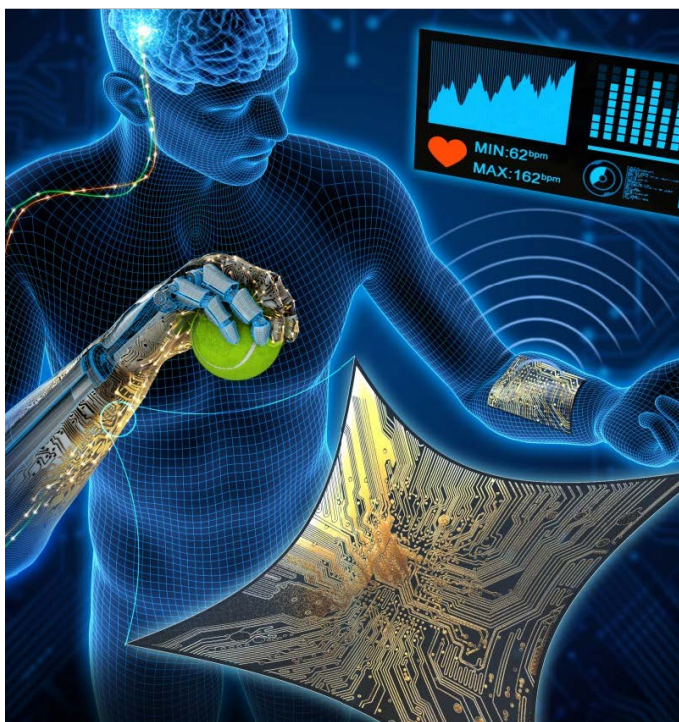


# *STRETCHABLE LIQUID METAL COMPOSITE ELECTRONICS FOR WEARABLE AND SOFT ROBOTIC SYSTEMS*



**STEVE PARK (KAIST)**

**THURSDAY, JANUARY 29TH  
2:00PM-3:00PM, POTR 234**

**ABSTRACT:** Soft electronic platforms are critical for future wearable electronics and soft robotic systems, where mechanical compliance, biointegration, and on-demand customization are essential. However, many existing materials and fabrication approaches remain limited by mechanical fragility, biocompatibility issues, or poor scalability for personalized manufacturing. In this talk, I will present our recent advances in stretchable soft electronics enabled by liquid metal-based and intrinsically conductive composite materials. These include 3D-printable PEDOT:PSS-ionic liquid colloids for rapid fabrication of biocompatible bioelectronics, mechanically durable EGaIn composite-coated stretchable fibers for one-dimensional interconnects, and personalized electronic tattoos assembled on demand for wearable healthcare. I will also introduce rapid meniscus-guided printing of semi-solid liquid metal microgranular particles for scalable, high-resolution soft electronics. Together, these approaches advance practical soft electronic platforms for healthcare, human-machine interfaces, and soft robotics.

**BIO:** Prof. Steve Park is an Associate Professor in the Department of Materials Science and Engineering at KAIST. He earned his M.S. and Ph.D. in Materials Science and Engineering from Stanford University. His research focuses on stretchable electronics, 3D printing, and biosensors. He has authored over 97 peer-reviewed publications with more than 10885 citations and holds over 20 registered patents in Korea and the United States. Prof. Park's honors include the Young Investigator Award from the Korean Institute of Metals and Materials, the Outstanding Lecturer Award from KAIST, the Young Scientist Award from the Active Materials and Soft Mechatronics community, and the Outstanding Member Award from the Korean Printed Electronics Association. Prof. Park also has various start-up excellence awards such as Grand Prize, Daejeon BI Demo Day (Mayor of Daejeon Award), Excellence Award, KDB Startup Program, Top Prize, E\*5 Lab Startup Competition, Grand Prize, KAIST Startup Competition, Top Prize, Lab Startup Competition, Korea Enterprise Grand Award, Excellence Award, Research Track, K-Startup 2023, Grand Prize (Presidential Award).

