

Jung-Sub Wi, Ph.D.

Research Scientist

Center for Nano-Bio Measurement

Korea Research Institute of Standards and Science

Educations & Professional Experience

- **B.S.** in Materials Science and Engineering
Seoul National University, Korea (1998 ~ 2002)
- **Ph.D.** in Materials Science and Engineering (*Integrated M.S/Ph.D course*)
Seoul National University, Korea (2002~ 2008)
- **Postdoctoral Research Fellow**
Stanford University, USA (2008 ~ 2010)
Department of Materials Science and Engineering
- **ICYS Researcher**
National Institute for Materials Science, Japan (2010 ~ 2012)
- **Research Scientist**
Korea Research Institute of Standards and Science, Korea (2012 to present)

Research Interests:

- **Design, fabrication, and application of top-down nanostructures**
 - Physically synthesized nanoparticles for biological imaging
 - Plasmonic 3D nanostructures for biochemical sensors
 - Nano-reactor arrays for confined reactions and reliable measurements
 - Advanced nanopatterning techniques

Main Scientific Publication

1. **J.-S. Wi**, T.-Y. Lee, H.-M. Kim, H.-S. Lee, S.-W. Nam, I. J. Shin, K. H. Shin, and K.-B. Kim, 'Guided formation of sub-10 nm silicide dot array on an area patterned by electron-beam lithography', *Advanced Materials* **19**, 3469 (2007).
2. **J.-S. Wi**, H.-S. Lee, K. Lim, S.-W. Nam, H.-M. Kim, S.-Y. Park, J. J. Lee, C. D. Hong, S. Jin, and K.-B. Kim, 'Fabrication of silicon nanopillar teradot arrays by electron-beam patterning for nanoimprint molds', *Small* **4**, 2118 (2008).
3. **J.-S. Wi**, S. Sengupta, R. J. Wilson, M. Zhang, M. Tang, and Shan X. Wang, 'Raman-active Two-tiered Ag nanoparticles with a concentric cavity', *Small* **7**, 3276(2011).
4. **J.-S. Wi**, E. S. Barnard, R. J. Wilson, M. Zhang, M. Tang, M. L. Brongersma, and Shan X. Wang, 'Sombrero-shaped plasmonic nanoparticles with molecular level sensitivity and multifunctionality', *ACS Nano* **5**, 6449 (2011).
5. **J.-S. Wi**, R. J. Wilson, D. Lee, R. M. White, and S. X. Wang, 'Silicon nano-well arrays for reliable pattern transfer and locally confined high temperature reactions', *Nanotechnology* **22**, 305304 (2011).
6. **J.-S. Wi**, S. Tominaka, K. Uosaki, and T. Nagao, 'Porous gold nanodisks with multiple internal hot spots', *Physical Chemistry Chemical Physics* **14**, 9131 (2012).
7. **J.-S. Wi**, M. Rana, and T. Nagao, 'Three-tiered Au nanodisk array for broadband interaction with light', *Nanoscale* **4** 2847 (2012).
8. **J.-S. Wi**, S. Tominaka, and T. Nagao, 'Arrays of Nanoscale Gold Dishes Containing Engineered Substructures', *Advanced Optical Materials* **1**, 814 (2013).
9. **J.-S. Wi**, J. G. Son, S. W. Han, and T. G. Lee, 'Nanoparticles inside nanodishes for plasmon excitations', *Applied Physics Letters*, **107**,203102 (2015).
10. J. G. Son, S. W. Han, **J.-S. Wi***, and T. G. Lee*, 'Guided formation of sub-5 nm interstitial gaps between plasmonic nanodisks', *Nanoscale* **7**, 8338 (2015).