

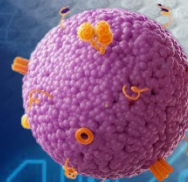
제 129회

ORGAN ON A CHIP

기술교류회

2026. 4. 16 **목** 오후 4시 30분

한림대학교 의료·바이오융합연구원 포스터홀



김자영 교수

연세대학교

1. Education

박사: Dept. of Materials Science and Engineering, Univ. of California, San Diego (2018)

석사: 연세대학교 화학과 (2012)

학사: 연세대학교 화학과 (2010)

2. Experience

2026 ~ 현재 연세대학교 신소재공학과, 조교수

2021 ~ 2026 연세대학교 의과대학 의학공학교실, 조교수

2018 ~ 2021 Dept. of Chemical Engineering, Stanford University, Post-doc

차세대 헬스케어 위한 전기화학 나노바이오 인터페이스 Electrochemical Nano-biointerfaces for Next-generation Healthcare

Wearable biosensors represent a promising opportunity to monitor human physiology through dynamic measurements of (bio)chemical markers in bio-fluids such as sweat, tears, saliva, and interstitial fluid in continuous and non-invasive way. Such new platforms can thus offer real-time (bio)chemical information toward a more comprehensive view of a wearer's health, performance, or stress at the molecular level in daily life. Continuous biomonitoring addresses the limitations of traditional invasive blood testing and provides the opportunity for early diagnostic and therapeutic interventions. My talk will focus on developing wearable electrochemical biosensors towards non-invasive health monitoring opportunities and evaluating the potential impact of such wearable point-of-care devices on our daily life and clinical settings. It will cover various types of salivary, sweat and tear fluid based wearable biosensors utilizing mouthguard, tattoo patch, and contact lens form-factors. Significant effort have been made on developing enzymatic electrochemical sensors for continuous metabolite monitoring towards healthcare in daily-life or managing diabetes like chronic disease. Recently, we demonstrated personalization strategy for accurate estimation of blood glucose utilizing non-invasive biofluids. Lastly, the talk will also cover the latest efforts on developing small molecule monitoring wearable sensors, focusing on nanoscale molecularly imprinted polymer via quantum electrochemical detection.

주 관 한림대학교 미래융합스쿨 융합신소재공학전공, 융합신소재공학연구소

후 원 과기정통부 글로벌 기초연구실사업

지 원 한림대학교 대학원 나노-메디컬 디바이스 공학 협동과정, 춘천바이오산업진흥원

문의처: de3553@hallym.ac.kr / Tel: 033-248-3557