

CURRICULUM VITAE



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Professor

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Education	<p>95. 03 ~ 01. 08 : B. S. Mater. Sci. & Eng. (POSTECH) 01. 09 ~ 03. 02 : M. S. Mater. Sci. & Eng. (POSTECH) 03. 03 ~ 07. 02 ; Ph. D. Mater. Sci. & Eng. (POSTECH)</p>
Professional Positions	<p>07. 03 ~ 09. 02 : Postdoctoral Research Associate (POSTECH, Georgia Tech) 09. 03 ~ 19. 08 : Professor (Chung-Ang University) 19. 09 ~ present: Professor (Korea University) 15. 07 ~ 16. 08: Visiting Scholar (University of Chicago) 18. 03 ~ present: Member: Young Korean Academy of Science and Technology (Y-KAST)</p>
Research Fields	<p>1. Research for 2D materials (graphene & transition metal dichalcogenides) ▪ Synthesis of 2D materials and development of new precursors ▪ Application to gas sensor, water splitting, CO₂ reduction and etc. 2. Research for organic and organo/inorgano perovskite semiconductor ▪ Organic light emitting diodes and perovskite solar cells ▪ Perovskite light emitting diodes and perovskite memristor</p>
Selected Publications	<p>1. "Halide perovskites for memories, transistors, and artificial synapses", Advanced Materials, vol. 30, p.1704002 (2018). 2. "Flexible active-matrix organic light-emitting diode display enabled by MoS₂ thin-film transistor", Science Advances, vol. 4, p.eaas8721 (2018) 3. "Air-stable cesium lead iodide perovskite for ultra-low operating voltage resistive switching", Advanced Functional Materials, vol. 28, p.1705783 (2018). 4. "Polarized light-emitting diodes based on patterned MoS₂ nanosheet hole transport layer", Advanced Materials, vol. 29, p.1702598 (2017). 5. "Bottom-up synthesis of MeS_x nanodots for optoelectronic device applications", Advanced Optical Materials, vol. 4, p.1796-1804 (2016). 6. "Wafer-scale transferable molybdenum disulfide thin-film catalysts for photoelectrochemical hydrogen production", Energy and Environmental Science, vol. 9, p.2240-2248 (2016). 7. "Inhibition of ion migration for reliable operation of organolead halide perovskite-based metal/semiconductor/metal broadband photodetectors", Advanced Functional Materials, vol. 26, p.4213-4222 (2016). 8. "Performances of liquid-exfoliated transition metal dichalcogenides as hole injection layers in organic light-emitting diodes", Advanced Functional Materials, vol. 25, p.4512-4519 (2015). 9. "Synthesis of atomically thin transition metal disulfides for charge transport layers in optoelectronic devices", ACS Nano, vol. 9, p.4146-4155 (2015). 10. "Increased work function in few-layer graphene sheets via metal chloride doping", Advanced Functional Materials, vol. 22, p.4724-4731 (2012). 11. "Nanoscale tunable reduction of graphene oxide for graphene electronics", Science, vol. 328, p.1373-1376 (2010).</p>