

## BME Faculty Candidate Seminar



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Associate Professor  
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University of Washington

Host: Les Tung, Professor of BME

Wednesday, July 18, 2018

11:00 am - Noon

Tilghman Auditorium  
SOM Turner Concourse

### **Human iPSC-based Microphysiological Systems for Disease Modeling, Drug Development, and Precision Medicine**

**Abstract:** My laboratory research focuses on the mechanobiology of human diseases and human organ/tissue-on-a-chip platform technologies for regenerative biology, disease modeling, drug development, and precision medicine. In this talk, I will introduce human iPSC-derived microphysiological systems developed in our laboratory, including microphysiological models of dystrophic cardiomyopathy and peripheral neuropathy, nanopatterned human 3D cardiac muscle patches, micro/nano-fabricated platforms for drug efficacy/toxicity screening. Using these biofabricated tools in combination with human pluripotent stem cell technologies, I will highlight how our biomimetic models help to gain a better understanding of the structure-function relationship in complex 3D tissues, and serve as emerging platforms for disease biology studies and biotherapeutic development.

**Biography:** Dr. Deok-Ho Kim is an Associate Professor in the Department of Bioengineering at the University of Washington. He received his Ph.D. degree in Biomedical Engineering from Johns Hopkins University School of Medicine in 2010. From 2000 to 2005, he worked as a Research Scientist at the Korea Institute of Science and Technology (KIST) and the Swiss Federal Institute of Technology in Zurich (ETH-Zurich). He has authored or co-authored more than 150 peer-reviewed journal and conference papers, 2 books, 11 book chapters, and has 25 patents issued or pending (3 licensed). His papers have been cited over 6500 times in total (H-index: 40) and have been highlighted in Science Magazine, the JHU Gazette, the UW Today, and many newspapers. Among the awards he has received are the Samsung Humantech Thesis Award (2009), the Harold M. Weintraub Award in Biological Sciences (2010), the Perkins Coie Award for Discovery (2011), the American Heart Association National Scientist Development Award (2012), the BMES-CMBE Rising Star Award (2013), and the Young Innovator Award from the Cell and Molecular Bioengineering Journal. (2015). Dr. Kim serves on the editorial boards of numerous journals including Scientific Reports, Theranostics, Advanced Biosystems, Biomedical Microdevices, IEEE Transactions on NanoBioscience, IEEE Transactions on Nanotechnology, and International Journal of Nanomedicine.