세미나 초록

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발표 주제	차세대 바이오메디컬 신경 인터페이스 개발 및 뇌공학적 조직공학적 응용
발표 내용	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, and side effects. Naturally, there is a huge need for new interfacing systems allowing for minimally invasive, but precise manipulation and monitoring of cellular and neural activities. My talk will introduce various strategies to address the issues: (1) Flexible and stretchable fiber-based probes for interfacing with the biological and neural system; (2) Biocompatible fiber scaffold to help the regeneration of tissue; (3) Wireless nanoparticle-based techniques for deep brain stimulation; (4) Biomimicking Electronic system to integrate or substitute peripheral nervous system (neural tactile sensing system). These technologies 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.