

Department of Chemistry
San Jose State University
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SAN JOSE STATE UNIVERSITY DEPARTMENT OF CHEMISTRY

August 2004 - present *Associate Professor*

August 1998 - August 2004 *Assistant Professor*

TEACHING DUTIES ANTICIPATED SPRING 2006

Course	Days	Time	Units
1BL Introductory Chemistry Lab	MW	08:30-11:20	4
155L Instrumental Analysis Lab	TR	09:00-11:50	4
155 Instrumental Analysis Lecture	TR	07:30-08:45	3
180 Research Supervision	NA	NA	1

EDUCATION AND TRAINING

University of Illinois at Urbana-Champaign	August 1995	June 1998
University of North Carolina at Chapel Hill	August 1990	June 1995
California State University Fresno	January 1987	August 1990
University of California at Santa Cruz	January 1982	August 1990
Colegio Salesiano San Juan Bosco	August 1981	August 1982

GRANTS

2005 Defense Advanced Research Projects Nanotech (co-PI)	\$5000
2005 Petroleum Research Fund Summer Faculty Fellowship	\$8,000
2004 CSUPERB Faculty Seed Grant	\$10,000
1999 Cottrell College Science Award from Research Corporation	\$43,000
1999 CSU Research Award	\$7,500
1998 Camille and Henry Dreyfus Faculty Start-up Grant	\$25,000
1994 Charles E. Dobbins Sr. Scholar, UNC Chapel Hill	\$500

RESEARCH INTERESTS

Surface enhanced spectroscopy for the detection of biomolecular interactions
 Nanoparticle-based optical and electrical (bio)sensing and electrochemistry

GRADUATE STUDENTS - MASTER OF SCIENCE

Chris Lee	Fall	2006	anticipated grad
Anh Duong	Fall	2006	anticipated grad
Phil Young	Spring	2006	moved to private sector
Nga Doan	Fall	2004	De Anza College
Wynn Ray	Summer	2004	lecturer SJSU
Mondona Zangeneh	Summer	2003	Ph.D. candidate U.A.Tucson
Mischa Plesha	Fall	2002	Applied Materials

UNDERGRADUATE RESEARCH SUPERVISION

Name	Period in Group	Current Status/ Comment
Vinh Ha	2006 – present	SJSU Chem Major
Arthur Cheng	2006 – present	SJSU Chem Major
Serkan Kabak	2003 – present	SJSU Chem major
Boris Getman	2003 – present	SJSU Chem major / Nanoplex
Bruce Phebus*	2002 – 2005	BS Chem; employed Sensarray
Shane Kiley*	2002 – 2003	BS Chem;
James Grambow	2002 - 2003	SJSU Photographic Sciences grad
Kristen Dale	2002	BS Chem; employed SciOs
David Rauser*	2000-2001	BS Chem; employed Alza
Edward Sambriski*	2000	BS Chem; PhD U. Oregon
Anh Duong ⁺	1999	BS Chem; Honeywell
Thomas Allan ⁺⁺	1999	BS Physics, U. Oregon
Phuong le Duong ⁺	1999	BA Chem; optometry school
Mondona Zangeneh ⁺	1999 - 2003	BS Chem; MS SJSU

Summer support

- ++ Camille and Henry Dreyfus Foundation
- + CSU Research Award
- * Research Corporation

SCHOLARLY PRESENTATIONS

"Toward 'Active' -CO₂H Terminated Submonolayer Films: Electrochemistry-Surface Plasmon Experiments" **Invited Oral Presentation** Federation of Analytical Chemistry and Spectroscopy Societies, Quebec City, October 2005

"Spectroscopy with Surface Plasmons" **Invited Oral Presentation**, Chico State University Chemistry Department Seminar, November 2002

"Spectroscopy with Surface Plasmons", **Invited Oral Presentation** Federation of Analytical Chemistry and Spectroscopy Societies, Providence RI, October 2002

"Spectroscopy with Surface Plasmons", Poster Presentation, ACS National Meeting, Orlando FL, March 2002

"Surface Plasmon Resonance Spectroscopy" Poster Presentation, Western Spectroscopy Association, Asilomar, CA, February 2002

"Infrared Frequency Surface Plasmons" Oral Presentation, Society of Western Analytical Professors, Irvine, CA, January 2002

"Synthesis and Characterization of Fluorozirconate Glasses Made Conductive by Eu(II)/Eu(III) Self Exchange", **Invited Oral Presentation**, Santa Clara University Department of Chemistry and Student Affiliates of the American Chemical Society. September, 28, 2001.

"Electron Transport in Lanthanide-Doped Fluorozirconate Glasses", **Invited Oral Presentation**, *2001 Gordon Conference on Analytical Chemistry*, June 24-28 2001, New London, Connecticut.

"Surface Plasmon Resonance Spectroscopy and Metal Film Resistance Changes During Pb Underpotential Deposition at Ag and Au" Poster Presentation, 221st National ACS Meeting in San Diego, April 5, 2001.

"Angle and Wavelength Dispersed SPR spectroscopy of Roughened Silver Films" **Invited Oral Presentation**, *Rocky Mountain Conference on Analytical Chemistry*, July 30, 2000 in Broomfield Colorado.

"A First Cut at Modeling the Surface Plasmon Resonance Spectra of Silver Films" Oral Presentation, *Society of Western Analytical Professors* January 2000 meeting in Seattle, WA.

"Dynamic Monolayers: Spatiotemporal Control of Alkanthiol Coatings on Gold Film Electrodes" Oral Presentation, *Society of Western Analytical Professors* January 1999 meeting in Monterey, CA.

"Structure Evolution, Novel Detection and Spatial Control of Alkanethiol Monolayers on Gold" Oral Presentation, IBM Almaden Research Center, September 4 1998.

PUBLICATIONS

1. "Preparation and analysis of Eu³⁺- and Eu²⁺-doped ZBLAN and ZBLALi fluorozirconate glasses" Bruce Phebus, Boris Getman, Shane Kiley, David Rauser, Mischa Plesha and Roger H. Terrill. *Solid State Ionics*, **2005**, 35-36, 2631-2638.
2. "High Sensitivity NO₂ Detection with Carbon Nanotube-Gold Nanoparticle Composite Films" Philip Young, Yijiang Lu, Roger Terrill and Jing Li. *Journal of Nanoscience and Nanotechnology*, **2005**, 5, 1509-1513.
3. "Surface Plasmon Spectra of Silver and Gold Nanoparticle Assemblies" Mondona Zangeneh and Roger Terrill. Dekker Encyclopedia of Nanoscience and Nanotechnology, Marcel Dekker Inc. **2004** ISBN: 0-8247-4797-6.
4. "Surface Plasmon Spectral Fingerprinting of Adsorbed Magnesium Phthalocyanine by Angle and Wavelength Modulation" Mondona Zangeneh, Nga Doan, Edward Sambriski and Roger H. Terrill*. *Applied Spectroscopy*, **2004**, 1, 10-17.
5. "Dynamic Monolayer Gradients: Active Spatiotemporal Control of Alkanethiol Coatings on Thin Gold Films" Roger H. Terrill, Karin A. Balss, and Paul W. Bohn. *Journal of the American Chemical Society*, **2000**; 122(5); 988-989.
6. "Ultraviolet Photochemistry and Ex-Situ Ozonolysis of Alkanethiol Self-Assembled Monolayers on Gold" Yumo Zhang, Roger H. Terrill, and Paul W. Bohn. *Chemistry of Materials*; **1999**; 11(8); 2191-2198.
7. "Structural Evolution of Hexadecanethiol Monolayers on Gold during Assembly: Substrate and Concentration Dependence of Monolayer Structure and Crystallinity." Roger H. Terrill, Troy A. Tanzer and Paul W. Bohn. *Langmuir*, **1998**, 14, 845-854.
8. "Ozonolysis is the Primary Cause of UV-Photooxidation of Alkanethiol Monolayers." Yumo Zhang, Roger H. Terrill, Troy A. Tanzer and Paul W. Bohn. *J. Am. Chem. Soc.* **1998**, 120, 2654-2655.
9. "In-Plane Resistivity of Ultrathin Gold Films: A High Sensitivity, Molecularly Differentiated Probe of Mercaptan Chemisorption at the Liquid-Metal Interface" Yumo Zhang, Roger H. Terrill and Paul W. Bohn. *J. Am. Chem. Soc.*; **1998**; 120(38); 9969-9970.
10. "Coupled Second-Harmonic Generation, Surface Plasmon Resonance and AC Impedance Studies of Full and Partial Monolayers in (Au, Ag)-Alkanethiolate-Electrolyte Systems." Yang Zhang, Yumo Zhang, Roger H. Terrill and Paul W. Bohn. *Thin Solid Films*, **1998**, 335, 178-185.
11. "Chemisorption and Chemical Reaction Effects on the Resistivity of Ultrathin Gold Films at the Liquid-Solid Interface" Zhang, Y., Terrill, R. H., Bohn, P. W., *Anal. Chem.*; **1998**, 71, 119-125.
12. "Electron Hopping Transport in Electrochemically Active Molecular Mixed Valent Materials" Roger H. Terrill and Royce W. Murray in **Molecular Electronics: A Chemistry for the 21st Century Monograph** Jortner, J.; Ratner, M. Eds. Blackwell Science, **1997**.

13. "Solid State Electron Hopping Transport and Frozen Concentration Gradients in a Novel Viologen-Tetraethylene Glycol Copolymer" Roger H. Terrill, James E. Hutchison and Royce W. Murray *J. Phys. Chem.*, **1997**, *101*, 1535-1542.
14. "An Electron Time-of-Flight Method Applied to Charge Transport Dynamics in a Cobalt Bipyridine Redox-Polyether Hybrid" Jeffrey W. Long, Roger H. Terrill, Maryann E. Williamson and Royce W. Murray. *Anyl. Chem.*, **1997**, *69*, 5082-5086.
15. "Solid State Diode-Like Chemiluminescence Based on Serial Frozen Concentration Gradients in Mixed Valent Poly-[Ru(vbpy)₃PF₆]₂ films." Karolyn M. Maness, Roger H. Terrill, Thomas J. Meyer, Royce W. Murray and R. Mark Wightman. *J. Am. Chem. Soc.*, **1996**, *118*, 10609-10616.
16. "Microelectrode Voltammetry and Electron Transport in an Undiluted Room Temperature Melt of an Oligo(EthyleneGlycol)-Tailed Viologen." Tsuyonobu Hatazawa, Roger H. Terrill and Royce W. Murray. *Anyl. Chem.*, **1996**, *68*, 597-603.
17. "Electron Transport in Frozen Concentration Gradients in a Mixed-Valent Viologen Molten Salt." Roger H. Terrill, Tsuyonobu Hatazawa and Royce W. Murray. *J. Phys. Chem.* **1995**, *117*, 2896-2899.
18. "Distance Dependence of the Low-Temperature Electron-Transfer Kinetics of (Ferrocenylcarboxy)-Terminated Alkanethiol Monolayers." Michael T. Carter, Gary K. Rowe, John N. Richardson, Leonard M. Tender, Roger H. Terrill and Royce W. Murray. *J. Am. Chem. Soc.*, **1995**, *117*, 2896-2899.
19. "Voltammetry of Self-Assembled Ferroceneoctanethiol Monolayers on Metal-Coated High-Temperature Superconductor Electrodes at Sub-T_c Temperatures." Steven R. Peck, Larry S. Curtin, Leonard M. Tender, Michael T. Carter, Roger H. Terrill, Royce W. Murray, James P. Collman, William A. Little, H.M. Duan, C. Dong and A.M. Hermann. *J. Am. Chem. Soc.*, **1995**, *117*, 121-1126.
20. "Electron Transfer Kinetics of Self-Assembled Ferrocene-Octanethiol Monolayers on Gold and Silver Electrodes From 115 to 170K." John N. Richardson, Steven R. Peck, Larry S. Curtin, Leonard M. Tender, Roger H. Terrill, Michael T. Carter, Royce W. murray, Gary K. Rowe and Steven E. Creager. *J. Phys. Chem.*, **1995**, *99*, 766-772.
21. "Monolayers in Three Dimensions: NMR, SAXS, Thermal and Electron Hopping Studies of Alkanethiol-Stabilized Gold Clusters." Roger H. Terrill, Timothy A. Postlethwaite, Chun-Hsien Chen, Chi-Duen Poon, Andreas Terzis, Aidi Chen, James E. Hutchison, Michael R. Clark, George D. Wignall, Juan .D. Londono, Richard Superfine, Michael Falvo, Charles S. Johnson, Edward T. Samulski and Royce W. Murray. *J. Am. Chem. Soc.*, **1995**, *117*, 12537-12548.
22. "Electric Field Driven Electron Self-Exchanges in Dry Nafion Containing Mixed-Valent Osmium Bipyridine." Roger H. Terrill, Paul E. Sheehan, Virginia C. Long, Sean Washburn, and Royce W. Murray. *J. Phys. Chem.* **1994**, *98*, 5127-5134.
23. "Limit of Slow Diffusion to Electrodes: Molecule-Scale Diffusion Paths in a Redox Melt." Michelle Wilson Poupert, Christopher S. Velasquez, Karen Hasset, Zeev Porat, Otto Haas, Roger H. Terrill, and Royce W. Murray. *J. Am. Chem. Soc.* **1994**, *116*, 1165-1166.

REFERENCES**Paul W. Bohn****Professor and Head of Chemistry**

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