Farhad Farkhondeh Tale Navi

Assistant Professor

College: Education & Psychology

I hold a Ph.D. in Cognitive Neuroscience, with a strong foundation in engineering. My research focuses on decision-making, memory systems, brain oscillations, and cognition. I am particularly interested in leveraging cutting-edge approaches, such as closed-loop systems, machine learning, neuromodulation techniques, and computational neuroscience, to drive advancements in brain and cognitive research.

Employment Information

Faculty/Department	Position/Rank	Employment Type	Cooperation Type	Grade
(not set)	(not set)	(not set)	Full Time	

Competitions

Farhad Farkhondeh Tale Navi is an Assistant Professor in the Department of Cognitive Neuroscience at the University of Tabriz, Iran. With a Ph.D. in Cognitive Neuroscience and an engineering background, his research focuses on decision-making, memory systems, brain oscillations, and cognition in both animals and humans. He employs innovative methodologies such as closed-loop systems, machine learning, neuromodulation techniques, and computational neuroscience to advance understanding in brain and cognition research.

Key Research Interests:

1. **Closed-loop Neuromodulation**: Investigating how real-time feedback can be used to modulate brain activity for therapeutic or cognitive enhancement purposes.
2. **Numerical Cognition**: Exploring how the brain processes numerical information and the underlying neural mechanisms.

3. **Decision Making**: Studying the neural and cognitive processes involved in making decisions, particularly in high-stakes or emotionally charged contexts.
4. **Computational Neuroscience**: Applying mathematical models and computational techniques to understand brain function and behavior.

Notable Publications:

- **Closed-loop modulation of the self-regulating brain**: A comprehensive review on approaches and experimental designs in neuromodulation (Neuroscience, 2022).
- **Time distortions induced by emotional faces**: An event-related potential study examining how high-arousing emotional faces affect time perception (Psychological Research, 2023).
- **Number-hand congruency effect**: Behavioral and electrophysiological evidence supporting the interaction between numerical processing and motor responses (Acta Psychologica, 2023).
- **Machine learning-based classification of risk-takers**: Using resting-state EEG data to distinguish between risk-prone and risk-averse individuals (Brain and Behavior, 2023).
- **Emotions and mental number line**: Investigating how emotions influence accuracy and bias in numerical cognition (Cognition and Emotion, 2024).

Recent Projects:

- **Adaptive closed-loop modulation of cortical theta oscillations**: Insights into navigational decision-making (Brain Stimulation, 2024).
- **Social dominance and neural dynamics**: Exploring behavioral and neural correlates of social hierarchy and inhibitory control (Behavioural Brain Research, 2024).
- **Training the brain to time**: Neurofeedback of SMR–Beta1 rhythm and its impact on time perception (Experimental Brain Research, 2022).

Metrics:

- **Citations**: 43
- **h-index**: 4

Farhad Farkhondeh Tale Navi's work bridges the gap between engineering and cognitive neuroscience, leveraging advanced technologies to unravel the complexities of the human brain and behavior. His contributions to closed-loop neuromodulation and numerical cognition are particularly noteworthy, offering new insights into how we can harness brain activity for cognitive enhancement and therapeutic interventions.

Conferences

Academic Contributions:

- **Computational Approaches in Social and Cognitive Neuroscience**: Presented at BCNC2023,

highlighting the integration of computational methods in neuroscience research.

- **Panel on Closed-Loop Neurofeedback Systems**: Participated in discussions on the future of neurofeedback systems at BCNC2018.

Membership in Scientific Societies

Iranian Neuroscience Society

Papers in Conferences

1. فرهاد فرخنده طالع ناوی و سایر،Closed-Loop Neurofeedback System: An Innovative Technical Setup for Animal Brain Stimulation Research،۱۰th Internathional conference on Cognitive Science،۱۴۰۳/۰۲/۲۶،تهران.
2. سیدمحمدرضا سیدنورانی , فرهاد فرخنده طالع ناوی , کیمیا خجند ,Neuromusculoskeletal Modeling of Elbow Flexion/Extension – Aided by OpenSim ,Advanced Engineering Days ,2024/07/09, تبریز.

Papers in Journals

1. Saied Sabaghypour, Farhad Farkhondeh Tale Navi, Laura J Batterink,Echoes of Pink Noise: A Hypothesized Mechanism for Enhancing Sleep-Dependent Memory Consolidation with Auditory Stimulation,The Neuroscientist,2026 2 1.
2. Farhad Farkhondeh Tale Navi et al.,Adaptive Closed-Loop Modulation of Cortical Theta Oscillations: Insights into the Neural Dynamics of Navigational Decision-Making,Brain Stimulation,Vol. 17,pp. 1101-1118,2024 9 12.
3. Mohammad Ali Nazari, Sedigheh Naghel, Sevda Abbasi, Ayda Khayyat Naghadehi, Behzad Nikzad, Saied Sabaghypour, Farhad Farkhondeh Tale Navi,Electrophysiological correlates of cognitive control and performance monitoring in risk propensity: An event-related potential study,Brain and Cognition,pp. Volume 175, March 2024, 106136,2024/3/1.
4. Reza Eyvazpour, Farhad Farkhondeh Tale Navi, Elmira Shakeri, Behzad Nikzad, Soomaayeh Heysieattalab،Machine learning-based classifying of risk-takers and risk-aversive individuals using resting-state EEG data: A pilot feasibility study،Brain and Behavior،۲۷ ۹ ۱۳،۲۰۲۳ مجلد.
5. Faezeh Zarfsaz, Soomaayeh Heysieattalab, Ali Jaafari suha, Farhad Farkhondeh Tale Navi, Hamid Basiryan,Social subordination is associated with better cognitive performance and higher theta coherence of the mPFC-vHPC circuit in male rats,PLoS One,2025/4/16.
6. Farhad Farkhondeh Tale Navi, Soomaayeh Heysieattalab, Dhakshin S Ramanathan, Mohammad Reza Raoufy, Mohammad Ali Nazari,Closed-loop modulation of the self-regulating brain: A review on approaches, emerging paradigms, and experimental designs,Neuroscience,pp. Volume 483, 10 February 2022, Pages 104-126,2022/2/10.
7. Soroush Fazel, Abdol ,& Hossein Vahabie, Farhad Farkhondeh Tale Navi, Soomaayeh Heysieattalab,Unraveling the Social Hierarchy: Exploring Behavioral and Neural Dynamics in Shaping Inhibitory Control,Behavioural Brain Research,2024/1/5.
8. Elham Bakhshi Jifroudi, Soomaayeh Heysieattalab, Farhad Farkhondeh Tale Navi, Faezeh Zarfsaz, Yousef Panahi,Olfactory bulb differently synchronizes ventral hippocampus–medial prefrontal cortex circuit during spatial working memory across social dominance hierarchies,PLOS One,2026/2/12.
9. , Mohammad Ali Nazari, Sevda Abbasi, Maryam Rezaeian, Soomaayeh Heysieattalab, Farhad Farkhondeh Tale Navi,Iranian 6-11 years age population-based EEG, ERP, and cognition dataset,Scientific Data,2025/2/22.
10. Hadi Mohamadpour, Farhad Farkhondeh Tale Navi, Soomaayeh Heysieattalab, Metehan Irak, Abdol

,& Hossein Vahabie, Behzad Nikzad,How is social dominance related to our short-term memory? An EEG/ERP investigation of encoding and retrieval during a working memory task,Heliyon,2024/9/15.
11. Saied Sabaghypour, Farhad Farkhondeh Tale Navi, Nooshin Basiri, Fereshteh Shakibaei, Negin Zirak,[HTML] from frontiersin.org Differential roles of brain oscillations in numerical processing: Evidence from resting-state EEG and mental number line,Frontiers in Human Neuroscience,2024/6/21.
12. Saied Sabaghypour, Farhad Farkhondeh Tale Navi, Elena Kulkova, Parnian Abaduz, Negin Zirak, Mohammad Ali Nazari,The dark and bright side of the numbers: how emotions influence mental number line accuracy and bias,Cognition and Emotion,2023 11 21.