

Tuesday September 12, 2017 12:00pm—1:00pm

Pettit Microelectronics Building 102 A&B

Bio-Interfaced Soft Electronics for Human-Machine Interfaces and Human Health Monitoring

W. Hong Yeo, Ph.D.

**Woodruff School of Mechanical Engineering
Georgia Institute of Technology**

Abstract: My research focuses on the fundamental and applied aspects of nanomechanics, biomolecular interactions, soft materials, and nano-microfabrication for nanoparticle biosensing and unusual electronic system development, with an emphasis on bio-interfaced nanoengineering. In this talk, I will present recent research works on soft, stretchable electronic systems which include biomimetic materials, mechanics designs, and system integration, aiming for advancing human healthcare and wellness. The first part of my talk will be devoted to present mechanics and materials for designing of soft electronics based on nanomembranes. Afterwards, I will talk about applications of the soft bioelectronics for biomedical devices that monitor biopotentials and physiological parameters for human health monitoring and human-machine interfaces.

Bio: Dr. W. Hong Yeo is a TEDx alumnus and biomechanical engineer. Since 2017, Dr. Yeo has been an Assistant Professor in the George W. Woodruff School of Mechanical Engineering and Program Faculty in Bioengineering at the Georgia Institute of Technology. Before joining Georgia Tech, he worked at Virginia Commonwealth University Medicine and Engineering as an assistant professor from 2014-2016. Dr. Yeo received his BS in mechanical engineering from INHA University, South Korea in 2003 and he received his PhD in mechanical engineering and genome sciences at the University of Washington, Seattle in 2011. From 2011-2013, he worked as a postdoctoral research fellow at the Beckman Institute and Frederick Seitz Materials Research Laboratory at the University of Illinois at Urbana-Champaign. His research focuses on the fundamental and applied aspects of nanomechanics, biomolecular interactions, soft materials, and nano-microfabrication for nanoparticle biosensing and unusual electronic system development, with an emphasis on bio-interfaced translational nanoengineering. Dr. Yeo is an Editorial Board Member of Scientific Reports (Nature Publishing Group) and Scientific Pages of Bioengineering, and Review Editor of Frontiers of Materials (Frontiers Publishing Group). He serves as a technical committee member for IEEE Electronic Components and Technology Conference and Korea Technology Advisory Group at Korea Institute for Advancement of Technology. He has published more than 40 peer-reviewed journal articles, and has three issued and more than five pending patents. His research has been funded by NIH, MEDARVA Foundation, Thomas F. and Kate Miller Jeffress Memorial Trust, CooperVision, Inc., Korea Institute of Materials Science, Commonwealth Research Commercialization, and State Council of Virginia. Dr. Yeo is a recipient of a number of awards, including BMES Innovation and Career Development Award, Virginia Commercialization Award, Blavatnik Award Nominee, NSF Summer Institute Fellowship, Notable Korean Scientist Awards, and Best Paper/Poster Awards at ASME conferences.

LOCATION CHANGE: The September 12th Nano@Tech Lecture will be held in Pettit 102 A&B. The series will return to the Marcus Nanotechnology Building on September 26th.

Pizza lunch will be provided, however we ask that you limit yourself to two slices so that all attendees are accommodated.