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Key Words Transition metal oxide thin films and heterostructures, Pulsed Laser Epitaxy, Strongly Correlated System

Research Area Discovering and understanding novel physical phenomena in solids by fabricating and characterizing epitaxial complex oxide heterostructures for optc-electronic, energy, and environmental applications

Education
- 2010 PhD Seoul National University
- 2004 BSc Seoul National University

Experience
- 2013- Assistant Professor, Sungkyunkwan University
- 2010-2013 Postdoctoral Research Associate, Oak Ridge National Laboratory

Position
- 2015-2016 Vice Executive Editor, Current Applied Physics

Selected Publication
- "Resonant tunnelling in a quantum oxide superlattice" Nat. Commun. 6, 7424 (2015)
- "Thermopower enhancement by fractional layer control in 2D oxide superlattices" Adv. Mater. 26, 6701 (2014).
- "Reversal of the Lattice Structure in SrCoOx Epitaxial Thin Films Studied by Real-Time Optical Spectroscopy and First-Principles Calculations" Phys. Rev. Lett. 111, 097401 (2013)
- "Reversible redox reactions in an epitaxially stabilized SrCoOx oxygen sponge" Nat. Mater. 12, 1057 (2013).
- "Atomic Layer Engineering of Perovskite Oxides for Chemically Sharp Heterointerfaces" Adv. Mater. 24, 6423 (2012).
- "Strain-Induced Spin States in Atomically Ordered Cobaltites" Nano Lett. 12, 4966(2012).
- "Fractionally δ-doped Oxide Superlattices for Higher Carrier Mobilities" Nano Lett. 12, 4590 (2012)
- "Wide bandgap tunability in complex transition metal oxides by site-specific substitution" Nat. Commun. 3, 689 (2012).

Others
- TJ Park Science Fellowship by POSCO TJ Park Foundation (2015)
- Bombi Award by The Korean Physical Society (2014)
- 2012 ORNL Award for Outstanding Accomplishment in Scientific Research by UT-Battelle at 2012 Awards Night Achievement (2012)