

Young-Gyun Park, Ph.D.

Assistant Professor, Department of Bio and Brain Engineering
 Korea Advanced Institute of Science and Technology (KAIST), South Korea

CONTACT INFORMATION

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EDUCATION

Integrated M.S./Ph.D. Biological Sciences, Korea Advanced Institute of Science and Technology (KAIST), South Korea - Thesis: Role of T-type calcium channel on tremorogenesis	2006.03 – 2011.08
B.S. Biological Sciences, KAIST, South Korea	2002.03 – 2006.02

PROFESSIONAL EXPERIENCE

Research Scientist , MIT, United States (Advisor: Dr. Kwanghun Chung)	2019.06 – 2020.07
Postdoctoral Fellow , MIT, United States (Advisor: Dr. Kwanghun Chung)	2015.06 – 2019.05
Postdoctoral Associate , Friedrich-Miescher Institute, Switzerland (Advisor: Dr. Silvia Arber)	2013.12 – 2015.04
Postdoctoral Associate , KAIST, Korea (Advisor: Dr. Daesoo Kim)	2011.09 – 2013.11
Visiting Scholar , Korea Institute of Science and Technology, Korea (Advisor: Dr. C. Justin Lee)	2009.07 – 2010.03

AWARDS

Poster Award, New England Bioscience Society	2019
AkN Post-doctoral Award, Association of Korean Neuroscientists	2018
Excellent Oral Presentation, Department of Biological Sciences, KAIST	2012
Best Oral Presentation, Korea Society of Biochemistry and Molecular Biology (KSBMB)	2010
Bo-Jung Kim Scholarship	2006 – 2007

PUBLICATIONS (*Co-first authors)

Lilascharoen V, Wang EH, Nam D, Pate SC, Tran AN, Wang X-Y, **Park Y-G**, Chung K, Lim BK (2020) Divergent pallidal pathways underlying distinct Parkinsonian behavioral deficits. *bioRxiv*, 2020.11.27.401554.

Muñoz-Castañeda R, Zingg B, Matho KS, Wang Q, Chen X, Foster NN, Narasimhan A, Li A, Hirokawa KE, Huo B, Bannerjee S, Korobkova L, Park CS, **Park Y-G**, Bienkowski MS, Chon U, Wheeler DW, Li X, Wang Y, Kelly K, An X, Attili SM, Bowman I, Bludova A, Cetin A, Ding L, Drewes R, D'Orazi F, Elowsky C, Fischer S, Galbavy W, Gao L, Gillis J, Groblewski PA, Gou L, Hahn JD, Hatfield JT, Hintiryan H, Huang J, Kondo H, Kuang X, Lesnar P, Li X, Li Y, Lin M, Liu L, Lo D, Mizrachi J, Mok S, Naeemi M, Nicovich PR, Palaniswamy R, Palmer J, Qi X, Shen E, Sun Y-C, Tao H, Wakemen W, Wang Y, Xie P, Yao S, Yuan J, Zhu M, Ng L, Zhang LI, Lim BK, Hawrylycz M, Gong H, Gee JC, Kim Y, Peng H, Chuang K, Yang XW, Luo Q, Mitra PP, Zador AM, Zeng H, Ascoli GA, Huang ZJ, Osten P, Harris JA, Dong H-W. Cellular Anatomy of the Mouse Primary Motor Cortex. *bioRxiv*, 2020.10.02.323154.

Roy DS*, **Park Y-G***, Ogawa SK*, Cho JH, Choi H, Kamensky L, Martin J, Chung K, Tonegawa S (2019) Brain-wide mapping of contextual fear memory engram ensembles supports the dispersed engram complex hypothesis. *bioRxiv*, 668483.

Yun DH*, **Park Y-G***, Cho JH*, Kamensky L, Evans NB, Albanese A, Xie K, Swaney J, Sohn CH, Tian Y, Zhang Q, Drummond G, Guan W, DiNapoli N, Choi H, Jung H-Y, Ruelas L, Feng G, Chung K (2019) Ultrafast immunostaining of organ-scale tissues for scalable proteomic phenotyping. *bioRxiv*, 660373.

Swaney J, Kamensky L, Evans N, Xie K, **Park Y-G**, Drummond G, Yun DH, Chung K (2019) Scalable image processing techniques for quantitative analysis of volumetric biological images from light-sheet microscopy. *bioRxiv*, 576595

Park Y-G*, Sohn CH*, Chen R*, McCue M, Yun DH, Drummond GT, Ku T, Evans NB, Oak HC, Trieu W, Choi H, Jin X, Lilascharoen V, Wang J, Truttmann MC, Qi HW, Ploegh HL, Golub TR, Chen S-C, Frosch MP, Kulik HJ, Lim BK, Chung K (2019) Protection of tissue physicochemical properties using polyfunctional crosslinkers. *Nature Biotechnology*, 37(1), pp 73–83 (Cover article)

Ku T, Swaney J, Park J-Y, Albanese A, Murray E, Cho JH, **Park Y-G**, Mangena V, Chen J, Chung K (2016) Multiplexed and scalable super-resolution imaging of three-dimensional protein localization in size-adjustable tissues. *Nature Biotechnology*, 34(9), pp 973–981

Murray E, Cho JH, Goodwin D, Ku T, Swaney J, Kim S-Y, Choi H, **Park Y-G**, Park J-Y, Hubbert A, McCue M, Vassallo S, Bakh N, Frosch MP, Wedeen VJ, Seung HS, Chung K (2015) Simple, scalable proteomic imaging for high-dimensional profiling of intact systems. *Cell*, 163(6), pp 1500–1514.

Lee E*, Hong J*, **Park Y-G**, Chae S, Kim Y, Kim D (2015) Left brain cortical activity modulates stress effects on social behavior. *Scientific Reports*, 5(1), p 13342

Park Y-G, Choi JH, Lee C, Kim S, Kim Y, Chang K-Y, Paek SH, Kim D. (2015) Heterogeneity of tremor mechanisms assessed by tremor-related cortical potential in mice. *Molecular Brain*, 8(1), p 3

Park Y-G, Kim J, Kim D (2013) The potential roles of T-type Ca²⁺ channels in motor coordination. *Frontiers in Neural Circuits*, 7

Chang K-Y, **Park Y-G**, Park H-Y, Homanics GE, Kim J, Kim D (2011) Lack of Ca_v3.1 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(1), pp 19–23

Kim J, Woo J, **Park Y-G**, Chae S, Jo S, Choi JW, Jun HY, Yeom YI, Park SH, Kim KH, Shin H-S, Kim D (2011) Thalamic T-type Ca²⁺ channels mediate frontal lobe dysfunctions caused by a hypoxia-like damage in the prefrontal cortex. *The Journal of Neuroscience*, 31(11), pp 4063–4073

Park Y-G*, Park H-Y*, Lee CJ, Choi S, Jo S, Choi H, Kim Y-H, Shin H-S, Llinas RR, Kim D (2010) CaV3.1 is a tremor rhythm pacemaker in the inferior olive. *Proceedings of the National Academy of Sciences*, 107(23), pp 10731–10736

PATENTS

Double knockout GABAA alpha 1^{-/-}; CaV3.1 and GABAA alpha 1^{-/-}; Emx1-cre mouse models with enhanced essential tremor. (2013) European Patent EP2241628A1

Mouse models with enhanced Essential tremor and preparation method thereof. (2012) U.S. Patent US8319007B2

Method for the prevention and treatment of Essential tremor by regulating alpha 1 g T-type calcium channel or by T-type calcium channel blockers. (2012) U.S. Patent US20120014880A1

TEACHING

Lecturer, Special topics of Bio and Brain Engineering <Single cell brain mapping>, KAIST (2020 Fall)

Instructor, MISTI global seed funds program, MIT (2018)

Supervisor, Undergraduate Research Program, KAIST (2010 - 2012)

Mentor, Group Supervision Program, KAIST (2010)

Teaching Assistant, Molecular Biology, KAIST (2007)

Teaching Assistant, Immunology, KAIST (2007)

Teaching Assistant, General Biology, KAIST (2007)

INVITED TALKS

제 41 차 지제근 교수의 신경해부통합강좌, webinar (2020.11.21)

2020 KOSOMBE Fall Meeting, The Korean Society of Medical & Biological Engineering, webinar (2020.11.13)

Institute for Basic Science, Daejeon, Korea (2020.10.20)

Seoul National University, Seoul, Korea (2019.11)

Korea University School of Medicine, Seoul, Korea (2019.04)