


2024년도 대한전자공학회
하계종합학술대회 초청강연 발표정보

■ 발표자 정보

성명	이현정	사진	
소속(학교)	한국과학기술연구원		
부서(학과)	차세대반도체연구소		
직위	책임연구원		
발표분야	KIST 특별 세션 (뉴로모픽 컴퓨팅)		
약력	학력 1997-2001 포스텍, 재료금속공학과 학사 2001-2003 포스텍, 신소재공학과 석사 2007-2011 MIT, 재료공학과 박사		
	경력 2003-현재, KIST 연구원, 선임연구원, 책임연구원 2017-2017 Lawrence Berkeley National Laboratory, USA, 방문연구원 2019-2023 연세대학교 신소재공학과 겸임교수 2021-2023 차세대한국과학기술한림원 (Y-KAST) 회원		
연구 관심 분야:	최근 주요 연구 실적 1. “Bionic artificial skin with a fully implantable wireless tactile sensory system for wound healing and restoring skin tactile function”, <i>Nature Communications</i> (2024) 15, 10 2. “An epifluidic electronic patch with spiking sweat clearance for event-driven perspiration monitoring”, <i>Nature Communications</i> (2022) 13, 6705 3. “An artificial tactile neuron enabling spiking representation of stiffness and disease diagnosis” <i>Advanced Materials</i> (2022) 34, 2201608		
	뉴로모픽 센서, E-skin 센서, 유연전자소자, 바이오융합전자소자		

■ 초청강연 정보

제 목	Bio-Inspired Sensory Devices and Electronics for Smart Healthcare
Abstract	<p>Biological sensory neuron-inspired devices and signal processing have emerged as a next-generation computing technology in various fields such as digital healthcare, disease diagnosis, human-machine interfaces, and robotics owing to their great advantages in terms of low power consumption, low latency, and yet high accuracy. Biological sensory neural systems generate spikes upon receiving external stimuli, encode the information into the spikes, and then process most of the information it receives to send abstracted information to the brain, the biological central processing unit. This unique way that biological sensory neural systems process external information is a key contributor to reducing the burden of processing and energy consumption in the brain. Simple devices that can encode external information into electrical spike patterns hold great promise for neuromorphic sensory systems. In this talk, our recent efforts on materials processes and novel device structures to develop neuromorphic sensory devices will be introduced.</p>