

GHAZALEH SOLEIMANI

Curriculum Vitae

Department of Psychiatry and Behavioral Science, University of Minnesota:

<https://experts.umn.edu/en/persons/ghazaleh-soleimani>

Google Scholar:

<https://scholar.google.com/citations?hl=en&user=RyGoWYkAAAAI>

ResearchGate:

<https://www.researchgate.net/profile/Ghazaleh-Soleimani>

solei039@umn.edu

gh.soleimani70@gmail.com

RESEARCH	<ul style="list-style-type: none">• Computational Neuroscience• Neuroscience of Substance Use Disorders• Noninvasive Brain Stimulation• Brain Mapping Tools—fMRI, EEG	
POSTDOC	<ul style="list-style-type: none">• Department of Psychiatry and Behavioral Sciences• Department of Biomedical EngineeringUniversity of Minnesota	Feb. 2023 - Present
EDUCATION	<p>Ph.D. Student in Biomedical Engineering – Bioelectric Department of Biomedical Engineering The Center of Excellence on Biomedical Engineering in Iran Amirkabir University of Technology (Tehran Polytechnic) GPA: 19.58/20 Advisor: F. Towhidkhah, M. Saviz, H. Ekhtiari, A. Nasiraei Moghaddam Thesis: Modeling Inter- and Intra-Individual Variability in Response to tDCS in People with Methamphetamine Use Disorders based on Structural and Functional MRI</p> <p>M.Sc. in Biomedical Engineering – Bioelectric Department of Biomedical Engineering University of Isfahan, Esfahan, Iran GPA: 19.34/20 Advisor: M. Emadi Andani, H. Marateb & F. Bahrami Thesis: A New Method of Modeling Human Dynamic Stability using the Combination of Physical and Physiological Data</p> <p>B.Sc. in Electrical Engineering – Control Department of Electrical and Computer Engineering Isfahan University of Technology, Esfahan, Iran GPA: 17.04/20 Advisor: M. Zekri Thesis: Telemedicine in Medical Microscopic Imaging</p>	<p>Sept. 2016 – Oct. 2021</p> <p>Sept. 2014 – Sept. 2016</p> <p>Sept. 2009 – Sept. 2013</p>
HONORS & AWARDS	<ul style="list-style-type: none">• The College on Problems of Drug Dependence (CPDD-2025) Young Investigator Travel Award Winner in New Orleans, Louisiana, USA• MnDRIVE Brain Conditions Research Award – \$75,000, University of Minnesota, 2024 (For research on fMRI-guided TMS in substance use disorders)• Society of Biological Psychiatry (SOBP-2023) International Travel Award Winner in San Diego, CA, USA (https://sobp.org/awards-gallery-2023/)• The College on Problems of Drug Dependence (CPDD-2023) International Travel Award winner in Denver, Colorado, USA (https://cpdd.org/2023-cpdd-travel-awards-recipient/)• 2023 NIDA International Forum Abstract Selected Travel Award Winner in Denver, Colorado, USA• Travel Award winner for OHBM 2023 in Montreal, Canada• EZAMA Award• 1st ISAM Asian Regional Meeting on Addiction Medicine and 14th International Addiction Science Congress (ASC 2020)• Ranked 1st among Ph.D. students• Admission offers to the Ph.D. program• Ranked 1st among M.Sc. students• Exceptional Talents Scholarship	<p>2025</p> <p>2024</p> <p>2023</p> <p>2023</p> <p>2023</p> <p>2023</p> <p>2023</p> <p>2023</p> <p>2020</p> <p>2017-2020</p> <p>2016</p> <p>2015-2016</p> <p>2015</p>

- Ranked top 0.3% among more than 300,000 participants in Iran's National Entrance Examination of Universities (Konkour) in mathematics and physics branch

PUBLICATIONS
(Peer-reviewed)

Journal Articles

Published:

- (J1) Ghobadi-Azbari, Peyman, Asif Jamil, Fatemeh Yavari, Zeinab Esmaeilpour, Nastaran Malmir, Rasoul Mahdavi-far-Khayati, **Ghazaleh Soleimani** et al. "fMRI and transcranial electrical stimulation (tES): A systematic review of parameter space and outcomes." *Progress in Neuro-Psychopharmacology and Biological Psychiatry* 107 (2021): 110149. (<https://doi.org/10.1016/j.pnpbp.2020.110149>).
- (J2) **Soleimani, Ghazaleh**, Mehrdad Saviz, Marom Bikson, Farzad Towhidkhah, Rayus Kuplicki, Martin P. Paulus, and Hamed Ekhtiari. "Group and individual level variations between symmetric and asymmetric DLPFC montages for tDCS over large scale brain network nodes." *Scientific reports* 11, no. 1 (2021): 1-13. (<https://doi.org/10.1038/s41598-020-80279-0>).
- (J3) **Soleimani, Ghazaleh**, Farzad Towhidkhah, Mehrdad Saviz, and Hamed Ekhtiari. "Cortical Morphology in Cannabis Use Disorder: Implications for Transcranial Direct Current Stimulation Treatment." *Basic & Clinical Neuroscience* (2021) (<http://dx.doi.org/10.32598/bcn.2021.3400.1>).
- (J4) Ekhtiari, Hamed, Peyman Ghobadi-Azbari, Axel Thielscher, Andrea Antal, Lucia M. Li, A. Duke Shereen, Yuranny Cabral-Calderin et al. "A checklist for assessing the methodological quality of concurrent tES-fMRI studies (ContES checklist): a consensus study and statement." *Nature Protocols* (2022): 1-24. (<https://doi.org/10.1038/s41596-021-00664-5>).
- (J5) **Soleimani, Ghazaleh**, Mehrdad Saviz, Farzad Towhidkhah, and Hamed Ekhtiari. "Effects of transcranial direct current stimulation based on electric field distribution patterns and changes in brain activity." *Iranian Journal of Biomedical Engineering* 14, no. 3 (2020): 261-270. (<https://www.ijbme.org/article/44864.html>).
- (J6) **Soleimani, Ghazaleh**, Rayus Kupliki, Jerzy Bodurka, Martin Paulus, and Hamed Ekhtiari. "How structural and functional MRI can inform dual-site tACS parameters: A case study in a clinical population and its pragmatic implications." *Brain stimulation journal* (2022, Underpress). (<https://doi.org/10.1016/j.brs.2022.01.008>).
- (J7) Dakhili, Amirhossein, Arshiya Sangchooli, Sara Jafakesh, Mehran Zare-Bidoky, **Ghazaleh Soleimani**, Seyed Amir Hossein Batouli, Kamran Kazemi, Ashkan Faghiri, Mohammad Ali Oghabian, and Hamed Ekhtiari. "Cue-Induced Craving and Negative Emotion Disrupt Response Inhibition in Methamphetamine Use Disorder: Behavioral and fMRI Results from a Mixed Go/No-Go Task." *Drug and Alcohol Dependence* (2022): 109353. (<https://doi.org/10.1016/j.drugalcdep.2022.109353>).
- (J8) **Soleimani, Ghazaleh**, Farzad Towhidkhah, Mohammad Ali Oghabian, and Hamed Ekhtiari. "DLPFC stimulation alters large-scale brain networks connectivity during a drug cue reactivity task: A tDCS-fMRI study." *Frontiers in Systems Neuroscience*: 101. (<https://doi.org/10.3389/fnsys.2022.956315>)
- (J9) Ekhtiari, Hamed, **Ghazaleh Soleimani**, Rayus Kuplicki, Hung-Wen Yeh, Yoon-Hee Cha, and Martin Paulus. "Transcranial direct current stimulation to modulate fMRI drug cue reactivity in methamphetamine users: A randomized clinical trial." *Human Brain Mapping* 43, no. 17 (2022): 5340-5357. (<https://doi.org/10.1002/hbm.26007>)
- (J10) Mulyana, Beni, Aki Tsuchiyagaito, Masaya Misaki, Rayus Kuplicki, Jared Smith, **Ghazaleh Soleimani**, Ashkan Rashedi et al. "Online closed-loop real-time tES-fMRI for brain modulation: A technical report." *Brain and Behavior* (2022): e2667. (<https://doi.org/10.1002/brb3.2667>).
- (J11) **Soleimani, Ghazaleh**, Michael A. Nitsche, Til Ole Bergmann, Farzad Towhidkhah, Ines R. Violante, Romy Lorenz, Rayus Kuplicki et al. "Closing the loop between brain and electrical stimulation: Towards precision neuromodulation treatments." *Translational Psychiatry* 13, no. 1 (2023): 279. (<https://doi.org/10.1038/s41398-023-02565-5>)
- (J12) Almeida, Jorge, Ana R. Martins, Lénia Amaral, Daniela Valério, Qasim Bukhari, Guilherme Schu, Joana Nogueira, **Ghazaleh Soleimani** et al. "The cerebellum is causally involved in episodic memory under aging." *GeroScience* (2023): 1-21. (<https://doi.org/10.1007/s11357-023-00738-0>)
- (J12) Soleimani, Ghazaleh, Juho Joutsa, Khaled Moussawi, Shan H. Siddiqi, Rayus Kuplicki, Marom Bikson, Martin P. Paulus, Michael D. Fox, Colleen A. Hanlon, and Hamed Ekhtiari. "Converging evidence for frontopolar cortex as a target for neuromodulation in addiction treatment." *American Journal of Psychiatry* 181, no. 2 (2024): 100-114. (<https://doi.org/10.1176/appi.ajp.20221022>)

- (J13) **Soleimani, Ghazaleh**, Rayus Kupliki, Martin Paulus, and Hamed Ekhtiari. "Dose-response in modulating brain function with transcranial direct current stimulation: from local to network levels." *PLOS Computational Biology* 19, no. 10 (2023): e1011572 (<https://doi.org/10.1371/journal.pcbi.1011572>)
- (J14) **Soleimani, Ghazaleh**, Rayus Kuplicki, Jazmin Camchong, Alexander Opitz, Martin P. Paulus, Kelvin O. Lim, and Hamed Ekhtiari. *Are we really targeting and stimulating DLPFC by placing transcranial electrical stimulation (tES) electrodes over F3/F4?*. Vol. 44, no. 17. Hoboken, USA: John Wiley & Sons, Inc., 2023 (<https://doi.org/10.1002/hbm.26492>).
- (J15) Ray, Lara A., Rajita Sinha, Michael N. Smolka, **Ghazaleh Soleimani**, Rainer Spanagel, Vaughn R. Steele, Susan F. Tapert et al. "Parameter space and potential for biomarker development in 25 years of fMRI drug cue reactivity a systematic review: a systematic review." *JAMA Psychiatry* (2024). (<https://doi.org/10.1001/jamapsychiatry.2023.5483>)
- (J16) Soleimani, Ghazaleh, Michael A. Nitsche, Colleen A. Hanlon, Kelvin O. Lim, Alexander Opitz, and Hamed Ekhtiari. "Four dimensions of individualization in brain stimulation for psychiatric disorders: context, target, dose, and timing." *Neuropsychopharmacology* (2025): 1-14. (<https://doi.org/10.1038/s41386-025-02094-3>)
- (J17) Khazaal, Yasser, Maèva Flayelle, Joël Billieux, Louise Penzenstadler, Tiphaine Robet, Radu Iuga, Ansgar Rougemont-Bücking et al. "Addiction: what's new in 2024." *Revue medicale suisse* 21, no. 903 (2025): 183-188. (<https://doi.org/10.53738/REVMED.2025.21.903.183>)
- (J18) Soleimani, Ghazaleh, Christine A. Conelea, Rayus Kuplicki, Alexander Opitz, Kelvin O. Lim, Martin P. Paulus, and Hamed Ekhtiari. "Targeting VMPFC-amygdala circuit with TMS in substance use disorder: A mechanistic framework." *Addiction Biology* 30, no. 1 (2025): e70011. (<https://doi.org/10.1111/adb.70011>)
- (J19) Souki, Afra, Ghazaleh Soleimani, Colleen Hanlon, and Hamed Ekhtiari. "Neuromodulation (Brain Stimulation) Technologies for Treatment of Substance Use Disorders." *The Sage Handbook of Addiction Psychology* (2025). (<https://doi.org/10.4135/9781529673913.n37>)

Selected Conference Proceedings

- (C1) **Soleimani, G.**, & Ekhtiari, H. (2024). FMRI INFORMED TMS TARGET SELECTION FOR FRONTOAMYGDALA CIRCUIT IN PEOPLE WITH METHAMPHETAMINE USE DISORDER. *Drug and Alcohol Dependence*, 260, 110082.
- (C2) **Soleimani, G.**, Kulplicki, R., Paulus, M., Lim, K., & Ekhtiari, H. (2024). 23. Capturing Dynamic Patterns of Task-Based Functional Connectivity During Drug Cue Reactivity in Fronto-Amygdala Circuit. *Biological Psychiatry*, 95(10), S108.
- (C3) **Soleimani, G.**, Kuplicki, R., Lim, K., Paulus, M., & Ekhtiari, H. (2023, December). Dual Neuromodulation Targets for Treatment of Substance Use Disorders: Unraveling the Interacting Role of DLPFC and Frontopolar Cortex During Drug Cue Reactivity. In *NEUROPSYCHOPHARMACOLOGY* (Vol. 48, pp. 418-419). CAMPUS, 4 CRINAN ST, LONDON, N1 9XW, ENGLAND: SPRINGER NATURE.
- (C4) Ekhtiari, Hamed, **Ghazaleh Soleimani**, Afra Souki, Rayus Kulplicki, Kelvin Lim, and Martin Paulus. "Multi-Level Brain Mapping to Optimize Neuromodulation in Individual and Group Levels in Substance Use Disorder." *Biological Psychiatry* 93, no. 9 (2023): S21. (<https://doi.org/10.1016/j.biopsych.2023.02.069>)
- (C5) Ekhtiari, Hamed, and **Ghazaleh Soleimani**. "Individualization of NIBS in addiction treatment: multi levels of evidence with transcranial electrical stimulation." *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation* 16, no. 1 (2023): 141. (<https://doi.org/10.1016/j.brs.2023.01.085>)
- (C6) **Soleimani, Ghazaleh**, Peyman Ghobadi-Azbari, Arash Khojasteh, Afra Souki, and Hamed Ekhtiari. "Consensus development for harmonizing transparent reporting in tES trials." *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation* 16, no. 1 (2023): 207. (<https://doi.org/10.1016/j.brs.2023.01.276>)
- (C7) **Soleimani, Ghazaleh**, and Hamed Ekhtiari. "Inter-individual variability in transcranial electric stimulation of the dorsolateral prefrontal cortex." *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation* 16, no. 1 (2023): 204. (<https://doi.org/10.1016/j.brs.2023.01.268>)
- (C8) **Soleimani, Ghazaleh**, Kelvin Lim, and Hamed Ekhtiari. "Where is the Main Target of the Most Commonly Used TDCS Electrode Montages for the Treatment of Neuropsychiatric Disorders?" In *NEUROPSYCHOPHARMACOLOGY*, vol. 47, pp. 433-434. CAMPUS, 4 CRINAN ST, LONDON, N1 9XW, ENGLAND: SPRINGER NATURE, 2022.
- (C9) Ekhtiari, Hamed, **Ghazaleh Soleimani**, Rayus Kupliki, Martin P Paulus, "How Structural and Functional MRI Can Inform Dual-site tACS Parameters in a Frontoparietal Synchronization Study, American Psychiatry Association Annual Meeting (APAAM 2022).

- (C10) Ekhtiari, Hamed, **Ghazaleh Soleimani**, Rayus Kupliki, Martin P Paulus, "Transcranial electrical stimulation in meth craving: A mechanistic dose response RCT, 53rd Annual Conference of the American Society of Addiction Medicine Annual Conference, (ASAM 2021).
- (C11) Ekhtiari, Hamed, **Ghazaleh Soleimani**, Rayus Kupliki, Martin P Paulus, "Dose-Response in Modulating Brain Response to Transcranial Direct Current Stimulation: An Exploration in Four Levels", accepted in 60th Annual Meeting of the American College of Neuropsychopharmacology (ACNP), (Neuropsychopharmacology 2021, <https://doi.org/10.1038/s41386-021-01238-5>).
- (C12) **Soleimani, Ghazaleh**, Mehrdad Saviz, Farzad Towhidkhah, and Hmaed Ekhtiari. 2020. "Network-targeting in transcranial direct current stimulation: Inter- and Intra-individual variability", Organization for Human Brain Mapping (OHBM) Annual meeting (2020) (https://www.humanbrainmapping.org/files/2020/OHBM_2020_Virtual_Abstracts_2.pdf).
- (C13) **Soleimani, Ghazaleh**, Farzad Towhidkhah, and Hamed Ekhtiari. "Optimizing Frontoparietal Synchronization in Substance Use Disorders: A Brain Stimulation Study", 1st ISAM Asian Regional Meeting on Addiction Medicine and 14th International Addiction Science Congress (ASC 2020).

INVITED TALKS

- Invited keynote speaker in the 4th international NIBS workshop (<https://nibs-workshop.umn.edu>) 2023
- Invited keynote speaker in the 6th INTAM webinar (<https://www.youtube.com/watch?v=F51mhoREk4o&t=40s>) 2022
- Invited keynote speaker in the 2nd INSF-CAS joint workshop (<https://www.youtube.com/watch?v=28LKYHtY7bA>) 2021
- Panelist of the panel entitled "Applied Technologies in Addiction" (15th International Addiction Science Congress) 2021
- Invited talk in Shahid Beheshti University, Tehran, Iran 2021
- Invited talk in 4th INTAM (International Network of tES/TMS Trials for Addiction Medicine) webinar (<https://www.youtube.com/watch?v=PAvL0IXa4oI>) 2020
- Invited talk in 9th Basic and Clinical Neuroscience congress, Tehran, Iran 2020
- Invited talk in 13th Addiction Science Congress, Tehran, Iran 2019
- Invited talk in Amirkabir University of Technology seminars, Tehran, Iran 2018

RESEARCH MENTORING

- Undergraduate Students
Sasan Keshaverz (B.Sc. 2020)
Amineh Molavi (B.Sc. 2021)
- Highschool Students
Benjamin Ostow (2024-2025)

EXPERIENCES

Teaching Assistant

- Modeling of Biological Systems, Department of Biomedical Engineering, Amirkabir University of Technology, 2018 (Instructed by Prof. F. Towhidkhah)
- Modeling of Mechatronic Systems, Department of Biomedical Engineering, Amirkabir University of Technology, 2018 (Instructed by Dr MA. Ahmadipajhouh)
- Linear Control System, Department of Biomedical Engineering, Amirkabir University of Technology, 2018 (Instructed by Prof. F. Towhidkhah)
- Digital Signal Processing, Department of Biomedical Engineering, University of Isfahan, 2014-2018 (Instructed by MR. Yazdchi)
- Principle of Biomedical Signal Processing, Department of Biomedical Engineering, University of Isfahan, 2014-2018 (Instructed by MR. Yazdchi)
- Advanced Topics in Biomedical Signal Processing, Department of Biomedical Engineering, University of Isfahan, 2014-2018 (Instructed by MR. Yazdchi)

Research Assistant

- Cybernetics and Modeling of Biological Systems Lab, Amirkabir University of Technology (under supervision of Prof. F.Towhidkhah)
- Iranian National Center for Addiction Studies (INCAS)
- Linear Control Lab, Isfahan University of Technology, Designing and implementing insula pump (under supervision of Dr M.Zekri)

PROFESSIONAL SERVICE

Reviewer for Journals

Scientific Reports
Current Addiction Reports
Frontiers in Human Neuroscience
Frontiers in Neuroimaging
Addiction

Reviewer for Conference

International Conference in Biomedical Engineering (ICBME)

International Addiction Science Congress (ASC)

Director of Society

Executive Director of International Network of tES and TMS for Addiction Medicine

(<https://med.umn.edu/addiction/network>)

Member of Society

Neuroscience Interest Group of the International Society of Addiction Medicine (ISAM-NIG)

International Network of tES-fMRI (INTF)

SKILLS

Software

MATLAB, Simulink, Proteus

SPSS, R

Software packages for computational head modeling in brain stimulation studies (SimNIBS, ROAST)

Software tools for MRI data analysis (AFNI, FSL, SPM, CONN, FreeSurfer)

OTHER ACTIVITIES

Karate Fighter

Third Degree Black belt Shotokan Karate Association of Iran

Gold Medalist in Iranian women's karate championship, for four consecutive years (1998-2004)

REFERENCES

Hamed Ekhtiari, MD, PhD

Associate Investigator in Laureate Institute for Brain Research

Home page: <http://www.laureateinstitute.org/hamed-ekhtiari.html>

Email: hekhtiari@laureateinstitute.org

Kelvin O Lim, MD, PhD

Professor, Department of Psychiatry and Behavioral Sciences, University of Minnesota

Home page: <https://www.neuroscience.umn.edu/people/kelvin-o-lim-md>

Email: kolim@umn.edu