Curriculum Vitae

Osung Kwon Ph.D.

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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.
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.
2013.06 ~ 2014.02	Researcher (Advisor: Prof. Jinhyun Kim) Center for Functional Connectomics Korea Institute of Science & Technology (KIST), Korea

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. Jinhyn 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. Caroline A. McLachlan, David G. Lee, **Osung Kwon**, Kevin M. Delgado, Nikita Manjrekar, Zizhen Yao, Hongkui Zeng, Bosiljka Tasic, and Jerry L. Chen*, "Transcriptional determinants of goal-directed learning and representational drift in the parahippocampal cortex", ***Cell Reports*** (2025) https://doi.org/10.1016/j.celrep.2024.115175

2. 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", ***Nature Communications*** (2024) https://doi.org/10.1038/s41467-024-47365-7

3. 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

4. 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)

5. Jae-Hong Kim†, **Osung Kwon**†, Anup Bhusal†, Jiyoun Lee, Eun Mi Hwang, Hoon Ryu, Jae-Yong Park*, and Kyoungho 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)

6. **Osung Kwon**†**,** Hayoung Yang†, Seung-Chan Kim, Juhyun Kim, Jaewon Sim, Jiyun 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)

7. 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

8. Do Eon Kim†, Chang-Hoon Cho†, Kyoung Mi Sim, **Osung Kwon**, Eun Mi Hwang, Hyung-Wook Kim*, and Jae-Yong Park*, "14-3-3γ Haploinsufficient Mice Display Hyperactive and Stress-sensitive Behaviors", ***Experimental Neurobiology*** (2019) https://doi.org/10.5607/en.2019.28.1.43

9. **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)

10. 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 inputconnectome of Perirhinal cortex for the prediction process"
   National Research Foundation, Korea
2. Research Subsides for PhD. 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.