

CURRICULUM VITAE

Minah Suh

Professor & Chair
Department of Biomedical Engineering
Sungkyunkwan University
Suwan, South Korea
Phone: 031-299-4496
E-mail: minahsuh@skku.edu

Professional Experience

- | | |
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| 2015-present | Professor & Chair of Department of Biomedical Engineering
& Adjunct Professor of Samsung Advanced Institute for Health
Sciences and Technology (SAIHST)
Sungkyunkwan University
Suwan, South Korea |
| 2008-2014 | Assistant, Associate Professor
Department of Biological Science
& Adjunct Associate Professor
Department of Health Sciences and Technology
Sungkyunkwan University
Suwan, South Korea |
| 2004-2008 | Assistant Professor of Neuroscience in Neurological Surgery
Department of Neurological Surgery
Weill Medical College of Cornell University
New York Presbyterian Hospital
New York, NY |
| 2002-2004 | Postdoctoral Associate
Department of Neurological Surgery
Weill Medical College of Cornell University
New York Presbyterian Hospital
New York, NY |
| 2000-2002 | Postdoctoral Associate
Department of Neuroscience and Physiology
NYU School of Medicine
New York, NY |

Education

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|------------|---|
| 1994- 2000 | Northwestern University, Evanston, Illinois
Degree: Ph.D.
Major: Biomedical Engineering
Thesis Advisor: Dr. Ronald E. Kettner,
Chair of Thesis Committee: Dr. Barry W. Peterson |
| 1991-1993 | Ewha Womans University, Seoul, South Korea
Degree: M.S.
Major: Solid State Physics
Thesis Advisor: Dr. In-Sang Yang |
| 1987-1991 | Ewha Womans University, Seoul, South Korea
Degree: B.S.
Major: Physics |

Publications

1. Lee S, Kang B, Shin M, Min J, Heo C, Lee Y, Baeg E, **Suh M***. Chronic stress decreases cerebrovascular responses during rat hindlimb electrical stimulation. **Frontiers in Neuroscience** (in press)
2. Kim YS, Ha Y, Sim J, **Suh M***, Lee Y*. Location-dependent sensing of nitric oxide and calcium ions in living rat kidney using an amperometric/potentiometric dual microsensor. **Analyst**. 2015 Nov 25
3. Kwon G, Kim MY, Lim S, Kwon H, Lee YH, Kim K, Lee EJ, **Suh M***. Frontoparietal EEG alpha-phase synchrony reflects differential attentional demands during word recall and oculomotor dual-tasks. **Neuroreport**. 2015 Dec 16;26(18):1161-7
4. Im S, Kim WJ, Kim YH, Lee S, Koo JH, Lee JA, Kim HM, Park HJ, Kim DH, Lee HG, Yoon H, Kim JY, Shin JH, Kim LK, Doh J, Kim H, Bothwell ALM, Lee SK, **Suh M**, Choi JM*. A novel CNS-permeable peptide, dNP2 enables cytoplasmic domain of CTLA-4 protein to regulate autoimmune encephalomyelitis, **Nature Communication**, 2015 Sep 15;6:8244
5. Kwon G, Lim S, Kim M, Kwon H, Lee Y, Kim K, Lee E, **Suh M***. Individual differences in oscillatory brain activity in response to varying attentional demands during a word recall and oculomotor dual-task, **Frontiers in Human Neuroscience** 2015 Jun 29;9:381
6. Cornelius N, Nishimura N, **Suh M**, Schwartz TH, Doerschuk P. A mathematical model relating cortical oxygenated and deoxygenated hemoglobin flows and

- volumes to neural activity, **Journal of Neural Engineering**, 2015 Jun 5; 12(4) [Epub ahead of print]
7. Park SS, Hong M, Ha Y, Sim J, Jhon GJ, Lee Y*, **Suh M***. The real-time *in vivo* electrochemical measurement of nitric oxide and carbon monoxide release upon direct epidural electrical stimulation of the rat neocortex. **Analyst**. 2015 May 21;140(10):3415-21
 8. Eom JE, Lee E, Jeon KH, Sim J, **Suh M**, Jhon GJ, Kwon Y. Development of an albumin copper binding (ACuB) assay to detect ischemia modified albumin. **Anal Sci**. 2014 30(10):985-90.
 9. Winkelman BHJ, Belton T, **Suh M**, Coesmans MP, Morpurgo MM, and Simpson JI. Non-Visual Complex Spike Signals in the Rabbit Cerebellar Flocculus. **Journal of Neuroscience**, 2014 Feb 26;34(9):3218-30
 10. Jo A, Heo C, Schwartz TH, **Suh M***. Nanoscale intracortical iron injection induces chronic epilepsy in rodent. **Journal of Neuroscience Research** 2014 Mar;92(3):389-97
 11. Oh ES, Heo C, Kim JS, **Suh M**, Lee YH, Kim JM. Hyperspectral fluorescence imaging for cellular iron mapping in the *in vitro* model of Parkinson's disease **Journal of Biomedical Optics** 2014 May 1;19(5):51207. doi: 10.1117/1.JBO.19.5.051207.
 12. Lee S, Heo C, **Suh M***, Lee YH*. Nanoscale live cell optical imaging of the dynamics of intracellular microvesicles in neural cells. **Journal of Nanoscience and Nanotechnology** 2013 Nov;13(11):7229-34.
 13. Lee E, Kwon G, Shin HJ, Yang S, Lee S, **Suh M***. The Spell of Green: Can Frontal EEG Activations Identify Green Consumers? **Journal of Business Ethics** 2013 June 17 (online publication)
 14. Heo C, Lee S, Lee SY, Jeong MS, Lee YH*, **Suh M***. Direct High-resolution Label-free Imaging of Cellular Nanostructure Dynamics in Live Cells. **Journal of Biomedical Optics** 2013 Jun;18(6):066016. doi: 10.1117/1.JBO.18.6.066016.
 15. Heo C, Lee SY, Jo A, Jung S, **Suh M***, Lee YH*. Flexible, transparent, and non-cytotoxic graphene electric field stimulator for effective cerebral blood volume enhancement. **ACS Nano** 2013 Jun 25;7(6):4869-78
 16. Lee S, Koh D, Jo A, Lim HY, Jung YJ, Kim CK, Seo Y, Im CH, Kim BM, **Suh M***. Depth-dependent cerebral hemodynamic responses following direct cortical electrical stimulation (DCES) revealed by *in vivo* dual-optical imaging techniques. **Opt Express** 2012 Mar 26;20(7):6932-43.
 17. Heo C., Yoo J., Lee S., Joo E.Y., Hong S., Lee Y.H., **Suh M***, Enhanced mobility of neural cells with transparent electric field stimulator. **Journal of Nanoscience and Nanotechnology** 2012 Jul;12(7):5222-7.

18. Hong M., Park S.S., Do H., Jhon G.J., **Suh M***, Lee Y*., Study of the Primovascular system and location-dependent oxygen levels for mouse embryo. **Journal of Nanoscience and Nanotechnology** 2012 Jul;12(7):5168-72.
19. Jo A, Do H, Jhon GJ, **Suh M***, Lee Y*. Electrochemical nanosensor for real-time direct imaging of nitric oxide in living brain. **Anal Chem.** 2011 Nov 1;83(21):8314-9.
20. Lee E., Kwon G., Lee Y., Ghajar J., **Suh M***. Individual Differences in Working Memory Capacity Determine the Effects of Oculomotor Task Load on Concurrent Word Recall Performance. **Brain Research** 2011 July;1399-1365
21. Contrease R., Ghajar J., Barhar S., **Suh M***. Effect of Cognitive Load on Eye-Target Synchronization During Smooth Pursuit Eye Movement. **Brain Research** 2011 Jun;1399-1363
22. Jo A, Do H, Jhon GJ, **Suh M***, Lee Y. Real-time evaluation of nitric oxide (NO) levels in cortical and hippocampal areas with a nanopore-based electrochemical NO sensor. **Neurosci Lett.** 2011 Jul; 498(1):22-25
23. Cho JH, Hong SB, Jung YJ, Kang HC, Kim HD, **Suh M**, Jung KY, Im CH. Evaluation of Algorithms for Intracranial EEG (iEEG) Source Imaging of Extended Sources: Feasibility of Using iEEG Source Imaging for Localizing Epileptogenic Zones in Secondary Generalized Epilepsy. **Brain Topogr.** 2011 Jun;24(2):91-104. Epub 2011 Mar 3.
24. Joo EY, Hong SB, Han SJ, **Suh M**. Suppression of motor evoked potential during cataplexy. **Sleep Med.** (2011) Mar; 12(3): 306-7
25. Heo C, Yoo J, Lee SY, Jo A, Jung S, Yoo HS, Lee YH, **Suh M***. The control of neural cell - to - cell interactions through noncontact electrical field stimulation using graphene electrodes, **Biomaterials** (2011) Jan; 32(1): 19-27
26. Joo EY, Hong SB, Lee M, Tae WS, Lee J, Han SW, Ji KH, **Suh M**. Cerebral blood flow abnormalities in patients with neurally mediated syncope. **J Neurol.** (2010) Oct 1. [Epub ahead of print]
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28. Maruta J, **Suh M**, Niogi SN, Mukherjee P, and Ghajar J, Visual tracking synchronization as a metric for concussion diagnosis, **Journal of Head Trauma Rehabilitation** (2010) Jul-Aug;25(4):293-305
29. Joo EY, Tae WS, Lee MJ, Kang JW, Park HS, Lee JY, **Suh M**, Hong SB. Reduced brain gray matter concentration in patients with obstructive sleep apnea syndrome. **Sleep.** 2010 Feb 1;33(2):235-41.
30. Cho JW, Hong SB, Lee JH, Kang JW, Lee MJ, Lee JY, Park HS, **Suh M**, Joo EY, Seo DW. Contralateral hyperperfusion and ipsilateral hypoperfusion by ictal

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 32. Ma M, Geneslaw A, Zhao M, **Suh M**, Perry C, and Schwartz TH. The importance of latency in the focality of perfusion and oxygenation changes associated with triggered afterdischarges in human cortex. **Journal of Cerebral Blood Flow and Metabolism** 2009 May;29(5):1003-14. Epub 2009 Mar 18.
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 34. Zhao M, Ma M, **Suh M**, and Schwartz TH. Spatio-Temporal Dynamics of Perfusion and Oximetry during Ictal Discharges in the Rat Neocortex. **Journal of Neuroscience** 2009 Mar 4;29(9):2814-23.
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 38. Zhao M, **Suh M (co-first author)**, Ma M, Perry C, Geneslaw A and Schwartz TH. Focal Increases in Perfusion and Decreases in Hemoglobin Oxygenation Precede Seizure Onset in Spontaneous Human Epilepsy. **Epilepsia**, 2007 Nov;48(11):2059-67. Epub 2007 Jul 30.
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 42. **Suh M**, Ma H, Zhao M, Shariff S, Schwartz TH, Neurovascular coupling and oximetry during epileptic events. **Mol Neurobiol.** 2006 Jun;33(3):181-97, Review

43. **Suh M**, Bahar S, Mehta AD, Schwartz TH. Blood volume and hemoglobin oxygenation response following electrical stimulation of human cortex. **Neuroimage**. 2006 May 15;31(1):66-75.
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45. **Suh M**, Kolster R, Sarkar R, McCandliss B, Ghajar J. Deficits in predictive smooth pursuit after mild traumatic brain injury. **Neurosci Lett**. 2006 Jun 19;401(1-2):108-13.
46. Bahar S, **Suh M**, Zhao M and Schwartz TH. Intrinsic optical signal imaging of neocortical seizures: the 'epileptic dip'. **Neuroreport**. 2006 Apr 3;17(5):499-503.
47. **Suh M**, Bahar S, Mehta AD, Schwartz TH. Temporal dependence in uncoupling of blood volume and oxygenation during interictal epileptiform events in rat neocortex. **J Neurosci**. 2005 Jan 5;25(1):68-77
48. Belton T, **Suh M**, Simpson JI. The nonvisual complex spike signal in the flocculus responds to challenges to the vestibulo-ocular reflex gain. **Ann N Y Acad Sci**. 2002 Dec;978:503-4.
49. Simpson JI, Belton T, **Suh M**, Winkelman B. Complex spike activity in the flocculus signals more than the eye can see. **Ann N Y Acad Sci**. 2002 Dec;978:232-6.
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51. Kettner RE, **Suh M**, Davis D, Leung HC. Complex predictive eye pursuit in monkey: a model system for cerebellar studies of skilled movement. **Arch Ital Biol**. 2002 Oct;140(4):331-40. Review.
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53. Leung HC, **Suh M**, Kettner RE. Cerebellar flocculus and paraflocculus Purkinje cell activity during circular pursuit in monkey. **J Neurophysiol**. 2000 Jan;83(1):13-30.

Book Chapters

1. Kim et al., *Frontiers in Integrated Cognitive Science*, Sungkyunkwan University, 2010
2. **Suh M**, Ma H, Zhao M, Geneslaw A, and Schwartz TH. *Imaging the Brain with Optical Methods*, 2009 (Springer)
3. Ma H, **Suh M**, Zhao M, Geneslaw A, and Schwartz TH. *Optical Spectroscopic Imaging of the Human Brain - Clinical Applications.*, 2007
4. Kettner RE, Lysetskiy M, and **Suh M**. *Primate Models for Understanding Brain Mechanisms of Cognitive Behavior. **Sourcebook of Models in Biomedical Research***. 2007; (Totowa, N. J., Humana Press)
5. **Suh M**, Shariff S, Bahar S, Mehta AD, and Schwartz TH. Intrinsic optical signal imaging of normal and abnormal physiology in animals and humans--seeing the invisible. *Clin Neurosurg*. 2005;52:135-49.
6. Bahar S, **Suh M**, Mehta AD, and Schwartz TH. In vivo intrinsic optical signal imaging of neocortical epilepsy. *In Bioimaging in Neurodegeneration*, 2005 P. A. Broderick, D. N. Rahni, and E. H. Kolodny, eds. (Totowa, N. J., Humana Press), pp. 149-175.

Patent

1. Suh M., Heo C., Lee S., and Lee Y.H. Developing Neuro-Stimulator and Neural Activity Recording System, Korea Patent Registered: 10-2010-0054454
2. Suh M., Hwang E.J., Hong S.B. Developing Analysis Program for Neurohemodynamics. Korea Patent Registered : 10-2010-0137115