

## Benjamin J. Wiley

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**Education** **University of Washington**, Department of Chemical Engineering, Seattle, WA  
Ph.D. Chemical Engineering, June 2007  
Thesis: "Synthesis of Silver Nanostructures with Controlled Shapes and Properties"

**University of Minnesota**, Department of Chemical Engineering, Minneapolis, MN  
B.S. Chemical Engineering, May 2003

**Research Experience** **Postdoctoral Research Fellow, Harvard University** 2007-2009  
*Advisor:* George M. Whitesides  
Department of Chemistry and Chemical Biology

**Graduate Research Fellow, University of Washington** 2003-2007  
*Advisor:* Younan Xia  
Department of Chemistry

**Undergraduate Research Assistant, University of Minnesota** 2001-2003  
*Advisors:* L. E. Scriven and David J. Norris  
Department of Chemical Engineering and Materials Science

**Awards** Ruth L. Kirschstein National Research Service Award for Individual Postdoctoral Fellows, *NIH* 2008-10  
Colloid and Surface Science Division Poster Award, *ACS* 2006  
Graduate Student Gold Award, *MRS* 2005  
NSF-IGERT Graduate Fellowship, *University of Washington* 2004-06  
Runstad Fellowship, *University of Washington* 2003-04  
NSF-IGERT Early Bird Award in Nanotechnology, *University of Washington* 2003  
Roon Award, *Federation of Societies for Coatings Technology* 2003  
Iron Range Scholarship, *University of Minnesota* 1999

**Teaching** Short Course, Nanoparticle Synthesis, Simon Fraser University June, 2007  
Teaching Assistant, Thermodynamics, University of Washington Spring, 2007  
Teaching Assistant, Unit Operations, University of Washington Fall, 2007

## Publications

36. Lu, X.; Rycenga, M.; Skrabalak, S. E.; **Wiley, B. J.** and Xia, Y. Chemical Synthesis of Novel Plasmonic Nanoparticles. *Annu. Rev. Phys. Chem.*, **2009**, *60*, 167-192.
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34. **Wiley, B. J.**; Lipomi, D. J.; Bao, J.; Capasso, F. and Whitesides, G. M. Fabrication of Surface Plasmon Resonators by Nanoskiving Single-Crystalline Gold Microplates. *Nano Lett.*, **2008**, *8*, 3023-3028.
33. Pyayt, A. L.; **Wiley, B. J.**; Xia, Y.; Chen, A. and Dalton, L. Integration of Silver Nanowire Plasmonic and Photonic Waveguides. *Nature Photonics*, **2008**, *3*, 660-665.
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30. Kim, M. H.; Lu, X.; **Wiley, B. J.**; Lee, E. P. and Xia, Y. The Morphological Evolution of Single-Crystal Ag Nanospheres During the Galvanic Replacement Reaction with H<sub>2</sub>AuCl<sub>4</sub>. *J. Phys. Chem. C* **2008**, *112*, 7872-7876.
29. Xiong, Y.; **Wiley, B. J.** and Xia, Y. Nanocrystals with Unconventional Shapes – A Class of Promising Catalysts. *Angew. Chem. Int. Ed.* **2007**, *46*, 7157-7159.
28. **Wiley, B. J.**; Sun, Y. and Xia, Y. Synthesis of Silver Nanostructures with Controlled Shapes and Properties. *Acc. Chem. Res.* **2007**, *40*, 1067-1076.
27. Chen, J.; **Wiley, B. J.** and Xia, Y. One-Dimensional Nanostructures of Metals: Large-Scale Synthesis and Some Potential Applications. *Langmuir* **2007**, *23*, 4120-4129. cover article
26. Xiong, Y.; Cai, H.; **Wiley, B. J.**; Wang, J.; Kim, M. J. and Xia, Y. Synthesis and Mechanistic Study of Palladium Nanobars and Nanorods. *J. Am. Chem. Soc.* **2007**, *129*, 3665-3675.
25. **Wiley, B. J.**; Chen, Y.; McLellan, J. M.; Xiong, Y.; Li, Z.-Y.; Ginger, D. and Xia, Y. Synthesis and Optical Properties of Silver Nanobars and Nanorods. *Nano Lett.* **2007**, *7*, 1032-1036.
24. Petrova, H.; Lin, C.-H.; de Liejer, S.; Hu, M.; McLellan, J. M.; Siekkinen, A. R.; **Wiley, B. J.**; Marquez, M.; Xia, Y.; Sader, J. E. and Hartland, G. V. Time-Resolved Spectroscopy of Silver Nanocubes: Observation and Assignment of Coherently Excited Vibrational Modes. *J. Chem. Phys.* **2007**, *126*, 094709.
23. Fu, E.; Ramsey, S. A.; Chen, J.; Chinowsky, T. M.; **Wiley, B. J.**; Xia, Y. and Yager, P. Resonance Wavelength-Dependent Signal of Absorptive Particles in Surface Plasmon Resonance-Based Detection. *Sens. Actuators, B* **2007**, *123*, 606-613.
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21. **Wiley, B. J.**; Wang, Z.; Wei, J.; Yin, Y.; Cobden, D. and Xia, Y. Synthesis and Electrical Characterization of Silver Nanobeams. *Nano Lett.* **2006**, *6*, 2273-2278.
20. Sanders, A.; Routenberg, D.; **Wiley, B. J.**; Xia, Y.; Dufresne, E. and Reed, M. Observation of Plasmon Propagation, Redirection, and Fan-Out in Silver Nanowires. *Nano Lett.* **2006**, *6*, 1822-1826.
19. **Wiley, B. J.**; Im, S.-H.; Li, Z.-Y.; McLellan, J.; Siekkinen, A. and Xia, Y. Maneuvering the Surface Plasmon Resonance of Silver Nanostructures through Shape-Controlled Synthesis. *J. Phys. Chem. B*, **2006**, *110*, 15666-15675. cover article
18. **Wiley, B. J.**; Xiong, Y.; Li, Z.-Y. and Xia, Y. Right Bipyramids of Silver: A New Shape Derived from Single Twinned Seeds. *Nano Lett.* **2006**, *6*, 765-768.
17. Zettsu, N.; McLellan, J. M.; **Wiley, B. J.**; Yin, Y.; Li, Z.-Y. and Xia, Y. Rhodium Multipods: Synthesis, Stability, Surface Plasmonic Properties, and Their Use as Substrates for Surface-Enhanced Raman Scattering. *Angew. Chem. Int. Ed.* **2006**, *45*, 1288-92.

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3. **Wiley, B. J.**; Sun, Y.; Mayers, B. and Xia, Y. Shape-Controlled Synthesis of Metal Nanostructures: The Case of Silver. *Chem. Eur. J.* **2005**, *11*, 454-463. *cover article*
2. **Wiley, B. J.**; Herricks, T.; Sun, Y. and Xia, Y. Polyol Synthesis of Silver Nanoparticles: Use of Chloride and Oxygen to Promote the Formation of Single-Crystal, Truncated Cubes and Tetrahedrons. *Nano Lett.* **2004**, *4*, 1733-1739.
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