

NANO KOREA 2020

July 1~3, KINTEX, Korea

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EDUCATION

Seoul National University	Ph.D	MSE	2006
Seoul National University	BS	MSE	2000

PROFESSIONAL ACTIVITIES

- Associate Professor, Seoul National University (March 2019 to present)
- Associate Professor, Yonsei University (March 2014 to February 2019)
- Postdoctoral Scientist, Columbia University (March 2010 to February 2014)
- Senior Engineer, Samsung Electronics (September 2006 to February 2010)
- Visiting Scholar, University of Illinois at Urbana-Champaign (August 2002 to August 2003)

AWARD AND HONORS

- Young Ceramist (Korean Ceramic Society), 2018
- Samsung Humantech Research Award, 2006

MAIN SCIENTIFIC PUBLICATION

- "Atomically-precise Graphene Etch Stops for 3D Integrated Systems from 2D Material Heterostructures" Nature Communications (2018)
- "Epitaxially Self-Assembled Alkane Layers for Graphene Electronics" Advanced Materials (2017)
- "Highly Stable, Dual-Gated MoS₂ Transistors Encapsulated by Hexagonal Boron Nitride with Gate-Controllable Contact Resistance and Threshold Voltage" ACS Nano (2015)
- "Multi-Terminal Transport Measurements of MoS₂ Using van der Waals Heterostructure Device Platform" Nature Nanotechnology (2015)
- "Atomically Thin p-n Junctions with van der Waals Heterointerfaces" Nature Nanotechnology (2014)
- "Organic Field Effect Transistors Based on Graphene and Hexagonal Boron Nitride Heterostructures" Advanced Functional Materials (2014)

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- "Effect of Defects on the Intrinsic Strength and Stiffness of Graphene" Nature Communications (2014)
- "Graphene Mechanical Oscillators with Tunable Frequency" Nature Nanotechnology (2013)
- "Flexible and Transparent MoS₂ Field-Effect Transistors on Hexagonal Boron Nitride-Graphene Heterostructures" ACS Nano (2013)
- "High Strength Chemical Vapor Deposited Graphene and Grain Boundaries" Science (2013)
- "Grains and Grain Boundaries in Highly Crystalline Monolayer Molybdenum Disulphide" Nature Materials (2013)
- "Controlled Charge Trapping by MoS₂ and Graphene in Ultrathin Heterostructured Memory Devices" Nature Communications (2013)
- "Tightly Bound Trions in Monolayer MoS₂" Nature Materials (2013)

RESEARCH INTERESTS

- Synthesis of 2D materials
- Structural phase transition of 2D materials
- Electrical, optical, mechanical properties of 2D materials
- 2D materials-based electronic devices