NUS National University of Singapore | Department of Materials Science & Engineering
College of Design and Engineering

MSE For Bio-Medical Applications

9th Feb, Wednesday
2:30 - 3:30pm
Singapore Time Via Zoom

Click here to register

https://nus-sg.zoom.us/webinar/register/WN_oiHTnZ5DQ0asdNdAOxb-QA

ABSTRACT

The hyper-connected environment where humans, smart devices and robots live in synergy together is rapidly being realized within our lifetimes. Flexible, wearable sensors and systems are generating greater amounts of data for AI algorithms to understand. Continued co-development of bio-integrable and even neuro-integrable sensory systems will augment human abilities and aid in applications as health diagnostics, surgery and predictive analytics. A multi-disciplinary approach is essential to digitize almost every aspect of our lives. I will discuss materials design and strain optimization techniques to develop electronic materials with stretchability, sensitivity and remarkable self-healing properties. In addition, I will also discuss our recent progress in developing new soft materials systems for soft robots. We envisioned that such materials and technologies can be tremendously useful in distributed conformable electronic skins, neuro-prosthetic devices and robots in the increasingly digitally augmented future.



Benjamin C.K. Tee
Associate Professor
Deputy Head (Innovation, Outreach & Executive Courses)
Materials Science and Engineering, NUS

Dr. Benjamin C.K. Tee is appointed President's Associate Professor in Materials Science and Engineering Department at the National University of Singapore. His leads his research group: Sensors.AI to develop technologies at the cutting edge of materials science, mechanics, electronics and biology, with a focus on sensitive electronic materials that has tremendous potential to advance global healthcare technologies in an increasingly Artificial Intelligence (AI) era. He was awarded the National Research Foundation Fellowship in 2017. He obtained his PhD at Stanford University, and was a Singapore-Stanford Biodesign Global Innovation Postdoctoral Fellow in 2014. He is an MIT TR35 Innovator (Global) in 2015 and listed as World Economic Forum's Young Scientist of the year in 2019. He was featured by CNN International as one of their Tomorrow's Hero series, by Channel News Asia International in the ASEAN's Next Generation Leaders documentary and by BBC World Service Radio and National Geographic TV. He can be found on www.benjamintee.com



Viveka Kalidasan
Technology Development and Commercialization Lead
Institute of Bioengineering and Bioimaging, A*STAR

Viveka is the Technology Development and Commercialization Lead at Institute of Bioengineering and Bioimaging, A*STAR. Prior to joining A*STAR, she was a Research Fellow in Wireless Bioelectronics lab, NUS where she had the opportunity to develop a patient-centric and futuristic Wireless Sensing platform technology –WiSe, which has been published in Nature Biomedical Engineering (nBME) journal.

She won the LOTUS-NUS Healthcare award and Young Investigator Award for her excellence research. She's also being recognized as one of the Singapore 100 Women in Tech, 2021.

She is the founder of The Edify Project, to empower more talents through innovative mentorship. She was a PhD student in the Dept. of Materials Science and Engineering at NUS and obtained her degree in 2016. With the deep understanding of on nano-biomaterials during her PhD candidature in NUS MSE, she built novel nano-biomaterials for cancer theranostics during her PhD study.