

GERALDINE L. RICHMOND

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Date of Birth: Jan. 17, 1953

PROFESSIONAL APPOINTMENTS

- 2001- Richard M. and Patricia H. Noyes Professor of Chemistry, University of Oregon
Research Interests: Laser spectroscopy of surfaces, molecular structure at liquid and solid surfaces, photo-induced processes at semiconductor surfaces, nonlinear optical spectroscopy, dynamics at surfaces, physical chemistry and environmental chemistry.
Teaching Interests: Development of courses in science literacy for nonscientists, introductory chemistry courses for undergraduates.
- 1998-2001 Knight Professor of Liberal Arts and Sciences, University of Oregon
- 1991- Professor of Chemistry, University of Oregon
- 1991-1995 Director, Chemical Physics Institute, University of Oregon
- 1985-1991 Associate Professor of Chemistry, University of Oregon
- 1980-1985 Assistant Professor of Chemistry, Bryn Mawr College

EDUCATION

- 1976–1980 Ph.D. Chemistry, University of California, Berkeley, Advisor: George C. Pimentel
- 1971–1975 B.S. Chemistry, Kansas State University

HONORS AND AWARDS

- 2008 Bomem-Michelson Award
- 2008 Association for Women in Science (AWIS), Fellow
- 2007 Guggenheim Fellow
- 2006 American Academy of Arts and Sciences, Fellow
- 2006 Council on Chemical Research Diversity Award
- 2005 American Chemical Society Award for Encouraging Women in the Chemical Sciences
- 2004 Royal Society of Chemistry (UK), Spiers Medal, Faraday Division
- 2004 American Association for the Advancement of Science (AAAS), Fellow
- 2002 American Chemical Society, Spectrochemical Analysis Award
- 2001 Oregon Academy of Science, Oregon Outstanding Scientist Award
- 2001 ADVANCE Leadership Award, National Science Foundation
- 2000 Research Creativity Extension, National Science Foundation
- 1998 Soroptomist International, Women Helping Women Award
- 1997 Presidential Award for Excellence in Science and Engineering Mentoring, White House
- 1997 College of Arts and Sciences Alumni Award, Kansas State University
- 1996 Francis P. Garvan Medal of the American Chemical Society

- 1993 Agnes Faye Morgan Research Award (Iota Sigma Pi Honorary Society)
1993 American Physical Society Fellow
1991 Faculty Award for Women Scientists and Engineers, National Science Foundation
1991 Research Creativity Extension, National Science Foundation
1989 Coblentz Society Spectroscopy Award
1986 Chemistry Department Alumni Award, Kansas State University
1986 Camille and Henry Dreyfus Teacher-Scholar Award
1985 Presidential Young Investigator Award, National Science Foundation
1985 Alfred P. Sloan Research Fellow
1982 Rosalyn Schwartz Award, Bryn Mawr College
1983 Junior Faculty Research Award, Bryn Mawr College

DISTINGUISHED LECTURESHIPS AND ADDRESSES

- Sr. Mary Thompson Scholar, College of St. Catherine, St. Paul, MN, 2008
George C. Pimentel Lecture, Univ. of California, Berkeley, 2008
“Science Without Limits” Lecture, Lewis and Clark College, 2008
Leland Wilson Chemistry Lectureship, University of Northern Iowa, 2007
Fred M. Garland Lectureship, Texas A&M University, Knoxville, 2007
Distinguished Women in Science Speaker, Stanford University, 2007
Donna Russell Fox Lectureship, Cornell College, 2006
Keynote Address, 20th Anniversary of the National Conference on Undergraduate Research, 2006
Howard S. Brode Memorial Lectureship, Whitman College, 2006
Charles H. Fisher Lecturer, Roanoke College, 2005
Keynote Address, Karen E. Wetterhahn Symposium, Dartmouth University, 2005
Swiss Research Lectureship, Conférence Universitaire de Suisse Occidentale, Switzerland, 2005
Keynote Address, Science Careers in Search of Women Conference, Argonne Natl. Lab., 2005
McElvain Lectureship, University of Wisconsin, 2004
Spiers Memorial Lecturer, Faraday Council of the Royal Society of Chemistry, Cambridge, UK 2004
H.H. King Lectureship, Kansas State University, 2004
Cottrell Scholars Lecturer, Research Corporation, 2004
Kolthoff Distinguished Lectureship, University of Minnesota, 2003
S. Dexter Squibb Distinguished Lectureship, North Carolina State, Asheville, 2002
Nakamoto Lectureship, Marquette University, 2002
Bergmann Lectureship, Yale University, 2002
Gerhard L. Closs Lectureship, University of Chicago, 2002
Dexter Squibb Distinguished Lectureship, North Carolina State, Asheville, 2002
Directors Lectureship, Pacific Northwest National Laboratory, 2002

Distinguished Lectureship, American Physical Society Laser Science Topical Group, 1996–2000
Pittsburgh Conference Lectureship, Duquesne University, 2000
Frontiers in Chemical Research Lectureship, Texas A&M University, 2000
Clifford B. Purves Lectureship, McGill University, 1999
Lucy W. Pickett Lectureship, Mount Holyoke College, 1997
Phillips Distinguished Lectureship, Haverford College, 1995
Shell Lecturer, National Science Teachers Association, 1991

APPOINTMENTS ON GOVERNING AND ADVISORY BOARDS (SELECTED LIST)

CURRENT APPOINTMENTS

2007-2008 *Chair*, Committee of Visitors (COV), Chemical Sciences, Geosciences, and Biosciences Division, Department of Energy, Basic Energy Sciences
2008-2010 *Chair-Elect and Chair*, Chemistry Section, AAAS
2007-2008 *Chair*, Membership, Section of Chemistry, American Academy of Arts and Sciences
2006-2008 *Chair*, Science Advisory Committee, Stanford Synchrotron Radiation Laboratory
2005-2010 *Associate Editor*, Annual Review of Physical Chemistry
2006-2008 Hydrogen Fuel Cell Technical Advisory Committee Member, Office of the Secretary, Department of Energy
2007-2008 Steering Committee Member, NSF Sponsored Workshop on Recruitment and Retention of Minorities in the Chemical Sciences
2008-2012 Hungarian Academy of Science, Advisory Board Member, Chemical Research Center
2006-2009 Biointerphases, Editorial Advisory Board Member
2006-2008 Journal of Chemical Physics, Editorial Advisory Board Member
2006-2008 Accounts of Chemical Research, Editorial Advisory Board Member
1998-2008 *Chair and Founder*, Committee on the Advancement of Women Chemists (COACh)

PREVIOUS APPOINTMENTS (SELECTED LIST)

2006-2007 *Chair*, Committee of Visitors (COV), Chemistry Division, National Science Foundation
1999-2006 State of Oregon, Board of Higher Education Member
Gov. Kulongoski Appointee (2004-2006); Gov. Kitzhaber Appointee (1999-2003)
Vice President and Interim President (2004)
Chair, Chancellor's Office Reorganization Committee (2004-2006)
2005-2006 COSEPUP Committee on Women in Academic Science and Engineering, NAS
2005-2006 Steering Committee, NSF, NIH & DOE Sponsored Workshop for Department Chairs on Gender Equity in the Chemical Sciences
2005 Research Corporation Presidential Advisory Panel
2003-2007 Chemical Sciences Roundtable Member, NAS/NRC
2002-2005 Chemical and Engineering News Advisory Board Member
2001-2003 Langmuir, Editorial Board Member
1995-2003 Basic Energy Sciences Advisory Committee, Department of Energy
Chair (1998-2003); Member (1995-1998)

- 1996-2001 Member, Council on Chemical Sciences, Department of Energy
- 1995-2000 Executive Committee, Physical Chemistry Division, ACS;
Chair (1999) ; Program Chair (1998)
- 1992-2004 *Chair*, Women Faculty Resource Network, University of Oregon
- 1993-1996 Applied Spectroscopy Editorial Board Member
- 1993-1994 *Chair*, National Academy of Sciences Frontiers in Science Symposium
- 1993-1999 U.S. National Advisory Committee Member, IUPAC
- 1992-1995 Analytical Chemistry, Editorial Advisory Board Member
- 1991-1994 Accounts of Chemical Research, Editorial Advisory Board Member
- 1991-1994 Board on Solid State Sciences Member, NAS/NRC
- 1991-1995 Critical Reviews of Surface Science Editorial Board Member
- 1990-1994 Vibrational Spectroscopy, Editorial Advisory Board Member
- 1990-1995 Laser Science Topical Group Advisory Committee Member, American Physical Society
- 1989-1994 Journal of Physical Chemistry, Editorial Board Member
- 1989-1992 Materials Science Advisory Board Member, National Science Foundation
- 1989-1992 Board on Chemical Science and Technology Member, NAS/NRC
- 1988-1991 Executive Committee Member, Coblenz Society (Spectroscopy)
- 1986-1989 Governor's Science Advisory Board Member, State of Oregon, Gov. Goldschmidt appointee
- 1986-1989 Chemistry Advisory Board Member, National Science Foundation
- 1986-1989 Executive Board Member, Western Spectroscopy Association

LEGISLATIVE TESTIMONY

Oregon State House of Representatives, Subcommittee on Education, “Faculty Appointments and Hiring”, Salem, OR, April 2007.

Oregon State House of Representatives, Subcommittee on Education, “Excellence in Research in the Oregon University System”, Salem, OR, March 2005.

United States Senate, Committee on Science, Technology and Space on the issue of “Title IX and Women in Science”, Washington, DC, October 2002.

United States House of Representatives, Subcommittee on Energy of the Committee on Science on “The Department of Energy Office of Science – Issues and Opportunities”, Washington, DC, May 2001.

Oregon State House of Representatives, Subcommittee on Higher Education, “Science and Engineering Opportunities in Higher Education in Oregon”, Salem, OR, November 2001.

RADIO INTERVIEWS ON SCIENCE , MENTORING AND EDUCATION

“Jefferson Exchange” Program on Jefferson Public Radio, November 12, 2007.

“Science and Society” Program on World Talk Radio, October 5, 2005.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Association for the Advancement of Science

American Academy of Arts and Sciences

American Chemical Society

American Physical Society
Society for Applied Spectroscopy
Association for Women in Science

PUBLICATIONS

- (164) "Integration or Segregation: How do Molecules Behave at Oil/Water Interfaces?", F.G. Moore and G.L. Richmond, submitted.
- (163) "Sequential Wavelength Tuning: Dynamics at Interfaces Investigated by Vibrational Sum Frequency Spectroscopy", S. Schrödle and G. L. Richmond, *Appl. Spectroscopy*, submitted.
- (162) "Equilibrium and Non-Equilibrium Kinetics of Self-Assembled Surfactant Monolayers: A Vibrational Sum-Frequency Study of Dodecanoate at the Fluorite-Water Interface", S. Schrödle and G. L. Richmond, *J. Amer. Chem. Soc.*, submitted.
- (161) "Promoting Gender Equity in Academic Departments: A Study of Department Heads in Top-Ranked Chemistry Departments", J. Greene, P. Lewis, G.L. Richmond and J. Stockard, *J of Women and Minorities in Sci. and Engin.*, submitted.
- (160) "Water at Hydrophobic Liquid Surfaces: When Weaker is Better", D. K. Hore and G.L. Richmond, *J. Amer. Chem. Soc.*, in press.
- (159) "Interfacial Depth Profiling of the Orientation and Bonding of Water Molecules Across Different Organic-Water Interfaces", D. S. Walker and G.L. Richmond, *J. Phys. Chem. C*, 112 (201-209) 2008.
- (158) "In-situ Nonlinear Spectroscopic Approaches to Understanding Adsorption at Mineral-Water Interfaces", S. Schrödle and G. L. Richmond, *J. of Phys. D: Appl. Phys.*, 41 (1-14) 2008.
- (157) "Sum Frequency Generation Surface Spectra of Ice, Water and Acid Solutions Investigated by an Exciton Model", V. Buch, T. T. Tarbuck, G.L. Richmond, H. Groenzen and M.J. Schulz, *J. Chem. Phys.* 127 (204710-204730) 2007.
- (156) "Effects of Atmospherically Important Solvated Ions on Organic Acid Adsorption at the Surface of Aqueous Solutions" by M. Kido Soule, P. Blower, and G. L. Richmond, *J. Phys. Chem. A*, 49, (13703-13713) 2007.
- (155) "Good Coaching: As Important for Science as it is for Sports", G.L. Richmond, Invited Editorial, *Bunsen-Magazin*, 6, (211-213) 2007.
- (154) "Monomer Exchange Dynamics of Self-Assembled Surfactant Monolayers at the Solid-Liquid Interface", S. Schrödle and G.L. Richmond, *Chem. Phys. Chem.*, 8 (2315-2317) 2007.
- (153) "Understanding How Organic Solvent Polarity Affects Water Structure and Bonding at Halocarbon-Water Interfaces", C.L. McFearin and G.L. Richmond, *J. Mol. Liquids*, 136 (221-226) 2007.
- (152) "At the Water's Edge: Nitric Acid as Weak Acid", E. S. Shamay, V. Buch, M. Parinello and G.L. Richmond, *J. Amer. Chem. Soc.*, 129, (12920-12911) 2007.

- (151) "Depth Profiling of Water Molecules at the Liquid-Liquid Interface using a Combined Surface Vibrational Spectroscopy and Molecular Dynamics Approach", D. S. Walker and G.L. Richmond, *J. Amer. Chem. Soc.*, 129 (9446-9451) 2007.
- (150) "Surface Speciation at Solid/Liquid Interfaces: A Vibrational Sum-Frequency Study of Acetate at the Fluorite/Water Interface", S. Schrödle, F.G. Moore and G.L. Richmond, *J. Phys. Chem. C*, 111 (10088-10094) 2007.
- (149) "In-situ Investigation of Carboxylate Adsorption at the Fluorite/Water Interface by Sum Frequency Spectroscopy", S. Schrödle, F.G. Moore and G.L. Richmond, *J. Phys. Chem. C*, 111, (8050-8059) 2007.
- (148) "Understanding the Effects of Hydrogen Bonding at the Vapor/Water Interface: Vibrational Sum Frequency Spectroscopy of H₂O/HOD/D₂O Mixtures Studied Using Molecular Dynamics Simulations, D.S. Walker and G.L. Richmond, *J. Phys. Chem. C*, 111 (8321-8330) 2007.
- (147) "Nonlinear Vibrational Spectroscopic Studies of the Adsorption and Speciation of Nitric Acid at the Vapor-Acid Solution Interface", J.C. Kido Soule, P.G. Blower and G.L. Richmond, *J. Phys. Chem. A*, 111 (3349-3357) 2007.
- (146) "Vibrational Sum-Frequency Spectroscopy and Molecular Dynamics Simulations of the Carbon Tetrachloride-Water and 1,2-Dichloroethane-Water Interfaces", D.S. Walker, F.G. Moore and G.L. Richmond, *J. Phys. Chem. C*, 111 (6103-6112) 2007.
- (145) "Molecular Structure of the Chloroform-Water and Dichloromethane-Water Interfaces", D. K. Hore, D. S. Walker, L. MacKinnon and G. L. Richmond, *J. Phys. Chem. C*, 111 (8832-8842) 2007.
- (144) "Layered Organic Structure at the Carbon Tetrachloride–Water Interface" D. K. Hore, D. Walker and G.L. Richmond, *J. Amer. Chem. Soc.*, 129 (752-753) 2007.
- (143) "Spectroscopic Studies of Solvated Hydrogen and Hydroxide Ions at Aqueous Surfaces", T. L. Tarbuck, S. T. Ota and G.L. Richmond, *J. Amer. Chem. Soc.*, 128 (14519-14527) 2006.
- (142) "Understanding the Population, Coordination, and Orientation of Water Species Contributing to the Nonlinear Optical Spectroscopy of the Vapor-Water Interface through Molecular Dynamics Simulations", D.S. Walker, D.K. Hore and G.L. Richmond, *J. Phys. Chem. B* 110 (20451 – 20459) 2006.
- (141) "Differing Orientational Behavior of Environmentally Important Cyanophenol Isomers at the Air-Water Interface", M. C. Kido Soule, D.K. Hore, D. M. Jaramillo-Fellin and G.L. Richmond, *J. Phys. Chem. B*, 110 (16575-16583) 2006.
- (140) "Adsorption and Reaction of CO₂ and SO₂ at a Water Surface", T. L. Tarbuck and G.L. Richmond, *J. Am. Chem. Soc.* 128 (3256-3267) 2006.
- (139) "And Gladly Teach, A Resource Book for Chemists Considering Academic Careers", 2nd Edition, A. T. Schwartz, R.A. Archer, A.K.El-Ashmawy, D.K. Lavallee, S. McGuire, G. Richmond, R. Eikey, American Chemical Society, 2006.
- (138) "Investigations of the Solid-Aqueous Interfaces with Vibrational Sum Frequency Spectroscopy," A. J. Hopkins, C. L. McFearin and G.L. Richmond, *Curr. Opin. in Solid State and Mater. Sci.*, 9 (19-27) 2005.

- (137) "SO₂:H₂O Surface Complex Found at the Vapor/Water Interface" T. L. Tarbuck and G.L. Richmond, *J. Amer. Chem. Soc.*, 127 (16806-16807) 2005.
- (136) "Adsorption of Organosulfur Species at Aqueous Surfaces: Molecular Bonding and Orientation," T. L. Tarbuck and G. L. Richmond, *J. Phys. Chem. B*, 109 (20868-20877) 2005.
- (135) "Redressing the Balance: Training Series for Women Scientists Expands", G. L. Richmond, *Nature*, 437 (592) 2005.
- (134) "Whole-Molecule Approach for Determining Orientation at Isotropic Surfaces by Nonlinear Vibrational Spectroscopy", D. K. Hore, D. K. Beaman, D. H. Parks, and G. L. Richmond, *J. Phys. Chem. B*, 109 (16846-16851) 2005.
- (133) "Surfactant Head Group Orientation at the Air/Water Interface", D. Hore, D. Beaman, G. L. Richmond. *J. Am. Chem. Soc.*, 127 (9356-9357) 2005.
- (132) "Career, Family and Institutional Variables in the Work Lives of Academic Women in the Chemical Sciences", R.E. Fassinger, K. Scantlebury, G. L. Richmond, *J of Women and Minorities in Science and Engineering*, 10 (297-316) 2005.
- (131) "Surfactant Adsorption at the Salt/Water Interface: Comparing the Conformation and Interfacial Water Structure for Selected Surfactants", K. A. Becraft and G.L. Richmond, *J. Phys. Chem. B*, 109 (5108 – 5117) 2005.
- (130) "COACHing Women to Succeed in Academic Careers in the Chemical Sciences", G. L. Richmond, *J. Chem. Ed.*, 82 (351-353) 2005.
- (129) "Vibrational Sum Frequency Spectroscopic Investigations of Molecular Interactions at Liquid/Liquid Interfaces", M. R. Watry and G.L. Richmond, in Interfacial Nanochemistry, ed. H. Watarai, Kluwer Academic/Plenum Publishers, pgs 25-56, 2005.
- (128) "Recent Experimental Advances in Studies of Liquid/Liquid Interfaces", M.A. Leich and G.L. Richmond, *Faraday Discuss.* 129 (1-21), 2005.
- (127) "Mid-Infrared Second Order Surface Susceptibility of α -Quartz and its Application to Surface Sum Frequency Spectroscopy", D.K. Hore, J. King, F. G. Moore, M.Y. Hamamoto and G.L. Richmond, *J. Chem. Phys.* 121 (12589-12594), 2004.
- (126) "Ti:Sapphire-based Picosecond Visible-Infrared Sum-Frequency Spectroscopy from 900-3100 cm⁻¹", D.K. Hore, M.Y. Hamamoto and G.L. Richmond, *Applied Spectros.* 58 (1377-1384), 2004.
- (125) "Isolated Molecular Ion Solvation at an Oil/Water Interface Investigated by Vibrational Sum Frequency Spectroscopy", L.F. Scatena and G.L. Richmond, *J. Phys. Chem. B*, 108 (12518-12528) 2004.
- (124) "In-Situ Spectroscopic Investigations of Surfactant Adsorption at the CaF₂/Aqueous Solution Interface", K. A. Becraft, F. G. Moore, and G.L. Richmond, *Chemical Physics-Phys. Chem.*, 6 (1880-1889) 2004.
- (123) "Probing the Molecular Structure and Bonding of the Surface of Aqueous Salt Solutions", E.A. Raymond and G.L. Richmond, *J. Phys. Chem. B*, 108 (5051-5059) 2004.
- (122) "Evidence for a Diffuse Interfacial Region at the Dichloroethane/Water Interface", D. S. Walker, M.G. Brown, C. L. McFearin and G. L. Richmond, *J. Phys. Chem. B*, 108 (2111-

- 2114) 2004.
- (121) "Aqueous Solvation of Charge at Hydrophobic Surfaces", L. F. Scatena and G.L. Richmond, *Chem. Phys. Lett.*, 383 (491-495) 2004.
- (120) "Charge Reversal Behavior at the CaF₂/H₂O/SDS Interface as Studied by Vibrational Sum Frequency Spectroscopy", K.A. Becraft, F.G. Moore and G.L. Richmond, *J. Phys. Chem. B*, 107 (3675-3678) 2003.
- (119) "Hydrogen Bonding Interactions at the Vapor/Water Interface as Investigated by Vibrational Sum Frequency Spectroscopy of HOD/H₂O/D₂O Mixtures and Molecular Dynamics Simulations", E.A. Raymond, T.L. Tarbuck, M.G. Brown and G.L. Richmond, *J. Phys. Chem. B*, 107, (546-556) 2003.
- (118) "Vibrational Sum-Frequency Spectroscopy of Alkane/Water Interfaces: Experiment and Theoretical Simulation", M.G. Brown, D.S. Walker and G.L. Richmond, *J. Phys. Chem. B*, 107, (237-244) 2003.
- (117) "Vibrational Sum Frequency Studies of a Series of Phospholipid Monolayers and the Associated Water Structure at the Vapor/Water Interface," M.R. Watry, T. Tarbuck and G.L. Richmond, *J. Phys. Chem. B*, 107(2) (512-518) 2003.
- (116) "Challenges in Interpreting Vibrational Sum Frequency Spectra: Deconvoluting Spectral Features as Demonstrated in the CaF₂/H₂O/SDS System", F.G. Moore, K.A. Becraft and G.L. Richmond, *Applied Spectroscopy*, 56 (1600-1610) 2002.
- (115) "Orientation and Conformation of Amino Acids in Monolayers at an Oil/Water Interface as Determined by Vibrational Sum Frequency Spectroscopy", M.R. Watry and G.L. Richmond, *J. Phys. Chem. B*, 106 (12517-12523) 2002.
- (114) "The Effects of Halothane on Phosphatidylcholine, -ethanolamine, - glycerol and -serine Monolayer Order at a Liquid/Liquid Interface," M. Watry and G.L. Richmond, *Langmuir*, 18 (8881-8887) 2002.
- (113) "Isotopic Dilution Studies of the Vapor/Water Interface as Investigated by Vibrational Sum-Frequency Spectroscopy", E.A. Raymond, T. Tarbuck and G.L. Richmond, *J. Phys. Chem. B*, 106 (2817-2820) 2002.
- (112) "Molecular Bonding and Interactions at Aqueous Surfaces as Probed by Vibrational Sum Frequency Spectroscopy ", G.L. Richmond, *Chemical Reviews*, 102 (2693-2724) 2002.
- (111) "In Situ Vibrational Spectroscopic Studies of the CaF₂/H₂O Interface", K. Becraft and G.L. Richmond, *Langmuir*, 17 (7721-7724) 2001.
- (110) "Orientation, Hydrogen Bonding, and Penetration of Water at the Organic/Water Interface", L.F. Scatena and G. L. Richmond, *J. Phys. Chem. B*, 105 (11240-11250) 2001.
- (109) "Probing Molecular Structure at Liquid Surfaces with Vibrational Sum Frequency Spectroscopy", M. Watry, M. G. Brown and G. L. Richmond, Focus Article for *Applied Spectroscopy*, 55 (321A-340A) 2001.
- (108) "Water at Hydrophobic Surfaces: Weak Hydrogen Bonding and Strong Orientation Effects", L.F. Scatena and G.L. Richmond, *Science*, 292 (908-911) 2001.
- (107) "Surface Structural Studies of Methane Sulfonic Acid at Air/Aqueous Solution Interfaces Using Vibrational Sum Frequency Spectroscopy", H.C. Allen, E. A. Raymond, and G.L.

- Richmond, *J. Phys. Chem. A*, 105 (1649-1655) 2001.
- (106) "Structure and Bonding of Molecules at Aqueous Surfaces", G.L. Richmond, *Ann. Rev. of Phys. Chem.*, 52, (357-389), 2001.
- (105) "Nonlinear Vibrational Sum Frequency Spectroscopy of Atmospherically Relevant Molecules at Water Surfaces", E. A. Raymond, H.C. Allen and G.L. Richmond, *Current Opinions in Colloids and Surfaces*", Vol. 5 (74-80) 2000.
- (104) "The Analysis of Interference Effects in the Sum Frequency Spectra of Water Surfaces", M.G. Brown, E. A. Raymond, H.C. Allen, L.F. Scatena and G.L. Richmond, *J. Phys. Chem. A*, 104 (10220-10226) 2000.
- (103) "Corrosion, Passivation and the Effect of Water Addition on an n-GaAs(100)/Methanol Photoelectrochemical Cell" T.A. Abshire and G.L. Richmond, *J. Phys. Chem. B*, 104 (1602-1609) 2000.
- (102) "Comparison of the Adsorption of Linear Alkanesulfonate and Linear Alkylbenzenesulfonate Surfactants at Liquid Interfaces", M. Watry and G. L. Richmond, *J. Am. Chem. Soc.*, 122 (875-883) 2000.
- (101) "Assembly of Long Chain Phosphatidylcholines at a Liquid-Liquid Interface", B. Smiley and G.L. Richmond, *Biopolymers (Biospectroscopy)*, 57 (117-125) 2000.
- (100) "Picosecond Photoluminescence Study of the n-GaAs(100)/Methanol Interface in a Photoelectrochemical Cell", T. A. Abshire and G.L. Richmond, *J. Phys. Chem. B*, 103 (7911-7919) 1999.
- (99) "Induced Changes in Solvent Structure by Phospholipid Monolayer Formation at a Liquid:Liquid Interface", R.A. Walker and G.L. Richmond, *Coll. Surf. A*, 154 (175-185) 1999.
- (98) "Alkyl Chain Ordering of Asymmetric Phosphatidylcholines Adsorbed at a Liquid-Liquid Interface", B.L. Smiley and G.L. Richmond, *J. Phys. Chem. B*, 103 (653-659) 1999.
- (97) "Molecular Structure and Adsorption of Dimethyl Sulfoxide at the Surface of Aqueous Solutions", H. Allen, D.E. Gragson and G.L. Richmond, *J. Phys. Chem. B*, 103 (660-666) 1999.
- (96) "Vibrational Sum Frequency Spectroscopy at Liquid-Liquid Interfaces: Model Membrane Systems", R. A. Walker, B.E. Smiley and G.L. Richmond, *Spectroscopy*, 14 (18-27) 1999.
- (95) "Effect of Alkyl Chain Length on the Conformation and Order of Simple Ionic Surfactants Adsorbed at the D₂O/CCl₄ Interface as Studied by Sum-Frequency Vibrational Spectroscopy", J.C. Conboy, M.C. Messmer and G.L. Richmond, *Langmuir*, 14 (6722-6727) 1998.
- (94) "Phosphocholine Monolayer Structure at a Liquid-Liquid Interfaces", R. A. Walker, J.A. Gruetzmacher and G.L. Richmond, *J. Am. Chem. Soc.*, 120 (6991-7003) 1998.
- (93) "Vibrational Sum Frequency Spectroscopy of Surfactants and Phospholipid Monolayers at Liquid-Liquid Interfaces", B.E. Smiley, R.A. Walker, D.E. Gragson, T.E. Hannon and G.L. Richmond, *SPIE Proc.*, 3273 (134-144) 1998.
- (92) "Investigations of the Structure and Hydrogen Bonding of Water Molecules at Liquid Surfaces by Vibrational Sum Frequency Spectroscopy", D.E. Gragson and G.L.

- Richmond, Feature Article for *J. Phys. Chem. B*, 102 (3847-3861) 1998.
- (91) "Probing the Structure of Water Molecules at an Oil/Water Interface in the Presence of a Charged Soluble Surfactant through Isotopic Dilution Studies", D.E. Gragson and G.L. Richmond, *J. Phys. Chem. B*, 102 (569-576) 1998.
- (90) "Potential Dependent Alignment and Hydrogen Bonding of Interfacial Water Molecules at Charged Air/Water and Oil/Water Interfaces", D.E. Gragson and G.L. Richmond, *J. Am. Chem. Soc.*, 120 (366-375) 1998.
- (89) "Probing the Intermolecular Hydrogen Bonding of Water Molecules at an Oil/Water Interface in the Presence of Charged Soluble Surfactant", D.E. Gragson and G.L. Richmond, *J. Chem. Phys. B*, 107 (9687-9690) 1997.
- (88) "Comparisons of the Structure of Water at Neat Oil/Water Interfaces as Determined by Vibrational Sum Frequency Generation", D.E. Gragson and G.L. Richmond, *Langmuir*, 13 (4804-4806) 1997.
- (87) "Vibrational Spectroscopy of Molecules at Liquid Surfaces and Interfaces", G.L. Richmond, *Anal. Chem.*, 69 (536A-543A) 1997.
- (86) "A Study of the Effect of pH on Surfactants and Water Structure at the Air/Water Interface Using Sum Frequency Generation", E.A. Raymond, D.E. Gragson, R.A. Walker and G.L. Richmond, *J. Undergrad. Res.*, 3 (145-148) 1997.
- (85) "Vibrational Sum Frequency Generation Studies of Saturated Glycerophospholipids: Effect of Temperature on Molecular Ordering at an Oil/Water Interface", J.A. Gruetzmacher, R.A. Walker and G.L. Richmond, *J. Undergrad. Res.*, 3 (90-94) 1997.
- (84) "Dependence of Alkyl Chain Conformation of Simple Ionic Surfactants on Head Group Functionality as Studied by Sum Frequency Generation Vibrational Spectroscopy", J.C. Conboy, M.C. Messmer and G.L. Richmond, *J. Phys. Chem. B*, 101 (6724-6733) 1997.
- (83) "Molecular Structure and Ordering of Phospholipids at a Liquid-Liquid Interface", R.A. Walker, J.C. Conboy and G.L. Richmond, *Langmuir*, 13 (3070-3073) 1997.
- (82) "An Investigation of Surfactant Behavior at the Liquid/Liquid Interface with Vibrational Sum Frequency Generation", J.C. Conboy, M.C. Messmer, R. Walker and G.L. Richmond, in *Progr. Colloid Polym. Sci.*; Amphiphiles at Interfaces, 103 (10-20) 1997.
- (81) "Photocorrosion of n-GaAs and Passivation by Na₂S: Comparison of the (100), (110) and (111)B Faces", E.A. Miller and G.L. Richmond, *J. Phys. Chem. B*, 101 (2669-2677) 1997.
- (80) "Examination of the Interface Between Two Immiscible Electrolyte Solutions by Second Harmonic Generation", J.C. Conboy and G.L. Richmond, *J. Phys. Chem. B*, 101 (983-990) 1997.
- (79) "Ordering of Interfacial Water Molecules at the Charged Air/Water Interface Observed by Vibrational Sum Frequency Generation", D.E. Gragson, B.M. McCarty and G.L. Richmond, *J. Am. Chem. Soc.*, 119 (6144-6152) 1997.
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RECENT INVITED TALKS ON SCIENTIFIC RESEARCH (SINCE 1997)

Meetings, Events and Symposia

- "Where Oil and Water Mix: Molecular Properties of the Interface between Aqueous Solutions and Hydrocarbon Solvents", 235th National American Chemical Society Meeting, Boston, MA, New Orleans, LA, April 2008. (upcoming)
- "The Magic and Mysteries of Water", Lewis and Clark Science Without Limits Lecture Series, March 2008 (upcoming).
- "Going Nonlinear to Study the Structure and Dynamics of Molecular Assembly at Complex Interfaces", 2008 Bomem –Michelson Award Symposium, Pittsburgh Spectroscopy Conference, New Orleans, LA, March 2008. (upcoming)
- "Wet Interfaces: Developing a Molecular Framework for Understanding the Behavior of Materials in Aqueous Solutions", Bio Molecular Materials Contractors' Meeting, Department of Energy, Warrenton, VA, November 2007.
- "Going Nonlinear to Study Surfaces of Environmental Importance", Frontiers in Optics 2007/Laser Science XXIII Conference, San Jose, CA September 2007.
- "The Surface of Nitric Acid Solutions: Insights Gained from a Combined Experimental and Computational Approach", 234th National American Chemical Society Meeting, Boston, MA, August 2007.
- "How Nitric Acid Adsorption at an Aqueous Surface Alters its Acidity", Dynamics at Surfaces Gordon Research Conference, Andover, NH, August 2007.
- "Surface Nonlinear Spectroscopy and Molecular Dynamics Simulations to Understand Molecular Structure and Bonding at a Series of Liquid-Liquid Interfaces", G. L. Richmond, International Conference on Solution Chemistry, Perth, Australia, July 2007.
- "The Magic and Mysteries of Water", Oregon Museum of Science and Technology Pub Talk Series, Portland, OR, May 2007.
- "Combining Surface Nonlinear Spectroscopy and Molecular Dynamics Simulations to Understand Molecular Structure and Bonding at a Series of Liquid-Liquid Interfaces", G. L. Richmond, 233rd National American Chemical Society Meeting, Chicago, IL, March 2007.
- "Molecular Adsorption, Ion Solvation and Hydrogen Bonding at Aqueous Surfaces," Conference on Liquid Systems Under Extreme Conditions, Environmental Molecular Liquids Group, Barcelona, Spain, September 2006.
- "The Surface of Aqueous Solutions: A Combined Experimental and Theoretical Approach", 232nd National American Chemical Society Meeting, San Francisco, CA, September 2006.
- "Understanding the Surface Composition and Structure of Nitric Acid Solutions", 232nd National American Chemical Society Meeting, San Francisco, CA, September 2006.

- “Molecular Structure and Bonding at Organic/Water Interfaces”, 232nd National American Chemical Society Meeting, San Francisco, CA, September 2006.
- “Acids at Aqueous Interfaces and their Effect on Adsorption”, Telluride Workshop on Molecular Aspects of Solvation in Hydrogen Bonded Systems”, Telluride, CO, August 2006.
- “Going Nonlinear in Studying Water Surfaces”, Partners in Science Program, Murdock Foundation, Vancouver, WA, August 2006.
- “Understanding Molecular Interactions at Fluid Interfaces”, Pittsburgh Spectroscopy Conference, Orlando, FL, March, 2006.
- “Recent Advances in Measuring Molecular Structure and Adsorption at Liquid Surfaces with Vibrational Sum Frequency Spectroscopy”, Federation of Analytical Chemistry and Spectroscopy Societies, Quebec City, Canada, October 2005.
- “Applications of Vibrational Sum Frequency Spectroscopy to the Study of Environmentally Important Processes at Liquid Surfaces”, 230th National American Chemical Society Meeting, Washington, DC, August 2005.
- “Ions in Complex Physical, Chemical and Biological Systems”, 230th National American Chemical Society Meeting, Washington, DC, August 2005.
- “Understanding Molecular Structure and Bonding at Monolayer Surfaces Adsorbed at Solid and Liquid Surfaces”, 230th National American Chemical Society Meeting, Washington, DC, August 2005.
- “Going Nonlinear in Probing Adsorption at Aqueous Surfaces of Environmental Importance”, (given by M.Kido) American Physical Society Meeting, Los Angeles, CA, March 2005.
- “Understanding the Structure and Bonding of Water at Aqueous Surfaces and Interfaces”, 229th National American Chemical Society Meeting, San Diego, CA, March 2005.
- “Going Nonlinear in Understanding Aqueous Surfaces”, 229th National American Chemical Society Meeting, San Diego, CA, March 2005.
- “Advances in Molecular Characterization of Liquid/Liquid Interfaces”, Faraday Discussion. The Dynamics and Structure of the Liquid-Liquid Interface, Cambridge University, Cambridge, UK, September 2004. (Spiers Lecturer).
- “Water Structure and Bonding at Hydrophobic Surfaces”, Symposium on Aqueous Surfaces, 228th National American Chemical Society Meeting, Philadelphia, PA, August 2004.
- “Nonlinear Optical Studies of Aqueous Interfaces”, Water and Aqueous Solutions Gordon Research Conference, Holderness School, Holderness, NH, August 2004.
- “Understanding Molecular Bonding and Adsorption at Liquid Interfaces”, Chemistry at Interfaces Gordon Research Conference, Kimball Academy, New Hampshire, August 2004.
- “Molecular Structure and Orientation at Liquid/Liquid Interfaces” 37th Heyrovsky Discussion Meeting, Trest, Czech Republic, June 2004.
- “Advancing our Understanding of Interfacial Structure with VSFS”, Vibrational Spectroscopy Gordon Research Conference, Bristol, RI, July 2004.
- “Going Nonlinear in Probing Surfaces with Vibrational Spectroscopy”, 227th National American Chemical Society Meeting, March 2004.
- “Probing Adsorption and Molecular Structure at Aqueous Interfaces with Vibrational Sum Frequency Spectroscopy”, 227th National American Chemical Society Meeting, March 2004.

"Hydrogen Bonding at Water Surfaces", German Chemical Society Meeting, Munich, Germany, October 2003.

"Water Structure and Bonding at Hydrophobic Liquid Surfaces", Deutsche Bunsen Discussion Meeting on Interfacial Water in Chemistry and Biology, Schloss Velen, Germany, Sept. 2003.

"Molecular Interactions at Aqueous Surfaces", Electronic Spectroscopy and Dynamics Gordon Research Conference, Bates College, ME, July 2003.

"Understanding Molecular Interactions at Liquid Surfaces: Spectroscopy and Simulation," 225th National American Chemical Society Meeting, New Orleans, LA, March 2003.

"Adsorption at the CaF₂/H₂O Interface by Vibrational Sum Frequency Spectroscopy", 225th National American Chemical Society Meeting, New Orleans, LA, March 2003.

"Vibrational Spectroscopy of Liquid Surfaces: Going Nonlinear", 224th National American Chemical Society Meeting, Boston, MA, August 2002.

"Water-Surfactant Interactions at Liquid Surfaces Structure and Hydrogen Bonding of Water at Hydrophobic Liquid Surfaces", 224th National American Chemical Society Meeting, Boston, MA, August 2002.

"Structure and Hydrogen Bonding of Water at Hydrophobic Liquid Surfaces", 224th National American Chemical Society Meeting, Boston, MA, August 2002.

"Understanding Molecular Structure at Liquid Surfaces", Pittsburgh Spectroscopy Conference, New Orleans, LA, March 2002.

"Water Surfaces; New Insights and Discoveries", Dynamics at Surfaces, Gordon Research Conference, Andover, NH, August 2001.

"Structure and Hydrogen bonding of Water at Liquid Surfaces", Gordon Research Conference on Chemical Reactions at Surfaces", Ventura, CA, February 2001.

"Hydrogen Bonding at Water Surfaces: Some Surprisingly Weak Interactions", Gordon Research Conference on Electrochemistry, Ventura, CA, January 2001.

"Structure and Hydrogen Bonding of Water at Surfaces: Some New Insights and Surprises", 220th National American Chemical Society Meeting, Washington, DC, August 2000.

"Surprising Discoveries of How Water Hydrogen Bonds and Orients at Hydrophobic Surfaces", Gordon Research Conference on Water and Aqueous Solutions, Holderness, NH, August 2000.

"Structure and Hydrogen Bonding of Water at Hydrophobic Surfaces", Spring National American Physical Society Meeting, Minneapolis, MN, March 2000.

"Adsorption and Monolayer Formation at Liquid Surfaces by Vibrational Sum Frequency Spectroscopy", 219th American Chemical Society Meeting, San Francisco, CA, March 2000.

"Vibrational Sum Frequency Spectroscopy of Aqueous Surfaces: H-Bonding and Solvation", Western Spectroscopy Association, Asilomar, CA, January 2000.

"Molecular Structure and Bonding at Liquid Surfaces as Probed by VSFS" 26th Annual Conference of Analytical Chemistry and Spectroscopy Societies, Vancouver, Canada, October 1999.

"Hydrogen Bonding of Water Molecules at Liquid Surfaces as Probed by Vibrational Sum Frequency Spectroscopy", Gordon Research Conference on Liquids, Holderness, NH, August 1999.

- "Molecular Structure and Adsorption at Liquid Interfaces", 217th American Chemical Society Meeting, Anaheim, CA, March 1999.
- "Molecular Structure and Adsorption Dynamics at Liquid Surfaces and Interfaces", Canadian Society for Chemistry Conference, June 1998.
- "Studies of Molecular Adsorption at Liquid Surfaces and Interfaces by VSFS", 23rd Annual Informal Conference on Photochemistry, Pasadena, CA, May 1998.
- "Molecular Structure and Adsorption Dynamics of Phospholipids at Liquid/Liquid Interfaces", Electrochemical Society Meeting, San Diego, CA, May 1998.
- "Structure and Hydrogen Bonding of Water at Liquid Interfaces as Studied by Vibrational Sum Frequency Spectroscopy", 215th American Chemical Society Meeting, Dallas, TX, March 1998.
- "Molecular Structure and Hydrogen Bonding of Water Molecules at Liquid Surfaces and Interfaces", Pittsburgh Spectroscopy Conference, New Orleans, LA, March 1998.
- "Molecular Structure and Interactions at Liquid Surfaces and Interfaces as Measured by Vibrational Sum Frequency Spectroscopy", Engineering Foundation Conference on Surface Characterization of Adsorption and Interfacial Reactions II, Kona, Hawaii, Jan. 1998.
- "Vibrational Spectroscopy of Liquid Surfaces and Interfaces", Federation of Analytical Chemistry and Spectroscopy Societies 24th Annual Meeting, Providence, RI, October 1997.
- "Molecular Structure and Bonding at Liquid/Liquid Interfaces", 214th American Chemical Society Meeting, Las Vegas, NV, September 1997.
- "Vibrational Spectroscopy of Molecules at Liquid Surfaces and Interfaces", 214th American Chemical Society Meeting, Las Vegas, NV, September 1997.

Recent Research Seminars and Colloquia have also been given at: (since 1997)

- University of California, Berkeley, Department of Chemistry, Berkeley, CA, March 2008. (upcoming)
- Lewis and Clark College, Department of Chemistry, Portland, OR, March 2008. (upcoming)
- College of St. Catherine, Department of Chemistry, St. Paul, MN, March 2008 (upcoming).
- Washington State University, Departments of Chemistry & Physics, Pullman, WA, January 2008
- University of Denver, Department of Chemistry, Denver, CO, October 2007.
- University of Northern Iowa, Department of Chemistry, Cedar Falls, IA, October 2007.
- University of Delaware, Department of Chemistry, Newark, DE, September 2007.
- Texas A&M University, Department of Chemistry, Kingsville, Texas, April 2007.
- University of Illinois, Chicago, Chicago, IL, March 2007.
- Stanford University, Department of Chemistry, Palo Alto, CA, February 2007.
- George Fox University, Department of Chemistry, December 2006.
- Linfield College, Department of Chemistry, McMinnville, OR, November 2006.
- University of Colorado, Department of Chemistry, Boulder, CO, November 2006.
- Seattle University, Department of Chemistry, Seattle, WA, November 2006.
- Whitman College, Department of Physics, Walla Walla, Washington, March 2006.

Cornell College, Department of Chemistry, Mt. Vernon, Iowa, February 2006.

Georgia Institute of Technology, Department of Chemistry, Atlanta, GA, October 2005.

L'Ecole Polytechnique Fédérale de Lausanne (EPFL), Institute of Chemical Sciences and Engineering, Switzerland, April 2005.

University of Berne, Department of Chemistry and Biochemistry, Berne, Switzerland, April 2005.

University of Neuchâtel, Institute of Chemistry, Neuchâtel, Switzerland, April 2005.

University of Geneva, Department of Chemical Physics, Geneva, Switzerland, April 2005.

University of Wisconsin, Department of Chemistry, November 2004.

Harvard University, (Joint Harvard-MIT colloquium), Department of Chemistry, Cambridge, MA, March 2004.

Columbia University, Department of Chemistry, Cambridge, MA, March 2004.

Western Washington University, Department of Chemistry, Bellingham, WA, January 2004.

University of Illinois, Department of Chemistry, Urbana, IL, May 2003.

Joint Institute for Laboratory Astrophysics (JILA), University of Colorado, Boulder, CO, May 2003.

University of Minnesota, Department of Chemistry, April 2003

North Carolina State University, Department of Chemistry, Asheville, NC, November, 2002

Oregon State University, Department of Chemistry, Corvallis, OR, November 2002.

University of Pennsylvania, Department of Chemistry, Philadelphia, PA, April 2002.

Marquette University, Department of Chemistry, Milwaukee, WI, February 2002.

Yale University, Department of Chemistry, New Haven, Conn., January 2002.

University of Chicago, Department of Chemistry, Chicago, IL, January 2002.

Director's Lectureship, Pacific Northwest National Laboratory, January 2002.

University of Washington, Department of Chemistry, Seattle, May 2001.

Stanford University, Department of Chemistry, April 2001.

University of British Columbia, Department of Chemistry, Vancouver, BC, March 2001

Naval Research Laboratory Colloquium Series, Arlington, VA, February 2001.

Carleton College, Department of Chemistry, November 2000.

University of Maryland, Chemical Physics Program, College Park, MD, October 2000.

University of Idaho, Department of Chemistry, September 2000.

Cornell University, Department of Chemistry, Ithaca, NY, April 2000.

Univ. of Wisc., Oshkosh, Department of Chemistry, WI, April 2000.

Texas A&M Univ., Department of Chemistry, College Station, TX, Feb. 2000.

University of Pittsburgh, Department of Chemistry, Pittsburgh, PA, February 2000.

Duquesne University, Department of Chemistry, Pittsburgh, PA, February 2000.

Portland State University, Department of Chemistry, Portland, OR, January 2000.

California State San Luis Obispo, Department of Chemistry, December 1999.
McGill University, Department of Chemistry, Montreal, Canada, November 1999.
Pennsylvania State University, Department of Chemistry, State College, PA, April 1999.
Cal State University, Department of Chemistry, Fresno, March 1999.
Central Washington University, Department of Chemistry, Ellensburg, WA, February 1999.
University of Delaware, Department of Chemistry, Newark, DE, February 1999.
Gonzaga College, Spokane, Department of Chemistry, WA, February 1999.
Northwestern University, Department of Chemistry, Evanston, IL, November 1998.
Western Washington University, Department of Chemistry, Bellevue, WA, October 1998.
Willamette University, Department of Chemistry, Salem, OR, November 1998.
Western Washington University, Department of Chemistry, Bellevue, WA, October 1998.
Los Alamos National Laboratory, Los Alamos, NM, May 1998.
Univ. of California, Irvine, Department of Chemistry, April 1998.
University of Indiana, Department of Chemistry, Bloomington, IN, March 1998.
University of Tennessee, Department of Chemistry, Knoxville, TN, February 1998.
University of Utah, Department of Chemistry, Salt Lake City, UT, February 1998.
Mount Holyoke College, Department of Chemistry, November 1997.
Naval Research Laboratory, Washington, DC, April 1997
National Institute of Standards and Technology, Gaithersburg, MD, April 1997.
Furman University, Department of Chemistry, Greenville, SC, April 1997.
Pomona College, Department of Chemistry, Claremont, CA, March 1997.
Kansas State University, Department of Chemistry, Manhattan, KS, February 1997.
Carroll College, Department of Chemistry, WI, February, 1997.

RECENT INVITED TALKS ON SCIENCE EDUCATION AND MENTORING (SINCE 1997)

“What they Left Out of the Lab Manual: Professional Skills Training for Graduate Students, Postdocs - and Maybe Even a Few Faculty”, 233nd National American Chemical Society Meeting, Boston, MA, New Orleans, LA, April 2008. (upcoming)

“Winning Awards: The Good, the Bad and the Unknown”, 233nd National American Chemical Society Meeting, Boston, MA, April 2008. (upcoming)

“Quilting Together a Professional Life in Science”, 2008 Sr. Mary Thompson Scholar Lectureship, College of St. Catherine, St. Paul, MN, March 2008 (upcoming).

“Negotiating for What You Need for a Successful Scientific Career”, Women in Science Luncheon, Washington State University, Pullman, WA, January 2008.

"Beyond Bias and Barriers: Necessary Steps Academic Institutions Must Take To Assure and Strong Science and Engineering Workforce, Washington State University, Pullman, WA, January 2008.

- “Women as Leaders in the Scientific Enterprise”, Assembly Meeting VI of the Association of Women Investigators and Technologists, Madrid, Spain, November 2007.
- “The Magic and Mysteries of Water”, Leland Wilson Lectureship, University of Northern Iowa, Cedar Falls, IA, October 2007.
- “Quilting Together a Professional Life in Science”, Women in Technology and Science Luncheon, University of Oregon, Eugene, October 2007.
- "Beyond Bias and Barriers: Necessary Steps Academic Institutions Must Take To Assure and Strong Science and Engineering Workforce, WISE Program, University of Delaware, Newark, DE, September 2007.
- “Powering Up: Women as Leaders in the Scientific Enterprise”, Conference on Women in Science: The Way Forward, Heidelberg, Germany, May 2007.
- "Beyond Bias and Barriers: Necessary Steps Academic Institutions Must Take To Assure and Strong Science and Engineering Workforce", WISE Seminar Program, University of Southern California, March 2007.
- "Beyond Bias and Barriers: Necessary Steps Academic Institutions Must Take To Assure and Strong Science and Engineering Workforce", Leadership Seminar Series, University of Illinois, Chicago, March 2007.
- "Be Smart: Negotiating for What You Need to Achieve Your Personal and Professional Goals", Graduate Student Mentoring Seminar, Stanford University, Palo Alto, CA, February 2007.
- "Beyond Bias and Barriers: Necessary Steps Academic Institutions Must Take To Assure and Strong Science and Engineering Workforce", University of Southern California, Los Angeles, CA, February 2007.
- “Coaching Women to Succeed in Academic Science”, University of Colorado, Boulder, CO, November 2006.
- "Women in Science and Engineering in Higher Education", 199th Annual National Association of State Universities and Land Grant Colleges (NASULGC), Houston, Texas, November 2006.
- “COACH: Leveling the Field for Women in Science”, XXVII Latin American Chemistry Congress and the VI International Congress on Chemistry and Chemical Engineering, Havana, Cuba, October 2006.
- “Negotiating for What You Need to Achieve Your Personal and Professional Goals”, Department of Chemistry, University of Virginia, September 2006.
- “Women in Academic Science and Engineering: Challenges and Opportunities”, Science and Society, Joint Workshop Between U.S. and Iranian Scientists, Triellis, France, June 2006.
- “COACHing Women to be Successful in the Sciences”, Council on Chemical Research, Tucson, AZ, May 2006.
- “COACHing Women to Succeed in Science”, Stanford Think Tank Meeting on Title IX, Stanford University, April 2006.
- “Career in Science: Things I Wish I’d Known Before Morphing into a Lab Rat”, Keynote Speaker, National Conference on Undergraduate Research, Asheville, NC, April 2006.
- “Quilting Together a Professional Life in Science”, Brode Lectureship, Whitman College, Walla, Walla, WA, March 2006.

- “Negotiating for What You Need to Achieve Your Personal and Professional Goals” 231st National American Chemical Society Meeting”, Atlanta, GA, March 2006.
- “Quilting Together a Professional Life in Science: A Female Faculty Perspective”, Donna Fox Lectureship, Cornell College, Mount Vernon, Iowa, February 2006.
- “The Fascinating Properties of Water”, Learning in Retirement Group, Eugene, OR, November 2005.
- “Quilting Together a Professional Life in Science”, American Association of University Women, Eugene, OR, November 2005.
- “Quilting Together Professional Career in Science”, Keynote Speaker, Karen Wetterheim Symposium, Women in Science Program, Dartmouth College, Hanover, NH, May 2005.
- “The Impact of COACH on Women Faculty in Academic Science”, Joint meeting of the XXXV International Congress of Physiological Sciences and Experimental Biology, San Diego, CA, April 2005.
- “COACH: Working to Level the Playing Field for Women Chemists in Academia”, 229th National American Chemical Society Meeting, San Diego, CA, March 2005.
- “Quilting Together a Professional Life in Science”, Science Careers in Search of Women Conference, Argonne National Laboratory, Argonne, IL, February 2005.
- “COACHing Women in Leadership Roles in Academia”, Women’s Leadership Alliance Meeting, University of California, San Diego, January 2005.
- “What is COACH”, “A Chemistry Ph.D? Why Bother? ”, Presidential Symposium on Changing Needs in Doctoral Education, 228th National American Chemical Society Meeting, August 2004.
- “Taking the Sigh out of Science”, Tenth Cottrell Scholar Conference, Research Corporation, Tucson, AZ, July 2004.
- "Women in the Chemical Workforce: Comparing the US and European Countries", panel discussion, German Chemical Society Meeting, Munich, Germany, October 2003.
- “COACH: Advancing the Careers of Women Scientists”, Department of Chemistry, University of Minnesota, April 2003.
- “RSECs: Providing Leadership Opportunities for All Participants”, 224th National American Chemical Society Meeting, Boston, MA, August 2002.
- “Quilting Together a Professional Life in Science”, Department of Chemistry, Women in Science Group, University of Pennsylvania, Philadelphia, PA, April 2002.
- "COACH: Assisting Women Faculty", Department of Chemistry, University of Washington, Seattle, WA, April 2001.
- "COACHing Women for Successful Careers in the Chemical Sciences", 220th National American Chemical Society Meeting, Washington, DC, August 2000.
- "Teaching Science to Nonscientists", APS Distinguished Lectureship, University of Wisconsin, Oshkosh, Oshkosh, WI, April 2000.
- "Taking the Sigh Out of Science: Teaching Science to Nonscientists", Frontiers in Science Lectureship, Texas A&M University, College Station, TX, February 2000.
- "Striving for a Healthy Equilibrium Between Work and Home", Women in Science and Engineering Conference, Texas A&M University, College Station, TX, February 2000.

- "Teaching Science to Nonscientists", Clifford B. Purves Lectureship, McGill University, Montreal Canada, November 1999.
- "Quilting Together a Professional Life in Chemistry" Women Chemists Committee, California Section, Mills College, Oakland, CA, October 1999.
- "Taking the Sigh Out of Science: Demonstrations for K-12 Science Classes", 4-J Teachers In Service Day Workshop, Eugene, OR, October 1999.
- "Taking the Sigh Out of Science" Northwest Regional American Chemical Society Meeting, Portland, OR, June 1999.
- "Quilting Together a Professional Life in Science", 54th Northwest Regional American Chemical Society Meeting, Portland, OR, June 1999. (Women's Luncheon)
- "Mentoring and Recruiting Women Chemistry Faculty and Students", Western Chemistry Chair Conference, Western Washington University, October 1998.
- "Quilting Together a Professional Life in Science", Emeritus Faculty Meeting, University of Oregon, Eugene, November 1998.
- "Taking the Sigh out of Science", Portland Alumni Lecture Series, Multnomah Club, Portland, OR, April 1998.
- "Striving for a Healthy Balance Between Work and Home", 215th American Chemical Society Meeting, Dallas, TX, March 1998.
- "Quilting Together a Professional Life in Science", Mount Holyoke College, November 1997.
- ** Numerous talks have also been given at local high schools, grade schools and to K-12 teacher groups in the area and in the state about chemistry, lasers in chemistry, career options in chemistry, women in chemistry and teaching chemistry.

PARTICIPANTS IN RICHMOND RESEARCH PROGRAM

CURRENT PARTICIPANTS

- Dr. Simon Schrodle, Postdoctoral Associate
 Dr. Davida Brown, Postdoctoral Associate
 Stephanie Ota – Ph.D. Candidate
 Patrick Blower – Ph.D. Candidate
 Dan Beaman – Ph.D. Candidate
 Adam Hopkins – Ph.D. Candidate
 Cathryn McFearin – Ph.D. Candidate
 Eric Shamay - Ph.D. Candidate
 Beverley Smith – Ph.D. Candidate (summer 2007)
 Brittany Young – Ph.D. Candidate (summer 2007)
 Ellen Robertson – undergraduate research student
 Brittany Willis – undergraduate research student

PREVIOUS POSTDOCTORAL RESEARCH ASSOCIATES AND VISITING FACULTY

- Prof. Dennis Hore, University of Victoria, Canada
 Prof. Christy Landes – University of Houston
 Prof. Robert Walker – University of Maryland
 Prof. Donna Jaramillo-Fellin – University of California, Merced (Laboratory Coordinator)

Prof. Heather Allen – Ohio State University
Prof. Marie Messmer – Lehigh University
Prof. Barbara Balko – Lewis and Clarke College
Prof. John Kauffman – University of Missouri
Prof. Andreas Friedrich – Institut für Energieverfahrenstechnik
Prof. Rosina M. Georgiadis – Boston University
Dr. Mac Brown – Los Alamos National Laboratory
Dr. Beth Smiley – Brown University
Dr. John Daschbach – Pacific Northwest National Laboratory
Dr. Jeanne M. Robinson – Los Alamos National Laboratories
Dr. Victoria Shannon – Novellus, Portland, Santa Jose (formerly Tektronix)
Dr. Hossein Rojhtantalab – Intel Corporation, Portland, OR

PREVIOUS PH.D AND MS GRADUATE STUDENTS

Prof. Betsy Raymond – Western Washington University (Fall 2006)
Prof. Derek Gragson – California Polytechnic State University
Prof. John Conboy – University of Utah
Prof. Mark Watry – Spring Hill College
Prof. Paul Bunson – Lawrence University
Prof. Safwan Arekat – University of Bahrain (jointly with Prof. Kevan)
Dr. Dave Walker – Triquint, Portland, OR
Dr. Melissa Kido – Boston, MA
Dr. Theresa Tarbuck – Spring Hill College
Dr. Larry Scatena – University of Oregon (Laser Laboratory Director)
Dr. Kevin Becraft – Lam Research, Fremont, CA
Dr. Travis Abshere – Triquint, Portland, OR
Dr. Eric Miller – Wachter Siltronic, Portland OR
Dr. Pam Fischer – Intel Corporation, Portland, OR
Dr. Eric Wong – Intel Corporation, Portland
Dr. Richard Bradley – Flex Products, Santa Clara
Dr. Daniel Koos – Motorola, France (formerly Tektronix)
Dr. Luanne Rolly – Hewlett Packard, Corvallis
Dr. Susan Fitzpatrick – Merck Sharpe and Dohm
Dr. Dave Walker – Triquint, Beaverton
Matt Hamamoto – (MS) University of Oregon Internship Program
Megan Leich – (MS) – Northern California High School (Teacher)
Jennifer King – (MS) – Sun River High School (Teacher)
Steve Stuckmeyer – (MS)
Bayrn McCarty – Texas (MS)
Roseanne Kozlowski – (MS)
Jay O'Brien – Boulder, CO (MS)
Ms. Joanne Maule-Schmidt, (MS) Philadelphia School System (Teacher)

PREVIOUS VISITING FACULTY

Prof. Fred Moore (Visiting Faculty Member from Whitman College)
 Prof. Lee Sharpe (Visiting Faculty Member from Grinnell College)
 Prof. Shane Ohline (Visiting Faculty Member from Wellseley College)
 Prof. Ron Swisher (Oregon Institute of Technology)
 Prof. Leslie Lyons (Visiting Faculty Member from Grinnell College)

PREVIOUS UNDERGRADUATE RESEARCH STUDENTS

Elizabeth Surano – (NSF REU 2005)	Rachel Pollock (NSF REU 2006)
Libby MacKinnon – (NSF REU 2005)	Scott Wren (NSF REU 2004)
Dan Parks (NSF REU 2004)	Gregory Dyer (NSF REU 2003)
Hillary Van Anda (NSF REU 2003)	Jessie Marcum (NSF REU 2002)
Brittany Lee - (NSF REU 2001)	Tran Phang - (NSF REU 2000)
Dan Solis (NSF REU 2000)	Ben Paxton – (U of Oregon, 1999-2000)
Allison Vejtruba – (NSF-REU 1999)	Cindy Regal – (NSF-REU 1999)
Theresa Hannon (NSF-REU 1997)	Dave Walker (NSF-REU 1998)
Betsy Raymond (NSF-REU 1996)	Julie Gruetzmacher (NSF-REU 1996)
Stephanie Laska (NSF-REU 1994)	Mark Culley - (U of Oregon, 1994)
Doug Demarest (NSF-REU 1994)	Henry Ajo (NSF-REU 1994)
Vince Woldt (NSF-REU 1991-1992)	David DeGraw (NSF-REU 1993)
Hannah Morris (NSF-REU 1990)	Grace Neff (NSF-REU, 1989)
Scott Kellar (U of Oregon, 1988-1989, NSF-REU)	Lisa Pansoy (U of Oregon, 1988-1989, NSF-REU)
Dalibar Smetke (U of Oregon, 1987-1988)	Pauline Tan (U of Oregon, 1986-1987)
Peggy Mares (U of Oregon, 1986-1987)	Todd Wagner (U of Oregon, 1985-1986)
Pam Chu (Bryn Mawr College, 1983-1985)	Tammy Maeda (Bryn Mawr College, 1983-1985)
Susan Emlen (Bryn Mawr College, 1983-1985)	Michele Donovan (Bryn Mawr College, 1984-1985)
Ishita Mukerji (Bryn Mawr College, 1983-1984)	Mindy Fleisher (Bryn Mawr College, 1982-1983)
Margaret Schulz(Bryn Mawr College, 1982-1983)	Dana Tribula (Bryn Mawr College, 1982-1983)
Sally Hair(Bryn Mawr College, 1981-1982)	Helen Collins (Bryn Mawr College, 1981-1982)
Penny Peterson (Bryn Mawr College, 1981-1982)	Kyong Mi Chang (Bryn Mawr College, 1981-1982)
Swee Lian Tan (Bryn Mawr College, 1980-1981)	Mary Lee (Bryn Mawr College, 1980-1981)
Joann Neth (Bryn Mawr College, 1980-1981)	Julia Yang (Bryn Mawr College, 1980-1981)
Patricia Angueira (Bryn Mawr College, 1980-1981)	

CURRENT AND PENDING SUPPORT

C/P	Award Title/ PIs	Agency	Amount	Period	Months
Richmond, Geraldine					
Current	Wet Interfaces: Developing a Molecular Framework for Understanding the Surfaces of Materials in Aqueous Solutions PI. Richmond	DOE	\$614,130	2004-2007 ends 12/07	0.5 mo.
Current	Interdisciplinary Research Experience for Undergraduates in Chemistry	NSF	\$191,501	2005-2008	0.75 mo.

	and Physics PI. Richmond				
Current	COAChing Women to Succeed in Academic Careers in the Chemical Sciences PI. Richmond	NSF	\$983,778	2005-2009	1.0 mo.
Current	Research Project on the Recruitment, Retention and Promotion of Women in the Chemical Sciences PI. Richmond	DOE	\$465,962	2006-2009	1.0 mo.
Current	Molecular Investigations of Interfacial Processes in Tribology PI. Richmond	ONR	\$680,181	2007-2010	0.5 mo
Current	Understanding Ionic and Molecular Structure and Bonding at the Surface of Aqueous Solutions with a Coupled Experimental and Theoretical Approach PI. Richmond	NSF	\$1,026,000	2007-2011	1.0 mo.
Current	MRI: Acquisition of a Scanning Near-Field Optical Microscope with Spectroscopic Capabilities (co-PI w/M. Deutsch)	NSF	\$324,675	2007-2008	0.5 mo.
Current	Molecular Processes Underlying the Structure and Assembly of Thin Films and Nanoparticles in Complex Interfaces PI. Richmond	DOE	\$749,290	2007-2010	1.0 mo.
Current	Interdisciplinary Research Experience for Undergraduates in Chemistry and Physics at the University of Oregon PI. Richmond	NSF	\$231,822	2008-2011	0.5 mo.