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기타소속:

강연제목: 최초침습형 의료서비스를 위한 생분해성 전자소자 및 반도체 기술

Biodegradable Electronic Devices and Semiconductor Technologies for Minimally Invasive Medical Services

Abstract:

The advent of biodegradable sutures has eliminated the need for removal surgeries, significantly enhancing patient convenience by eliminating follow-up hospital visits. As these sutures have become a standard in medical practice, the focus of next-generation healthcare technologies is shifting beyond sensing and therapeutic functionalities of electronic devices toward computational capabilities and intelligence through semiconductor integration. In addition to performance advancements, widespread adoption of medical electronic devices and semiconductors will largely depend on minimizing patient discomfort and reducing surgical risks associated with implantation. This presentation introduces biodegradable electronic materials and semiconductor technologies as a promising approach to minimally invasive medical solutions. It will cover the latest advancements in biodegradable electronic devices, from material development to diverse biomedical applications. Lastly, efforts toward integrating intelligence into biodegradable electronic systems will be discussed.

Brief Biosketch

Prof. Seung-Kyun Kang is an Associate Professor in the Department of Materials Science and Engineering at Seoul National University (SNU) and Head of the Material Analysis Center at RIAM. He earned his B.S. (2006) and Ph.D. (2012) from SNU. After postdoctoral research with Prof. John A. Rogers at UIUC and Northwestern (2012–2017), he was an Assistant Professor at KAIST (2017–2019) before joining SNU. He serves on editorial boards for multiple journals and has published over 80 papers in top journals, specializing in bioresorbable electronics, neuromorphic devices, and soft robotics.