, Monash University.

June 2022: **"Spectral connectome analysis across modalities & resolutions"** Featured talk at the symposium on "Novel insights into brain organization via graph signal processing" at the Organization for Human Brain Mapping Annual Meeting (OHBM 2022), Glasgow, Scotland.

June 2022: **"Topological Cluster Statistic: Structural connectivity guided fMRI cluster enhancements"** Poster presentation at the Organization for Human Brain Mapping Annual Meeting (OHBM 2022), Glasgow, Scotland.

November 2021: **"Connectome-Based Smoothing (CBS) for structural connectomes"** Poster Presentation at the "Maths in the Brain" Conference organized by the Turner Institute for Brain and Mental Health & Monash Biomedical Imaging.

June 2021: **"Challenges and impacts of spatial smoothing on high-resolution structural connectomes"** Poster presentation at the Organization for Human Brain Mapping Annual Meeting (OHBM 2021), Online.

August 2020: **"Prediction-Identification Landscape for Brain Structure and Connectivity"** Poster presentation at the ISMRM & SMRT Virtual Conference & Exhibition, Online.

July 2020: **"High-resolution connectivity analyses"** Poster presentation at the 29th Annual Computational Neuroscience Meeting, Organization for Computational Neuroscience (OCNS), Online.

November 2019: **"Structural Connectome Fingerprinting"** Poster presentation and graphical abstract at the Students of Brain Research (SOBR) 2019 Student Symposium, The Melbourne Brain Centre, Parkville, Victoria, Australia.

November 2019: **"Prediction-Identification Landscape for Brain Structure and Connectivity"** Poster presentations at the BiomedLink 2019 annual conference, St. Vincent's Hospital Melbourne, Victoria, Australia.

Invited talks

July 2023: **"Cerebro: One tool to view them all!"** Software pitch at OHBM Brainhack 2023, Montreal, Canada.

March 2023: **"Charting the human brain; toward resolution-independent reusable normative brain**

models" Talk at Donders Institute for Brain, Cognition and Behaviour, Nijmegen, The Netherlands.

February 2023: **"Charting the human brain; toward resolution-independent, interpretable, and reusable normative brain models"** Talk at Charité – Universitätsmedizin, Berlin, Germany.

February 2023: **"High-resolution Connectomics, a tale of two disciplines"** Talk at Charité – Universitätsmedizin, Berlin, Germany.

December 2022: **"Cerebro: One tool to view them all!"** Software pitch at Brainhack Global (Australiasia hub), The University of Sydney, Sydney, Australia.

November 2022: **"Computational models of High-resolution Human Connectomics, a tale of two disciplines"** Talk at Mathematics of The Interactions Between Brain Structure and Brain Functions, MATRIX House, Creswick, Victoria, Australia.

July 2022: **"An introduction to High-resolution Human Connectomics & its applications"** Research presentation hosted by the neuroanatomy and tractography laboratory (Natbrainlab) King's College London, London, United Kingdom.

May 2022: **"Connectome Spatial Smoothing"** Virtual research presentation at lab meeting hosted by the Shine Lab, University of Sydney, Sydney, Australia.

March 2022: **"Workshop on white-matter tractography"** Virtual workshop at lab meeting hosted by the Computational & Systems Neuroscience Laboratory, Monash University, Clayton Campus, Melbourne, Australia.

February 2022: **"Connectome Spatial Smoothing"** Virtual research presentation at lab meeting hosted by Sydney Imaging and Brain & Mind Centre (BMC), University of Sydney, Sydney, Australia.

February 2022: **"High-resolution Connectomics"** Research presentation at lab meeting hosted by the Computational & Systems Neuroscience Laboratory, Monash University, Clayton Campus, Melbourne, Australia.

October 2021: **"High-resolution Connectomics"** Research presentation at lab meeting hosted by the Neural Systems and Behavior lab, Monash University, Clayton Campus, Melbourne, Australia.

September 2021: **"High-resolution connectomic fingerprints: Mapping neural identity and behavior"** Research presentation at the Neuroimage Journal Club hosted by Sydney Imaging and Brain & Mind Centre (BMC), University of Sydney, Sydney, Australia.

August 2021: **"High-resolution Connectomics"** Research presentation at the Melbourne-Berlin Brain Connectivity and Machine Learning Online Workshop.

August 2021: **"Connectome-based Smoothing"** Research presentation at the Biomedical Engineering Colloquium hosted by Department of Biomedical Engineering, University of Melbourne, Melbourne, Australia.

April 2021: **"Neural correlates of identity and behavior"**: research presentation hosted by the Systems Neuropsychiatry Lab at Melbourne Neuropsychiatry Centre, Melbourne, Australia.

March 2021: **"High-resolution connectivity; A novel biomarker of brain-behavior associations"**: research presentation in the webinar series on "Improved methods and important considerations for correlating brain and behavior" organized by the Australian Chapter of the Organization for Human Brain Mapping.

November 2020: **"High-Resolution Brain Networks as Cerebral Fingerprints"** Research presentation at the Biomedical Engineering Colloquium hosted by Department of Biomedical Engineering, University of Melbourne, Melbourne, Australia.

October 2019: **"Structural Connectome Fingerprinting"** Research presentation at the Biomedical Engineering Colloquium hosted by Department of Biomedical Engineering, University of Melbourne, Melbourne, Australia.

🏛 Teaching Experience

2021: Tutor and Organizer, Unlock Xtreme 15.0, IEEE student branch of University of Melbourne, Online

2021: Tutor, Applied Computation in Bioengineering, The University of Melbourne, Online

2021: Tutor, Circuits and Systems, The University of Melbourne, Online

2021: Tutor, Machine Learning and Data Visualization with Python, OHBM Brainhack 2021, Online

2020: Tutor and Organizer, Unlock Xtreme 14.0, IEEE student branch of University of Melbourne, Online

2020: Tutor and Project lead, OHBM Brainhack 2020, Online

2019: Tutor and coordinator, Programming for Neuroimaging Data Analysis (PNDA) workshop series, Melbourne Neuropsychiatry Centre, Melbourne, Australia

2016: Tutor, Operating Systems, Sharif Univ. of Technology, Tehran, Iran

2015: Tutor and lab demonstrator, Advanced C++ Programming, Sharif Univ. of Technology, Tehran, Iran)