

The 59th Frontier Brain Science Seminar

Sponsored by Research Center for Idling Brain Science (RCIBS)

The emerging field of flow state neuroscience

Speaker: **Mohammad H. Shehata, Ph.D.**
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Date: **2nd June, 2023 (FRI.) 13:00~14:30**

Venue: **Seminar Room 8 Pharmacy Research Bldg. (U3),7F**

Abstract

The flow phenomenon, first introduced by Csikszentmihalyi in 1975, has garnered both scientific and public interest for almost fifty years. This state of optimal experience has been shown to have significant impacts on cognitive performance in areas such as creativity, education, productivity, empathy, and intuition. However, despite its importance, the neuroscience of flow has yet to be fully understood due to the complex orchestration of multiple brain systems. To unravel the neural mechanisms of flow, scientists from various fields must integrate theories from attention, working memory capacity, learning and memory, reward, fear, motivation, emotion, proprioception, and time perception. This talk will delve into the definition and dimensions of flow, explore current neuroscientific literature, especially memory research, to build theories that explain its mechanisms, and discuss how to study flow in controlled conditions in humans and animals.

References

- Wu Q., Shimojo S., and Shehata M. An interpretable EEG latent space captures inter- and intra-individual variability in a team flow task. *Neuroscience* 2021.
- Shehata et al. Team Flow Is a Unique Brain State Associated with Enhanced Information Integration and Interbrain Synchrony. *eNeuro*, 2021. (Featured in *Times Magazine London*, *Psychology Today*, and *Scientific American (Arabic Edition)*).
- Shehata et al. Wearable “Team Flow” Realtime Monitoring and Modulation System. *NASA HRP-IWS* 2021.
- Daisuke Tajima, Taku Tanichi, Mohammad Shehata, Shunichi Kasahara. Low-Latency Motion Transfer with Electromagnetic Actuation for Interpersonal Action”, *SIGGRAPH Asia* 2022

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