

# Curriculum Vitae

## Akitoshi SHIOTARI, Dr.

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## Education

- March 2015  
**Doctor of Science**, Department of Chemistry, Graduate School of Science, Kyoto University  
Supervisor: Prof. Hiroshi Okuyama
- March 2012  
**Master of Science**, Department of Chemistry, Graduate School of Science, Kyoto University  
Supervisor: Prof. Hiroshi Okuyama
- March 2010  
**Bachelor of Science**, Department of Chemistry, Kyoto University

## Experience

- April 2015–Present  
**Research Associate**, Department of Advanced Materials Science, Graduate School of Frontier Sciences, The University of Tokyo
- April 2012–March 2015  
**Research Fellow**(DC1), the Japan Society for the Promotion of Science (JSPS)
- October 2013–March 2014  
**Visiting Student**, Department of Physical Chemistry, Fritz Haber Institute of the Max Plank Society  
Consigned supervisor: Prof. Martin Wolf

## Honors and Awards

9. September 2016  
**Young Scientist Presentation Award**, The Japan Society of Applied Physics
8. April 2016  
**Springer Theses Award**
7. March 2016  
**SSSJ Student Award**, The Surface Science Society of Japan
6. July 2015  
**Young Scientist Poster Award**, NIMS Conference 2015 (Tsukuba, Japan)
5. November 2014  
**Best Poster Award**, 7th International Symposium on Surface Science (Matsue, Japan)
4. June 2014  
**Student Poster Award**, 3rd Area Meeting, Molecular Architectonics (Tendo, Japan)
3. November 2013  
**SSSJ Paper Award**, The Surface Science Society of Japan
2. June 2013  
**Best Poster Prize**, 29th Symposium on Chemical Kinetics and Dynamics (Sendai, Japan)
1. June 2012  
**Best Poster Prize**, 28th Symposium on Chemical Kinetics and Dynamics (Fukuoka, Japan)

## Publications with Peer Review Process

16. **A. Shiotari**, Y. Sugimoto, "Ultrahigh-resolution imaging of water networks by atomic force microscopy," *Nat. Commun.* **8**, 14313 (2017). DOI 10.1038/ncomms14313.
15. K. Iwata, S. Yamazaki, **A. Shiotari**, Y. Sugimoto, "Mechanical properties on In/Si(111)-(8×2) investigated by atomic force microscopy," *Jpn. J. Appl. Phys.* **56**, 015701 (2017). DOI 10.7567/JJAP.56.015701.
14. T. Kumagai, S. Liu, **A. Shiotari**, D. Baugh, S. Shaikhutdinov, M. Wolf, "Local electronic structure, work function, and line defect dynamics of ultrathin epitaxial ZnO layers on a Ag(111) surface," *J. Phys.: Condens. Matter* **28**, 494003 (2016). DOI 10.1088/0953-8984/28/49/494003.
13. **A. Shiotari**, H. Okuyama, S. Hatta, T. Aruga, M. Alducin, T. Frederiksen, "Role of valence states of adsorbates in inelastic electron tunneling microscopy: a study of nitric oxide on Cu(110) and Cu(001)," *Phys. Rev. B* **94**, 075442 (2016). DOI 10.1103/PhysRevB.94.075442.
12. **A. Shiotari**, H. Okuyama, S. Hatta, T. Aruga, I. Hamada, "Adsorption and reaction of H<sub>2</sub>S on Cu(110) studied using scanning tunneling microscopy," *Phys. Chem. Chem. Phys.* **18**, 4541 (2016). DOI 10.1039/c5cp07726e.

11. **A. Shiotari**, Y. Ozaki, S. Naruse, H. Okuyama, S. Hatta, T. Aruga, T. Tamaki, T. Ogawa, "Real-space characterization of hydroxyphenyl porphyrin derivatives designed for single-molecule devices," *RSC Adv.* **5**, 79152 (2015). DOI 10.1039/c5ra12123j.
10. **A. Shiotari**, B.H. Liu, S. Jaekel, L. Grill, S. Shaikhutdinov, H.-J. Freund, M. Wolf, T. Kumagai, "Local Characterization of Ultrathin ZnO Layers on Ag(111) by Scanning Tunneling Microscopy and Atomic Force Microscopy," *J. Chem. Phys. C* **118**, 27428 (2014). DOI 10.1021/jp509013p.
9. **A. Shiotari**, S. Hatta, H. Okuyama, T. Aruga, "Formation of unique trimer of nitric oxide on Cu(111)," *J. Phys. Chem.* **141**, 134705 (2014). DOI 10.1063/1.4896558.
8. **A. Shiotari**, T. Mitsui, H. Okuyama, S. Hatta, T. Aruga, T. Koitaya, J. Yoshinobu, "Configuration change of NO on Cu(110) as a function of temperature," *J. Phys. Chem.* **140**, 214706 (2014). DOI 10.1063/1.4881262.
7. **A. Shiotari**, T. Kumagai, M. Wolf, "Tip-Enhanced Raman Spectroscopy of Graphene Nanoribbons on Au(111)," *J. Chem. Phys. C* **118**, 11806 (2014). DOI 10.1021/jp502965r.
6. **A. Shiotari**, S. Hatta, H. Okuyama, T. Aruga, "Role of hydrogen bonding in the catalytic reduction of nitric oxide," *Chem. Sci.* **5**, 922 (2014). DOI 10.1039/c3sc52334a.
5. I. Hamada, T. Kumagai, **A. Shiotari**, H. Okuyama, S. Hatta, T. Aruga, "Nature of hydrogen bonding in hydroxyl groups on a metal surface," *Phys. Rev. B* **86**, 075432 (2012). DOI 10.1103/PhysRevB.86.075432.
4. H. Okuyama, **A. Shiotari**, T. Kumagai, S. Hatta, T. Aruga, Y. Ootsuka, M. Paulsson, H. Ueba, "Modifying current-voltage characteristic of a single molecule junction by isotope substitution: OHOD dimer on Cu(110)," *Phys. Rev. B* **85**, 204524 (2012). DOI 10.1103/PhysRevB.85.204524.
3. T. Kumagai, **A. Shiotari**, H. Okuyama, S. Hatta, T. Aruga, I. Hamada, T. Frederiksen, H. Ueba, "H-atom Relay Reactions in Real Space," *Nat. Mater.*, **11**, 167 (2012). DOI 10.1038/nmat3176.
2. Y. Kitaguchi, **A. Shiotari**, H. Okuyama, S. Hatta, T. Aruga, "Imaging sequential dehydrogenation of methanol on Cu(110) with a scanning tunneling microscope," *J. Chem. Phys.* **134**, 174703 (2011). DOI 10.1063/1.3589256.
1. **A. Shiotari**, Y. Kitaguchi, H. Okuyama, S. Hatta, T. Aruga, "Imaging Covalent Bonding between Two NO Molecules on Cu(110)," *Phys. Rev. Lett.* **106**, 156104 (2011). DOI 10.1103/PhysRevLett.106.156104.