



Donghwan KIM, Richie

Professor, School of Chemical Engineering,
Biomedical Institute for Convergence at SKKU
Director, Precision Biology Research Center
Sungkyunkwan University

Address Seobu-ro 2066, Jangan-gu, Suwon, Gyeonggi-do, 16419 South Korea
Sungkyunkwan University, Research Complex 2 #83450
Office +82 31 299 4717
Email dhkim1@skkuedu
Homepage [Research Center] pbrc.skku.edu, [Lab] bsel.skku.edu

ACADEMIC QUALIFICATIONS

Ph.D., University of Michigan, Ann Arbor, MI Biomedical Engineering, 2005
M.S., Seoul National University, Seoul, Korea, Materials Science and Engineering, 2001
B.S., Yonsei University, Seoul, Korea, Materials Science and Engineering, 1999

PROFESSIONAL CAREER

2024 – present Editorial Board, Materials Science and Engineering: R: Reports, Elsevier, Netherlands
2024 – present Associated Editor, BMEMat, Wiley, China
2023 – present Associated Editor, VIEW, Wiley, China
2015 – present Associate/Full Professor, SKKU, Sch. Chem. Eng., Korea
2008 – 2015 Tenured Assist/Assoc Prof., Nanyang Tech. Univ., Sch. Chem. Biomed. Eng., Singapore
2005 – 2008 Research Associate, Duke University, Durham, NC, Biomedical Eng.
2006 – 2005 Postdoctorate Fellow, Univ. of Michigan, Ann Arbor, MI, Biomedical Eng.

SELECTED PUBLICATIONS

TH Kim, HB Woo, JM Baek, SY Choi, HJ Seong, MN Seo, OS Kwon, DH Kim*, YS Ryu*, “Plasmonic Color Printing in Nanophotonic Devices via Photothermal Dynamics in a Fabry-Pérot Etalon”	Advanced Functional Materials , e21445, October 2025
TS Kim+, JE Ryu+, JH Park+, RJ Liu, JH Choi, JW Kim, YJ Hong*, DH Kim*, JH Shin*, “Future trends of display technology: micro-LEDs toward transparent, free-form, and near-eye displays”	Light: Science & Applications , 14, 335, September 2025
JK Kwak+, JS Kim+, R Dutta+, MJ Kim+, MK Kang, AWS Hui, YJ Yu, JH Shin, HJ Choi, HG Park*, DH Kim*, SK Kim*, “AI-Integrated Optoelectronic Platform for Low-Latency Classification of Toxic Industrial Chemicals”	Small , 2506026, August 2025
JB Tu+, JH Yeom+, JC Ulloa+, SA Solomon, JH Min, WZ Heng, GM Kim, J Dao, R Vemu, M Pang, C Wang, DH Kim*, W Gao*, “Stressomic: A wearable microfluidic biosensor for dynamic profiling of multiple stress hormones in sweat”	Science Advances , 11(32), ead6491, August 2025
YS Choi+, P Jin+, SH Lee+, Y Song, R Tay, GM Kim, JH Yoo, H Han, JH Yeom, JH Cho*, DH Kim*, W Gao*, “All-printed chip-less wearable neuromorphic system for multimodal physiochemical health monitoring”	Nature Communications , 16,5689, July 2025
JK Kwak+, CG Moon+, SG Im, TW Kang, HS Jeong, BS Moon, HS Kim, SJ Kwon, SK Kim*, DH Kim*, “Exploiting Brownian Motion of Plasmonic Nanoparticles Using Optical Printing Approach for on-Demand Physical Unclonable Functions”	Advanced Materials , 2503976, June 2025
SM Shaban+, SH Kim+, NE Baciony, J Kappen, MH Mostafa, A Elbalaawy, M Elmasry, JH Shin, I Jeon*, DH Kim*, “Eco-Friendly Sunlight-mediated Non-Toxic Bimetallic Nanoparticles Synthesis and their Reusable Catalytic Membrane and Biosensor Applications”	Advanced Science , 12(27), 2503120, April 2025
HJ Kwon+, JH Shin+, SQ Sun, R Zhu, S Stainer, P Hinterdorfer, SJ Cho, DH Kim*, YJ Oh*, “Vertical DNA Nanostructure Arrays: Facilitating Functionalization on Macro-Scale Surfaces”	ACS Nano , 19(20), 19353, April 2025
YR Jeon, DY Kim, C Biswas, ND Ignacio, P Carmichael, S Feng, K Lai, DH Kim*, D Akinwande*, “Enhanced Synaptic Memory Window and Linearity in Planar In2Se3 Ferroelectric Junctions”	Advanced Materials , 2413178, December 2024
S Cho+, SM Shaban+, R Song+, H Zhang+, D Yang+, MJ Kim, Y Xiong, X Li, K Madsen, S Wapnick, S Zhang, Z Chen, JW Kim, G Guinto, M Li, MK Lee, RF Nuxoll, S Shajari, J Wang, SE Son, JH Shin, AJ Aranyosi, DE Wright, TI Kim, R Ghaffari, Y Huang*, DH Kim*, JA Rogers*, “A skin-interfaced microfluidic platform supports dynamic sweat biochemical analysis during exercise”	Science Translational Medicine , 16(763), September 2024