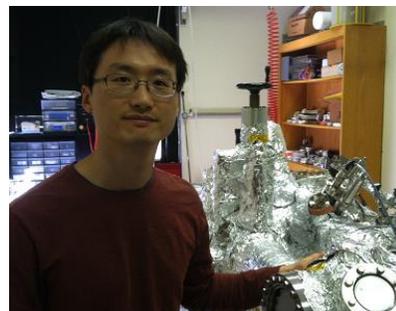


Seokmin Jeon

Postdoctoral Researcher
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[Publications](#)



Education

Yonsei University, Seoul, South Korea / B.S. / 2004 / Chemistry

- Magna Cum Laude in College of Natural Science

Korea Advanced Institute of Science and Technology, Daejeon, South Korea / M.S. / 2006 / Chemistry

- Thesis: Adsorption Geometry and Bonding Structure of Thiophene on Ge(100).

California Institute of Technology Pasadena, CA / Ph.D. / 2014 / Chemistry

- Thesis: Understanding Surface Chemistry on the III-V Semiconductors; from Single Molecule to Thin Film.

Professional experience:

2013 – present Postdoctoral researcher, Center for Nanophase Materials Sciences, ORNL

2007 – 2013 Graduate research assistant at California Institute of Technology

2007 Researcher at Korea Advanced Institute of Science and Technology

2006 Researcher at Pohang Accelerator Laboratory, Pohang University of Science and Technology

2004 – 2006 Graduate research assistant at Korea Advanced Institute of Science and Technology

Publications

Cumulative total number of article published in peer reviewed journals: 9

Research Synopsis

1. *Fabrication of ultra-high vacuum (UHV) surface science systems (2007 – 2010)*
 - a. Designing and building UHV chambers for inorganic solid surface study equipped with a sample heater, an inert gas ion sputterer, metal evaporators, gas molecule dosers, and an atomic hydrogen doser.
2. *Organic passivation/modification of semiconductor surfaces (2004 – 2013)*
 - a. Study of geometric and electronic structures and thermal chemistry of thiophene molecules adsorbed on Ge(100) using ultra-high vacuum scanning tunneling microscopy (UHV-STM), temperature programmed desorption (TPD), auger electron spectroscopy (AES), low energy electron diffraction (LEED), and synchrotron radiation X-ray photoelectron spectroscopy (XPS) and ab-initio DFT simulations (Jaguar rapid ab-initio electronic structure simulation package)
 - b. Ab-initio DFT study of adsorption and decomposition of water on GaP(001) using Vienna ab-initio simulation package (VASP)
 - c. UHV-STM, X-ray photoelectron spectroscopy (XPS), ultra-violet photoemission spectroscopy (UPS), and DFT study of adsorption and thermal behavior of organo-sulfur molecules adsorbed on GaP(001)
3. *Molecular beam epitaxy (MBE) growth and characterization of inorganic thin films (2011 – 2013)*
 - a. Study of film growth mechanism and geometric/electronic structures of Zn₃P₂ thin films epitaxially grown on Ga-rich GaAs(001) using UHV-STM, XPS, and DFT

4. *Research of structural and electronic properties of thin-films of organic conductors and semiconductors (2013 – present)*
 - a. Investigation of geometric and electronic structures of ultra-thin charge transfer complex, TTF-TCNQ (TTF = tetrathiafulvalene; TCNQ = 7,7,8,8-tetracyanoquinodimethane) thin-films grown on a variety of metallic surfaces using scanning probe microscopy/spectroscopy (STM/STS and AFM) at 4.3 K.

Graduate and Postdoctoral Advisors:

- Arthur P. Baddorf and Peter Maksymovych (Oak Ridge National Laboratory) (Postdoctoral Advisor)
- Harry A. Atwater (Applied Physics, California Institute of Technology) (Graduate Advisor)
- Sehun Kim (Chemistry, Korea Advanced Institute of Science and Technology) (Graduate Advisor)