

CURRICULUM VITAE

Soon-hyeong Lee

Education

Korea university, Seoul, Korea

- ✎ Intergrated Ph.D program, Department of Physics
- ✎ (September, 2011 ~ August, 2016)
- ✎ Advisor: Prof. Se-Jong Kahng

Korea university, Seoul, Korea

- ✎ B.S. Department of Physics (March, 2007 ~ August, 2011)

Academic Experiences

Teaching Assistant, Korea university (September, 2011 ~ June, 2016)

Technical Skills

UHV Sample related skills

- ✎ Routinely prepared the clean surface of metal single crystal.
- ✎ Grew submonolayer of porphyrin-based molecule on metal substrate.
- ✎ Attached a gas molecule (CO, O₂) to metalloporphyrin.
- ✎ On surface-synthesis of Fe-porphyrin.

Scanning tunneling microscopy related skills

- ✎ STM imaging and STS measurement of single molecule.
- ✎ Achieved low temperature using continuous flow type cryostat (LHe, LN₂).

Ultra high vacuum related skills

- ✎ Designed e-beam heater.
- ✎ Achieved Ultra high vacuum (< 1x10⁻¹⁰ Torr).
- ✎ Built knudsen cell and e-beam type evaporator.

Program

- ✎ Autocad
- ✎ Hyperchem

Publication

1. Seung-kyun Noh, Jeong Heum Jeon, Won Jun Jang, Howon Kim, Soon-Hyeong Lee, Min Wook Lee, Jinhwan Lee, Seungwu Han, Se-Jong Kahng, "Supramolecular Cl · · · H and O · · · H Interactions in Self-Assembled 1,5-Dichloroanthraquinone Layers on Au(111)", *ChemPhysChem*, **14**, 1177 (2013)
2. Howon Kim, Yun Hee Chang, Soon-Hyeong Lee, Yong-Hyun Kim, Se-Jong Kahng, "Switching and Sensing Spin States of Co-Porphyrin in Bimolecular

Reactions on Au(111) using scanning tunneling Microscopy”, *ACS nano*, **7**, 9312 (2013)

3. Howon Kim, Yun Hee Chang, Soon-Hyeong Lee, Soobin Lim, Seung-Kyun Noh, Yong-Hyun Kim, Se-Jong Kahng, “Visualizing tilted binding and precession of diatomic NO adsorbed to Co-Porphyrin on Au(111) using scanning tunneling microscopy”, *Chem. Sci.*, **5**, 2224 (2014)

Presentation

Oral presentation

1. Soon-Hyeong Lee, Yun Hee Chang, Howon Kim, Won Jun Jang, Yong-Hyun Kim, Se-Jong Kahng, “Binding Structures of Diatomic Molecules to Co-Porphyrins on Au(111) Studied by Scanning Tunneling Microscopy”, APS March meeting, Baltimore, Maryland, USA, March, 2013

2. Soon-Hyeong Lee, Se-Jong Kahng, Yun Hee Chang, Howon Kim, Yong-Hyun Kim, “Controlling spin state of magnetic molecules by tilted-binding studied using scanning tunneling microscopy”, 20th International Vacuum Congress, Busan, Korea, August, 2016

Poster

1. Soon-Hyeong Lee, Howon Kim, Won-Jun Jang, Jeong Heum Jeon, Se-Jong Kahng, “Tilted binding of diatomic molecules to metalloporphyrins on Au(111)”
International Conference on Nanoscience + Technology (ICN+T 2012), Paris, France, July, 2012

2. Soon-Hyeong Lee, Yun Hee Chang, Howon Kim, Kyung Min Kim, Yong-Hyun Kim, Se-Jong Kahng, “Controlling spin state of magnetic molecules by oxygen binding studied using scanning tunneling microscopy”
APS march meeting, Baltimore, Maryland, march, 2016