•Field Advanced Electronic Materials and Devices (Flexible/Stretchable Electronics)

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Educational background

· Jan 2011, Degree of Doctor of Philosophy in School of Engineering, University of Durham, UK

· Feb 2000, M.E. in Electrical and Control Engineering, Hongik University, Seoul, Korea

· Feb. 1998, B.E. in Electronics and Electrical Engineering from Hongik University, Seoul, Korea

Major careers

· 2003 ~ present Associate Professor, School of Semiconductor·Display Technology, Hallym University, Korea

· 2016 ~ 2018 Visiting Researcher in Bao Research Group, Department of Chemical Engineering, Stanford University, CA, US

· 2011 ~ 2023 Principal Researcher in SAIT (Samsung Advanced Institute of Technology), Suwon, Korea

· 2005 ~ 2007 Senior Research Engineer in Corporate R&D Center of Samsung SDI, Yongin-si, Korea

■ Publications

- Dually crosslinkable SiO2@polysiloxane core–shell nanoparticles for flexible gate dielectric insulators, ***RSC advances*** (March 2017)
- Enhanced Performance of Thiophene-Rich Heteroacene, Dibenzothiopheno [6,5-b:6′,5′-f] Thieno[3,2-b]Thiophene Thin-Film Transistor With MoO x Hole Injection Layers, ***IEEE Electron Device Letters*** (March 2017)
- Thiophene-Thiazole-Based Semiconducting Copolymers for High-Performance Polymer Field-Effect Transistors, ***ACS Applied Materials & Interfaces*** (October 2017)
- Skin electronics from scalable fabrication of an intrinsically stretchable transistor array, ***Nature*** (March 2018)
- An integrated self-healable electronic skin system fabricated via dynamic reconstruction of a nanostructured conducting network, ***Nature Nanotechnology*** (November 2018)
- Densely cross-linked polysiloxane dielectric for organic thin-film transistors with enhanced electrical stability, ***Journal of Materials Chemistry C*** (May 2019)
- Inkjet-printed stretchable and low voltage synaptic transistor array, ***Nature Communications*** (June 2019)
- A wireless body area sensor network based on stretchable passive tags, ***Nature Electronics*** (August 2019)

- Conjugated Carbon Cyclic Nanorings as Additives for Intrinsically Stretchable Semiconducting Polymers, ***Advanced Materials*** (September 2019)
- Stretchable self-healable semiconducting polymer film for active-matrix strain-sensing array, ***Science Advances*** (November 2019)
- Control of dielectric surface energy by dry surface treatment for high performance organic thin film transistor based on dibenzothiopheno[6,5- b :6′,5′- f]thieno[3,2- b]thiophene semiconductor, ***AIP Advances*** (February 2020)
- Fully stretchable active-matrix organic light-emitting electrochemical cell array, ***Nature Communications*** (July 2020)
- In-Depth Investigation of the Correlation between Organic Semiconductor Orientation and Energy-Level Alignment Using In Situ Photoelectron Spectroscopy, ***ACS Applied Materials & Interfaces*** (September 2020)
- Strain-insensitive intrinsically stretchable transistors and circuits, ***Nature Electronics*** (February 2021)
- Standalone real-time health monitoring patch based on a stretchable organic optoelectronic system, ***Science Advances*** (June 2021)
- A design strategy for high mobility stretchable polymer semiconductors, ***Nature Communications*** (June 2021)
- A Design Strategy for Intrinsically Stretchable High-Performance Polymer Semiconductors: Incorporating Conjugated Rigid Fused-Rings with Bulky Side Groups, ***Journal of the American Chemical Society*** (July 2021)
- Stretchable PPG sensor with light polarization for physical activity-permissible monitoring, ***Science Advances*** (April 2022)
- Tuning the Mechanical and Electric Properties of Conjugated Polymer Semiconductors: Side-Chain Design Based on Asymmetric Benzodithiophene Building Blocks, ***Advanced Functional Materials*** (August 2022)
- Silent Speech Recognition with Strain Sensors and Deep Learning Analysis of Directional Facial Muscle Movement, ***ACS Applied Materials & Interfaces*** (November 2022)
- Strain-Tolerant, High-Detectivity, and Intrinsically Stretchable All-Polymer Photodiodes, ***Advanced Functional Materials*** (January 2023)
- Advancements in Electronic Materials and Devices for Stretchable Displays, ***Advanced Materials Technologies*** (February 2023)
- Flexible biomimetic block copolymer composite for temperature and long-wave infrared sensing, ***Science Advances*** (February 2023)
- Analyzing Acceptor-like State Distribution of Solution-Processed Indium-Zinc-Oxide Semiconductor Depending on the In Concentration, ***Nanomaterials*** (July 2023)

■ Awards and Honors

Oct 2008-Sep 2010	Overseas Research Students Awards Scheme (ORSAS) Scholarship from Higher Education Institutions (HEIs), UK
	PhD Scholarship Award from the School of Engineering, University of Durham, UK
Sep 2006	The Best Research Engineer 2006 at Corporate R&D Center of Samsung SDI