

Woohyun Kim

Education

Korea Advanced Institute of Science and Technology (KAIST), South Korea Ph.D. in Biological Sciences	Mar 2017 – Feb 2023
Korea Advanced Institute of Science and Technology (KAIST), South Korea B.S., Biological Sciences	Mar 2012 – Feb 2017
École Polytechnique Fédérale de Lausanne (EPFL), Switzerland Exchange Student	Feb 2016 – Jun 2016

Publications

1. **Kim W**, Noh YW, Lee S, Choi W, Paik SB, Jung MW, Lee E, Kim E. (2021). “Suppressed prefrontal neuronal firing variability and impaired social representation in IRSp53-mutant mice.” **eLife** 11:e74998.
2. Yoo YE, Lee S, **Kim W**, Kim H, Chung C, Ha S, Park J, Chung Y, Kang H, and Kim E. (2021). “Early chronic memantine treatment-induced transcriptomic changes in wild-type and Shank2-mutant mice.” **Frontiers in Molecular Neuroscience** 14:712576.
3. Lee E*, Lee S*, Shin JJ*, Choi W*, Chung C, Lee S, Kim J, Ha S, Kim R, Yoo T, Yoo YE, Kim J, Noh YW, Rhim I, Lee SY, **Kim W**, Lee T, Shin H, Cho I, Deisseroth K, Kim SJ, Park JM**, Jung MH**, Paik SB**, and Kim E**. (2021). “Excitatory synapses and gap junctions cooperate to improve Pv neuronal burst firing and cortical social cognition in Shank2-mutant mice.” **Nature Communications** 12:5116.
4. Chung C*, Ha S*, Kang H, Lee J, Um SM, Yan H, Yoo YE, Yoo T, Jung H, Lee D, Lee E, Lee S, Kim J, Kim R, Kwon Y, **Kim W**, Kim H, Duffney L, Kim D, Mah W, Won H, Mo S, Kim JY, Kim CS, Kaang BK, Boeckers TM, Kim H, Jiang YH, Kim E. (2019). “Early correction of NMDAR function improves autistic-like behaviors in adult Shank2-/- mice.” **Biological Psychiatry** 85:534-543.
5. Kim R*, Kim J*, Chung C*, Ha S, Lee S, Lee E, Yoo YE, **Kim W**, Shin W, Kim E. (2018). “Cell type-specific Shank2 deletion in mice leads to differential synaptic and behavioral phenotypes.” **Journal of Neuroscience** 38:4076-4092.
6. Ha S*, Lee D*, Cho YS, Chung C, Yoo YE, Kim J, Lee J, **Kim W**, Kim H, Bae YC, Tanaka- Yamamoto K#, and Kim E#. (2016). “Cerebellar Shank2 regulates excitatory synapse density, motor coordination, and specific repetitive and anxiety-like behaviors.” **Journal of Neuroscience** 36:12129-12143.

Selected Presentations

Korean Society for Brain and Neural Sciences (KSBNS), Busan, South Korea | Talk & Poster (Sep 2023)
“Suppressed prefrontal neuronal activity dynamics and impaired burst firing in IRSp53-mutant mice with social deficits”

Annual Meeting of Society for Neuroscience, San Diego, CA | Talk (Nov 2022)
“Suppressed prefrontal neuronal firing variability and impaired social representation in IRSp53-mutant mice”

Neurocircuitry of Social Behavior Keystone Symposia, Daejeon, South Korea | Talk & Poster (Sep 2022)
“Suppressed prefrontal neuronal firing variability and impaired social representation in IRSp53-mutant mice”

Research experience

Sensorimotor Neural Engineering Lab (University of California, Berkeley) PI: Preeya Khanna, Ph.D. / Position: Postdoctoral Researcher	Oct 2024 - Present
Biological Psychiatry Lab (Yonsei University School of Medicine) PI: Eunee Lee, MD. Ph.D. / Position: Postdoctoral Researcher	Jun 2023 – Aug 2023
Center for Synaptic Brain Dysfunctions (KAIST) PI: Eunjoon Kim, Ph.D. / Position: Ph.D. Candidate	Feb 2017 – Mar 2023
Center for Synaptic Brain Dysfunctions (KAIST) PI: Eunjoon Kim, Ph.D. / Position: Undergraduate Researcher	Mar 2015 – Feb 2017
In Vivo Molecular Imaging and Therapy Lab (Seoul National University Hospital) PI: Dong Soo Lee, MD., Ph.D. / Position: Undergraduate Researcher	Jan 2015 – Feb 2015
Memory Biology Lab (KAIST) PI: Jin-Hee Han, Ph.D. / Position: Undergraduate Researcher	Jul 2014 – Aug 2014

Skills

Neural data analysis (MATLAB) | *In vivo* extracellular recording in mouse using tetrode (Neuralynx) and Neuropixels | Stereotaxic surgery in mouse brain (target region: mPFC) | Confocal microscopy (Zeiss) | Transgenic mouse models | Mouse behavior | Polymerase chain reaction (PCR) | Western blot

Teaching experience

Teaching Assistant in Topics in Life Science <Disorders in the Nervous System> Department of Biological Sciences, KAIST	Fall 2020
Teaching Assistant in Cell Biology experiment Department of Biological Sciences, KAIST	Spring 2020
Teaching Assistant in General Biology Department of Biological Sciences, KAIST	Spring & Fall 2014

Workshops

Computational Neuroscience, Neuromatch Academy (2023)	July 2023
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References

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