

# JEONGJIN KIM, PH.D.

## CONTACT

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## PROFESSIONAL EXPERIENCE

**Adjunct Associate Professor, Associate Professor at Division of Bio-Medical Science & Technology, University of Science and Technology, Daejeon, South Korea**

2019 — Present

**Senior Scientist, Principal Scientist at Brain Science Institute, Korea Institute of Science and Technology, Seoul, South Korea**

2017 — Present

**Post-doctoral Associate at College of Natural Science, Korea Advanced Institute of Science and Technology, Daejeon, South Korea (Prof. Daesoo Kim)**

2011 — 2016

**Visiting Scholar at The Greengard Laboratory, Rockefeller University, New York City, USA (Dr. Paul Greengard)**

2011 — 2012

**Visiting Scholar at Center for Neuroscience, Korea Institute of Science and Technology, Seoul, South Korea (Dr. Hee-sup Shin)**

2012, 2006



## EDUCATION

**Ph.D., Dept. of Biological Sciences (Neuroscience), Korea Advanced Institute of Science and Technology, Daejeon, South Korea (Advisor: Prof. Daesoo Kim)**

2005 — 2011

**B.S., Dept. of Biological Sciences, Korea Advanced Institute of Science and Technology, Daejeon, South Korea**

1999 — 2004



## HONORS AND AWARDS

**Best Poster Award, Gordon Research Conference (optoGRC), Italy (1<sup>st</sup> Author: YJ Park, Corresponding: J Kim)**

2024

**Scitech Korea Young Neuroscience Award, Korean Society for Brain and Neural Sciences, South Korea**

2023

**Best Poster Award, Miami Winter Symposium, USA (1<sup>st</sup> Author: WY Shin, Corresponding: J Kim)**

2023

**Excellent Teaching Award, University of Science and Technology, South Korea**

2021

**Bric Top 5 Excellent Research, South Korea**

2017

**Young Scientist Award, International Conference of the Korean Society for Molecular and Cellular Biology (ICKSMCB), South Korea**

2013

Travel fellowship, Center for Women in Science, Engineering and Technology, South Korea

2013

Best Poster Award, International Symposium for Molecular Neurodegenerative Disease Research, South Korea

2012

Travel Award, 34th Annual Meeting of the Japan Neuroscience Society, Japan

2011

Top Patent Award, 10th Bioneer Award, South Korea

2011

Best Oral Award, 1st Brain Korea 21 bioKAIST Annual retreat, South Korea

2007

## ★ PUBLICATIONS

(\* , co-first authors; # , co-corresponding authors)

### Working Papers

1. Jo, J. \*, Park, T. \*, Park, G., Hwang, S., Min, J., Lee, S.W., Lee, Kwag, J., Kim, H., Lee, C. #, Kim, J. #, *In revision*
2. Kim, H.B. \*, Park, G. \*, Shin, H.G., Baek I-Y., Cho, I-J., Kim, J. #, Seong, J. #, *In revision*
3. Cho, Y., McHugh, T.J., Kim, J., *Submitted*
4. Shin, W., Kim, J., Jung, D., Paik, S.B. #, Kim, J. #, *In preparation*
5. Yoon, S., Chung, G., Song, W.S., Oh, S.P., Kim, J., Kim, S.J., Kim, M.H. Altered GABAergic inhibition in CA1 pyramidal neurons modifies despair-like behavior in mice. *bioRxiv*

### Peer-reviewed Papers

1. Park, G. \*, Park, Y. \*, Serikov, A., Cho, J., Nam, M.H., Lee, S., Kim, D., Kim, J. (2024) Neurotensin-specific cortico-thalamic circuit regulates innate response conflict. *Current Biology*, 34, 3473–3487, *Highlighted as 'Featured article' in Cell Press Multi-journal Submission*
2. Oh, JY., Lee, H., Jang, SY., Kim, H., Park, G., Serikov, A., Jang, JH., Kim, J., Yang, S., Sa, S., Lee, SE., Han., YE., Hwang, TY., Jung, SJ., Kim., HY., Lee, SE., Oh, SJ., Kim, J., Kim, J., Kim, J., McHugh, T.J., Lee, C.J., Nam, M.H., Park, H.J. (2024). Central Role of Hypothalamic Circuits for Acupuncture's Anti-Parkinsonian Effects. *Advanced Science*, 2403245
2. Serikov, A. \*, Martisishevskam, I. \*, Shin, W. \*, Kim, J. (2024) Protocol for in vivo dual-color fiber photometry in the mouse thalamus. *STAR Protocols*, 5, 102931
3. Shin, A. \*, Park, S. \*, Shin, W. \*, Woo, J., Jeong, M., Kim, J. #, Kim, D. # (2023) A brainstem-to-mediadorsal thalamic pathway mediates sensory-induced arousal from slow-wave sleep. *Current Biology*, 33, 1-11, *Nature & Nature Review Neuroscience Highlight*
4. Kim, H., Nam, M. H., Jeong, S., Lee, H., Oh, S. J., Kim, J., Choi, N., & Seong, J. (2022). Visualization of differential GPCR crosstalk in DRD1-DRD2 heterodimer upon different dopamine levels. *Progress in Neurobiology*, 213, 102266
5. Park, G. \*, Shin, W. \*, Park, Y., Jeong, S., Kim, D. #, Kim, J. # (2022). Neural Correlates of Multidimensional Motor Outputs in an Excitatory Parafascicular-Zona Incerta Circuit. *Biochemical and Biophysical Research Communications*, 591, 102-109
6. Lee, J., Kwag, R., Lee, S., Kim, D., Woo, J., Cho, Y., Kim, H.J., Kim, J., Jeon, B., Choo, H. (2021). Discovery of G Protein-Biased Ligands against 5-HT7R. *Journal of Medicinal Chemistry*, 64, 11, 7453–7467
7. Kwag, R., Lee, J., Kim, D., Lee, H., Yeom, M., Woo, J., Cho, Y., Kim, H.J., Kim, J., Keum, G., Choo, H. (2021). Discovery of G Protein-Biased Antagonists against 5-HT7R. *Journal of Medicinal Chemistry*, 64, 18, 13766-13779
8. Lee, S. \*, Zhang, Y. \*, Park, J., Kim, B., Lee, Y., Kim, SH., Huh, GH., Lee, YH., Kim, BK., Lee, YH., Kim YK., Kang, H., Choi, W., Jang, S., Kim, Y., Jin, S., Pang, C., Kim, K., Lee, E.,

- Kim., Y., Kim, H., Kim, E., Choi, J., **Kim, J.**, Lee, K.J., Choi, S., Han, K. (2020). Haploinsufficiency of Cyfip2 Causes Lithium-Responsive Prefrontal Dysfunction. *Annals of Neurology*, 88, 526-543
9. **Kim, J.**, Kim, D. (2018). Rebound excitability mediates motor abnormalities in Parkinson's disease. *BMB reports*, 1:3-4.
10. Lee, S.\* , **Kim, J.\***, Shin, JH.\* , Lee, HE., Kang, IS., Gwak, K., Kim, DS., Kim, D.#, Lee, KJ.# (2018). Optogenetic Control of Body Movements via Flexible Vertical Light-Emitting Diodes on Brain Surface. *Nano Energy*, 44, 447-455.
11. **Kim, J.**, Kim, Y., Nakajima, R., Shin, A., Jeong, M., Park, A.H., Jeong, Y., Jo, S., Yang, S., Park, H., Cho, S., Cho, K., Shim, In., Chung, J., Paik, S., Augustine. G., Kim, D. (2017). Inhibitory Basal Ganglia Inputs Induce Excitatory Motor Signals in the Thalamus. *Neuron*, 95, 1181-1196.e1188, *Highlighted as Video Abstract in Cell press, Highlighted as Bric Top 5*
12. Yim, N., Ryu, S.-W., Choi, K., Lee, K.R., Lee, S., Choi, H., **Kim, J.**, Shaker, M.R., Sun, W., Park, J.-H., Kim D, Heo W and Choi C (2016). Exosome engineering for efficient intracellular delivery of soluble proteins using optically reversible protein-protein interaction module. *Nature communications*, 7.
13. Park, A.H., Lee, S.H., Lee, C., **Kim, J.**, Lee, H.E., Paik, S.-B., Lee, K.J., and Kim, D. (2016). Optogenetic mapping of functional connectivity in freely moving mice via insertable wrapping electrode array beneath the skull. *ACS nano* 10, 2791-2802.
14. Jeong, M., Kim, Y., **Kim, J.**, Ferrante, D.D., Mitra, P.P., Osten, P., and Kim, D. (2016). Comparative three-dimensional connectome map of motor cortical projections in the mouse brain. *Scientific reports* 6
15. Lee, K., Westin, L., **Kim, J.**, Chang, J., Oh, Y., Amreen, B., Gresack, J., Flajolet, M., Kim, D., Aperia, A., Kim, Y., and Greengard, P. (2015). Alteration by p11 of mGluR5 localization regulates depression-like behaviors. *Molecular psychiatry* 20, 1546-1556.
16. Kim, Y., Kim, S.H., Kim, K.H., Chae, S., Kim, C., **Kim, J.**, Shin, H.-S., Lee, M.-S., and Kim, D. (2015). Age-dependent gait abnormalities in mice lacking the Rnf170 gene linked to human autosomal-dominant sensory ataxia. *Human molecular genetics*, 417.
17. Park, Y.-G., **Kim, J.**, and Kim, D. (2013). The potential roles of T-type Ca<sup>2+</sup> channels in motor coordination. *Frontiers in neural circuits* 7, 172.
18. Chang, K.-Y., Park, Y.-G., Park, H.-Y., Homanics, G.E., **Kim, J.**, and Kim, D. (2011). Lack of Ca V 3.1 channels causes severe motor coordination defects and an age-dependent cerebellar atrophy in a genetic model of essential tremor. *Biochemical and biophysical research communications* 410, 19-23.
19. Won, H., Mah, W., Kim, E., Kim, J.-W., Hahm, E.-K., Kim, M.-H., Cho, S., **Kim, J.**, Jang, H., Cho, S.-C., Kim, B.-N., Shin, M.-S., Seo, J., Jeong, J., Choi, S.-Y., Kim, D., Kang, C., and Kim, E. (2011). GIT1 is associated with ADHD in humans and ADHD-like behaviors in mice. *Nature medicine* 17, 566-572.
20. **Kim, J.**, Woo, J., Park, Y.-G., Chae, S., Jo, S., Choi, J.W., Jun, H.Y., Yeom, Y.I., Park, S.H., Kim, K.H., Shin, H.-S., and Kim, D. (2011). Thalamic T-type Ca<sup>2+</sup> channels mediate frontal lobe dysfunctions caused by a hypoxia-like damage in the prefrontal cortex. *Journal of Neuroscience* 31, 4063-4073.

## ★ PATENTS

1. Pharmaceutical composition for preventing or treating obsessive-compulsive disorder, Tic disorder or Tourette's syndrome, Choo, H., **Kim, J.**, Kang, T., et al., (PCT/KR2021019253/Enrolled, 2022-05-09)
2. Composition for diagnosing autism spectrum disorder and method for detecting change in relative concentration ratio of metabolites, Park, H., **Kim, J.**, et al., (KR20200069853/Enrolled, 2022-01-10)
3. A method for monitoring and screening a candidate substance for preventing or treating autism spectrum disorder, **Kim, J.**, Kim, H., et al., (PCT/ KR, 10-2018-0138603/ Enrolled, 2022-06-20)

4. Derivatives acting as 5-HT7 receptor modulators, Choo, H., Lee, J., Kwag, L, Kim, D., Kim, J., et al., (KR20210042515)
5. Method for treating Parkinson's disease, Kim, D., Kim, J., Kim, Y., Jeong, M. (US, 15962894/ Enrolled, 2020-09)
6. Verification of Ethosuximide alleviating effect of Attention Deficit Hyperactivity Disorder, Kim, J., Kim, D., (KR, 10-2013-0030332/ Enrolled, 2016-05-24)
7. Developing of Attention deficit hyperactivity model mouse and composition for preventing and treating attention disorder disease containing a non-specific T-type calcium inhibitor, Kim, J., Kim, D., (JP, 201351649D/ Enrolled, 2015-10-02)

## ★ INVITED TALKS

- 2024 Department of Biology, University of Seoul (2024.4), Seoul, South Korea (*Invited*)
- 2023 Department of Biotechnology, Yonsei University (2023.12), Seoul, South Korea (*Invited*)
- 2023 Seoul National University College of Medicine (2023.11), Seoul, South Korea (*Invited*)
- 2023 KIST global research summit: Grand challenge (2023.10), Seoul, South Korea
- 2023 The 26<sup>th</sup> Annual meeting of Korean Society for Brain and Neural Sciences (2023.09), Busan, South Korea (*Young scientist awardee's presentation*)
- 2023 UK-Korea Neuroscience joint symposium (2023.08), Oxford Univ., Oxford, UK (*Invited*)
- 2023 KIST BSI and RIKEN CBS joint symposium (2023. 03), RIKEN Center for Brain Science, Wako, Japan (*Invited*)
- 2022 Annual Meeting of Korea Physiological Society (2022.10), Seoul, South Korea (*Invited*)
- 2021 Annual Meeting of Korea Society of Microscopy (2021.11), Gangwon, South Korea (*Invited*)
- 2021 A symposium on the anatomy and physiology of basal ganglia in Joint Meeting by Japanese Physiological Society and Japanese Anatomical Society (2021.03), Online (*Invited*)
- Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology (2020.09), Daejeon, South Korea (*Invited*)
- 2020 The 43th Annual Meeting of the Japan Neuroscience Society (2020.07), Online (*Invited*)
- Center for Cognition and Sociality, Institute of Basic Science (2020.08), Daejeon, South Korea (*Invited*)
- Department of Bio and Brain Engineering, Korea Advanced Institute of Science and Technology (2019.11), Daejeon, South Korea (*Invited*)
- 2019 Korea University Anam Hospital-KIST joint symposium (2019.10), Seoul, South Korea (*Invited*)
- 2019 International Conference: Korean Society for Molecular and Cellular Biology (2019.09), Seoul, South Korea (*Invited*)
- 2019 UK-Korea Research Conference (Royal society-KAST joint symposium) (2019.05), London, UK (*Invited*)
- Center for Neuroscience Imaging Research, Institute of Basic Science-Sungkyunkwan University (2019.05), Suwon, South Korea (*Invited*)
- Korea University College of Medicine (2018.10), Seoul, South Korea (*Invited*)
- 2018 Spring International Convention of the Pharmaceutical Society of Korea (2018.04), Seoul, South Korea (*Invited*)
- Department of Brain and Cognitive Sciences, DGIST (2018.02), Daegu, South Korea (*Invited*)
- 2017 Mayo Clinic-KIST Symposium (2017.11), Seoul, South Korea (*Invited*)

2017 Mouse Genetics symposium, Korean Society for Molecular and Cellular Biology  
Mouse Genetics symposium (2017.10), Seoul, South Korea (*Invited*)

2017 Korea University Anam Hospital-KIST joint symposium (2017.09), Seoul, South Korea (*Invited*)

The 20th Korean Society for Brain and Neural Science (2017.08), Seoul, South Korea (*Invited*)

Konkuk University Medical School (2017.04), Seoul, South Korea (*Invited*)

The 1st Institute of Basic Science (IBS) Super meeting (2015.06), Daejeon, South Korea

The International Conference of the Korean Society for Molecular and Cellular Biology (2013.10), Seoul, South Korea (*Young scientist awardee's presentation*)

Optogenetic Workshop (2011.12), California, USA

The 10th Bioneer Award (2011.03), Daejeon, South Korea (*Top patent awardee's presentation*)

The 5rd Brain Korea 21 bioKAIST Annual retreat (2011.01), Gosari, South Korea

The 1st Brain Korea 21 bioKAIST Annual retreat (2007.01), Muju, South Korea

Osaka University - KAIST Symposium (2006.08), Osaka, Japan

The 8th Korean Society for Brain and Neural Science (2005.09), Seoul, South Korea  
**(Poster)**

Gordon Research Conference, Optogenetic Approaches to Understanding Neural Circuits and Behavior (2024.07), Lucca, Italy

Society for Neuroscience (2023.11), Washington, USA

Miami Winter Symposium, Molecular Neuroscience: Focus on Sensory Disorders (2023.02), Miami, USA

Cell Symposia: The Biology of Neuropsychiatric Disorders (2022.05), Sitges, Spain (*Invited, Canceled due to Covid-19 in Korea*)

Society for Neuroscience (2018.11), Sandiego, USA (*Selected dynamic poster*)

Gordon Research Conference, Mechanisms Underlying Basal Ganglia Function and Dysfunction (2018.03), Ventura, USA

International Conference of Women Scientists and Engineers (2017.08), Seoul, South Korea

Gordon Research Conference, Optogenetic Approaches to Understanding Neural Circuits & Behavior (2016.07), Newry, USA

Miami Winter Symposium, The Molecular Basis of Brain Disorders (2014.1), Miami, USA

Cold Spring Harbor Symposium, Francis Crick Symposium (2013.05), Suzhou, China

International Congress on Mental Dysfunction in Parkinson's disease (2013.04), Seoul, South Korea

International Symposium for Molecular Neurodegenerative Disease Research (2012.08), Daejeon, South Korea

The 34th Japanese Neuroscience society (2011.09), Yokohama, Japan (*Selected travel fellowship awardee*)

The 1st Synapse Workshop, Korean Society for biochemistry and molecular biology (2010.08), Yangyang, South Korea

The 3rd Brain Korea 21 bioKAIST Annual retreat (2009.01), Muju, South Korea

The 20th Korean Society for Molecular and Cellular Biology (2008.10), Seoul, South Korea

The 37th Society for Neuroscience (2007, 10), Sandiego, USA

The 18th Korean Society for Molecular and Cellular Biology (2006.10), Seoul, South Korea

2023, 2024 Korean Society for Brain and Neural Science, Organizer (*academic committee*)

2018 International KIST Autism Symposium, KIST, Organizer

2018 INSCOPIX Mini-Workshop for Deep Brain Calcium Imaging, KIST, Organizer

2018 Noldus Workshop for Characterizing Behaviors, KIST, Organizer

2017 Autism Mini-symposium, KIST, Organizer

## ★ TEACHING

### University of Science and Technology (UST)

2019 —

Trends in neuroscience (2019), Molecular and cellular biology (2020-2023),

Learning and memory (2021-2024), Neurological disorders (2021-2024),

Basic neuroscience (2022), Field research (2020-2024)

## ★ PROFESSIONAL SERVICES

### *Member of Academic Societies*

SfN (Society for Neuroscience)

Korean Society for Brain and Neural Sciences

Korean Society for Molecular and Cellular Biology