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강연제목: 파이버 기반 차세대 신경 인터페이스/ Fiber-based Next-generation Neural Interfaces

Abstract

To understand and control the dynamics of the biological/neural system, it is essential to develop the techniques capable of recording and modulating signals employed by cells/neurons. However, current approaches are limited in many factors such as non-specificity, mechanical invasiveness, non-adaptability, and side effects. Naturally, there is a huge need for new interfacing systems allowing for adaptable and minimally invasive, but precise manipulation and monitoring of cellular and neural activities. My talk will introduce the strategy to address the issue that is development of the flexible and stretchable fiber-based probes for interfacing with the biological and neural system. This technology enabling a natural interfacing between biological/neural circuits and external machines/computers contributes not only human health and welfare but also develop the future with hyper-connectivity.

Brief Biosketch

박성준 현 카이스트 바이오및뇌공학과 조교수는 서울대학교 기계항공공학부에서 학사학위 (2013), MIT 기계공학과에서 석사학위 (2015), MIT 전기컴퓨터공학과에서 박사학위 (2018)를 받은 뒤, MIT 재료공학과에서 박사후연구원 (2019)을 지내고 카이스트에 부임하였다. 현재 바이오메디컬 신경 인터페이스 연구실의 지도교수인 그는 파이버 및 나노물질 기반의 의공학 기술 개발에 힘쓰고 있다.

Seongjun Park is an assistant professor in the Department of Bio and Brain Engineering at Korea Advanced Institute of Science and Technology (KAIST). He received his bachelor's degree in Mechanical and Aerospace Engineering from Seoul National University (SNU) in 2013, master's degree in Mechanical Engineering from Massachusetts Institute of Technology (MIT) in 2015, and doctoral degree in Electrical Engineering and Computer Science from MIT in 2018. He completed his postdoctoral training in Research Laboratory of Electronics (RLE), MIT in 2019. His research interests include the development of fiber-based bio and neural interfaces, nanomaterials for brain engineering, and scaffolds for tissue regeneration.