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국문 강연제목: 체액 모니터링용 바이오 의료 디바이스

영문 강연제목: Bioelectronics for Physiological Fluid

Monitoring

Abstract(영문):

Physiological fluids such as cerebrospinal fluid, breast milk, blood plasma, urine, and lymph are vital for maintaining homeostasis. Continuous monitoring of these fluids is crucial for disease management and recovery. This talk introduces bioelectronic systems that enable real-time and long-term physiological fluid monitoring through unconventional materials and device architectures. A wearable impedance-based platform monitors breast milk volume during lactation and has been validated in human trials. Furthermore, a fully implantable bladder monitoring system with a stretchable strain sensor enables long-term tracking in bladder cancer models. These bio-integrated technologies highlight the potential of flexible electronics for personalized and continuous healthcare.

Brief Biosketch (간단한 이력, 연구/대외활동 소개,국문/영문)

Jihye Kim is an Assistant Professor in the Advanced College of Bio-Convergence Engineering at Ajou University. She received her B.S. and Ph.D. degrees in Advanced Materials Science and Engineering from Sungkyunkwan University, Korea, in 2015 and 2020, respectively. She then joined Northwestern University as a postdoctoral scholar at the Center for Bio-Integrated Electronics (CBIE). Her research interests include wearable and implantable bioelectronics for physiological fluid monitoring.

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