
CURRICULUM VITAE

Chaejeong Heo, Ph.D

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Center for Neuroscience Imaging Research (CNIR)
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Positions Held

2013-present	Research professor Center for Neuroscience Imaging Research (CNIR), Institute for Basic Science (IBS) Sungkyunkwan University Suwon, South Korea
2012-2013	Research assistant professor Center for Integrated Nanostructure Physics (CINAP), Institute for Basic Science (IBS) Sungkyunkwan University Suwon, South Korea
2008-2012	Postdoctoral Associate Nano Medical Laboratory Institute of new paradigm of energy science convergence Department of Energy Science Sungkyunkwan University Suwon, South Korea
2007-2008	Postdoctoral Associate Neuroscience Research Institute Gachon Medical University Inchon, South Korea
1998-2000	Researcher Cardiac Regeneration Group, National Creative Research Center Dept. of Physiology, College of Medicine Chonbuk Nat'l University Jeonju, South Korea

Education

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| 2001- 2006 | Seoul National University, Seoul, South Korea
Degree: Ph.D.
Major: Neuroscience
Thesis Title: Effects of the monomeric, oligomeric, and fibrillar A-beta(42) peptides on the proliferation and differentiation of adult neural stem cells.
Advisor: Prof. Yoo-Hun, Suh, M.D, Ph.D |
| 1994-1998 | Chonbuk National University, Jeonju, South Korea
Degree: B.S.
Major: Physics |

Present Membership

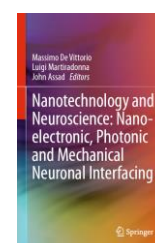
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| International Member of | Society for Neuroscience (SFN) |
| Domestic Member of | The Korean Society for Brain and Neural Sciences
Korean Society for Neurosciences (KSN) |

Publications/ Proceedings

19. 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**, 2015 Dec 23;9:462
18. Eung Seok Oh*, **Chaejeong Heo***, Ji Seon Kim, Minah Suh, Young Hee Lee†, and Jong-Min Kim†. Hyperspectral fluorescence imaging for iron mapping in the in vitro model of Parkinson disease, (* co-first authors) **Journal of Biomedical Optics** 2014 May, 19(5), 051207
17. Areum Jo, **Chaejeong Heo**, T.H Swartz, and Minah Suh. Nanoscale intracortical iron injection-induced chronic rodent epilepsy alters neurovascular coupling through a reduction in GABAergic interneurons. **Journal of Neuroscience Research** 2014 Mar., 92(3), 389 – 397
16. Hong Yan Yue , Shuo Huang , Jian Chang , **Chaejeong Heo**, Fei Yao , Subash Adhikari , Fethullah Gunes , Li Chun Liu , Tae Hoon Lee , Eung Seok Oh , Bing Li , Jian Jiao

Zhang , Ta Quang Huy , Nguyen Van Luan , Young Hee Lee (corr-auth). ZnO nanowire arrays on 3D-hierarchical graphene foam: Biomarker detection of Parkinson's disease. **ACS Nano** 2014 Jan 9, 8(2), pp 1639–1646

15. Eung Seok Oh*, **Chaejeong Heo***, Ji Seon Kim, Young Hee Lee, Jong Min Kim. Mapping of cellular iron using hyperspectral fluorescence imaging in a cellular model of Parkinson's disease, **Proc. SPIE 8879, Nano-Bio Sensing, Imaging, and Spectroscopy**, 88790P (May 20, 2013); doi:10.1117/12.2020750
14. Sohee Lee*, **Chaejeong Heo***, Si Young Lee, Young Hee Lee, Minah Suh. (* co-first authors) The enhancement of neuronal cells wound healing with non-contact electric field stimulation by graphene electrodes. **Proc. SPIE 8879, Nano-Bio Sensing, Imaging, and Spectroscopy**, 88790X (May 20, 2013); doi:10.1117/12.2020770
13. **Chaejeong Heo**, Si Young Lee, Areum Jo, Susi Jung, Minah Suh, and Young Hee Lee. Flexible, Transparent, and Non-cytotoxic Graphene Electric Field Stimulator for Targeted Cerebral Blood Volume Enhancement. **ACS Nano** 2013 May 12, 7 (6), pp 4869–4878
12. **Chaejeong Heo***, Sohee Lee*, Mun Seok Jeong, Minah Suh, and Young Hee Lee. Direct High-resolution Label-free Imaging of Cellular Nanostructure Dynamics in Live Cells. (* co-first authors) **Journal of Biomedical Optics** 2013 June 24, 18 (6), 066016; doi: 10.1117/1.JBO.18.6.066016
11. Sohee Lee*, **Chaejeong Heo***, Young Hee Lee, and Minah Suh. Nanoscale live cell optical imaging for the dynamics of intracellular microvesicles in neural cells. (* co-first authors). **Journal of Nanoscience and Nanotechnology**. 2013 Nov, 13(11), 7229 - 7234
10. Kyoung-Duck Park, Seung Gol Lee, **Chaejeong Heo**, Young Hee Lee, and Mun Seok Jeong. Sensitivity maximized near-field scanning optical microscope with dithering sample stage. **Review of Scientific Instruments** 2012 sep, 83(9), 093710-5
*Poster award, *The 12th International Conference on Near-Field Optics, Nanophotonics and Related Techniques (NFO12 Conference), 2012. 09. 3-7, Spain.*
9. **Chaejeong Heo**, Jeongwan Yoo, Si Young Lee, Sohee Lee, Eun Yeon Joo, Seung Bong Hong, Young Hee Lee and Minah Suh. Enhanced mobility of neural cells with transparent electric field stimulator. **Journal of Nanoscience and Nanotechnology** 2012 Jul, (12),7, 5222-5227.
8. **Chaejeong Heo**, Jeongwan Yoo, Si Young Lee, Areum Jo, Susi Jung, Hyo Sun Yoo, Young Hee Lee and Minah Suh. The control of neural cell - to - cell interactions through noncontact electrical field stimulation using graphene electrodes. **Biomaterials** 2011 Jan, 32(1): 19-27.
*Rapid Accepted without revision, received 19 Aug 2010 and accepted 29 Aug 2010
**Cited by book(in Chapter9), *"Nanotechnology and Neuroscience: Nano-electronic, Photonic and Mechanical Neuronal Interfacing, edited by M. De Vittorio et al., DOI 10.1007/978-1-4899-8038-0, Springer Science Business Media New York 2014*



7. Gunn Kim, Yongjin Park, Myung Joon Han, Jaejun Yu, **Chaejeong Heo** and Young Hee Lee. Structure and magnetism of small Gd and Fe nanoclusters: *LDA+U* calculations. **Solid State Communications** 2009 Aug, 149: 2058-2060.
6. Shin KY, Won BY, **Heo C**, Kim HJ, Jang DP, Park CH, Kim S, Kim HS, Kim YB, Lee HG, Lee SH, Cho ZH, and Suh YH. BT-11 improves stress-induced memory impairments through increment of glucose utilization and total neural cell adhesion molecule levels in rat brains. **Journal of Neuroscience Research**. 2009 Jan 87(1):260-8.
5. **Heo C**, Chang KA, Choi HS, Kim HS, Kim S, Liew H, Kim JA, Yu E, Ma J, Suh YH. Effects of the monomeric, oligomeric, and fibrillar A-beta(42) peptides on the proliferation and differentiation of adult neural stem cells from subventricular zone. **Journal of Neurochemistry**. 2007 Jul 102(2):493-500.
**Cited by book(in Chapter9), "neurochemistry" edited by Thomas Heinbockel, ISBN 978-953-51-1237-2, Published: April 23, 2014*
***Cited by book(in Table 10.1), "Neurogenesis in the Adult Brain II-clinical implication"s, edited by Tatsunori Seki, Kazunobu Sawamoto, Jack M. Parent, Arturo Alvarez-Buylla, Springer 2011*
****Distinguished Poster Award from Korea Society of Neuroscience'2007' (100\$)*
4. Ma J, Wang Y, Yang J, Yang M, Chang KA, Zhang L, Jiang F, Li Y, Zhang Z, **Heo C**, Suh YH. Treatment of hypoxic-ischemic encephalopathy in mouse by transplantation of embryonic stem cell-derived cells. **Neurochemistry International**. 2007 July 51(1): 57-65.
3. Kim S, Jeon BS, **Heo C**, Im PS, Ahn TB, Seo JH, Kim HS, Park CH, Choi SH, Cho SH, Lee WJ, Suh YH. Alpha-synuclein induces apoptosis by altered expression in human peripheral lymphocyte in Parkinson's disease. **FASEB J**. 2004 Oct 18(13):1615-7.
**Travel Award from the Asia-Pacific Society for Neurochemistry (APSN) '2004'*
2. Seonghan Kim, **Chaejeong Heo**, Pil Seon Im, Beom S. Jeon, Tae-Beom Ahn, Seo-Hyun Cho, Yoo-Hun Suh. α -synuclein as apoptosis inducer in human peripheral blood mononuclear cells in Parkinson's disease. **Neurobiology of Aging**, 2004 July 25(S2): S181-S182.
1. J.-H Seo, K-A Chang, H-S Kim, C-H Park, S-H Kim, MJ Lee, S-J Jeong, S-H Choi, J-C Rah, J Koo, EM Kim, Y Xu, JH Choi, JK Shin, **C Heo**, L Kim and Y-H Suh, Effect of Nicotine on A β or CT₁₀₅-induced Toxicity. **Korean journal of brain sci. & tech**. 2001, 1(1):77-84.

Book Chapters

1. Y. H. Suh, J. H. Seo, Y. Xu, **C. Heo**, N. Kim, J. H. Choi, S. H. Choi, J. C. Rah, K. A. Chang, W. H. Suh. Mapping the Progress of Alzheimer's and Parkinson's Disease. "Toxicity of App Fragments," (Kluwer Academic/ Plenum Publishers), pp 19-26, 2002/03.

Patent

1. **Heo C.**, Kim S., and Suh M. skull substitutes for monitoring brain system and delivering materials into brain tissue and uses thereof. (뇌 신경 시스템 모니터링과 생체 내 물질전달을 위한 두개골 대용물 및 이의 용도)
Korea Patent Registered : 10-2015-0034628 (2015.02.12)
2. Suh M., **Heo C.**, Lee S., and Lee Y.H. Developing graphene electrical stimulator and detector for neurological signal stimulation and detection.
Korea Patent Registered: 10-2010-0054454 (2010)
3. **Heo C.**, Yoo WJ., and Lee Y.H. A method to fabricate thermomolecular power cell.
Korea Patent Registered : 10-2009-0017180 (2008)
4. Kim SH., **Heo C.**, Im PS., and Suh YH. Diagnostic kit for Parkinson's disease by using human peripheral blood mononuclear cells.
Korea Patent Registered : 10-2004-0060540 (2004)