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QUALIFICATION & PROFILE

Dedicated, detailed-oriented Ph.D. electrical engineer with aptitude for research on complex engineering projects, as evidenced by successful development of new classes of flexible, stretchable, and implantable biomedical devices using advanced biocompatible materials and engineered structures. Current researches continue to advance the field in sensors/stimulator with unique applications in advanced biomedical and/or health monitoring system.

EDUCATION & EXPERIENCE

SUNGKYUNKWAN UNIVERSITY, SUWON, REPUBLIC OF KOREA

Assistant Professor in Department of Electrical and Computer Engineering, 2020 – present

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, Champaign, IL, USA

<i>Bachelor of Science in Electrical Engineering,</i>	2005 - 2009
<i>Master of Science in Electrical Engineering,</i>	2009 - 2011
<i>Doctor of Philosophy in Electrical Engineering,</i>	2015 – 2019
<i>Postdoctoral Researcher</i>	2019 – 2020

SK-HYNIX, Icheon, South Korea

<i>Research & Development Division</i>	
<i>Device & Process Integration Team</i>	2011 – 2014

PUBLICATION

- [33] **S. M. Won***, L. Cai, P. Gutruf, J. A. Rogers, “Wireless, Battery-free Neurotechnologies for Neuroscience Research,” *Nature Biomedical Engineering*, submitted (2019).
- [32] E. Song*, J. Li*, **S. M. Won***, W. Bai*, J. A. Rogers, “Materials for Flexible Bioelectronic Systems as Chronic Neural Interfaces” *Nature Materials*, 19, 590-603 (2020). (***equally contributed**)
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- [30] **S. M. Won***, E. Song*, J. T. Reeder, J. A. Rogers, “Emerging Modalities and Implantable Technologies for Neuromodulation” *Cell*, 181, 115-135 (2020).
- [29] **S. M. Won***, H. Wang*, B. H. Kim*, K. Lee*, H. Jang, K. Kwon, K. E. Crawford, H. Li, Y. Lee, X. Yuan, S. B. Kim, Y. S. Oh, W. J. Jang, J. Y. Lee, J. Kim, S. Han, J. Kim, X. Wang, Z. Xie, Y. Zhang, Y. Huang, J. A. Rogers, “Multimodal Sensing with a Three-Dimensional Piezoresistive Structure,” *ACS Nano*, 13, 10972-10979 (2019). (DOI: [10.1021/acsnano.9b02030](https://doi.org/10.1021/acsnano.9b02030))

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- [26] A. D. Mickle*, [S. M. Won*](#), K. N. Noh*, J. Yoon*, K. M. Meacham, Y. Xue, L. A. McIlvried, B. A. Copits, V. K. Samineni, K. E. Crawford, D. H. Kim, P. Srivastava, B. H. Kim, S. Min, Y. Shiuan, Y. Yoon, M. A. Payne, J. Zhang, H. Jang, Y. Li, H. H. Lai, Y. Huang, S. I. Park, R. W. Gereau, J. A. Rogers, "A Wireless Closed Loop System for Optogenetic Peripheral Neuromodulation," *Nature*, 565, 361 (2019).
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- [25] J. Shin, Y. Yan, W. Bai, Y. Xue, P. Gamble, L. Tian, I. Kandela, C. R. Haney, W. Spees, Y. Lee, M. Choi, J. Ko, H. Ryu, M. Pezhouh, S. K. Kang, [S. M. Won](#), K. J. Yu, J. Zhao, Y. K. Lee, M. R. MacEwan, S. K. Song, Y. Huang, W. Z. Ray, J. A. Rogers, "Bioresorbable Pressure Sensors with Thermally Grown Silicon Dioxide Biofluid Barriers for Monitoring of Chronic Diseases and Healing Processes," *Nature Biomedical Engineering*, 3, 37 (2019).
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- [17] S. Han*, J. Kim*, [S. M. Won*](#), Y. Ma*, D. Kang, Z. Xie, K. T. Lee, H. U. Chung, A. Banks, S. Min, S. Y. Heo, C. R. Davies, J. W. Lee, C. H. Lee, B. H. Kim, K. Li, Y. Zhou, C. Wei, X. Feng, Y. Huang, J. A. Rogers, "Battery-free, Wireless Sensors for Full-Body Pressure and Temperature Mapping," *Science Translational Medicine*, 10, eaan4950 (2018). (*equally contributed)
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PATENT

- [2] [S. M. Won](#), "Semiconductor device and method for forming the same," **US9397044B2** (US Patent) (2016)
- [1] [S. M. Won](#), "Semiconductor device and method for manufacturing," **US8809960B2** (US Patent) (2014)