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Experiences

- 2024.09 ~ present Postdoctoral Associate (Advisor: Mary Teena Joy)
The Jackson Laboratory, USA.
- 2022.09 ~ 2024.08 Postdoctoral Associate (Advisor: Prof. Jerry Chen)
Department of Biology
Boston University, USA.
*BioRxiv(2023)*¹
- 2022.02 ~ 2022.06 Instructor
School of Biosystem and Biomedical Science
Korea University, Korea.
- 2016.09 ~ 2017.08 Researcher (Advisor: Prof. Jae-Yong Park)
School of Biosystem and Biomedical Science
Korea University, Korea.
*Exp Neurobiology(2019)*⁷
- 2013.06 ~ 2014.02 Researcher (Advisor: Prof. Jinhyun Kim)
Center for Functional Connectomics
Korea Institute of Science & Technology (KIST), Korea
*Nature Protocols(2014)*⁹

Education

- 2017.09 ~ 2022.02 Ph.D., School of Biosystem and Biomedical Science
Korea University, Korea.
Advisor: Prof. Jae-Yong Park
*Int J Mol Sci(2020)*⁶, *Cells(2021)*⁵, *Frontiers In Cellular
Neuroscience(2022)*⁴, *Behavioural Brain Research(2022)*³,
*Cells(2022)*²
- 2014.03 ~ 2016.08 Ph.D. Student, Center for Functional Connectomics
Korea Institute of Science & Technology (KIST), Korea
Advisor: Prof. Jinhyun Kim
*J Neurosci(2018)*⁸
- 2009.04 ~ 2011.03 M.S., Department of Materials Science & Engineering
Nagoya Institute of Technology, Japan
Advisor: Prof. Hideo Yoshizato
- 2005.04 ~ 2009.03 B.S., Life and Materials Engineering
Nagoya Institute of Technology, Japan

Publication

1. David G. Lee, Caroline A. McLachlan, Ramon Nogueira, **Osung Kwon**, Alanna E. Carey, Garrett House, Gavin D. Lagani, Danielle LaMay, Stefano Fusi, Jerry L. Chen*, “Perirhinal Cortex Learns A Predictive Map of The Task Environment”, *BioRxiv* (2023)
<https://doi.org/10.1101/2023.03.17.532214>
2. Seoung-Seop Kim, Yeonju Bae, **Osung Kwon**, Seung-Hae Kwon, Jong Bok Seo, Eun Mi Hwang, and Jae-Yong Park*, “ β -COP Regulates TWIK1/TREK1 Heterodimeric Channel-Mediated Passive Conductance in Astrocytes”, *Cells* (2022)
<https://doi.org/10.3390/cells11203322>
3. Jae Gwang Song†, **Osung Kwon**†, Eun Mi Hwang, Hyung Wook Kim* and Jae-Yong Park*, “Conditional deletion of TMEM16A in cholinergic neurons of the medial habenula induces anhedonic-like behavior in mice”, *Behavioural Brain Research* (2022)
<https://doi.org/10.1016/j.bbr.2022.113841> († indicates co-first author)
4. Jae-Hong Kim†, **Osung Kwon**†, Anup Bhusal†, Jiyou Lee, Eun Mi Hwang, Hoon Ryu, Jae-Yong Park*, and Kyoungsook Suk*, “Neuroinflammation induced by transgenic expression of lipocalin-2 in astrocytes”, *Frontiers In Cellular Neuroscience* (2022) <https://doi.org/10.3389/fncel.2022.839118> († indicates co-first author)
5. **Osung Kwon**†, Hayoung Yang†, Seung-Chan Kim, Juhyun Kim, Jaewon Sim, Jiyeon Lee, Eun Mi Hwang, Sungbo Shim* and Jae-Yong Park*, “TWIK-1 BAC-GFP transgenic mice, an animal model for TWIK-1 expression”, *Cells* (2021)
<https://doi.org/10.3390/cells10102751> († indicates co-first author)
6. Yeonju Bae, Jae Hyouk Choi, Kanghyun Ryoo, Ajung Kim, **Osung Kwon**, Hyun-Gug Jung, Eun Mi Hwang, Jae-Yong Park, “Spadin Modulates Astrocytic Passive Conductance via Inhibition of TWIK-1/TREK-1 Heterodimeric Channels”, *Int J Mol Sci.* (2020)
<https://doi.org/10.3390/ijms21249639>
7. Do Eon Kim†, Chang-Hoon Cho†, Kyoung Mi Sim, **Osung Kwon**, Eun Mi Hwang, Hyung-Wook Kim*, and Jae-Yong Park*, “14-3-3 γ Haploinsufficient Mice Display Hyperactive and Stress-sensitive Behaviors”, *Experimental Neurobiology* (2019)
<https://doi.org/10.5607/en.2019.28.1.43>
8. **Osung Kwon**†, Linqing Feng†, Shaul Druckmann, Jinhyun Kim*, “Schaffer Collateral Inputs to CA1 Excitatory and Inhibitory Neurons Follow Different Connectivity Rules”, *J Neurosci* (2018)
<https://doi.org/10.1523/JNEUROSCI.0155-18.2018> († indicates co-first author)
9. Linqing Feng†, **Osung Kwon**†, Bokyoung Lee, Won Chan Oh, and Jinhyun Kim*, “Using mammalian GFP reconstitution across synaptic partners (mGRASP) to map synaptic connectivity in the mouse brain” *Nature Protocols* (2014)
<https://doi.org/10.1038/nprot.2014.166> († indicates co-first author)

Skills

1. Immunofluorescence, ISH, HCR-FISH
2. Confocal microscopy, 2-photon microscopy
3. Stereotaxic surgery, Cranial window surgery, Mouse behavior test, Mouse disease model
4. Image analysis (ImageJ), Brain cell 3D-reconstruction analysis
5. Biochemistry
6. Primary brain cell culture, In vitro cell patch

Award and Fellowship

1. Postdoctoral Fellowship grant by NRF (2023 – 2024)
“Functional input connectome of Perirhinal cortex for the prediction process”
National Research Foundation, Korea
2. Research Subsidies for Ph.D. Candidates Program by NRF (2020 – 2021)
“Identification of specific TWIK-1 expressing posterior striatal astrocytes”
National Research Foundation, Korea
3. Global Ph.D. Fellowship Program by NRF (2015 – 2016)
“mGRASP-assisted synaptic mapping of external globus pallidus (GPe) - subthalamic nucleus (STN) circuits in health and Parkinson’s disease model”
National Research Foundation, Korea
4. Fellowship Award (2014)
“mGRASP-assisted synaptic mapping of external globus pallidus (GPe) - subthalamic nucleus (STN) circuits in health and Parkinson’s disease model”,
Neural Circuit Basis of Behavior and its Disorders in Cold Spring Harbor Asia conferences (CSHA), KIST, Korea.
5. Scholarship (2004 – 2009)
Korea-Japan Joint Government Scholarship Program of Science and Technology Universities.