

CURRICULUM VITAE

Name: **Changjoon Justin Lee, PhD**
Birth Date: March 21, 1966
Marital Status: Married, two children
Citizenship: USA
Current Address: IBS (Insitute for Basice Science)
Center for Cognition and Sociality
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Current Title: Co-Director of Center for Cognition and Sociality, IBS
Prof., Dept Brain Science, Korea Univ of Science & Tech.
Editor-in-chief, Experimental Neurobiology



EDUCATION

Undergraduate:

The University of Chicago, Chicago, IL, USA
B.A. in Chemistry, June 1990

Graduate:

Columbia University, New York, Graduate School of Arts and Sciences
Department of Physiology and Cellular Biophysics
PhD, May 16th, 2001

Thesis advisor: Dr. Amy B. MacDermott

Dissertation Title: ***The Expression and Function of Kainate and AMPA Receptors in Nociceptive Dorsal Root Ganglion Neurons.***

Post Doctoral:

Emory University, Atlanta, GA, USA, Department of Pharmacology
Post Doctoral Fellow, Mar 2001 ~ Aug 2004
(Sponsor: Dr. Stephen Traynelis)

Project Scope: **Modulation of NMDA receptors by protease activated receptors (PAR).**

GRANTS AND RESEARCH FUNDINGS

2015~2023 Creative Research Investigator Award, NRF (\$700,000/y)
Title: Center for Gia-Neuron Interaction
2012~2017 Fundamental Technology in Brain Science, NRF (\$520,000/y)
Title: **Development of 3D in-vitro brain neural/glia circuit and non-invasive /cell type-specific stimulation and detection technologies.**
2012~2015 KIST Young Fellow Project (\$300,000/y)
Title: **Study of Glia-Neuron Interaction**

- 2009~2015 National Agenda Project, Korea Research Council (\$300,000/y)
Title: **Improving neurodegenerative disorders by man-machine interface.**
- 2009~2014 World Class Institute Program, National Research Foundation (\$7,000,000/y)
Title: **Functional connectomics of brain circuitry by optogenetics**
- 2009~2011 International Cooperation Research Grant, KIST (\$150,000/y)
Title: **Study of tonic GABA release from glial cells in cerebellum utilizing optogenetic mice**
- 2005-2008 Pure Basic Group Research Grant, Korea Research Foundation (\$280,000/y)
TITLE: **Investigating the in vivo role of neuroglia in the brain using conditional gene-targeted mice**
- 2005-2008 KRL Research Grant (\$250,000/year)
TITLE: **Role of astrocytic Ca²⁺ in neuronal excitability**
- 2005-2006 KIST Research Grant (\$100,000/year)
TITLE: **Development of low-cost, high throughput Xenopus Oocyte drug screening system**
- 2002-2005 **Recipient of NIH, NRSA Individual Fellowship (NS43875, 2002-2005).**
TITLE: **MODULATION OF NMDA RECEPTORS BY SERINE PROTEASES & PAR1.**

AWARDS AND HONORS

- 2017-04-21 Science Day 2017, Korea Science & Technology Development Medal of Honor
- 2016-11-04 The Kyung Ahm Prize in Arts & Sciences, 2016
- 2014-11-28 The Korean Academy of Science and Technology, FILA Basic Science Ward
- 2014-11-08 Korean Society for Brain and Neuroscience, Jang Jin Award
- 2013-12-20 The University of Science & Technology, Star Professor Award
- 2013-08-27 The University of Science & Technology, Outstanding Mentor Award
- 2012.12.20 The University of Science & Technology, , Best Mentor Award
- 2011-06-29 The University of Science & Technology, Best Mentor Award
- 2011-06-29 The University of Science & Technology, Outstanding Mentor Award
- 2011-02-10 KIST, Scientist of the Year Award
- 2011-02-10 KIST, Outstanding Research Team Award
- 2010-12-31 Outstanding Researcher Award, Prime Minister of Korea.
- 2010-12-29 Scientist of the Month Award, Ministry of Science & Technology, Korea
- 2010-12-02 KIST, Scientist of the Month Award
- 2009-12-21 KIST, Outstanding Project Award
- 2009-06-23 The University of Science & Technology, Outstanding Teacher Award
- 2009-05-26 The University of Science & Technology, Outstanding Mentor Award
- 2009-02-10 KIST, Outstanding Researcher Award
- 2003-11-11 Association of Korean Neuroscientists Outstanding Researcher Award, Nov 11th
- 2000-11-07 Association of Korean Neuroscientists Outstanding Researcher Award, Nov 7th
- 1985-1989 Illinois State Scholarship

SCIENTIFIC SOCIETY AND JOURNAL EDITORSHIP

- 2017-08-31 President of Korean Neuroglia Society since 2016
- 2017-Present Editor-in-chief, Experimental Neurobiology

2016 General Secretary of Korean Brain and Neuroscience Society
 2015 Secretariat of Korean Brain and Neuroscience Society
 2008-Present Editorial Board & Managing Editor, *Molecular Brain*
 2004-Present Editorial board, *Molecular Pain*
 1996 Society for Neuroscience, member since 1996
 1985 National Honors Society

RESEARCH EXPERIENCES

Junior Research Assist.	1986/9-1990/6	Louis Seiden's Lab.	U of Chicago
Research Assistant	1990/7-1991/6	Emily Foster's Lab.	Michael Reese Hosp.
Graduate Research Assist.	1991/9-1992/12		Columbia University
Research Technician	1993/1-1994/6	Martin Low's Lab.	Columbia University
Research Technician	1994/6-1996/9	MacDermott's Lab.	Columbia University
Graduate Research Assist.	1996/9-2001/3	MacDermott's Lab.	Columbia University
Post Doctoral Fellow	2001/3-2004/8	Traynelis's Lab.	Emory University
Senior Research Scientist	2004/9-2010/2		Korea Institute of Science and Technology
Principal Research Scientist	2010/2-2018/10		Korea Institute of Science and Technology
Tenured Research Scientist	2017/3-2018/10		Korea Institute of Science and Technology
Co-Director	2018/11-Present		Institute for Basic Science

PUBLICATIONS : H-Index: 38 (total citations 5091 as of March 2018)

Selected Recent Publications:

1. *Control of motor coordination by astrocytic tonic GABA release through modulation of excitation/inhibition balance in cerebellum.* Woo J, Min JO, Kang DS, Kim YS, Jung GH, Park HJ, Kim S, An H, Known J, Kim J, Shim I, Kim HG, **Lee CJ**, Yoon BE, Proc Natl Acad Sci U S A. 2018 Apr 24. pii: 1721187115. doi:

2. *Astrocytic water channel aquaporin-4 modulates brain plasticity in both mice and humans: a potential gliogenetic mechanism underlying language-associated learning.* Junsung Woo*, Jieun E. Kim*, Jooyeon J Im*, Jaekwang Lee, Hyeonseok S. Jeong, Seahyung Park, Soon-Young Jung, Heeyoung An, Sujung Yoon, Soo Mee Lim, Sunho Lee, Jiyoung Ma, Emily Yunha Shin, Young-Eun Han, Binna Kim, Eun Hee Lee, Linqing Feng, Heejung Chun, Bo-Eun Yoon, Ilhyang Kang, Stephen R. Dager, In Kyoony Lyoo and **C. Justin Lee**. Molecular Psychiatry. 2018 Apr;23(4):1021-1030. doi: 10.1038/mp.2017.113. Epub 2017 Jun; (IF: 13.204)

3. *GABA from reactive astrocytes impairs memory in mouse models of Alzheimer's disease.* Jo S, Yarishkin O, Hwang YJ, Chun YE, Park M, Woo DH, Bae JY, Kim T, Lee J, Chun H, Park HJ, Lee DY, Hong J, Kim HY, Oh SJ, Park SJ, Lee H, Yoon BE, Kim Y, Jeong Y, Shim I, Bae YC, Cho J, Kowall NW, Ryu H, Hwang E, Kim D, **Lee CJ**. Nat Med. 2014 Aug;20(8):886-96. (IF: 28.054)

4. *Glial GABA, synthesized by monoamine oxidase B, mediates tonic inhibition.* Yoon BE, Woo J, Chun YE, Chun H, Jo S, Bae JY, An H, Min JO, Han KS, Oh SJ, Kim HY, Kim T, Kim YS, Bae YC, **Lee CJ**. J Physiol. 2014 Nov 15;592(22):4951-68.

5. *A disulphide-linked heterodimer of TWIK-1 and TREK-1 mediates passive conductance in astrocytes.* Eun Mi Hwang, Eunju Kim, Oleg Yarishkin, Dong Ho Woo, Kyung-Seok Han, Nammi Park, Yeonju Bae, Junsung Woo, Donggyu Kim, Myeongki Park, **C. Justin Lee**, Jae-Yong Park. Nat Commun. 2014 Feb 5;5:3227. (Co-corresponding author) (IF: 10.015)
6. *TREK-1 and Best1 channels mediate fast and slow glutamate release in astrocytes upon GPCR activation.* Dong Ho Woo, Kyung-Seok Han, Jae Wan Shim, Bo-Eun Yoon, Eunju Kim, Jin Young Bae, Soo-Jin Oh, Eun Mi Hwang, Alan D. Marmorstein, Yong Chul Bae, Jae-Yong Park, **C. Justin Lee.** Cell 2012 Sep 28;151(1):25-40 (IF:32.406)
7. *Channel-mediated Tonic GABA Release from Glia.* Soojung Lee, Bo Eun Yoon, Ken Berglund, Hyungju Park, Hee-Sup Shin, George J. Augustine, **C. Justin Lee.** Science. 2010 Nov 5;330(6005):790-6 (IF: 29.747)
8. *Caffeine-Mediated Inhibition of Calcium Release Channel Inositol 1,4,5-Trisphosphate Receptor Subtype 3 Blocks Glioblastoma Invasion and Extends Survival.* Kang SS, Han KS, Ku BM, Lee YK, Hong J, Shin HY, Almonte AG, Woo DH, Brat DJ, Hwang EM, Yoo SH, Chung CK, Park SH, Paek SH, Roh EJ, Lee SJ, Park JY, Traynelis SF, **Lee, CJ.** Cancer Research. 2010 Feb 1;70(3):1173-83 (IF:7.543)
9. *Bestrophin-1 encodes for the Ca²⁺-activated anion channel in hippocampal astrocytes.* Park H, Oh SJ, Han KS, Woo DH, Park H, Mannaioni G, Traynelis SF, **Lee CJ.** J of Neuroscience. 2009 Oct 14;29(41):13063-73 (IF:7.452)

Submitted Articles:

1. AUDITORIN (TMEM43), A NOVEL CATION CHANNEL IN COCHLEAR GLIA IS CRITICAL FOR MAINTENANCE OF SPEECH PERCEPTION. Nature Medicine. 2018. Feb 26 (**Under revision**)
2. Reversible MAO-B inhibitors circumvent the shortcomings of irreversible inhibitors and alleviate memory impairment in Alzheimer's disease model. Nature Communications. 2018 Jan 25 (**Under revision**)
3. Excessive astrocytic GABA causes diaschisis and impedes functional recovery in white matter stroke. Nature Communications. 2018 Jan 22 (**Under revision**)
4. Activation of the astrocytic μ - opioid receptor in CA1 hippocampus drives conditioned place preference through glutamatergic signaling. PNAS (**Under review**)
5. Tweety-homolog (Ttyh) family encodes the pore-forming subunits of volume-regulated anion channel in the brain. Neuron (**Under revision**)
6. Awakening dormant dopaminergic neurons by blocking aberrant tonic inhibition to alleviate parkinsonian motor symptoms. Science Translational Medicine (**Under review**)

7. Ultrasonic neuromodulation via astrocytic TRPA1. Neuron (**Under review**)

Journal Articles: (130)

130. *Expression of μ -Opioid Receptor in CA1 Hippocampal Astrocytes.* Min-Ho Nam, Kyung-Seok Han, Jaekwang Lee, Jin Young Bae, Heeyoung An, Seahyung Park, Soo-Jin Oh, Eunju Kim, Eunmi Hwang, Yong Chul Bae, **C. Justin Lee** Exp Neurobiol. 2018 Apr; 27(2): 120–128.

129. *Electrophysiological Evidence for Functional Astrocytic P2X3 Receptors in the Mouse Trigeminal Caudal Nucleus.* Jaekwang Lee, Jin Young Bae, **C. Justin Lee**, Yong Chul Bae Exp Neurobiol. 2018 Apr; 27(2): 88–93.

128. *Control of motor coordination by astrocytic tonic GABA release through modulation of excitation/inhibition balance in cerebellum.* Woo J, Min JO, Kang DS, Kim YS, Jung GH, Park HJ, Kim S, An H, Known J, Kim J, Shim I, Kim HG, **Lee CJ**, Yoon BE, Proc Natl Acad Sci U S A. 2018 Apr 24. pii: 1721187115. doi:

127. *Romo1 is a mitochondrial non-selective cation channel with viroporin-like characteristics.* Gi Young Lee, Deok-gyun You, Hye-Ra Lee, Sun Wook Hwang, **C. Justin Lee**, and Young Do Yoo. J Cell Biol. 2018 Mar 15. pii: jcb.201709001. doi: 10.1083/jcb.201709001.

126. *Repositioning of the antipsychotic trifluoperazine: Synthesis, biological evaluation and in silico study of trifluoperazine analogs as anti-glioblastoma agents.* Seokmin Kang, Jung Moo Lee, Borami Jeon, Ahmed Elkamhawy, Sora Paik, Jinpyo Hong, Soo-Jin Oh, Sun Ha Paek, **C. Justin Lee**, Ahmed H. E. Hassan, Sang Soo Kang, Eun Joo Roh. Eur J Med Chem. 2018 Mar 23;151:186-198..

125. *Dexmedetomidine Prevents GABAA Receptor Hyperactivity after General Anesthesia.* Dian-Shi Wang, Kirusanthi Kaneshwaran, Gang Lei, Fariya Mostafa, Junhui Wang, Irene Lecker, Sinziana Avramescu, Yu-Feng Xie, Nathan K. Chan, Alejandro Fernandez-Escobar, Junsung Woo, Darren Chan, Amy J. Ramsey, Jeremy M. Sivak, **C. Justin Lee**, Robert P. Bonin, Beverley A. Orser, Anesthesiology 2018 Jun 8. doi: 10.1097/ALN.0000000000002311

124. *Visual stimulation-induced mild stress enhances cognitive behavior in cynomolgus monkey.* Dong Ho Woo, Eun Ha Koh, Seung-Hyuk Shin, Young-Su Yang, Jae Chun Choe, **C. Justin Lee** & Su-Cheol Han. Sci Rep. 2018 Feb 28;8(1);

123. *Development of a low-cost, comprehensive recording system for circadian rhythm behavior.* Jea Kwon, Min Gu Park, Seung Eun Lee, and **C. Justin Lee.** Exp Neurobiol. 2018 Feb 27;27(1):65-75;

122. Koh W, Park YM, Lee SE, **Lee CJ.** Exp Neurobiol. 2017 Dec;26(6):350-361.

121. *AAV-Mediated Astrocyte-Specific Gene Expression under Human ALDH1L1 Promoter in Mouse Thalamus.* Song JJ, Oh SM, Kwon OC, Wulansari N, Lee HS, Chang MY, Lee E, Sun W, Lee SE, Chang S, An H, **Lee CJ**, Lee SH. *Cografting astrocytes*

improves cell therapeutic outcomes in a Parkinson's disease model. J Clin Invest. 2018 Jan 2;128(1):463-482.

120. *Reactive astrocytes in Alzheimer's disease: A double-edged sword.* Neurosci Res. Chun H, **Lee CJ.** 2018 Jan;126:44-52.

119. *Direct interaction with 14-3-3gamma promotes surface expression of Best1 channel in astrocyte.* Oh SJ, Woo J, Lee YS, Cho M, Kim E, Cho NC, Park JY, Pae AN, **C. Justin Lee**, Hwang EM. Mol Brain. 2017 Nov 9;10(1):51. doi: 10.1186/s13041-017-0331-x. (Co-corresponding author)

118. *A role for the purinergic receptor P2X3 in astrocytes in the mechanism of craniofacial neuropathic pain.* Mah W, Lee SM, Lee J, Bae JY, Ju JS, **Lee CJ**, Ahn DK, Bae YC. Sci Rep. 2017 Oct 19;7(1):13627. doi: 10.1038/s41598-017-13561-3.

117. *Decreased Glial GABA and Tonic Inhibition in Cerebellum of Mouse Model for Attention-Deficit/Hyperactivity Disorder (ADHD).* Kim YS, Woo J, **Lee CJ**, Yoon BE. Exp Neurobiol. 2017 Aug;26(4):206-212.

116. *Small molecule-based lineage switch of human adipose-derived stem cells into neural stem cells and functional GABAergic neurons.* Park J, Lee N, Lee J, Choe EK, Kim MK, Lee J, Byun MS, Chon MW, Kim SW, **Lee CJ**, Kim JH, Kwon JS, Chang MS. Sci Rep. 2017 Aug 31;7(1):10166.

115. *Astrocytic water channel aquaporin-4 modulates brain plasticity in both mice and humans: a potential gliogenetic mechanism underlying language-associated learning.* Junsung Woo*, Jieun E. Kim*, Jooyeon J Im*, Jaekwang Lee, Hyeonseok S. Jeong, Seahyung Park, Soon-Young Jung, Heeyoung An, Sujung Yoon, Soo Mee Lim, Sunho Lee, Jiyoung Ma, Emily Yunha Shin, Young-Eun Han, Binna Kim, Eun Hee Lee, Linqing Feng, Heejung Chun, Bo-Eun Yoon, Ilhyang Kang, Stephen R. Dager, In Kyoon Lyoo and **C. Justin Lee.** Molecular Psychiatry. 2018 Apr;23(4):1021-1030. doi: 10.1038/mp.2017.113. Epub 2017 Jun;

114. *Distribution and function of the Bestrophin-1 (Best1) channel in the brain.* Soo-Jin Oh and **C. Justin Lee.** Exp Neurobiol. 2017 Jun;26(3):113-121. doi: 10.5607/en.2017.26.2.97.

113. *Functional characterization of resting and adenovirus-induced reactive astrocytes in three-dimensional culture system.* Junsung Woo*, Sun-Kyoung Im*, Heejung Chun, Soon-Young Jung, Soo-Jin Oh, Nakwon Choi, **C. Justin Lee**, Eun-Mi Hur. Exp Neurobiol. 2017 Jun;26(3):158-167. doi: 10.5607/en.2017.26.2.97.

112. *Optogenetic Rescue of Locomotor Dysfunction and Dopaminergic Degeneration Caused by Alpha-Synuclein and EKO Genes.* Qi C, Varga S, Oh SJ, **Lee CJ**, Lee D. Exp Neurobiol. 2017 Apr;26(2):97-103. doi: 10.5607/en.2017.26.2.97. Epub 2017 Apr 18.

111. *Flow Shear Stress Enhances the Proliferative Potential of Cultured Radial Glial Cells Possibly Via an Activation of Mechanosensitive Calcium Channel.* Park MG, Jang H, Lee SH, **Lee CJ.** Exp Neurobiol. 2017 Apr;26(2):71-81. doi: 10.5607/en.2017.26.2.71. Epub 2017 Apr 13.

- 110.** *Indole-Substituted Benzothiazoles and Benzoxazoles as Selective and Reversible MAO-B Inhibitors for Treatment of Parkinson's Disease.* Nam MH, Park M, Park H, Kim Y, Yoon S, Sawant VS, Choi JW, Park JH, Park KD, Min SJ, **Lee CJ**, Choo H. ACS Chem Neurosci. 2017 Jul 19;8(7):1519-1529. doi: 10.1021/acscchemneuro.7b00050. Epub 2017 Mar 30.
- 109.** *Orai1 and Orai3 in Combination with Stim1 Mediate the Majority of Store-operated Calcium Entry in Astrocytes.* Kwon J, An H, Sa M, Won J, Shin JI, **Lee CJ**. Exp Neurobiol. 2017 Feb;26(1):42-54
- 108.** *Bestrophin 1 and retinal disease.* Johnson AA, Guziewicz KE, **Lee CJ**, Kalathur RC, Pulido JS, Marmorstein LY, Marmorstein AD. Prog Retin Eye Res. 2017 Jan 30. pii: S1350-9462(16)30090-8.
- 107.** *Anisotropically organized three-dimensional culture platform for reconstruction of a hippocampal neural network.* Kim SH, Im SK, Oh SJ, Jeong S, Yoon ES, **Lee CJ**, Choi N, Hur EM. Nat Commun. 2017 Feb 1;8:14346
- 106.** *Forebrain-specific ablation of phospholipase C γ 1 causes manic-like behavior.* Yang YR, Jung JH, Kim SJ, Hamada K, Suzuki A, Kim HJ, Lee JH, Kwon OB, Lee YK, Kim J, Kim EK, Jang HJ, Kang DS, Choi JS, **Lee CJ**, Marshall J, Koh HY, Kim CJ, Seok H, Kim SH, Choi JH, Choi YB, Cocco L, Ryu SH, Kim JH, Suh PG. Mol Psychiatry. 2017 Oct;22(10):1473-1482. doi: 10.1038/mp.2016.261. Epub 2017 Jan 31.
- 105.** *Trifluoperazine, a Well-Known Antipsychotic, Inhibits Glioblastoma Invasion by Binding to Calmodulin and Disinhibiting Calcium Release Channel IP3R.* Kang S, Hong J, Lee JM, Moon HE, Jeon B, Choi J, Yoon NA, Paek SH, Roh EJ, **Lee CJ**, Kang SS. Mol Cancer Ther. 2017 Jan;16(1):217-227. doi: 10.1158/1535-7163.MCT-16-0169-T. Epub 2016 Nov 9. (Co-corresponding author)
- 104.** *The Ca $^{2+}$ -activated chloride channel anoctamin-2 mediates spike-frequency adaptation and regulates sensory transmission in thalamocortical neurons.* Ha GE, Lee J, Kwak H, Song K, Kwon J, Jung SY, Hong J, Chang GE, Hwang EM, Shin HS, **Lee CJ**, Cheong E. Nat Commun. 2016 Dec 19;7:13791.
- 103.** *Ultra-sensitive detection of brain-derived neurotrophic factor (BDNF) in the brain of freely moving mice using an interdigitated microelectrode (IME) biosensor.* Yoo YK, Lee J, Kim J, Kim G, Kim S, Kim J, Chun H, Lee JH, **Lee CJ**, Hwang KS. Sci Rep. 2016 Sep 19;6:33694. doi: 10.1038/srep33694. (Co-corresponding author)
- 102.** *alpha-Pinene, a major constituent of pine tree oils, enhances non-rapid eye movement sleep in mice through GABAA-benzodiazepine receptors.* Yang H, Woo J, Pae AN, Um MY, Cho NC, Park KD, Yoon M, Kim J, **Lee CJ**, Cho S. Mol Pharmacol. 2016 Aug 29 (Co-corresponding author)
- 101.** *Prolonged stimulation with low-intensity ultrasound induces delayed increases in spontaneous hippocampal culture spiking activity.* Kim HB, Swanberg KM, Han HS, Kim JC, Kim JW, Lee S, **Lee CJ**, Maeng S, Kim TS, Park JH. J Neurosci Res. 2016 Jul 28

- 100.** *Neuronal Expression and Cell-Type-Specific Gene-Silencing of Best1 in Thalamic Reticular Nucleus Neurons Using pSico-Red System.* Jung JY, Lee SE, Hwang EM, **Lee CJ**. Exp Neurobiol. 2016 Jun 25
- 99.** *Suppression of 14-3-3gamma-mediated surface expression of ANO1 inhibits cancer progression of glioblastoma cells.* Lee YS, Lee JK, Bae Y, Lee BS, Kim E, Cho CH, Ryoo K, Yoo J, Kim CH, Yi GS, Lee SG, **Lee CJ**, Kang SS, Hwang EM, Park JY. Sci Rep. 2016 May 23
- 98.** *Histamine 1 receptor-Gbetagamma-cAMP/PKA-CFTR pathway mediates the histamine-induced resetting of the suprachiasmatic circadian clock.* Kim YS, Kim YB, Kim WB, Lee SW, Oh SB, Han HC, **Lee CJ**, Colwell CS, Kim YI. Mol Brain. 2016 May 6;9:49 (Co-corresponding author)
- 97.** *Fluoride Induces a Volume Reduction in CA1 Hippocampal Slices Via MAP Kinase Pathway Through Volume Regulated Anion Channels.* Lee J, Han YE, Favorov O, Tommerdahl M, Whitsel B, **Lee CJ**. Exp Neurobiol. 2016 Apr 25
- 96.** *Optogenetic Inhibition of the Subthalamic Nucleus Reduces Levodopa-Induced Dyskinesias in a Rat Model of Parkinson's Disease.* Yoon HH, Min J, Hwang E, **Lee CJ**, Suh JK, Hwang O, Jeon SR. Stereotact Funct Neurosurg. 2016
- 95.** *Differential Cellular Tropism of Lentivirus and Adeno-Associated Virus in the Brain of Cynomolgus Monkey.* An H, Cho DW, Lee SE, Yang YS, Han SC, **Lee CJ**. Exp Neurobiol. 2016 Feb 25
- 94.** *Corrigendum: EPPS rescues hippocampus-dependent cognitive deficits in APP/PS1 mice by disaggregation of amyloid-beta oligomers and plaques.* Kim HY, Kim HV, Jo S, **Lee CJ**, Choi SY, Kim DJ, Kim Y. Nat Commun. 2016 Feb 15
- 93.** *In vivo optical modulation of neural signals using monolithically integrated two-dimensional neural probe arrays.* Son Y, Jenny Lee H, Kim J, Shin H, Choi N, **Justin Lee C**, Yoon ES, Yoon E, Wise KD, Geun Kim T, Cho IJ. Sci Rep. 2015 Oct 23
- 92.** *EPPS rescues hippocampus-dependent cognitive deficits in APP/PS1 mice by disaggregation of amyloid-beta oligomers and plaques.* Kim HY, Kim HV, Jo S, **Lee CJ**, Choi SY, Kim DJ, Kim Y. Nat Commun. 2015 Dec 8
- 91.** *Chronic Stress Alters Spatial Representation and Bursting Patterns of Place Cells in Behaving Mice.* Park M, Kim CH, Jo S, Kim EJ, Rhim H, **Lee CJ**, Kim JJ, Cho J. Sci Rep. 2015 Nov 9
- 90.** *Central Nervous System and its Disease Models on a Chip.* Yi Y, Park J, Lim J, **Lee CJ**, Lee SH. Trends Biotechnol. 2015 Oct 20
- 89.** *TRPV1 on astrocytes rescues nigral dopamine neurons in Parkinson's disease via CNTF.* Nam JH, Park ES, Won SY, Lee YA, Kim KI, Jeong JY, Baek JY, Cho EJ, Jin M, Chung YC, Lee BD, Kim SH, Kim EG, Byun K, Lee B, Woo DH, **Lee CJ**, Kim SR, Bok E,

Kim YS, Ahn TB, Ko HW, Brahmachari S, Pletinkova O, Troconso JC, Dawson VL, Dawson TM, Jin BK. Brain. 2015 Oct 21

88. *New Insights on Astrocyte Ion Channels: Critical for Homeostasis and Neuron-Glia Signaling.* Olsen ML, Khakh BS, Skatchkov SN, Zhou M, **Lee CJ**, Rouach N. J Neurosci. 2015 Oct 14

87. *Disinhibitory Action of Astrocytic GABA at the Perforant Path to Dentate Gyrus Granule Neuron Synapse Reverses to Inhibitory in Alzheimer's Disease Model.* Yarishkin O, Lee J, Jo S, Hwang EM, **Lee CJ**. Exp Neurobiol. 2015 Sep 24

86. *Homogeneous generation of iDA neurons with high similarity to bona fide DA neurons using a drug inducible system.* Park H, Kim H, Yoo J, Lee J, Choi H, Baek S, **Lee CJ**, Kim J, Lengner CJ, Sung JS, Kim J. Biomaterials. 2015 Sep 6

85. *Neural probes with multi-drug delivery capability.* Shin H, Lee HJ, Chae U, Kim H, Kim J, Choi N, Woo J, Cho Y, **Lee CJ**, Yoon ES, Cho IJ. Lab Chip. 2015 Aug 3

84. *Histamine resets the circadian clock in the suprachiasmatic nucleus through the H1R-Ca 1.3-RyR pathway in the mouse.* Kim YS, Kim YB, Kim WB, Yoon BE, Shen FY, Lee SW, Soong TW, Han HC, Colwell CS, **Lee CJ**, Kim YI. Eur J Neurosci. 2015 Jul 28. (Co-corresponding author)

83. *Networked neural spheroid by neuro-bundle mimicking nervous system created by topology effect.* Jeong GS, Chang JY, Park JS, Lee SA, Park D, Woo J, An H, **Lee CJ**, Lee SH. Mol Brain. 2015 Mar 22;8(1):17.

82. *Ca(2+) Entry is Required for Mechanical Stimulation-induced ATP Release from Astrocyte.* Lee J, Chun YE, Han KS, Lee J, Woo DH, Lee CJ. Exp Neurobiol. 2015 Mar;24(1):17-23.

81. *Channel-mediated astrocytic glutamate modulates hippocampal synaptic plasticity by activating postsynaptic NMDA receptors.* Park H, Han KS, Seo J, Lee J, Dravid SM, Woo J, Chun H, Cho S, Bae J, An H, Koh W, Yoon BE, Berlinguer-Palmini R, Mannaioni G, Traynelis SF, Bae Y, Choi SY, **Lee CJ**. Mol Brain. 2015 Feb 3;8(1):7.

80. *A multichannel neural probe with embedded microfluidic channels for simultaneous in vivo neural recording and drug delivery.* Lee HJ, Son Y, Kim J, **Lee CJ**, Yoon ES, Cho IJ. Lab Chip. 2015 Feb 5.

79. *GABA as a rising gliotransmitter.* Frontiers in Neural Circuits. Yoon, BE, **Lee CJ**. 2014 Nov.

78. *TWIK-1 contributes to the intrinsic excitability of dentate granule cells in mouse hippocampus.* Yarishkin O, Lee D, Kim E, Cho CH, Choi J, **Lee CJ**, Hwang E, Park JY. Mol Brain. 2014 Nov 19;7(1):80.

77. *Three-dimensional brain-on-a-chip with an interstitial level of flow and its application as an in vitro model of Alzheimer's disease.* Park J, Lee BK, Jeong GS, Hyun JK, **Lee CJ**, Lee SH. Lab Chip. 2014 Oct 15.

76. *Glial GABA, synthesized by monoamine oxidase B, mediates tonic inhibition.* Yoon BE, Woo J, Chun YE, Chun H, Jo S, Bae JY, An H, Min JO, Han KS, Oh SJ, Kim HY, Kim T, Kim YS, Bae YC, **Lee CJ**. J Physiol. 2014 Nov 15;592(22):4951-68.

75. *Protease-activated receptor 1-induced GABA release in cultured cortical astrocytes pretreated with GABA is mediated by the Bestrophin-1 channel.* **C. Justin Lee** and Bo-Eun Yoon. Animal Cells and Systems. 2014 Aug 19;18:4, 244-249,

74. *TLR4 enhances histamine-mediated pruritus by potentiating TRPV1 activity.* Min H, Lee H, Lim H, Jang YH, Chung SJ, **Lee CJ**, Lee SJ. Mol Brain. 2014 Aug 21;7(1):59. doi: 10.1186/s13041-014-0059-9.

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Open probability and kinetic properties of individual NR1/NR2a NMDA receptors activated by synaptic - like glutamate concentration jumps
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19. S.F. Traynelis; **C.J. Lee**; J.M. Lee;

Use of ChanneLab software for teaching receptor theory and synaptic function.
35th Annual Meeting of the Society for Neuroscience, 2005.

20. S.F.Traynelis, K.Erreger, **C.J. Lee**, P.E.Chen, P.Le, P.N.Lyuboslavksy, D.J.A.Wyllie
SUBUNIT-SPECIFIC AGONIST ACTIVITY FOR GLUTAMATE ANALOGS AT NR2A, NR2B,
NR2C, AND NR2D NMDA SUBUNITS.

35th Annual Meeting of the Society for Neuroscience, 2005.

21 G.Mannaioni; S.M.Dravid; **C.J.Lee**; S.F.Traynelis

PAR - 1 activation modulates the time course of glutamate at the synaptic cleft

35th Annual Meeting of the Society for Neuroscience, 2005.

22. M.Sun; **C.J.Lee**; I.Song; H.Shin

The mechanism of nerve gas - induced hypothermia in infants revealed by the use of
AChE knock - out mice

35th Annual Meeting of the Society for Neuroscience, 2005.

23 E.Cheong; **C.J.Lee**; J.Shin*; H.Shin

Role of ryanodine receptors in thalamocortical cells in the relay of pain signals 35th
Annual Meeting of the Society for Neuroscience, 2005.

24 H.K. Park; S.J. Oh; W.L. Ryu; D.H. Woo; Y.S. Kim; **C.J. Lee**

Molecular identification of mBEST1 of the bestrophin family as a novel Ca²⁺-activated
anion channels in mouse cortical astrocytes.

35th Annual Meeting of the Society for Neuroscience, 2005.

25 D. H. Woo, H. Yuan, A. Kristensen, S. F. Traynelis, E. Cheong, **C. J. Lee**

Sniffer-patch quantification of Ca²⁺-dependent release of glutamate at submicromolar
concentration from mouse cortical astrocytes.

36th Annual Meeting of the Society for Neuroscience, 2006.

26 D. H. Woo, S. Jung, M. Zhu, C. Park, M. Kim, S. Oh, **C. J. Lee**

Diacylglycerol (DAG) acts as an endogenous ligand for transient receptor potential
vanilloid 1

36th Annual Meeting of the Society for Neuroscience, 2006.

Manuscript Refereed for:

Archives of Pharmacology

British Journal of Pharmacology

Cerebral Cortex

Diabetes

Experimental Cell Research

Hippocampus

International Journal of Molecular Sciences

Journal of Neurochemistry

Journal of Neuroscience Methods

Journal of Molecular Neurodegeneration

Journal of Neuroscience

Journal of Neuroscience Research

Journal of Physiology

Molecular Brain

Molecular Pain

Molecular Pharmacology

Neuropsychopharmacology

PLoS One

Nature Communications

Nature Neuroscience

Experimental Neurobiology

PATENTS

발명의 명칭	출원일	출원번호	등록일	등록번호	출원국
척수 손상의 예방 및 치료용 조성물	2018-02-07	2018-0015296			한국
GiD 모델 마우스를 이용한 뇌염증 및 치매 모델 확립	2017-11-16	2017-0153321			한국
선 스트레인의 조합 및 물성에 따른 구조체 내 미세섬유 정렬 제어 방법	2017-11-02	2017-0145075			한국
반응성 성장교세포의 유도 방법 및 성장교세포를 포함하는 3차원 세포 구조체	2017-06-28	2017-0082022			한국
알파-아미노아미드 유도체 화합물 및 이를 포함하는 약학적 조성물	2017-04-26	2017114506			러시아연방
알파-아미노아미드 유도체 화합물 및 이를 포함하는 약학적 조성물	2017-04-25	201717014554			인도
알파-아미노아미드 유도체 화합물 및 이를 포함하는 약학적 조성물	2017-04-11	15847985.7			유럽
항암활성을 가지는 페노싸이아진 유도체 또는 이의 약학적으로 허용 가능한 염, 이의 제조방법 및 이를 유효성분으로 하는 약학적 조성물	2017-04-06	15/480839			미국
알파-아미노아미드 유도체 화합물 및 이를 포함하는 약학적 조성물	2017-04-03	2017-518101			일본
알파-아미노아미드 유도체	2017-	15/516395			미국

화합물 및 이를 포함하는 약학적 조성물	04-01				
알파-아미노아미드 유도체 화합물 및 이를 포함하는 약학적 조성물	2017- 04-01	201580053824.8			중국
알파-아미노아미드 유도체 화합물 및 이를 포함하는 약학적 조성물	2017- 03-31	BR 11 2017 006690 4			브라질
알파-아미노아미드 유도체 화합물 및 이를 포함하는 약학적 조성물	2017- 03-31	2963371			캐나다
채널 결합형 스캐폴드의 제조장치 및 제조방법	2017- 02-21	15/438215			미국
탄성고분자의 선압축을 이용한 미세섬유의 정렬방법	2016- 08-30	2016-0110775			한국
Aquaporin 4 (AQP4) 유전자의 단일염기다형성 분석을 통한 인지기능 예측	2016- 05-30	2016-0066350	2017-12- 06	10-1808221	한국
MAO-B 저해제로 작용하는 벤조옥사졸과 벤조시아졸 유도체	2016- 05-20	PCT/KR2016/00534 7			PCT
채널 결합형 스캐폴드의 제조장치 및 제조방법	2016- 03-03	2016-0025885			한국
콜라젠 섬유를 정렬하기 위한 신장 장치 및 방법	2015- 11-24	14/950710	2017-10- 31	9803167	미국
알파-아미노아미드 유도체 화합물 및 이를 포함하는 약학적 조성물	2015- 09-24	PCT/KR2015/01010 4			PCT
항비만 치료용 가역적 마오비 저해제	2015- 09-18	2015-0132281	2017-06- 05	10-1746060	한국
MAO-B 저해제로 작용하는 벤조옥사졸과 벤조시아졸 유도체	2015- 05-22	2015-0071732	2017-02- 17	10-1709731	한국
알파-아미노아미드 유도체 화합물 및 이를 포함하는 약학적 조성물	2015- 04-13	2015324914			호주

콜라젠 섬유를 정렬하기 위한 신장 장치 및 방법	2014-11-28	2014-0168311	2016-09-23	10-1661268	한국
알파-아미노아미드 유도체 화합물 및 이를 포함하는 약학적 조성물	2014-10-02	10-2014-0132983	2016-11-21	10-1679568	한국
항암활성을 가지는 페노싸이아진 유도체 또는 이의 약학적으로 허용 가능한 염, 이의 제조방법 및 이를 유효성분으로 하는 약학적 조성물	2014-09-29	2014-0130390	2016-08-03	10-1646962	한국
소뇌에서의 GABA 방출 조절제	2014-08-19	2014-168779	2016-04-28	5927252	일본
페녹시프로판올 유도체 및 이를 함유하는 약학적 조성물	2014-05-30	14/361,844	2016-10-04	9458120	미국
퇴행성 뇌질환의 예방 또는 치료용 약학적 조성물 및 이의 스크리닝 방법	2014-04-21	10-2014-0047606			한국
퇴행성 뇌질환의 예방 또는 치료용 약학적 조성물 및 이의 스크리닝 방법	2014-01-27	14/164,616	2016-10-18	9469653	미국
클로라이드 채널 차단제로 유용한 화합물	2013-11-27	14/092151	2017-12-05	9834537	미국
페녹시프로판올 유도체 및 이를 함유하는 약학적 조성물	2013-08-05	10-2013-0092770	2013-11-13	10-1331186	한국
광유전자 기법을 이용한 망막 보철 시스템	2013-08-01	10-2013-0091597	2016-02-05	10-1594421	한국
성상교세포의 글루타메이트 방출 기작	2013-07-23	13/948,476	2014-10-28	8871463	미국
뇌암 예방 또는 치료용 조성물	2013-02-15	13/768,022			미국
페녹시프로판올 유도체 및 이를 함유하는 약학적 조성물	2012-11-30	PCT/KR2012/01032 2			PCT

성상교세포의 글루타메이트 방출 기작	2012- 09-28	10-2012-0109460	2014-07- 03	10-1418061	한국
이노시톨 1,4,5- 트리포스페이트 수용체 서브타입 3 억제용 조성물	2012- 09-21	13/623,948			미국
클로라이드 채널 차단제로 유용한 화합물	2012- 08-23	2012-0092441	2014-11- 17	10-1464280	한국
퇴행성 뇌질환의 예방 또는 치료용 약학적 조성물 및 이의 스크리닝 방법	2012- 08-20	2012-181633	2014-08- 01	5589037	일본
퇴행성 뇌질환의 예방 또는 치료용 약학적 조성물 및 이의 스크리닝 방법	2012- 08-17	12180860.4	2016-11- 30	256008	영국
퇴행성 뇌질환의 예방 또는 치료용 약학적 조성물 및 이의 스크리닝 방법	2012- 08-17	12180860.4	2016-11- 30	2560008	프랑스
퇴행성 뇌질환의 예방 또는 치료용 약학적 조성물 및 이의 스크리닝 방법	2012- 08-17	12180860.4	2016-11- 30	60 2012 025 953.1	독일
퇴행성 뇌질환의 예방 또는 치료용 약학적 조성물 및 이의 스크리닝 방법	2012- 08-17	12180860.4	2016-11- 30	256008	유럽
퇴행성 뇌질환의 예방 또는 치료용 약학적 조성물 및 이의 스크리닝 방법	2012- 08-17	13/588,383			미국
퇴행성 뇌질환의 예방 또는 치료용 약학적 조성물 및 이의 스크리닝 방법	2012- 08-16	10-2012-0089402	2014-09- 01	10-1438532	한국
음이온 채널을 통한 신경전달물질의 방출 조절	2012- 03-13	13/418,486			미국
소뇌에서의 GABA 방출 조절제	2012- 02-24	2012-526640	2016-03- 25	5905389	일본
소뇌에서의 GABA 방출 조절제	2012- 02-23	10812243.3	2014-03- 12	2470180	프랑스
소뇌에서의 GABA 방출 조절제	2012- 02-23	10812243.3	2014-03- 12	2470180	영국
소뇌에서의 GABA 방출	2012-	10812243.3	2014-03-	602010014329.	독일

조절제	02-23		12	5	
소뇌에서의 GABA 방출 조절제	2012- 02-23	10812243.3	2014-03- 12	2470180	유럽
소뇌에서의 GABA 방출 조절제	2012- 02-10	13/389,981	2015-08- 04	9095535	미국
페녹시프로판올 유도체 및 이를 함유하는 약학적 조성물	2011- 11-30	10-2011-0127053	2014-12- 18	10-1476379	한국
퇴행성 뇌질환의 예방 또는 치료용 약학적 조성물 및 이의 스크리닝 방법	2011- 08-18	10-2011-0082345			한국
소뇌에서의 GABA 방출 조절제	2010- 08-24	PCT/KR2010/00565 3			PCT
뇌암 예방 또는 치료용 조성물	2010- 07-30	2010-544874			일본
이노시톨 1,4,5- 트리포스페이트 수용체 서브타입 3 억제용 조성물	2010- 07-30	2010-544875			일본
음이온 채널을 통한 신경전달물질의 방출 조절	2010- 07-29	12/865,126			미국
이노시톨 1,4,5- 트리포스페이트 수용체 서브타입 3 억제용 조성물	2010- 07-29	12/865,128			미국
소뇌에서의 GABA 방출 조절제	2009- 08-24	1020090077979	2012-06- 01	10-1154538	한국
뇌암 예방 또는 치료용 조성물	2008- 01-31	10-2008-0010155			한국
이노시톨 1,4,5- 트리포스페이트 수용체 서브타입 3 억제용 조성물	2008- 01-31	10-2008-0010156			한국
뇌암 예방 또는 치료용 조성물	2008- 01-31	PCT/KR2008/00060 2			PCT
이노시톨 1,4,5- 트리포스페이트 수용체 서브타입 3 억제용 조성물	2008- 01-31	PCT/KR2008/00060 3			PCT
생체 신호 전달 물질 검출용 고감도 바이오센서, 및 이를	2008- 01-30	12/022,442	2010-11- 30	7842471	미국

이용한 검출기 및 검출 방법					
성상교세포-뉴런 간 신호 전달 기작	2008-01-30	12/022,510			미국
음이온 채널을 통한 신경전달물질의 방출 조절	2008-01-30	10-2008-0009377	2010-08-30	10-0980098	한국
음이온 채널을 통한 신경전달물질의 방출 조절	2008-01-30	PCT/KR2008/000564			PCT
안트라닐산 유도체, 및 이를 함유하는 클로라이드 채널 차단제	2008-01-30	12/022,405			미국
안트라닐산 유도체, 및 이를 함유하는 클로라이드 채널 차단제	2007-11-19	10-2007-0117886	2009-04-02	10-0892591	한국
생체 신호 전달 물질 검출용 고감도 바이오센서, 및 이를 이용한 검출기 및 검출 방법	2007-08-07	10-2007-0079073	2009-05-22	10-0900049	한국
성상교세포-뉴런 간 신호 전달 기작	2007-05-31	10-2007-0053375	2009-03-05	0888379	한국
디아실글리세롤 및 그 유도체를 이용한 통증의 치료방법	2006-06-14	10-2006-0053626	2008-11-11	10-0869078	한국

TECHNOLOGY TRANSFER

05-31-2017 MegaBioWood, an affiliate of KEMIMEDI on “Drug Candidate for Alzheimer's disease”. The total amount of the technology transfer contract was for 6 million US dollars, including \$500,000 upfront payment and 5.5 million US dollars as a milestone technology payment.

TRAINING AND EDUCATION

Training of PhD students and Post doctoral fellows:

Senior Research

Scientist Soojin Oh, Senior Research Scientist: 2016~ present

Postdoc: Hyungju Park, Postdoc: 2007~2009, currently Senior Research Scientist at KBRI
 Jinpyo Hong, Postdoc: 2011~2014
 Jaekwang Lee, Postdoc: 2011~2016, currently Senior Research Scientist at KFRI
 Jeongyeon Kim, Postdoc: 2012~2016, currently Senior Research Scientist at KBRI
 Soojin Oh, Postdoc: 2014~2016
 Junsung Woo, Postdoc: 2014~2018, currently a PostDoc at Baylor College Med.
 Seung Eun Lee, Postdoc: 2015~present

Heejung Jun, Postdoc: 2015~ present
Minho Nam, Postdoc: 2018~present

PhD Student: Dong Ho Woo: PhD, UST: received PhD in 2011
Bo Eun Yoon: PhD, UST: received PhD in 2012, currently A. Prof at Dankook U.
Kyungseok Han: PhD, UST: received PhD in 2013, currently a PostDoc Harvard
Soojin Oh: PhD, SNU School of Dentistry: received PhD in 2014
Junsung Woo: UST: received PhD in 2014
Jaeyoung Jung: UST, 2014~2016: received MS in 2016
Soon Young Jeong: UST, 2014~2016
In Seok Kwon: KU-KIST, 2015~2015
Youngeun Han: UST, 2009~present
Woo Hyun Koh: UST, 2013~present
Heeyoung Ahn: KU-KIST, 2013~present
Moonsun Sa: KU-KIST, 2014~present
Jungmoo Lee: KU-KIST, 2014~present
Jea Kwon: KU-KIST, 2014~present
Woojin Won: KU-KIST, 2015~present
Minwoo Jang: KU-KIST, 2015~present
Yeonha Ju: UST, 2015~present
Sunpil Kim: KU-KIST, 2016~present
Joungha won: KAIST, 2017~present
Mingu Park: KU-KIST, 2016~present
Jeongim Shin: UST, 2017~present
Yongmin Park: UST, 2017~present

Visiting Students and Postdocs

Yoonsik Kim: Korea University, received PhD in 2010
Seonmi Jo: KAIST, received PhD in 2014, currently a Senior Research Scientist at
National Marine Biodiversity Institute of Korea
Jun Young Heo: Chungnam N. U., School of Medicine, received PhD in 2014,
currently assistant professor at Chungnam N. U., School of Medicine
Heejung Jun: Seoul National University, received PhD in 2015
Minho Nam: Kyunghee University, 2013~2018, , received PhD in 2017
Joung Ha Won: KAIST, 2015~present

Teaching Experiences:

Introduction to Neuroscience I & II: UST Graduate Course, since 2005
Ion Channels: UST Graduate Course, since 2006
Glial Biology: UST Graduate Course, since 2007
Seminar in Neuroscience: UST Graduate Course, since 2005

High School Summer Neuroscience Camp: A 2-week neuroscience workshop for high school students

2013 Summer: 07-22-2013 ~ 08-02-2013 (8 Students)
2014 Summer: 07-21-2014 ~ 08-01-2014 (8 Students)

2015 Summer: 07-20-2015 ~ 07-31-2015 (10 Students)
2016 Summer: 07-18-2016 ~ 07-29-2016 (10 Students)
2017 Summer: 07-24-2017 ~ 08-04-2017 (10 Students)

COMPUTER SOFTWARE DEVELOPMENT

Mini Analysis Program: Analysis program for spontaneous activities, distributed by Synaptosoft, www.synaptosoft.com. Over 10,000 copies distributed.

Easy Articles Program: Scientific journal articles organizer, distributed by Synaptosoft, www.synaptosoft.com. Over 1000 copies distributed.

Sound Pick: Seizure and Ultrasonic Vocalization Detection/Analysis Program. Under development. Will be distributed by Synaptosoft, www.synaptosoft.com.

INVITED SEMINARS AND LECTURES

University of San Francisco, CA, USA	Host: Dr. David Julius, 2000.
Emory University, GA, USA.	Host: Dr. Stephen Traynelis, 2001.
Seoul National University, Seoul, Korea.	Host: Dr. Bong-Keun Kaang, 2002.
National Neurosci. Inst., Singapore.	Host: Drs. Chian-ming Low & Tuck-Wah Soong, 2002.
Auburn University, GA, Dept of Pharm Science.	Host: Dr. Vishnu Suppiramaniam, 1-30-2004.
Tulane University, LA, Dept of Pharmacology.	Host: Dr. Krishna Agrawal, 3-3-2004.
University of Kansas, Dept of Pharmacology	Host: Dr. Elias Michaelis, 4-16-2004
North Dakota State University, Dept of Pharmacology	Host: Dr. Jagdish Singh, 4-26-2004
University at Buffalo, Dept of Pharmacology	Host: Dr. Ron Rubin, 5-14-2004
UNC at Chapel Hill, Dept of Cell and Mol. Physiology	Host: Dr. Edward Perl, 6-24-2004
Indiana University, Stark Neuroscience Institute	Host: Dr. Gerry Oxford, 7-1-2004
KIST, Center for Calcium and Learning	Host: Dr. Hee-Sup Shin, 6-4-2004
Yeonsei University College of Medicine	Host: Dr. Bae Hwan Lee, 10-13-2004
Seoul National U, School of Medicine, Dept of Physiology	Host: Dr. Ho Inkyung, 12-3-04
Inje University, School of Medicine, Neuroscience Symposium	Host: Dr. Ha Ilho, 12-8-04
Korean Women Biomedical Scientists	Host: Dr. Rhim Haewon, 1-21-05
KAIST, Dept of Biological Sciences	Host: Dr. Kim Daesoo, 3-28-05
Catholic University School of Medicine, Physiology	Host: Dr. Rhie Dukju, 5-25-05
척추신경추나의학회 중앙정기학술 세미나	Host: Dr. Park, Kyungsoo, 5-29-05
Seoul National U, School of Dentistry, Dept of Physiology	Host: Dr. Oh Seogbae, 6-8-05
Synapse & Memory Symposium, Seoul National U	Host: Dr. Bong-Keun Kaang, 7-4-05
KIST-ASAN Symposium, Asan Medical University	Host: Dr. Kim Dongjin, 9-23-05
Ajou University, School of Medicine	Host: Dr. Jeong Minhwan, 9-27-05
KIST-BNL Symposium, KIST	Host: Dr. Kim Myungsoo, 10-10-05
Seoul Foreign School	Host: Dr. Nancy Stubbs, 10-13-05
Brookhaven National Laboratory	Host: Dr. Peter Thanos, 11-18-05
Seoul National University	Host: Dr. Choi Sukwoo, 01-15-06
Korea-Germany Neuroscience Symposium	Host: Dr. Kim Eunjoon, 03-27-06
Pohang University	Host: Dr. Kim Junghoon, 05-19-06
KIST Gangneung Branch	Host: Dr. Yang Hyunok 07-10-06
3 rd Neuroimmunology Network Symposium	Host: Dr. Oh Seogbae 08-18-06
Ajou University, Center for Brain Diseases	Host: Dr. Lee Yong Bum 09-29-06
Yeonsei University, School of Medicine, Physiology	Host: Dr. Lee Baehwan 11-23-06

Sungkyunkwan Univeristy, School of Medicine, Physiology Ion Channel Research Conference	Host: Dr. Park Myungkyu, 12-03-06
Gyeongsang University, School of Medicine	Host: Dr. Kim Sungjoon, 01-10-07
The 8th Biomedical Brain Research Center Symposium	Host: Dr. Hong Sunggeun, 02-28-07
The 15th Federation Meeting of Korean Basic Medical Scientists 2007	Host: Dr. Kim Sang Jung, 03-24-07
Symposium on Short-Term Plasticity and Synaptic Computation	Host: Dr. Lee Sukho, 04-26-07
Yeonsei University, School of Medicine, Wonju	Host: Dr. Jung Sungwoo, 05-17-07
Korea University, Biological Sciences	Host: Dr. Baik Ja-Hyun, 05-30-07
Saga University, Pharmacology, Japan	Host: Dr. Kamamoto, 09-05-07
Annual Purine Meeting, Japanese Society of Physiology	Host: Dr. Inoue, 09-07-07
Jikei University, Physiology, Japan	Host: Dr. Fusao Kato, 09-08-07
Kyungbuk University, School of Medicine	Host: Dr. Suk Kyungho, 09-18-07
Kunkuk University, School of Medicine	Host: Dr. Lee Seungjae, 10-30-07
GIST, Department of Life Science	Host: Dr. Park Chul-seung, 03-20-08
Korean Biophysical Society Annual Conference 2008	Host: Dr. Lee Cheolju, 06-20-08
KIST-Asan Symposium, 2008	Host: Dr. Jae-yong Koh, 08-11-07
Ehwa University, Dept of Biological Sciences	Host: Dr. Jung Min Hwan, 04-14-2009
KSBMB 2009-06-09	Host: Dr. Eunjoon Kim, 05-12-2009
Seoul National University	Host: Dr. Sukwoo Choi, 06-12-2009
Kyunghee University, School of Medicine	Host: Dr. Jin Byung Kwan, 09-16-2009
KSMCB Annual Conference, Neuron-Glia Symposium	Host: Dr. C. Justin Lee, 10-16-2009
KSMCB Annual Conference, Ca ²⁺ signaling Symposium	Host: Dr. Seung Hyun Yoo, 10-16-2009
Korean Coffee Association	Host: Coffee and Tea 05-13-2010
Korean Food Engineering Association Symposium	Host: Dr. Ki-won Lee, 05-13-2010
Kyung Hee University	Host: Dr. Byung Kwan Jin, 05-20-2010
Korean Epilepsy Society Annual Symposium	Host: Dr. Won Chul Shin, 06-17-2010
Marine Biological Laboratory, Woods Hole	Host: Dr. George Augustine 07-22-2010
WCI Symposium, Jeju, Korea	Host: Dr. George Augustine 09-29-2010
Ajou University Medical School	Host: Dr. Eun Hye Cho, 10-18-2010
Yeonsei University School of Medicine	Host: Dr. Joung-Hoon Kim, 11-04-2010
Kyungbuk University, School of Medicine	Host: Dr. Kyungho Suk, 11-05-2010
Choongnam University, School of Medicine	Host: Dr. Jin Bong Park, 11-25-2010
KAIST, Dept of Biological Sciences	Host: Dr. Eunjoon Kim, 02-15-2011
Seoul National University, Dept of Biological Sciences	Host: Dr. Sukwoo Choi, 03-25-2011
Kyunghee University, College of Oriental Medicine	Host: Dr. In-Seop Shim, 04-01-2011
Korea U, Dept of Brain Engineering	Host: Dr. Jeehyun Kwak, 05-16-2011
Yonsei University, College of Life Sci & Biotech	Host: Dr. Eunji Cheong, 10-14-2011
KRIBB, Medical Proteomics Research Center	Host: Dr. Jae-Ran Lee, 10-19-2011.
Neuroimmunology Research Center, SNU Sch of Medicine	Host: Dr. Sang Jeong Kim, 11-25-2011
Seoul National University, Dept of Biological Sciences	Host: Dr. Keon Soo Lee, 04-27-2012
KAIST, Dept of Brain and Bioengineering	Host: Dr. Kwan Soo Lee, 05-01-2013
UNIST, PI-PLC Activity and Signalling Symposium	Host: Dr. Pann-Ghill Suh, 07-18-2013
KBRI 1st Anniversary International Symposium	Host: President of KBRI, 09-24-2013
SKKU BK21Plus Special Seminar	Host: Sunmi Hong, 11-27-2014
KAIST Bio-Brain Engineering	Host: Kyung Won Oh, 12-03-2014
KBRI Seminar	Host: Sunghye Jung, 02-10-2015
Plenary Lecture Korean Biopsychiatry Society Sympoisum	Host: Kwangchun Jo, 04-17-2015
KSBMB 2015Annual Conference	Host: Jung Hee Young, 05-12-2015
Cajal University, Spain	Host: Gertrudis, 09-21-2015
KILIS Forum, KIST	Host: Eun Joo Song., 12-17-2015
University of Toronto	Host: Dr. Beverley Orser, 08-22-2016

Substance of Abuse Science Information Society	Host: Dr. Seongshoon Yoon,09-09-2016
Chungnam U., School of Medicine Seminar	Host: Dr. Jin Bong Park, 10-19-2016
KSBMB BomunSymposium	Host: Dr. Daekyu Song, 10-27-2016
Nobel Prize Questions Public Seminar, National Science Museum	Host: 11-19-2016
Okinawa Institute of Science and Technology	Host: Erik DeSchutter, 01-20-2017
Kyung-Am Biocamp, Seoul	Host: 07-26-2017
Kyung-Am, Busan	Host: 07-27-2017
SK Hynix Icheon Forum	Host: SK 08-22-2017
Korean Biopsychiatry Society Workshop	Host: Jieun Kim, 10-13-2017

INVITED INTERNATIONAL CONFERENCES

ICBND 2008, Seoul National University	Host: Dr. Bong-Kiunn Kaang, 08-07-08
World Congress of Pain Symposium, Sidney Australia	Host: Dr. Istvan Nagy, 08-25-05
IUPS 2009, Busan	Host: Dr. Sun-Hee Woo, 09-01-16
International Society for Neurochemistry, 2009	Host: Dr. Vladmir Parpura, 09-09-01
Gordon Research Conference: Glial Biology	Host: Dr. Philip Haydon, 03-07-2011
MCCS &KBNS Annual Conference	Host: Dr. Bong-Kiun Kaang,09-19-2011
Association of Neurons and Diseases Conference, Toyama	Host: Dr. Min Zhou, 08-04-2011
The 10th Korea-Japan Joint Symposium of Brain Sciences, and Cardiac and Smooth Muscle Sciences	Host: Dr. Il-sung Jang, 02-17-2012
The World of Ion Channels International Symposium	Host: Dr. Uhtaek Oh, 08-25-2012
KSBNS, Annual Symposium, Glia Science	Host: Dr. Sung Joon Lee, 09-25-2012
Gordon Research Conference: Glial Biology	Host: Dr. Brian MacVicar, 03-06-2013
ISN Teaching Course: Astrocyte School, Mexico	Host: Dr. C. Seidenbecher, 04-18-2013
KSBMB Annual Conference 2012, Neuron-glia Interaction	Host: Dr. Eun Hye Jo, 05-30-2013
Neuro2013, ISN-JSN Joint Symposium, Kyoto, Japan	Host: Dr. Shuichi Koizumi, 06-21-2013
University of Copenhagen, Denmark, Astrocyte School	Host: Jean-Francois Perrier, 06-26-2013
Korea-Japan Joint Symposium, Hamamatsu, Japan	Host: Atsuo Fukuda, 09-05-2013
FENS Featured Regional Meeting, Prague, Czech	Host: Yuriy Pankratov, 10-12-2013
Novel functions of K2P channels in astrocytes, Germany	Host: Tomas Budde, 10-03-2013
2014 KOLIS Spring Conference	Host: Hyun Sun Jo 05-16-2014
Gordon Research Conference: Synaptic Transmission	Host: Richard Tsien 07-31-2014
Cold Spring Harbor Asia, Glia Meeting 2015, China	Host: Shumin Duan, 06-22-2015
14 TH Meeting of Asian Pacific Society for Neurochemistry	Host: Cheah Pike See, 08-27-2016
International Society for Eye Research, Tokyom Japan	Host: Alan Marmorstein, 09-27-2016
ICMN 2016: Novel Systems and Emerging Concepts	Host: In-Hee Mook, 05-09-2016
Cold Spring Harbor Asia, Glia Meeting 2015, China	Host: Shumin Duan, 06-22-2015
ICMN 2016: Novel Systems and Emerging Concepts	Host: In-Hee Mook, 05-09-2016
14 TH Meeting of Asian Pacific Society for Neurochemistry	Host: Cheah Pike See, 08-27-2016
International Society for Eye Research, Tokyo Japan	Host: Alan Marmorstein, 09-27-2016
Adler's Symposium, Salk Institute, USA	Host: David Holtzman, 02-06-2017
Japanese Physiology Society 94 th Annual Meeting, 2017	Host: Atsuo Fukuda, 03-30-2017
Cold Spring Harbor Asia, Francis Crick Symposium 2017	Host: Hailan Hu, 05-12-2017
KSBNS, Annual Conference 2017	Host: Bo-Eun Yoon, 08-30-2017
French Ion Channel Meeting 2017	Host: Nathalie Rouach, 09-11-2017
International symposium for frontend brain science 2018	Host: Schuichi Koizumi 02-21-2018
World Congress of Pharmacology 2018	Host: Schuichi Koizumi 07-02-2018

SYMPOSIUMS AND WORKSHOPS

Conducted a Patch-clamp workshop for 3 days at NNI, Singapore, 2002.

Conducted a Patch-clamp and Mini Analysis workshop at Auburn University, GA. 2004.

Organized and lectured in Annual Satellite Symposium at Neuroscience Meeting on Analyzing Spontaneous Activities with Mini Analysis Program, 2000, 2001, 2002, 2003.

Organized and lectured in KIST Core Research Symposium, “Caffeine and Brain Cancer”, 2007-10-17.

Organized and lectured in Korean Society of Molecular Cellular Biology, Neuron-Glia Interaction Symposium, 2009-10-16

Organized and lectured in World Class Institute Symposium, Session I: Signaling mechanisms: Gliotransmitters and brain functions, 2012.11-16

Organized and lectured in 2013 International Society for Nature-Inspired Technology Symposium, Topical Session: Brain Science, 2013-01-09

Organized and lectured in Korean Society of Biochemistry and Molecular Biology, Molecular and cellular mechanism of neurodegenerative diseases Symposium, 2013-05-16

Organized KSBNS The Glia Section of The Korean Society for Brain and Neural Science, Opening Remark and etc. 2016-01-29

Organized and lectured in The 9th UK-KOREA Neuroscience Symposium, Plenary Lecture 1: Glia finally speaks!, 2016-09-01

Organized and lectured in The 19th KSBNS Annual Meeting : Intelligent Brain 2016, Symposium 5: Molecular identification of the volume regulated anion channel in the brain, 2016-09-28