Soo Ahn Lee

Sungkyunkwan University
Center for Neuroscience Imaging Research
Suwon, 16419, South Korea

E-mail: sooahnlee23@gmail.com
Website | Twitter | Neurotree
Last updated: Dec 2024

MAJOR RESEARCH INTERESTS

- Investigating the brain representations and mechanisms of how pain and pleasure interact in the cognitive and affective dimensions
- Developing fMRI-based brain models of pleasure and pain with advanced machine learning techniques

EDUCATION & TRAINING

Sep 2022 – present	Biomedical Global Leadership Training Grant (predoctoral), Department of Psychological and Brain Sciences, Dartmouth College, United States (Advisor: Tor D. Wager, Ph.D.)
Sep 2018 – present	Master-Ph.D. combined course student, Department of Biomedical Engineering, Sungkyunkwan University, South Korea (Advisor: Choong-Wan Woo, Ph.D.)
Jun 2017 – Aug 2018	Undergraduate Research Assistant, Computational Cognitive Affective Neuroscience laboratory, Sungkyunkwan University, South Korea (Advisor: Choong-Wan Woo, Ph.D.)
Mar 2015 – Aug 2018	B.A. (summa cum laude, Total GPA: 4.23/4.50), Department of Psychology, Sungkyunkwan University, South Korea

PUBLICATIONS

Lee, S. A., Wager, T. D., Woo, C. -W. Dynamically changing brain responses to sustained pleasure and pain over time. *In prep*.

Lee, S. A., Lee, J. -J., Han, J., Choi, M., Woo, C. -W. (2024). Brain representations of affective valence and intensity in sustained pleasure and pain. *Proceedings of the National Academy of Sciences 121*, e2401959121. DOI: 10.1073/pnas.2401959121.

Lee, J. -J., Kim, H. J., Čeko, M., Park, P. -Y., **Lee, S. A.**, Park, H., Roy, M., Kim, S. -G., Wager, T. D., Woo, C. -W. (2021). A neuroimaging biomarker for sustained experimental and clinical pain. *Nature*

Medicine 27, 174-182. https://doi.org/10.1038/s41591-020-1142-7

CONFERENCE PRESENTATIONS & INVITED TALKS

Lee, S. A., Wager, T. D., Woo, C. -W. (August 2024). Dynamically changing brain responses to sustained pleasure and pain over time. Poster presentation at the annual meeting of the International Association for the Study of Pain (IASP), Amsterdam, the Netherlands.

Lee, S. A., Wager, T. D., Woo, C. -W. (June 2024). Dynamically changing brain responses to sustained pleasure and pain over time. Poster presentation at the annual meeting of the Organization for Human Brain Mapping (OHBM), Seoul, South Korea.

Lee, S. A., Lee, J. -J., Han, J., Choi, M., Wager, T. D., Woo, C. -W. (October 2023). Brain representations of affective valence and intensity in sustained pleasure and pain. Invited talk at the Human Pain Seminar Series, Virtual.

Lee, S. A., Lee, J. -J., Han, J., Choi, M., Woo, C. -W. (November 2022). Know pain, know gain: Shared brain representations of sensory pleasure and pain. Poster presentation at the annual meeting of the Society for Neuroscience (SfN), San Diego, USA.

Lee, S. A., Lee, J. -J., Han, J., Choi, M., Woo, C. -W. (May 2022). Know pain, know gain: Shared brain representations of sensory pleasure and pain. Poster presentation at the annual meeting of the Social and affective neuroscience society (SANS), virtual meeting.

Lee, S. A., Lee, J. -J., Han, J., Choi, M., Woo, C. -W. (November 2021). Know pain, know gain: Shared brain representations of sensory pleasure and pain. Oral presentation at the annual meeting of the Korean Society for Human Brain Mapping (KHBM), virtual meeting.

Lee, S. A., Lee, J. -J., Han, J., Choi, M., Woo, C. -W. (June 2021). Know pain, know gain: Brain representations of sensory pleasure and pain. Poster presentation at the annual meeting of the Organization for Human Brain Mapping (OHBM), virtual meeting.

Lee, S. A., Han, J., Choi, M., Woo, C. -W. (October 2019). Know pain, know gain: Brain representations of sensory pleasure and pain. Poster presentation at the annual meeting of the Society for Neuroscience (SfN), Chicago, USA.

HONORS & AWARDS

Dec 2024	Outstanding paper award, Center for Neuroimaging Imaging Research, South Korea
Feb 2022	Best presentation award**,** Sungkyunkwan University, South Korea

Spring 2019	Academic Scholarship (Shim-san) for advanced graduate students, Sungkyunkwan University, South Korea
Spring 2018 – present	Academic Scholarship for graduate students, Sungkyunkwan University, South Korea
Spring 2015, Spring 2016 – Fall 2017	Academic Scholarship for undergrade students, Sungkyunkwan University, South Korea

OPEN SCIENCE EFFORTS

Data sharing with Dr. Vania Apkarian	**Lee, S. A.**, Lee, J. -J., Han, J., Choi, M., Woo, C. -W. (2023). Brain representations of affective valence and intensity in sustained pleasure and pain. *Biorxiv*. https://doi.org/10.1101/2023.06.08.544230
Data sharing with Dr. Marta Čeko	**Lee, S. A.**, Lee, J. -J., Han, J., Choi, M., Woo, C. -W. (2023). Brain representations of affective valence and intensity in sustained pleasure and pain. *Biorxiv*. https://doi.org/10.1101/2023.06.08.544230

TEACHING EXPERIENCES & GUEST LECTURES

Spring 2021	Teaching assistant, BIOSTATISTICS AND BIG DATA (undergraduate course), Sungkyunkwan University
Spring 2021	Guest lecture, METHODS FOR DEVELOPING fMRI-BASED BIOMARKER 1 (graduate course), Sungkyunkwan University
Fall 2019	Invited talk (title: Brain representations of sensory pleasure and pain), INTRODUCTION TO AFFECTIVE NEUROSCIENCE (undergraduate course), Sungkyunkwan University
Fall 2018	Undergraduate student research mentor of the Undergraduate Research Project (title: Brain representations of sensory pleasure and pain), Sungkyunkwan University

PROFESSIONAL ACTIVITIES

Ad-Hoc Reviewer	*PLoS Biology*
	PAIN
	Journal of Cognitive Neuroscience

OTHER SKILLS

Programming	Matlab (proficient), Python, R (intermediate)
MRI operation	fMRI operation & data collection (N = 169)
fMRI imaging data analysis software	SPM, FSL
Quantitative Skills	Predictive modeling (Matlab) and fMRI data preprocessing and analysis (SPM, FSL, Matlab)
Languages	Korean (native), English (proficient), Spanish (intermediate)

OTHER EXTRACURRICULAR ACTIVITIES

Mar – Aug 2020	Graduate Student's Council, Department of Global Biomedical Engineering, Sungkyunkwan University

PROFESSIONAL REFERENCES

Choong-Wan Woo, Ph.D. (PhD advisor)
Associate Professor
Department of Biomedical Engineering, Sungkyunkwan University
Associate Director of Center for Neuroscience Imaging Research, Institute for Basic Science
Email: choongwan.woo@gmail.com

Tor D. Wager, Ph.D. (Training grant advisor)
Professor
Department of Psychological and Brain Sciences, Dartmouth College
Director of Dartmouth Brain Imaging Center
Email: Tor.D.Wager@dartmouth.edu