

JEONGJIN KIM, PH.D.

CONTACT

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Technology, Seoul, Republic of Korea

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(Last updated, 2023-03)



Senior Scientist,

Brain Science Institute, Korea Institute of Science and Technology

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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 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, Dr. C. Justin Lee)

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, Miami Winter Symposium, USA (1st Author: WY Shin, Corresponding: J Kim)

2023

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

2021

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

★ PUBLICATIONS

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

Working Papers

1. Jo, J., Park, G., Hwang, S., Park, T., Min, J., Lee, S.W., Lee, C., Kim, J. (2022). *In major revision*
2. Martisishevskam, I.*, Kim, H.J.*, Song, B., Steshenko, Y., Lee S.E., Jeong, Y., Yang, E., Shin, W., Park, H., Park, G., Kim, H., Lee, C., Kim, C.H., Oh, U., Kim, J. (2022). *Submitted*
3. Kim, H.B.* , Park, G.*, Shin, H.G., Baek I-Y., Cho, I-J., Kim, J. #, Seong, J. # (2022). *In preparation for resubmission*
4. Yoon, S., Chung, G., Song, W.S., Oh, S.P., Kim, J., Kim, S.J., Kim, M.H. (2021). Altered GABAergic inhibition in CA1 pyramidal neurons modifies despair-like behavior in mice. *bioRxiv*

Peer-reviewed Papers

1. 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*
2. 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
3. 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
4. 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
5. 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
6. 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, KJ., Choi, S., Han, K. (2020). Haploinsufficiency of Cyfip2 Causes Lithium-Responsive Prefrontal Dysfunction. *Annals of Neurology*, 88, 526-543
7. Kim, J., Kim, D. (2018). Rebound excitability mediates motor abnormalities in Parkinson's disease. *BMB reports*, 1:3-4.
8. 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.
9. 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*
10. 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.
11. 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.

12. 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
13. 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.
14. 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.
15. Park, Y.-G., **Kim, J.**, and Kim, D. (2013). The potential roles of T-type Ca²⁺ channels in motor coordination. *Frontiers in neural circuits* 7, 172.
16. 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.
17. 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.
18. **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 Ca²⁺ 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

- 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**)

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), San Diego, 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

★ ORGANIZING SYMPOSIA AND WORKSHOPS

2023 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 – 2023

Trends in neuroscience (2019), Molecular and cellular biology (2020, 2021, 2022),
Learning and memory (2021, 2022), Neurological disorders (2021, 2022),
Basic neuroscience (2022), Field research (2020-2022)

Korea Advanced Institute of Science and Technology (KAIST)

2006 – 2007

Experiments for Genetics (2006), Tutored undergraduate students every week in experiments

Genetics & General Biology (2007), Tutored undergraduate students every week to supplement lectures

★ SUPERVISING

Postdoctoral Researchers

Dr. Geunhong Park, Ph.D. (Postdoc, Brain Science Institute, KIST) 2022-present

Dr. Yoonjeong Jo, Ph.D. (Postdoc, Brain Science Institute, KIST) 2022-present

Dr. Hae-jin Kim, Ph.D. (Postdoc, Brain Science Institute, KIST; Current, Senior scientist at Korea Center for Gendered Innovations for Science and Technology Research (GISTeR), South Korea) 2019-2022

Dr. Jina Park, Ph.D. (Postdoc, Brain Science Institute, KIST; Current, Senior scientist, Genuv) 2018- 2019

Dr. Sejin Jeon, Ph.D. (Postdoc, Brain Science Institute, KIST; Current, Assistant professor at Samyook Univ., South Korea) 2017- 2018

Graduate Students

Wooyeon Shin (KAIST) 2017-present
Geunghong Park (KAIST) 2018-2022 Ph.D.
Yongjoon Park (UST) 2020-present
Iryna Martsishevskaya (UST) 2020-present
Almas Serikov (UST) 2020-present
Jung-Ah Jo (Korea Univ.) 2021-2023 M.S.
Yulia Steshenko (UST) 2019-2021 M.S.

Research Assistants/Interns

Juri Kim, M.S. (Researcher, Brain Science Institute, KIST; Current, Ph.D. program, Upenn, USA) 2020-2022
Hyunsoo Park, B.S. (Researcher, Brain Science Institute, KIST; Current, Karolinska Institute, Sweden) 2017-2018

★ **PROFESSIONAL SERVICES**

Reviewer of Journals

Nature communications, eNeuro, Scientific reports, EN etc

Reviewer/Referee of Thesis/Grant Proposal/Presentation

Invited External Examiner of Ph.D. Thesis, UNIST, 2022

Invited External Examiner of Ph.D. Thesis, KAIST, 2021

Invited External Examiner of Ph.D. Thesis, Yonsei Univ., 2019

Internal Examiner of Ph.D. Thesis, UST, 2019 - present

Invited Reviewers for Individual or Group Research Grants, National Research Foundation of Korea, 2020-2022

Invited Referee for Presentation in Korean Society for Brain and Neural Science 2021-2022

Member of Academic Societies

SfN (Society for Neuroscience)

Korean Society for Brain and Neural Sciences

Korean Society for Molecular and Cellular Biology