

CURRICULUM VITAE

Steven R. Emory

Western Washington University
Department of Chemistry
Bellingham, WA 98225

Academic Rank: Associate Professor

Major Field: Analytical and Materials Chemistry

Education:

B.S.	Chemistry	California Lutheran University, Thousand Oaks, CA	
Ph.D.	Chemistry	Indiana University, Bloomington, IN	1999
	Director Funded Postdoctoral Fellowship	Los Alamos National Laboratory	1999 - 2001

Appointments:

Associate Professor, Western Washington University, Department of Chemistry	2007 - present
AMSEC Faculty Fellow, Western Washington University	2007 - present
Assistant Professor, Western Washington University, Department of Chemistry	2001 - 2007

Honors & Awards:

Camille & Henry Dreyfus Faculty Start-Up Award	2001
Brian Andreen Cottrell College Science Award, Research Corporation	2001
Director Funded Postdoctoral Fellowship, Los Alamos National Laboratory	1999 - 2001
McCormick Science Grant for Innovative Research, Indiana University	1998
Procter & Gamble Graduate Fellowship, Indiana University	1997 - 1998
Felix Haurowitz Award for Excellence in Research, Indiana University	1997
Tomas Hirschfeld Award for Graduate Research, Federation of Analytical Chemistry and Spectroscopy Societies	1996
ICORS Travel Fellowship, International Conference on Raman Spectroscopy	1996

Professional Societies:

American Chemical Society-Division of Analytical Chemistry
Council on Undergraduate Research (CUR)
The International Society for Optical Engineering (SPIE)

Publications:

(*Denotes Undergraduate Students)

1. *Jensen, R. A.; *Sherin, J.; Emory, S. R. "Single nanoparticle based optical pH probe," *Appl. Spectrosc.* **2007**, *61*, 832-838.
2. *McMahon, J. M.; Emory, S. R. "Phase-transfer of gold nanoparticles to organic solvents with increased stability," *Langmuir* **2007**, *23*, 1414.

3. Emory, S. R.; *Jensen, R. A.; Wenda, T.; Han, M.; Nie, S. "Re-examining the origins of spectral blinking in single-molecule and single-nanoparticle SERS," *Faraday Discuss.* **2006**, *132*, 249.
4. Maxwell, D. J.; Emory, S. R.; Nie, S. "Nanostructured thin-film materials with surface-enhanced optical properties," *Chem. Mater.* **2001**, *13*, 1082.
5. Keller, R. A.; Ambrose, W. P.; Arias, A. A.; Cai, H.; Emory, S. R.; Goodwin, P. M.; Jett, J. H. "Analytical applications of single-molecule detection," *Anal. Chem.* **2002**, *74*, 316A.
6. Maxwell, D. J.; Emory, S. R.; Nie, S. "Nanostructured thin-film materials with surface-enhanced optical properties," *Chem. Mater.* **2001**, *13*, 1082.
7. Emory, S. R.; Ambrose, W. P.; Goodwin, P. M.; Keller, R. A. "Observing single molecule chemical reactions on metal nanoparticles," *Proceedings of SPIE* **2001**, *4258*, 63.
8. Emory, S. R.; Keller, R. A. "Towards efficient and identification of single biomolecules by surface-enhanced Raman scattering," *Proceedings of SPIE* **2000**, *3922*, 38.
9. *Krug, J. T.; *Wang, G. D.; Emory, S. R.; Nie, S. "Efficient Raman enhancement and intermittent light emission observed in single gold nanocrystals," *J. Am. Chem. Soc.* **1999**, *121*, 9208.
10. Emory, S. R.; Nie, S.; Kneipp, K.; Harrison, G. R. "Single-molecule Raman spectroscopy: fact or fiction?" *Chimia* **1999**, *53*, 35.
11. Emory, S. R.; Haskins, W. E.; Nie, S. "Direct observation of size-dependent optical enhancement in single metal nanoparticles," *J. Am. Chem. Soc.* **1998**, *120*, 8009.
12. Emory, S. R.; Nie, S. "Screening and enrichment of metal nanoparticles with novel optical properties," *J. Phys. Chem. B* **1998**, *102*, 493.
13. Emory, S. R.; Nie, S. "Near-field surface-enhanced Raman spectroscopy on single silver nanoparticles," *Anal. Chem.* **1997**, *69*, 2631.
14. Nie, S.; Emory, S. R. "Probing single molecules and single nanoparticles by surface-enhanced Raman scattering," *Science* **1997**, *275*, 1102.

Invited Presentations:

(*Denotes Undergraduate Students)

1. S. R. Emory "Analytical applications of nanomaterials," invited seminar presented at Washington State University, April **2007**.
2. **S. R. Emory**, "Surface-enhanced Raman scattered based optical probes," invited seminar presented at Colorado State University, March **2006**.
3. **S. R. Emory**, J. Sherin*, C. Thompson, M. Holt*, R. A. Jensen*, D. Finley*, L. Retallack*, A. Anderson*, C. J. A. Daley "Surface-enhanced Raman based optical nanoprobe for single-cell chemical imaging," presented at the American Chemical Society's National Meeting, Atlanta, GA March **2006**.
4. **S. R. Emory**, "Controlling the nanoarchitecture of metallic nanostructures," invited seminar presented at *Nanoarchitectonics Workshop* at the National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan March **2005**.

5. **S. R. Emory**, “Metal nanostructures of biological applications,” invited seminar presented at the *Federation of Analytical Chemistry and Spectroscopy Societies Meeting*, Portland, OR October **2004**.
6. **S. R. Emory**, “Single-molecule investigation of cytochrome c redox activity,” invited seminar presented at Portland State University, Department of Chemistry, Portland, OR February **2004**.
7. **S. R. Emory**, “Novel nanostructures for ultrasensitive spectroscopy,” invited lecture presented at Miami University’s *Nanotechnology Symposium*, Miami University, Oxford, OH November **2003**.
8. **S. R. Emory**, “Analytical applications of metal and semiconductor nanoparticles,” invited seminar presented at Pacific Lutheran University, Department of Chemistry, Tacoma, WA March **2003**.
9. **S. R. Emory** and Teresa Wenda, “Single-molecule enzymology using surface-enhanced Raman spectroscopy,” invited paper presented at the *Federation of Analytical Chemistry and Spectroscopy Societies Meeting*, Providence, RI October **2002**.
10. **S. R. Emory**, Christina Y. Hampton*, Haley Pugsley*, and Teresa Wenda “Single-molecule surface-enhanced Raman spectroscopy,” invited paper presented at the *Society of Photo-Optical and Instrumentation Engineers Meeting*, Seattle, WA, July **2002**.
11. **S. R. Emory** and R. A. Keller, “Single-molecule surface-enhanced Raman spectroscopy,” invited paper presented at the *Federation of Analytical Chemistry and Spectroscopy Societies Meeting*, Detroit, MI, October **2001**.

Professional Service:

1. National Science Foundation CCLI Review Panel Member. “CCLI Chemistry: Adaptation and Implementation”, Arlington, VA, August **2005**. Program Officer: Dr. Susan Hixson.
2. National Science Foundation CCLI Review Panel Member. “CCLI Chemistry: Adaptation and Implementation”, Arlington, VA, February **2005**. Program Officer: Dr. Susan Hixson.
3. National Science Foundation SBIR/STTR Review Panel Member. “Sensors III, Bio-based Sensors Panel”, Arlington, VA, March **2003**. Panel Director: Dr. George Vermont.
4. NASA Biomolecular Systems Research Program Review Panel Member. Responsible for reviewing proposals submitted to the NASA Intramural Program. Washington D. C., September **2003**. Panel Director: Dr. John Nelson, NASA Peer Review Services.
5. NASA Biomolecular Systems Research Program Review Panel Member. Responsible for reviewing proposals submitted to the NASA Intramural Program. Washington D. C., September **2002**. Panel Director: Dr. John Nelson, NASA Peer Review Services.