Mark A. Hayes

Curriculum Vitae

Education

Undergraduate:

Humboldt State University, Arcata, California
Major: Chemistry
B. A. Chemistry, 1985

Graduate:

The Pennsylvania State University
Ph. D. in Analytical Chemistry, December 1993
Thesis Director: Professor Andrew G. Ewing
Thesis Title: "Development of New Separation and Detection Schemes for Capillary Electrophoresis"

Postdoctoral:

University of California, Riverside
Advisor: Professor Werner G. Kuhr
Research Interests: Enzyme-based electrochemistry, sinusoidal electrochemistry, fluorimetry, in vivo analysis, millisecond flow stream switching

Awards, Honors and Service to Profession Honors

Chair of the Subdivision of Chromatography and Separations, The American Chemical Society, Division of Analytical Chemistry, Elect 2017-2018, Chair 2019-2020
NASA Review Panel, Panel Chief, 2017
Awards Chair-Elect 2017, Awards Chair 2018 Society for Applied Spectroscopy
National Academy of Sciences, NRC Panels 2010-2017-Ray Gamble, Director
Past-President AES Electrophoresis Society 2016-2017
Organizing Committee Dielectrophoresis 2016, Prof. Cullen Buie Chair
Fulbright Specialist Program Peer Reviewer 2016, Ms. Grossblatt Program Officer
NSF-CREST Center for Energy and Sustainability Advisory Board, California State University – Los Angeles, 2015 (renewed: 2016-2021) Grant No. HRD-0932421, F. Zhou PI
Deutsche Forschungsgemeinschaft (German Research Foundation), ANR DFG Cooperation in Natural, Life and Engineering Sciences Reviewer 2016, Dr.-Ing. Damian Dudek Program Officer
Co-Founder and Organizing and Scientific Committee member for Dielectrophoresis 2014 (July) with Institute of Physics (UK), FACSS & AES.
Guest Editor, Electrophoresis, Special Issue: Dielectrophoresis 2014 with Blanca Lapizco – Ziad El Rassi, Editor
Guest Editor, Electrophoresis, Special Issue: AES Annual Meeting @AIChE 2014 with Blanca Lapizco – Ziad El Rassi, Editor
Irish Health Research Board Reviewer 2014, Contact Tara Sweeney

Distinguished Service Award 2013, Federation of Analytical Chemistry and Spectroscopy Societies, ninth time awarded in forty years, presented at SciX 2013
Excellence in Advising Award 2013 nominee, College of Liberal Arts and Science, ASU
A.A. Benedetti-Pichler Award 2013, given by American Microchemical Society (microchem.org) at Eastern Analytical Symposium November 2013
President, AES Electrophoresis Society 2014-2015
Editorial Board, Electrophoresis, 2013-1015 – Ziad El Rassi, Editor
Czech Science Foundation Reviewer (GACR) 2012 -- Petr Matějů, President
FACSS Innovation Award 2012 finalist (panel: Hieftje (H45), George (H37), Matousek (H41)), FACSS/SciX Conference, Kansas City MO
Liason to Latin American Capillary Electrophoresis Group from AES Electrophoresis Society & FACSS, 2012
Vice President, AES Electrophoresis Society, 2013 (President-Elect)
Romanian National Research Council (CNCS) 2012 – V. I. Parvulescu, Chair
Councilor, AES Electrophoresis Society, 2010-2012
Marketing Chair, Federation of Analytical Chemistry and Spectroscopy Societies 2009-2013
Long Range Planning Committee Chair, Federation of Analytical Chemistry and Spectroscopy Societies 2008-2009, member 2006-2010
Most Inventions Disclosed 2006, AZTE (ASU's IP Mangement Company)
Founder Board, Arizona Proteomics Alliance (nine regional institutions, integrated (2009) into 'Partnership for Personalized Medicine' (L. Hartwell & Biodesign), 2005-2008
Governing Board Chair, Federation of Analytical Chemistry and Spectroscopy Societies 2005
"Last Lecture Series" 2004 nominee, Co-Curricular Programs, ASU
Society for Analytical Chemists of Pittburgh Annual Meeting Speaker 2004
Dean's Distinguished Teaching Award 2004 nominee, College of Liberal Arts and Science, ASU
Program Chair, Federation of Analytical Chemistry and Spectroscopy Societies 2002, Bob Michel, General Chair, Mike Carrabba-Governing Board Chair.
Excellence in Advising Award 1999 nominee, College of Liberal Arts and Science, ASU
NIH NRSA Postdoctoral Fellowship 1994-1995
Invited speaker to "The Future of Analytical Chemistry" symposium – FACSS 1994, Detroit
Wheeler P. Davey Fellowship 1993
Chromatography Forum of Delaware Valley Student Award 1992 - FACSS
Shell Doctoral Fellowship 1992-1993
The Phi Kappa Phi Honor Society (1992-)
Keenan Analytical Award 1992

Funding

"Rapid Isolation of Live Microbial Species from Environmental Communities" NSF, $150k 2016-2018, co-PI, Rec. 50%
"Isolation of Pathogenic Listeria," NIH, $138k, 2015-2017, PI, Rec. 90%
"Production of Ultrapure Silica Support for HPLC," Agilent Laboratories, $111k, 2013-2015, PI, Rec. 100%
"Initiative for Maximizing Student Development," NIH NIGMS, $2500k, 2013-2014, Newfeld PI, Rec. 0%
"Pathogen Isolation and Concentration for Phenotypic Subtyping," NIH, $138k, 2012-2014, PI, Rec. 50%
"Isolating Viral Particles from Whole Blood," NIH, $138k, 2012-2014, PI, Rec. 80%
"Platform for Isolation and Concentration of Biomarkers," NIH, $396k, 2010-2013, PI, Rec. 100%
"Modular Surface Plasmon Resonance Biosensor for in-vitro Determination of Protein," NIH, $1.5M, 2009-2011, Booksh PI, Rec. 100%
"Nano and Microstructured Surfaces to Control Water and Biological Fluids," User Project, Center for Integrated Nanotechnologies (Sandia and Los Alamos), $20k, 2007, co-PI (Garcia), Rec. 30%
"Photochemistry and Surface Morphology," INEST, $90k, 2005-2007, Garcia PI, Rec. 10%.
"Multiplexed Reactive Sequencing of DNA," NIH, $1.8M, 2005-2008, Williams PI, Rec. 20%.
"Mass Spectrometry across the Chemistry & Biochemistry Curriculum," NSF- Directorate for Education and Human Resources, $75k, 2004-2007, Francisco PI, Rec. 5%.
"Bioaerosols for Pattern Recognition," ASU VPR, $250k, 2007-2009 PI, Rec. 100%.
"Blood Chemistry Analysis," Rogue Research (Industrial), $40k, 2005-2006 co-PI (Booksh), Rec. 50%
"Arizona Applied NanoTechnology Sensors," ASU VPR, $1.2M, 2003-2007, PI, Rec. 50%.
"Development of Proteomic Screening Technology," Optical BioNanotechnology Center with The Translational Genomic Institute (ASU), $110k, 2003-2004, Rec. 100%.
"Application of Paramagnetic Nanoparticles for Biological Agent Detection," NSF NER Program, $99k, 2003-2004, Phelan PI, Rec. 30%
"IGERT in Optical Biomolecualar Devices: From Natural Paradigms to Practical Applications," NSF IGERT Program, $5.3M, 2001-2004 Woodbury PI, Rec. 2%.
"Bio-Fluidic Chips," DARPA, $5.4M 2000-2003 Grodzinski PI, Rec. 100%.
"Photomanipulation of Hydrophobicity Using a 2-D Nanostructured surface," NSF, 2001-2002, $95k, Garcia PI, Rec. 25%.
"Reactive Sequencing of DNA", NIH, $305k, 2001-2003 Williams PI Rec. 30%
"Plastic Microchip Laser Ablation," Donation of equipment from Nichols Diagnostic Institute, $25k, 2000, PI, Rec. 100%.
"Summer Research Fellowship for Undergraduate Professor," NIH, $11.5k, 2000, PI Rec. 100%.
"Titanium-Platinum-Gold Electrode Development for Embedded Electrodes on Fluidic Microchips," Motorola Corporation, $10k, 2000, PI, Rec. 100%.
"A Picoflow Microchip for Asthma Research," Whitaker Program Development Award, $20k, 2000, PI 5%.

"Development of High Spead Small Volume Immunoassay," Nichols Diagnostic Institute, $10k, 2000, PI, Rec. 50%.

"Exploratory Funding for Reactive Sequencing," ASU VPR, $30k, 1998, Williams PI, Rec. 10%.

"Surface Chemistries for Picoliter and Femtoliter Volume Reactions with Flow Control," ACS- Petroleum Research Fund, $25k, 1998-2000, PI, Rec. 100%.

Notes on funding: Average of nine proposals/year (1996-present, $3M/yr), ranging from major research centers ($5M+) to high risk/high reward starter projects (NIH RO3s, PRF, etc.). Average yearly expenditures range $100-300k, currently ~$300k/yr.

Employment

2014-present	Professor, Arizona State University
2012-present	Honors Faculty - Barrett, The Honors College, Arizona State University
2009-present	Owner and Founder (w/ Tom Taylor), Molecular Hyperbiometrics LLC
2002-2014	Associate Professor, Arizona State University
2006-2009	Director Arizona Applied NanoSensors
2005-2008	Co-Working Group Leader: Arizona Proteomics Alliance
2003-2006	Co-Director Arizona Applied NanoSensors
1996-2002	Assistant Professor, Arizona State University
1994-1996	INRSA Postdoctoral Fellowship, Univ. of Calif., Riverside
1993-1994	Postdoctoral Associate, University of California, Riverside
1989-1993	Research Assistant, The Pennsylvania State University
1989-1990	Teaching Assistant, The Pennsylvania State University
1987-1989	Chemist, J&W Scientific, Folsom, California
1985-1987	Chief Chemist, Alpha Laboratories, Petaluma California

Specific Accomplishments- Industrial Employment

Alpha Chemical and Biomedical Laboratories

-Designed inexpensive packed column interface for Finnegan Ion Trap MS
-Developed purge and trap technique for EPA priority pollutants
-Qualified for Calif. License for analysis of water, waste water and haz. materials
-Extensive development of wine "flavor fingerprints" by HPLC, GC and GC/MS

J&W Scientific

-Developed applications and wrote technical bulletins for GS-Q, DB-23, DB-FFAP, DB-5.625 and DB-624 (60 meters) capillary GC columns
-Extensive in–house study of bleed for dimethylpolysiloxane based GC columns

Professional Affiliations

American Chemical Society

Association of Official Analytical Chemists
California Separation Science Society
The Society for Electroanalytical Chemistry
Society for Applied Spectroscopy
The Coblentz Society
American Institute of Chemical Engineers
AES Electrophoresis Society

Publications

89) Electrodynamic Properties of Cells for Separation by Dielectrophoresis. Shannon Hilton and Mark A. Hayes, *Analytical and Bioanalytical Chemistry* **2017**, in preparation.

88) Identification and Sensing of Viruses. Jie Ding and Mark A. Hayes *Bioanalysis* **2017**, in preparation.

87) Simulation and Experiment of Asymmetric Electrode Placement for Electrophoretic Exclusion in a Microdevice. Fanyi Zhu and Mark A. Hayes *Electrophoresis* **2017**, in revision (Jan 2017).

86) Design of Efficient Traps for Gradient Insulator-based Dielectrophoresis (g-iDEP). Claire V. Crowther and Mark A. Hayes *Analyst* **2017**, final revisions (Jan. 2017).

85) Localized Asymmetric Electric and Velocity Field Effects during Counterflow Gradient Focusing at a Converging Channel. Michael W. Keebaugh and Mark A. Hayes* *Electrophoresis* **2017**, in revision (Jan. 2017).

84) Exploring Gradients in Electrophoretic Separation and Preconcentration on Miniaturized Devices. Fanyi Zhu and Mark A. Hayes * *Chromatography* **2016**, *3(2)* Article 12, DOI: 10.3390/separations3020012.

83) Selective Concentration of Sindbis Virus with Gradient Insulator-based Dielectrophoresis. Jie Ding, Brenda G. Hogue, Robert Lawrence, and Mark A. Hayes* *Analyst* **2016**, *141*, 1997-2008 DOI: 10.1039/C5AN02430G.

82) Dielectrophoretic Differentiation and Separation of Staphylococcus based on Antibiotic Resistance. Paul V. Jones, Shannon Huey, Paige Davis, Ryan Mclemore, Alex Mclaren, Ryan Yanashima and Mark A. Hayes* *Analyst*, **2015** *140* 5152-5161 DOI: 10.1039/C5AN00906E.

81) Sensitive Detection of Cardiac Biomarkers Using a Magnetic Microbead Immunoassay. Christine F. Woolley and Mark A. Hayes* *Analytical Methods* **2015**, *7(20)*, 8632-8639 DOI: 10.1039/C5AY01071C.

80) Theoretical Limitations of Quantification for Noncompetitive Sandwich Immunoassays. Christine F. Woolley and Mark A. Hayes* *Anal. Bioanal.* **2015**, *407(28)*, 8605-8615 10.1007/s00216-015-9018-2.

79) Development of the Resolution Theory for Gradient Insulator-based Dielectrophoresis. Mark A. Hayes* and Paul V. Jones *Electrophoresis* **2015**, *36(9-10)*, 1098-1106 DOI: 10.1002/elps.201400504.

78) Ground level bioaerosol concentrations in various Ecuadorian environments: potential uses of aerosolized protein for ecological research. Sarah Staton*, Andrea Woodward, Josemar Castillo, Kelly Swing and Mark A. Hayes. *Ecological Indicators* **2015**, *48*, 389-395 10.1016/j.ecolind.2014.08.036. (invited)

77) Emerging Technologies for Biomedical Analysis. Christine F. Woolley and Mark A. Hayes* *Analyst* **2014**, *139(10)*, 2277-2288 DOI: 10.1039/c4an00259h.

76) Development of the resolution theory for electrophoretic exclusion. Stacy M. Kenyon, Michael Keebaugh, and Mark A. Hayes* *Electrophoresis* **2014** *35(18)*, 2551-2559 DOI:10.1002/elps.201300572.

75) Simulation and visualization of velocity fields in simple electrokinetic devices. Prasun Mahanti*, Thomas Taylor, Douglas Cochran, Michael Keebaugh, and Mark A. Hayes *Proceedings of Visualization and Data Analysis (VDA 2014)* **2014**, *10th annual*, paper 9017-21, http://vda-conference.org/program.html

74) Differentiation of *Escherichia coli* Serotypes Using DC Gradient Insulator Dielectrophoresis. Paul V. Jones, Alexa F. DeMichele, LaKeta Kemp, and Mark A. Hayes* *Anal. Bioanal.* **2014**, *406(1)*, 183-192 DOI: 10.1007/s00216-013-7437-5.

73) Recent developments in emerging micro-immunoassays. Christine F. Woolley and Mark A. Hayes* *Bioanalysis*, **2013**, *5(2)*, 245-264.

72) Identifying indoor environmental patterns from bioaerosol material using HPLC. Sarah J. R. Staton, Josemar A. Castillo, Thomas J. Taylor, Pierre Herckes and Mark A. Hayes* *Anal. Bioanal.* **2013**, *405(1)*, 352-357. DOI: 10.1007/s00216-012-6495-4.

71) Cutting a drop of water pinned by wire loops using a superhydrophobic surface and knife. Ryan Yanashima, Antonio A. García*, James Aldridge, Noah Weiss, Mark A. Hayes, James H. Andrews *PLoS ONE*, **2012**, 7(9): e45893. DOI:10.1371/journal.pone.0045893.

70) Manipulation and capture of Aß amyloid fibrils and monomers by DC insulator gradient dielectrophoresis (DC-iGDEP), Sarah J. R. Staton, Paul V. Jones, Ginger Ku, S. Douglass Gilman, Indu Kheterpal, and Mark A. Hayes* *Analyst*, **2012**, *137*(*14*), 3227-3229 DOI:10.1039/C2AN35138B.

69) Quantitative assessment of flow and electric fields for electrophoretic focusing at a converging channel entrance with interfacial electrode. Michael Keebaugh, Prasun Mahanti, Mark Hayes* *Electrophoresis*, **2012,** *33*(*13*), 1924-1930. DOI: 10.1002/elps.201200199.

68) Exploring the feasibility of bioaerosol analysis as a novel fingerprinting technique. Josemar A. Castillo, Sarah J. R. Staton, Thomas J. Taylor, Pierre Herckes, Mark A. Hayes* *Anal. Bioanal.* **2012**, *403(1)***,** 15-26. DOI: 10.1007/s00216-012-5725-0, PMID: 22311424

67) Using Electrophoretic Exclusion to Manipulate Small Molecules and Particles on a Microdevice. Stacy M. Kenyon, Noah G. Weiss, & Mark A. Hayes *Electrophoresis*, **2012,** *33*, 1227-1235, DOI 10.1002/elps.201100622

66) Presssure-Assisted Electrokinetic Supercharging for the Enhancement of Non-Steroidal Anti-Inflammatory Drugs. Michelle M. Meighan, Mohamed Dawod, Michael C. Breadmore, Roseanne Guijt, Mark A. Hayes. *Journal of Chromatography A*, **2011**, *1218* 6750-6755, PMID: 21855878

65) Dielectrophoretic mobility determination in DC insulator-based dielectrophoresis. Noah G. Weiss, Paul V. Jones, Prasun Mahanti, and Mark A. Hayes* *Electrophoresis*, **2011,** *32*, 2292-2297, PMID: 21823129

64) Blood cell capture in a gradient dielectrophoretic microchannel. Paul V. Jones, Sarah J. R. Staton, and Mark A. Hayes* *Anal. Bioanal.* **2011**, *401***,** 2103-2111, PMID: 21830138.

63) (invited) Recent developments in electrophoretic separations on microfluidic devices. Stacy M. Kenyon, Michelle M. Meighan & Mark A. Hayes* *Electrophoresis* **2011**, *32(5)*, 482-493, DOI: 10.1002/elps.201000469. PMID: 21290388

62) Examining serum amyloid P component microheterogeneity using capillary isoelectric focusing and MALDI-MS. Noah G. Weiss, Jason W. Jarvis, Randall W. Nelson, & Mark A. Hayes* *Proteomics* **2011**, *11*, 106-113. PMID: 21182198.

61) Isoelectric Focusing in a Drop. Noah G. Weiss, Mark A. Hayes, Antonio A. Garcia, and Rafat R. Ansari *Langmuir* **2011**, *27(1)*, 494-498, DOI**:** 10.1021/la104085t, PMID: 21117663.

60) Investigation of electrophoretic exclusion method for the concentration and differentiation of proteins. Michelle M. Meighan, Jared Vasquez, Luke Dziubcynski, Sarah Hews, and Mark A. Hayes* *Anal. Chem.* **2011**, *83*, 368-373, DOI: 10.1021/ac1025495, PMID: 21141826.

59) Improved detectability and signal strength for rotating phase fluorescence immunoassays through image processing. Prasun Mahanti*, Thomas J. Taylor*, Mark A. Hayes*, Douglas Cochran, & Matthew M. Petkus *Analyst* **2011**, *136*, 365-373, DOI 10.1039/C0AN00549E.

58) (Fast Track) Characterization of particle capture in a sawtooth patterned insulating electrokinetic microfluidic device. Sarah J. R. Staton, Kang Ping Chen, Thomas J. Taylor, Jose Rafael Pacheco, & Mark A. Hayes* *Electrophoresis* **2010**, *31*, 3634-3641, DOI: 10.1002/elps.201000438, PMID: 20972991.

57) cIEF coupled offline to MALDI-MS with syringe pump mobilization (technical note). Noah G. Weiss, Nicole L. Zwick, & Mark A. Hayes* *Journal of Chromatography* **2010**, *1217(1)*, 179-182.

56) (invited) Bionanotubules formed from liposomes. In *Methods in Enzymology: Liposomes, Part F*, vol. 464, Nejat Duzgunes Ed., Josemar A. Castillo, Mark A. Hayes*, **2009**, Chapter 16, pages 327-342.

55) Electrophoretic Exclusion for the Selective Transport of Small Molecules. Michelle M. Meighan, Michael W. Keebaugh, Alicia M. Quihuis, Stacy M. Kenyon, and Mark A. Hayes* *Electrophoresis* **2009**, *30*, 3786-3792.

54) (Fast Track) Insulator-based dielectrophoretic separation of small particles in a sawtooth channel. Kang Ping Chen* J. R. Pacheco, M. A. Hayes, S. J. R. Staton *Electrophoresis* **2009**, *30*, 1441-1448.

53) (invited) Bioanalytical Separations using Electric Field Gradient Techniques. Michelle M. Meighan, Sarah J. R. Staton and Mark A. Hayes* *Electrophoresis* **2009**, *30*, 852-865.

52) Demonstration of Sandwich and Competitive Modulated Supraparticle Fluoroimmunoassay Applied to Cardiac Protein Biomarker Myoglobin. M. A. Hayes*, M. M. Petkus, A. A. Garcia, T. Taylor, and P. Mahanti *The Analyst* **2009**, *134(3)*, 533-541.

51) Bionanotubule formation from surface-attached liposomes using electric fields. Josemar A. Castillo, Daniel M. Narciso, and Mark A. Hayes* *Langmuir* **2009**, *25(1)*, 391-396.

50) Improved Signal Extraction from Fluorescence Immunoassay Image Sequences. Prasun Mahanti*, Thomas Taylor, Douglas Cochran, Mark Hayes and Mathew Petkus *IEEE Proceedings Asilomar Conference on Signals, Systems, and Computers* **2008** (Asilomar, CA Nov.), pp 88-91.

49) Chaotic mixing enhancement in electro-osmotic flows by random period modulation. J. Rafael Pacheco*, Kangping Chen and Mark A. Hayes *Physics Letters A* **2008**, *372(7)*, 1001-1008.

48) Dynamics of Rotating Paramagnetic Particle Chains Simulated by Particle Dynamics, Stokesian Dynamics and Lattice Boltzmann Methods S. Krishnamurthy, A. Yadav, R. Calhoun, P.E. Phelan*, A.K. Vuppu, A.A. Garcia and M. A. Hayes *Microfuidics and Nanofluidics* **2008**, *5*, 33-41.

47) Liposomes form nanotubules and long range networks in the presences of electric field. Mark A. Hayes*, Michele D. Pysher and Kang Ping Chen *J. Nanosci. Nanotech.* **2007**, *7(7)*, 2283-2286.

46) Photon control of liquid motion on reversibly photoresponsive surfaces. Dongqing Yang, Marcin Piech, Nelson S. Bell, Devens Gust, Sean Vail, Antonio A. Garcia, John Schneider, Choong-Do Park, Mark A. Hayes, S. Tom Picraux *Langmuir* **2007**, *23 (21)*, 10864-10872.

45) Evaporative Properties and Pinning Strength of Laser-Ablated, Hydrophilic Sites on Lotus Leaf-Like, Fractal Surfaces. Melissa L. McLauchlin, Mark A. Hayes*, S. Tom Picraux, Antonio A. Garcia, Dongqing Yang *Langmuir*, **2007**, *23*, 4871-4877.

44) Examination of Nonendocytotic Bulk Transport of Nanoparticles across Phospholipid Membranes, Shayla K. Banerji and Mark A. Hayes* *Langmuir*. **2007**, *23 (6)*: 3305-3313.

43) Electrophoretic and Dielectrophoretic field gradient techniques for separation bioparticles. Michele D. Pysher, Mark A. Hayes* *Anal. Chem.* **2007**, *79*, 4552-4557.

42) Magnetic Movement of Biological Fluid Droplets. Antonio A.Garcia, Ana Egatz-Gomez, Solitaire A. Lindsay, P. Dominguez-Garcia, Sonia Melle, Mauel M. Marquez, Miguel A. Rubio, S. Tom Picraux, Dongqing Yang, P. Aella, Mark A. Hayes, Devens Gust, Suchera Loyprasert, Terannie Vazquez-Alvarez, Joeseph Wang *Journal of Magnetism and Magnetic Materials* **2007**, *311(1)*, 238-243.

41) A Study on the Condition for Differential Electrophoretic Transport at a Channel Entrance. J. Rafael Pacheco, Kang Ping Chen* and M. A. Hayes *Electrophoresis*, **2007**, *28*, 1027-1035.

40) Cleavage of Peptides and Proteins Using Light Generated Radicals, Barbara J. Jones, Matthew J. Vergne, David M. Bunk, Laurie E. Locascio, and Mark A. Hayes* *Anal. Chem.* **2007**, *79*, 1327-1332.

39) Photo-, thermally-, and pH-responsive microgels, Antonio Garcia* Manuel Marquez, Tong Cai, Rohit Rosario, Zhibing Hu,* Devens Gust, Mark Hayes, Sean A. Vail, and Choong-Do Park. *Langmuir*, **2007**, *23(1)*, 224-229.

38) Dynamics of rotating paramagnetic particles simulated by lattice Boltzmann and particle dynamics methods A. Yadav, R. Calhoun, P.E. Phelan, A.K. Vuppu, A.A. Garcia and M. Hayes *IEEE Proceedings – Nanobiotechnology* **2006**, *153(6)* 145-150.

37) Discrete Magnetic Microfluidics, Ana Egatz-Gómez, Sonia Melle, Antonio A. García, S. A. Lindsay, and M. Márquez, P. Domínguez-García and Miguel A. Rubio, S. T. Picraux, J. L. Taraci, T. Clement, and D. Yang, Mark A. Hayes and Devens Gust, *App. Phys. Let.* **2006**, *89*, 034106-1 to 034106-3.

36) Rapid and Efficient Mixing in a Slip-Driven Three-Dimensional Flow in a Rectangular Channel. J. Rafael Pacheco*, Kang Ping Chen and M. A. Hayes. *Fluid Dynamics Research* **2006**, *38(8)*, 503-521.

35) Detection of FITC-cortisol via Molecular Light Houses. Matthew Petkus, A. Vuppu, L. Rios, Antonio A. Garcia, M. A. Hayes* *Anal. Chem.* **2006**, *78*, 1405-1411.

34) Multiplexed DNA Sequencing-by-Synthesis, Sergei A. Aksyonov, Michael Bittner, Linda B. Bloom, Linda J. Reha-Krantz, Ian R. Gould, Mark A. Hayes, Urban A. Kiernan, Eric E. Niederkofler, Vincent Pizziconi, Raul S. Rivera, Daniel J.B. Williams, Peter Williams* *Anal. Biochem.* **2006**, *348*, 127-138.

33) Paramagnetic Particles and Mixing in Micro-Scale Flows. Ron Calhoun,* A. Yadav, P. Phelan, A. Vuppu, A. Garcia, and M. Hayes *Lab on a Chip*, **2006**, *6*, 247-257.

32) CFD Analysis of Paramagnetic Particle Containment in Microwells. Ron Calhoun*, Richard Waskowsky, Patrick Phelan, Antonio Garcia, M. A. Hayes, Anil Vuppu *Lab on a Chip*, **2005**, *5*, 1075-1082.

31) Effects of Deformability, Uneven Surface Charge Distributions, and Multipole Moments on Biocolloid Electrophoretic Migration. Michele D. Pysher, M. A. Hayes* *Langmuir*, **2005**, *21*, 3572-3577.

30) Analysis of Human Blood Serum Using the Off-Line Coupling of Capillary Isoelectric Focusing to Matrix Assisted Laser Desorption/Ionization Time of Flight Mass Spectrometry. Timothy Crowley, M. A. Hayes* *Proteomics*, **2005**, *5(14)*, 3798-3804.

29) Phase Sensitive Enhancement for Biochemical Detection Using Rotating Paramagnetic Particle Chains. Anil K. Vuppu, Antonio A. Garcia, Mark A. Hayes, Karl S. Booksh, Patrick E. Phelan, Ronald Calhoun, S. K. Saha *Journal of Applied Physics*, **2004**, *96 (11)*, 6831-6838. DOI: 10.1063/1.1809269.

28) Comprehensive Theoretical Study of the Conversion Reactions of Spiropyrans: Substituent and Solvent Effects. Y. H. Sheng, J. Leszczynski*, Antonio A. Garcia, Rohit Rosario, Devens Gust, J. Springer *Journal of Physical Chemistry B*, **2004**, 16233-16243.

27) Lotus Effect Amplifies Light-Induced Contact Angle Switching. Rohit Rosario, J. D. Gust, A. A. Garcia, M. A. Hayes, J. L. Taraci, T. Clement, J. W. Dailey and S. T. Picraux* *J. Phys. Chem. B*, **2004**, *108*, 12640-12642.

26) Modeling microflow and stirring around a microrotor in creeping flow using a quasi-steady-state analysis. Anil K. Vuppu, Antonio A. Garcia, S. K. Saha, Patrick E. Phelan, Mark A. Hayes, Ronald Calhoun *Lab on a Chip*, **2004**, *4(3)*, 201-208.

25) Examination of Electrophoretic Behavior of Liposomes. M. D. Pysher, and M. A. Hayes* *Langmuir*, **2004**, *20*, 4369-4375.

24) Solvatochromic study of the microenvironment of surface bound spiropyrans. Rohit Rosario, J. D. Gust, M. A. Hayes, A. A. Garcia* *Langmuir*, **2003**, 8801-8806.

23) Direct Observation of Photo-Switching in Tethered Spiropyrans Using the Interfacial Force Microscope. B. C. Bunker, B. I. Kim, J. E. Houston, R. Rosario, A. A. Garcia, M. Hayes, D. Gust, and S. T. Picraux* *Nano Letters*, **2003**, 1723-1727.

22) Microfluidics for Ultrasmall-Volume Biological Analyses. in *Advances in Chromatography*, vol. 42, Phyllis R. Brown & Eli Grushka eds., T. O. Windman, B. J. Wyatt, M. A. Hayes*, **2003**, Chapter 5, pages 241-268.

21) Video microscopy of dynamically aggregated paramagnetic particle chains in an applied rotating magnetic field Anil K. Vuppu, Antonio A. Garcia*, M. A. Hayes *Langmuir*, **2003**, *19(21)*, 8646-8653.

20) Photon-Modulated Wettability Changes on Spiropyran Coated Surfaces. R. Rosario, D. Gust, M. A. Hayes, F. Jahnke, A. A. Garcia* *Langmuir*, **2002**, *18(21)*, 8062-8069.

19) The Effects of pH Gradients on Liposomal Charge States Examined by Capillary Electrophoresis. A. N. Phayre, H. M. Vanegas Farfano, M. A. Hayes* *Langmuir*, **2002**, 6499-6503.

18) Examination of Theoretical Models in External Voltage Control of Capillary Electrophoresis. N. K. Hartley, M. A. Hayes* *Anal. Chem.* **2002**, *74*, 1249-1255.

17) Flow Based Microimmunoassay. Mark A. Hayes*, N. A. Polson, A. N. Phayre, Antonio A. Garcia *Anal. Chem.* **2001**, *73*, 5896-5902.

16) Controlling Fluids in Small Places: Microfluidics. N. A. Polson, M. A. Hayes* *Anal. Chem.* **2001**, *73*, 321A-319A.

15) Active Control of Dynamic Supraparticle Structures in Microchannels. M. A. Hayes*, N. A. Polson, A. A. Garcia *Langmuir* **2001**, *17 (9)*, 2866 -2871.

14) Microdevices for Biological Analyses: Recent Advances and Directions for the Future. A. N. Phayre, N. K. Hartley, M. A. Hayes* *Jour. Assoc. Lab. Auto.* **2000**, *5*, 78-82.

13) Photon-controlled Phase Partitioning of Spiropyrans. Antonio A. Garcia, S. Cherian, J. Park, Devens Gust, Frank Jahnke, Rohit Rosario *Journal of Physical Chemistry A*, **2000**, 104(26), 6103-6107.

12) Heat Index Flow Monitoring in Capillaries with Interferometric Backscatter Detection. J. C. StClaire, M. A. Hayes* *Anal. Chem.* **2000**, *72*, 4726-4730.

11) Electrophoretic Focusing Preconcentration Technique in Continuous Buffer Systems Employing Capillary Electrophoresis Separation Systems. N. A. Polson, D. P. Savin, M. A. Hayes* *J. Microcol. Separa.* **2000**, *12*, 98-106.

10) Electroosmotic Flow Control of Fluids on a Capillary Electrophoresis Microdevice using an Applied Radial Voltage. N. A. Polson, M. A. Hayes* *Anal. Chem*. **2000**, *72*, 1088-1092.

9) Extension of External Voltage Control of Electroosmosis to High pH Buffers. M. A. Hayes* *Anal. Chem.* **1999**, *71*, 3793-3798.

8) Preservation of NADH Voltammetry for Enzyme-Modified Electrodes Based on Dehydrogenase. M. A. Hayes*, W. G. Kuhr *Anal. Chem.* **1999**, 71, 1720-1727.

7) Background-Subtraction of Fast-Scan Cyclic Staircase Voltammetry at Protein-Modified Carbon-Fiber Electrode. M. A. Hayes*, E. Kristenson, W. G. Kuhr *Biosensors & Bioelectronics*, **1998**, *13*, 1297-1305.

6) Prospects for the use of Capillary Electrophoresis in Neuroscience. M. A. Hayes, S. D. Gilman, A. G. Ewing* In *Capillary Electrophoresis Technology*; N. A. Guzman, Ed.; Marcel Dekker, NY; **1994**.

5) Surface Conductance in Capillary Zone Electrophoresis, M. A. Hayes, I. Kheterpal, A. G. Ewing* *Anal. Chem.***1993**, *65*, 2010-2013.

4) Effects of Buffer pH on Electroosmotic Flow Control by an Applied Radial Voltage for Capillary Zone Electrophoresis, M. A. Hayes, I. Kheterpal, A. G. Ewing* *Anal. Chem.* **1993**, *65*, 27-31.

3) Electroosmotic Flow Control and Monitoring with an Applied Radial Voltage for Capillary Zone Electrophoresis, M. A. Hayes, A. G. Ewing* *Anal. Chem.* **1992**, *64*, 512-516.

2) Trace Analysis in the Food and Beverage Industry by Capillary Gas Chromatography: System Performance and Maintenance, M. A. Hayes* *J. Chromatogr. Sci.* **1988**, *26*, 146.

1) Column Considerations When Doing Trace Analysis on Open Tubular Columns, R. R. Freeman, M. A. Hayes* *J. Chromatogr. Sci.* **1988**, *26*,138-145.

Letters & Editorials

1) Focus on the London Dielectrophoresis 2014 Meeting. B. H. Lapizco-Encinas & Mark A. Hayes *Electrophoresis* **2015** *36(9-10)* 1083-1083 DOI: 10.1002/elps.201570084.
2) 2014 AES Annual Meeting. B. H. Lapizco-Encinas & Mark A. Hayes *Electrophoresis* **2015** *36(15)* 1665-1665 Special Issue DOI: 10.1002/elps.201570124

Courses Taught

Undergraduate:
Quantitative/Analytical Chemistry lab (Lab CHM 326, lecture CHM 325)
Instrumental Analysis (CHM 327, Lab CHM 328, changed in 2002 from CHM 321/322)
Separation Science (CHM 424, co-listed w/ graduate course)
General Chemistry for Majors (CHM 117)

Graduate:
Electroanalytical Chemistry (CHM 527)
Separation Science (CHM 524)
Bioanalytical (CHM 598, CHM 528)
Advanced Analytical (CHM 523)
Analytical Division Seminar (CHM 501)

Present and Former Students

Present Students:

Yameng Liu (Ph. D. Candidate, entered F 2015)

Shannon Huey (Ph. D. Candidate, entered F 2013)

2015 AES Electrophoresis Society Poster Award @ SciX 2015, 2nd Place

Claire Crowther (Ph. D. Candidate, entered F 2013)

2015 AES Electrophoresis Society Poster Award @ SciX 2015, 1st Place

Fanyi (Fanfan) Zhu (Ph. D. Candidate, entered F 2012)

Jie Ding (Ph. D. Candidate, entered F 2011)

2015 AES Electrophoresis Society Poster Award @ SciX 2015, Honorable Mention

2015 Federation of Analytical Chemistry and Spectroscopy Student Poster Award at SciX 2015, 3rd place

Ryan Yanashima (Ph. D. Candidate, entered F 2010)

Visiting Scientists (present and former):

Lan Yao- Returned to China, 1998 :(

Henry Acquaye- 2000 University of Redlands

Matt Bonen- 2000

Anil Vuppu—2001-2002 (Ph. D. w/ Garcia-2001)

Rohit Rosario—2003-2004 (Ph. D. 2003, Bioengineering, Co-advisor w/ Gust, Garcia, Picraux)

Tim Crowley—2003-2005. Ph. D. 2003, Co-advisor w/-- Vince Pizziconi, BME)

Former Students:

[Note: all graduate students supported via teaching or research assistanceship, average time to graduation four and one-half years]

Katelyn Hayes (Honors Student, undergrated 2014-2016)

(17) Michael Keebaugh (**Ph. D. 2015** : Foundational Investigation of Electrophoretic Exclusion)

(16) Christine (Grewe) Woolley (**Ph. D. 2015** : Development of a Highly Sensitive Immunoassay Optimized for Clinical Diagnostics)

(15) Paul Jones (**Ph. D. 2015**: Development of a New Approach to Biophysical Separations Using Dielectrophoresis)

2001 Brigham Young Bicentennial Award, Brigham Young University

2001 University Full Academic Scholarship, Brigham Young University

2010 American Electrophoresis Society Poster Award (3rd place)

2011 Graduate & Professional Student Association Jumpstart Grant

2012 Graduate College Travel Award

2013 Honorable Mention Poster Award, American Electrophoresis Society Annual Meeting

2015 John Kacoyannakis (Koko) Award – Outstanding Analytical Chemistry Graduate Student

Paige Davis (Honors Student, undergraduate 2013-2015)

(14) Stacy Kenyon (**Ph.D. 2012**: Adapting Electrophoretic Exclusion to a Microdevice)

2012 Department of Chemistry and Biochemistry Graduate Student Award – poster session
2012 John Kacoyannakis (Koko) Award – Outstanding Analytical Chemistry Graduate Student
2010 The American Chemical Society Young Chemists Committee Poster Award
2009 Arizona State University Graduate and Professional Student Association JumpStart Research Grant
2009 Distinguished Teaching Assistant

Zach Brown (B.S. 2013)

Alexa DeMichele (B.S. 2013, co-author peer reviewed publication)

(13) Josemar Castillo (**Ph. D. 2011**: Exploiting Bioparticles: From New Properties of Liposomes to Unconventional Applications of Bioaerosol Analysis) Malvern, Boston MA
2009 John Kacoyannakis (Koko) Award – Outstanding Analytical Chemistry Graduate Student

(11) Noah Weiss (**Ph. D. 2011**: Advances in Isoelectric Focusing and Dielectrophoresis for Bioanalysis) DAAD Postdoctoral Fellow at Roche Diagnostics in Penzberg, Germany [Deutscher Akademischer Austausch Dienst (German Academic Exchange Service)]
2010 GPSA Jumpstart Grant
2010 PFF Travel Award Spring
2010 GPSA Conference Travel Grant Spring
2010 First Place Poster, ASU Chemistry Interdivisional Poster Session
2009 Excellence in Teaching Assistant
2008-09 ASU Graduate College: Preparing Future Faculty Exploratory Phase

(10) Sarah Staton (**Ph. D. 2011**: New Methods for Biological and Environmental Protein Fingerprinting: From Traditional Techniques to New Technology) NRC Postdoc NRL
2010 Outstanding Graduate Research Student—Department of Chemistry and Biochemistry
2010 Graduate College Disertation Fellowship
2009 Fulbright Fellowship
2009 Distinguished Teaching Assistant
2009 Foreign Language and Area Studies Fellowship, United States Department of Education
2008-09 ASU Graduate College: Preparing Future Faculty Exploratory Phase
2008 Arizona State University Graduate and Professional Student Association Travel Grant

Luke Dziubczynski (B.S. 2010, co-author peer reviewed publication)

(9) Michelle Meighan (**Ph. D. 2010**: Novel Electrophoretic Techniques for Bioanalysis) FDA
2010 Gordon F. Kirkbright Bursary Award, Associate of British Spectroscopy
2010 ASU Graduate and Professional Student Association Travel Grant
2009 33rd International Symposium on Capillary Chromatography and Electrophoresis (ISCCE) and 6th Int'l GCxGC Symposium Student Travel Grant
2009 ASU Graduate and Professional Student Association Travel Grant
2009 Sigma Xi, Scientific Research Society Grants-in-Aid of Research
2009 National Science Foundation: East Asia and Pacific Summer Institutes for U.S. Graduate Students Program (EAPSI)
2008 ASU Graduate and Professional Student Association Research Grant

2008 FACSS Student Poster Award
2008 American Chemical Society Leadership Development Award
2008-09 Society for Applied Spectroscopy Executive Council Student Representative

Jared Vasquez (B. S. 2010, co-author peer reviewed publication) Graduate Student University of Kentucky.

Elizabeth Lorzel (B. S. 2010)

Brandon Jones (B. S. 2010)

Daniel Narciso (B. S 2008, co-author peer reviewed publication)

Nicole Zwick-Kozup (M. S. 2008)

(8) Melissa Mclauchlin (Tomalka) (**Ph. D. 2007**: Development of Novel Surfaces to Improve Biomolecule Detection) Ventana/Roche Tucsan AZ

Alicia Quihuis (B. S. 2007, co-author on peer reviewed publication)

(7) Shayla Banerji (**Ph. D. 2007**: Development of novel methods to examine transmembrane transport mechanisms of nanoscale solids) Intel Corporation

Stephen Malloy (B. S. 2007)

Sneha Shah (B. S. 2007)

Shelly Seerley (M. S. 2007: System Development for Application in Electrochemical Surface Plasmon Resonance) General Chemistry Instructor, ASU Chem. Biochem. Dept.

Melissa Ruben, undergrad summer 2006 (BYU – Idaho) Grad. Stud. @ASU with Prof. Ghirlanda

(6) Matthew Petkus (**Ph. D. 2006**: Development of Analytical Techniques for Biological Marker Analysis) Senior Scientist, Analytical Chemistry, Dial Corporation.

Shana Gilbert (Ph. D. Candidate, entered 2001, left group 2005)

(5) Barbara Jo Jones (**Ph. D. 2005**, completed at NIST w/ Laurie Locacsio: Radical Activated Cleavage: An Alternative to Proteolytic Digestion of Peptides and Proteins) Scientific Advisor, Biochemical Science Division NIST, MD.

(4) Michele Pysher (**Ph. D. 2005**: Exploring and Exploiting the Electrokinetic Behaviors and Properties of Biological Particles), Research Scientist, College of Pharmacy, University of Arizona

Albert Hong (B. S. 2004: entering Dental School 2009)

Tammy Hennika (Undeclared Graduate Student 2002-2003)

Rohit Rosario (Ph. D. 2003 Bioengineering, Co-advisor w/ Gust, Garcia, Picraux: Photon Modulated Interfacial Energy using Spiropyran Coated Sufaces), Intel, Mountain View CA.

Tim Crowley (Ph. D. 2003 Co-advisor w/-- Vince Pizziconi, BME: Blood Separations with Passive Microfluidic Devices for Lab-on-a-Chip Applications), Intel, Octilla Campus.

Toni Decker (B. S. Chemistry, 2002) – Optometry School, Portland OR

(3) Allison Phayre (**Ph. D. 2002**: Exploring and Exploiting Biological Surfae in Small Volume Analyses) – Washington State, Olympic College Bremerton

(2) Nan Hartley, (**Ph. D. 2002**: Mechanisms of Flow Control and Monitoring in Capillary Electrophoresis) – Ciba, Terrytown NY

Joe St. Claire (M. S. 2000: Non-Invasive Fluid Monitoring in Small Bore Capillaries using Interferometric Backscatter Detection)- Environmental Laboratory Manager, Redding CA

Bill Jones (M. S. Candidate)- Tempe Police Dept.

(1) Nolan Polson (**Ph. D. Dec. 2000**: Small Volume Fluidic Manipulations on Microfabricated Separation Devices) - Thermo Biostar, Boulder CO.

Matthew Smith (Classroom M. S., Aug. 2001)- Chicago Fireman
Dallas Cormier (B. S. Bioengineer, 2001, Co-advisor--Antonio Garcia, BME)
Doug Savin (B. S. 1999: co-author peer review publication)- Last known: Graduate Student, University of Illinois 2001
Jason Altnether (B. S. 1999)- Whereabouts unknown
Wes E. Steiner (M. S. 1998: Hindered Organosiliane Surface Treatment for Control of Electroosmosis in Capillary Electrophoresis) – Professor Eastern Washington University
Kevin Rose (B. S. 1998)- Last known: Polymicro Technologies, LLC, Phoenix AZ 2003
January 2011(tot/minority): Undergrad (17/9), Grad (25/15), Postdocs (6/4)

Public Relations/Media Events

Liposomes/nanotubes
http://physics-equilibrium.blogspot.com/2008/12/body-electric-strikes-nerve-liposome.html
http://www.sciencedaily.com/releases/2005/03/050329140648.htm

Cutting a water drop with a superhydrophobic knife
http://www.statepress.com/2012/10/23/knife-cleanly-cuts-water-droplets/
http://www.statepress.com/2012/10/23/state-press-conversations-superhydrophobic-knife/ ' "All we had to do is sit back and let it go viral," he said. "Google tells us (it received) about 300,000 hits in Spanish, 200,000 in Portuguese, (and) … about 100,000 or so in Italian." '
Still active. New cites recently (2015)

Comments on wine competition
http://www.azcentral.com/story/news/2014/12/19/lab-test-contest-winning-wine-different-one-store-shelf/20645749/
Staphylococcus epidermidis resistance and DEP
https://asunews.asu.edu/20150901-bacteria-resistance-research. Picked up at tens of news link sites. Two interviews (9-7-2015)
http://www.aesociety.org/news_archive.php. News item on profressional society site.

Invited Presentations
American Academy of Orthopaedic Surgeons, Specialty Day-- MusculoSkeletal Infection Society (MSIS), full symposium – San Diego CA, March 2017
AIChE (AES), San Francisco CA Nov. 2016
Oregon State University Chemistry Department, Oct. 2016
University of Utah, Chemistry Department, Oct. 2016
University of West Virginia Chemistry Department, Oct. 2016
NSF IGERT group University of West Virginia, Oct. 2016
SciX (FACSS) Minneapolis MN Sept. 2016
ITP Conference Minneapolis MN Sept. 2016
MusculoSkeletal Infection Society (MSIS), full symposium - Charlotte NC, August 2016
American Chemical Society National Meeting 2016 Philadelphia PA, August 2016
Dielectrophoresis 2016, Cambridge MA, July 2016

American Chemical Society National Meeting 2016 San Diego CA, March 2016
SWAP 2016 Riverside CA, January 2016
LACE, Colombia, December 2015
AES Mid-Career Award Session SciX (FACSS), Providence RI, Sept. 2015
University of Texas San Antonio, May 2015
SciX (FACSS), Reno NV Oct. 2014
Eastern Analytical Symposium, BP Award Session, New Brunswick NJ, Nov 2013
ANACHEM Awards Session SciX (FACSS), Milwaukee WI, Oct 2013
LACE, Argentina, Dec. 2012
Plenary Speaker: FACSS, Kansas City MO Oct 2012
ITP, Baltimore MD Oct 2012
Agilent Technologies, Santa Clara CA, June 2012
SWAP 2012 Tucson AZ, February 2012
University of Kansas, Lawrence KS Jan. 2012
LACE, Hollywood FL, Dec. 2011
AIChE (AES), Minneapolis MN Nov. 2011
FACSS, Reno NV Oct. 2011
AIChE (AES), Salt Lake City UT Nov. 2010
FACSS, Raleigh NC Oct. 2010
Pittsburgh Conference, Orlando FL, March 2009
FACSS, Louisville KY Oct. 2009
American Chemical Society 232nd National Meeting, Ewing Award Session, September 2006
Southwest Analytical Professors (SWAP ’06) Riverside CA, February 2006
FACSS, Portland OR Oct. 2004
Pittsburgh Conference, March 2004
3 invited talks @ Pittsburgh Conference, March 2003
Pittsburgh Conference, March 2002
University of Arizona, April 2002
Minnesota Chromatography Forum, March 2002
Redlands University, Oct. 2001
Whittier College, Oct. 2001
DARPA/MTO Workshop, Novel Applications of Microfluidics, Dec. 2001.
FACSS, Detroit MI, October 2001
Eastern Analytical Symposium 2001, Atlantic City NJ, October 2001
Arizona State University—Tenure Talk, Aug. 2001
24th International Symposium on Capillary Chromatography and Electrophoresis, Las Vegas, NV, May 2001
Brigham Young University, October 2000
Eastern Analytical Symposium 2000, Atlantic City NJ, October 2000
University of Colorado, Colorado Springs CO, September 2000
FACSS 2000, Nashville TN, September 2000
Gordon Conference on Separations and Purification, Colby-Sawyer College, August 2000
Caliper Technologies, Mountain View CA, July 2000
SmallTalk 2000, San Diego CA, July 2000
Nichols Institute, May 2000
Sandia National Laboratory, Livermore CA, April 2000

Motorola Physical Sciences Research Laboratory, Tempe AZ, Cancer Detection & Treatment, Dec., 1999
California State University, Los Angeles, November 1999
The Pennsylvania State University, October 1999
Federick Conference, Frederick MD, October 1999
Trinity College, September 1999
Motorola/ASU partnering meeting, Tempe AZ, August 1999
University of Tennessee, April 1999
Oak Ridge National Laboratory, Analytical Division, April 1999
Southwest Analytical Professors (SWAP '99) Monterey CA, February 1999
University of California, Riverside, October 1998
Humboldt State University, December 1997
Ft. Lewis College, Durango CO, October 1997
Southwest Analytical Professors (SWAP '97), Tucson AZ, February 1997
University of Redlands, November 1996
Arizona State University, February 1996
Michigan State University, January 1996
University of California, Riverside, May 1995
University of Iowa, February 1995
Federation of Analytical Chemistry and Spectroscopy Societies, FACSS– The Next Generation Symposium (Organized by H. Blount and G. M. Hieftje), 1994
University of California at Riverside, Guest Lecturer, Riverside, CA May 1994
Humboldt State University, December 1992
Federation of Analytical Chemistry and Spectroscopy Societies, 1992
Keenan Analytical Award (Union Carbide), South Charleston, WV 1992
Eastern Analytical Symposium, Somerset, NJ 1991
J&W Scientific Technical Lecture Series, 9 Cities Throughout U.S., March 1989
Association of Official Analytical Chemists, Winnipeg, Manitoba, February 1988
University of California at Davis, Guest Lecturer, Davis, CA January 1988

Presentations

2006-present : numerous
American Chemical Society – 232th National Meeting, Liposomes form nanotubules and long range networks in the presence of electric field, Michele D. Pysher, Mark A. Hayes, San Francisco CA., September **2006**
American Chemical Society – 40th Western Regional Meeting, Radical Activated Cleavage of Peptides and Proteins: an Alternative to Prolytic Digestion, Mark A. Hayes, Barb J. Jones, & Laurie E. Locascio, Anahein CA., Jan. **2006**
American Chemical Society – 229th National Meeting, Behaviors of Soft Biocolloids in Response to Hydrodynamic Stress and Electric Fields, Michele D. Pysher, Mark A. Hayes, San Diego CA., March **2005**
Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Unique Electrokinetic Behaviors of Liposomes and Bioparticles, Michele D. Pysher, M. A. Hayes, Orlando, FL **2005**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Capillary Electrophoresis Analysis of Liposome Incorporated Membrane Proteins, M. A. Hayes, Michele D. Pysher, Orlando, FL **2005**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Capillary Electrophoresis Analysis of Liposome Incorporated Membrane Proteins, M. A. Hayes, Michele D. Pysher, Orlando, FL **2005**

Federation of Analytical Chemistry and Spectroscopy Societies, Analysis of Liposome Incorporated Membrane Proteins via Capillary Electrophoresis (poster), Michele D. Pysher, Mark A. Hayes, Portland, OR, Oct. **2004**

Federation of Analytical Chemistry and Spectroscopy Societies, Liposomes as Model Systems for Biological Particles: Characterization by Capillary Electrophoresis (poster), Michele D. Pysher, Mark A. Hayes, Portland, OR, Oct. **2004**

American Chemical Society – 227th National Meeting, Electrophoretic Behavior of Liposomes (colloid & surface chemistry), Michele D. Pysher, Mark A. Hayes, Anahein CA., March **2004**

Federation of Analytical Chemistry and Spectroscopy Societies, Detection of FITC-Cortisol via Molecular Lighthouses (poster), Matthew Petkus, Mark A. Hayes, Quebec City, Quebec, Canada, Oct. **2005**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Examination of Liposome Behavior by Capillary Electrophoresis (poster), Michele D. Pysher, M. A. Hayes, Chicago, IL **2004**

American Chemical Society – 227th National Meeting, Electrophoretic Behavior of Liposomes (poster), Michele D. Pysher, Mark A. Hayes, Anaheim CA., March **2004**

Federation of Analytical Chemistry and Spectroscopy Societies, Radical Activated Cleavage of Peptides and Proteins. Barb J. Jones, Mark A. Hayes, Ft. Lauderdale, FL, Oct. **2003**

Federation of Analytical Chemistry and Spectroscopy Societies, Recent Advances with a Small –Volume Flow-Based Immunoassay Utilizing Paramagnetic Particles, A. Phayre, M. A. Hayes, J. Lee, N. Lee, A. Garcia, Detroit, Oct. **2001**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Titianium Dioxide as an Improved Surface for Coatings in Capillary Electrophoresis, N. K. Hartley, M. A. Hayes, New Orleans, LA **2001**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Effect of External Voltage and Sterically Hindered Organosilanes on Protein Adsorption in Fused Silica Capillaries, M. A. Smith, M. A. Hayes, New Orleans, LA **2001**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Small-Volume Flow-Based Immunoassay for Interleukin-5 in Capillaries and Microchips, A. N. Branch, A. A. Garcia, J. J. Lee, M. A. Hayes, New Orleans, LA **2001**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Altered Surfaces for Small Volume Analysis, M. A. Hayes, N. K. Hartley, M. Smith, New Orleans, LA **2001**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Use of Paramagnetic Particles in Small Volumes: Patterning and Immunoassays, M. A. Hayes, A. N. Branch, M. Bonen, N. A. Polson, A. A. Garcia, New Orleans, LA **2001**

HPCE 2001, Adsorption versus Electroosmosis: Can There Be a Truce? M. A. Hayes, M. Smith, T. M. Decker, Jan. **2001**

DARPA PI Meeting, Sample Prep MCM BioFlips, P. Grodzinski, M. A. Hayes, Park City UT, **2000**

Materials Research Society, Chemical and Materials Control in Ultrasmall Volumes: Exploiting Electrokinetic Effects. M. A. Hayes, N. A. Polson, N. K. Hartley, San Francisco CA, **2000**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Alteration of Liposomal Electrophoretic Mobilities by Interior pH: Implications to Proton Transfer in Liposomal Systems, A. N. Branch, M. A. Hayes, New Orleans, LA **2000**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Electrophoretic Focusing of Molecular Species Using a Continuous Buffer System for Capillary Electrophoresis (poster), N. A. Polson, M. A. Hayes, New Orleans, LA **2000**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Study of the Effect of Capillary Wall Thickness and Inner Diameter on Electroosmotic Flow in Capillary Electrophoresis, N. K. Hartley, M. A. Hayes, New Orleans, LA **2000**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Ultrsmall Fluid Sample Manipulation: Control of Electrokinetic Effects, M. A. Hayes, N. A. Polson, J. C. StClaire, N. K. Hartley, New Orleans, LA **2000**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Non-Invasive Monitoring of Fluid Flow in a Small Bore Fused Silica Capillary Using Interferometric Backscatter Detection, J. C. StClaire, M. A. Hayes, New Orleans, LA **2000**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Non-Invasive Monitoring of Fluid Flow in a Small Bore Fused Silica Capillary Using Interferometric Backscatter Detection, J. C. StClaire, M. A. Hayes, New Orleans, LA **2000**

Frederick Conference on Capillary Electrophoresis, Study of the Effect of Capillary Wall Thickness and Inner Diameter on Electroosmotic Flow in Capillary Electrophoresis (poster), N. K. Hartley, M. A. Hayes, Frederick MD, **1999**

Frederick Conference on Capillary Electrophoresis, Investigations of Electroosmotic Flow Control by External Voltage Fields in Capillary Electrophoresis, N. A. Polson, M. A. Hayes, Frederick MD, **1999**

Pacific Conference on Chemistry and Spectroscopy, 35th ACS Western Regional Meeting, Alteration of Liposomal Electrophoretic Mobilities by Interior pH: Implications to Proton Transfer in Liposomal Systmes, A. N. Branch, M. A. Hayes, Ontario, CA **1999**

Pacific Conference on Chemistry and Spectroscopy, 35th ACS Western Regional Meeting, Investigation of Electroosmotic Flow Control by an Applied External Voltage Fields in Capillary Electrophoresis, N. A. Polson, M. A. Hayes, Ontario, CA **1999**

Pacific Conference on Chemistry and Spectroscopy, 35th ACS Western Regional Meeting, Study of the Effect of Capillary Wall Thickness and Inner Diameter on Electroosmotic Flow in Capillary Electrophoresis, N. K. Hartley, M. A. Hayes, Ontario, CA **1999**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Electroosmotic Flow Control of Fluids on a Microchip Capillary Electrophoresis Device using an Applied Radial Voltage, M. A. Hayes, N. A. Polson, Orlando, FL **1999**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Control of Materials and Fluids on Microchips by Electroosmosis and Voltage Field Manipulations, M. A. Hayes, N. A. Polson, Orlando, FL **1999**

HPCE '99, Independent Control of Electroosmosis: Extension of Radial Voltage Field Effects, N. A. Polson, M. A. Hayes, Palm Springs, CA **1999**

Frederick Conference on Capillary Electrophoresis, Alteration of Liposomal Electrophoretic Mobilities by Interior pH: Implications to Proton Transfer in Liposomal Systems (poster), A. N. Branch, M. A. Hayes, Frederick MD, **1999**

HPCE '99, Electroosmotic Flow Control on a Microchip Capillary Electrophoresis Device Using an Applied Radial Voltage, N. A. Polson, M. A. Hayes, Palm Springs, CA **1999**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Surface Coating for Elimination of Electroosmosis in Small Internal Diameter Capillaries, M. A. Hayes, W. E Steiner, New Orleans, LA **1998**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Electrophoretic Focusing for Preconcentration of Small Volume of Biological Samples, M. A. Hayes, N. A. Polson, New Orleans, LA **1998**

HPCE '98, Electrophoretic Focusing Using Capillary Electrophoresis, N. A. Polson, M. A. Hayes, Orlando, FL **1998**

HPCE '97, Ultrasmall Volume Sampling with Externally Controlled Electroosmosis, T. M. Sobaski-Reineke, M. A. Hayes, Anaheim, CA **1997**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Enzyme-Modified Electrodes: Development and in vivo Application. M. A. Hayes, W. G. Kuhr, New Orleans LA **1995**

Federation of Analytical Chemistry and Spectroscopy Societies, Sinusoidal Voltammetry, Data presented by W. G. Kuhr, St. Louis MO **1994**

Federation of Analytical Chemistry and Spectroscopy Societies, Enzyme Based Microsensors, Data presented by W. G. Kuhr, St. Louis MO **1994**

Workshop on Bioanalysis, In Vivo Glutamate Release in Maggots, Data presented by W. G. Kuhr, University of Kansas **1994**

Fifth International Symposium on High Performance Capillary Electrophoresis, Surface Conductance in CE, Data presented by A. G. Ewing, Orlando FL **1993**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Surface Conductance in CE (poster), I. Kheterpal, M. A. Hayes, A. G. Ewing, Atlanta GA **1993**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Electrospray time-of-flight mass spectrometer for CE, M. A. Hayes, A. G. Ewing Atlanta GA **1993**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Lecture: Surfactant Analysis by MECC, M. A. Hayes, A. G. Ewing Chicago IL **1991**

Association of Official Analytical Chemists, Poster Session, M. A. Hayes FL **1989**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Lecture: Capillary Electrophoresis Section, New Orleans, LA **1988**

J&W Scientific Sales Training Seminars, March-November **1987**

Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Poster Session: GS-Q Applications, Atlantic City, NJ **1987**

Patents

Hyper Efficient Separations Device, Claire Crowther, M. Hayes (ASU Case M16-051L) provisional application in preparation (1-2016)

Particle streak velocimeter for micro-channels, P. Mahanti, T. Taylor, M. Hayes, D. Cochran (ASU Case M12-198P) actions pending (4-25-2012)

Bacterial identification, M. Hayes, T. Taylor, L. Kemp, S. Staton, P. Jones (ASU Case M12-156L) Provisional patent filed April 2012.

Detection and Identification of Bioparticles, M. Hayes, T. Taylor, K. Booksh, N. Woodbury, P. Herckes. (ASU Case M7-088) Provisional patent filed May 08.

Passivation of Iron Particles for Use in Digital Magnetofluidics, S. Lindsay, T. Garcia, M. Hayes, D. Gust, A. Gomez. (ASU Case M7-008) Provisional patent application filed 12-06

Digital Isoelectric Focusing, T. Garica, M. Hayes, A. Gomez, 6-06.

Separations Based Arrays, M. A. Hayes, filed April 2006

Droplet Microfluidics Using Magnetic Fields and Nanostructured Surfaces. A. A. Garcia, M. A. Hayes, D. Gust, Ana Gomez, filed September 2005

High Sensitivity Mass Spectrometry of Proteins and Peptides, P. Williams, T. Crowley, T. Picraux, M. A. Hayes, June, 2005.

Light driven microfluidic devices, A. A. Garcia, T. Picraux, D. Gust, R. Rosario, M. A. Hayes, June, 2004

Bionanotubules from Liposomes via an Electric Field, M. D. Pysher, M. A. Hayes, November 2004.

Electrophoretic Separation of Membrane Proteins with Liposomes, Mark A. Hayes, November, 2004.

Dual Responsive Hydrogels, many contributors, including M. A. Hayes, January, 2004

Radical Activated Cleavage of Biologics and Microfluidic Devices Using the Same. B. J. Jones, M. A. Hayes, filed December 2003

Renewable electrode system for microdevices, M. Kozicki, M. A. Hayes, filed April 2001.

Passive Microfluidic Device for the Bioseparation of Complex Fluids, V. Pizziconi, T. Crowley, M. A. Hayes, filed April 2001.

Improved Capping Method which Improves Determining the Nucleotide Sequence of Oligonucleotides and DNA Molecules by a Novel Method, P. W. Williams, M. A. Hayes, filed August 2000.

Method for Immobilizing Antibodies on Particles, A. A. Garcia, M. A. Hayes, N. A. Polson, A. Vuppu, filed May 2000

Rapid Flow-Based Immunoassay Microdevice, A. A. Garcia, M. A. Hayes, N. A. Polson, A. Vuppu, filed March, 2000.

Small Volume Non-Invasive Flow Monitoring Device, J. C. StClaire, M. A. Hayes, filed February, 2000.

Dynamic Microstructures Induced by Magnetic Fields, N. A. Polson, A. A. Garcia, M. A. Hayes, filed February, 2000.

Method of Determining the Nucleotide Sequence of Oligonucleotides and DNA Molecules, P. W. Williams, M. A. Hayes, S. Rose, L. Bloom, Filed 1998.

Practical Device for Controlling Ultrasmall Volume Flow. N. A. Polson, M. A. Hayes, Filed 1998, ASU Case # 99-019.

Control of Flow and Materials for Micro Devices. N. A. Polson, M. A. Hayes, Filed 1998, App. # 60/088,956.

Chemical Surface for Control of Electroosmosis by an Applied Radial Voltage Field, M. A. Hayes, Filed 1998 (PCT/US99/04569).

Electroosmotic Flow Real-Time Monitoring in Capillary Electrophoresis: Application to Radial Voltage Control and Feedback, Invention Disclosure January 1993; Patent Application March 1993, M. A. Hayes, A. G. Ewing. Granted April 1997, Patent Number 5,624,539.

Capillary Electrophoresis Apparatus with Improved Electroosmotic Flow Control., M. A. Hayes, I. Kheterpal, A. G. Ewing, S. S. Herrick, Filed January 1993. Granted June 1994, Patent Number 5,320,730.

Electroosmotic Flow Control in Capillary Electrophoresis with Voltage Applied to a Short Conducting Segment on the Outside of the Capillary, M. A. Hayes, I. Kheterpal, A. G. Ewing, November 1992. Granted October 1994, Patent Number 5,358,618.

REVIEW PANELS, WORKSHOPS, MEETINGS AND SERVICE

Review Panels & Workshops

Panel Chief- Chemistry/Mass Spectrometry: NASA Maturation of Instruments for Solar System Exploration (MatISSE 2016 Step 2) January 2017; William Cook, Task Leader -- NNH16ZDA001N-MATISSE

NIH June 2016; Dr. Kathryn Kalasinsky – SRO, NIH 2016/6 ISD

NIH March 2016; Dr. Alexander Politis – SRO, 201605 ZRG1 F13 C20

NASA Planetary Instrument Concepts for the Advancement of Solar System Observations (PICASSO) February 2016; Julie Hurley Task Leader -- NNH15ZDA001N-PICASSO

NIH June 2015; Dr. Ryan Kenneth – SRO, NIH 2015/10 EBIT

NIH March 2013; Dr. Vonda Smith – SRO, 2013/05 ZRG1 IMST-L (11) B

NIH August 2012; Dr. Giuseppe Pintucci – SRO, 2012/10 ZHL1 CCT-P (01) 1

NIH February 2012; Dr. Gagan Pandya – SRO, ZRG1 IDM-V-12

DOE ad hoc review 2012; Larry Rahn –Separations and Analysis program

National Institute of Justice, US DOJ, Final Technical Report Review, June 2009

NIH April 2009; Dr. John Bowers – SRO, ZRG1 BCMB-A 51

NIH March 2009; Dr. Alexander Gubin – SRO, ZRG BST-G(10)B

NIH January 2009 EBT; Dr. Vonda Smith - SRO

GRE (Graduate Record Examinations) Subject Test: Chemistry, Biochemistry Write, 2009

GRE (Graduate Record Examinations) Subject Test: Chemistry, Biochemistry Write and Review, 2008

GRE (Graduate Record Examinations) Subject Test: Chemistry, Biochemistry Write and Review, 2007

ASU/Mayo Clinic Scottsdale Seed Grants Review Panel, Sept. 2005.

Biodevice Interface Science and Technology Workshop, Co-organizer, Sept. 2002

Intel Workshop for Early Disease Detection, participant, Sept. 2002

DARPA/MOTO Workshop: Novel Applications of Microfluidics, Invited Speaker, Bill Snowden organizer, Dec. 2001

National Cancer Institute, Special Emphasis Review Panel (RFA 01-011), Technologies for Comprehensive, Quantitative Protein Analysis in Human Tumors: Phased Innovation", ZCA1 SRRB-D (M2), May 2001

National Cancer Institute, Special Emphasis Review Panel (PAR 99-100, PAR99-101, PAR99-102), Innovative Technologies for the Molecular Analysis of Cancer and their Applications, ZCA1 SRRB-C (J1), Nov. 2000

National Cancer Institute, Special Emphasis Review Panel, Innovative Technologies for the Molecular Analysis of Cancer and their Applications (PAR 99-100), Nov. 1999

National Cancer Institute, Special Emphasis Review Panel, Novel Technologies for Noninvasive Detection, Diagnosis and Treatment of Cancer (BAA NO1-CM-97065-32), June 1999

National Cancer Institute, Special Emphasis Review Panel, Innovative Technologies for the Molecular Analysis of Cancer: SBIR/STTR Initiative (PAR98-066), March 1999

National Cancer Institute, Special Emphasis Review Panel, Innovative Technologies for the Molecular Analysis of Cancer: Phased innovation Award (PAR98-067), March 1999

National Cancer Institute, Special Emphasis Review Panel, ZCA1 SRRB-C (J1), Innovative Technologies for the Molecular Analysis of Cancer and their Applications (PAR 99-100), Nov. 1999

Peer Reviews

ACS Applied Materials and Interfaces
Analytical Biochemistry
Analytical Chemistry
Analytica Chemica Acta
Chemistry of Materials
Crystal Growth & Design
Department of Energy
Defense Advanced Research Projects Agency
Electrophoresis
Electrochemistry Communications
International Journal of Environmental Analytical Chemistry
Integrative Biology
Journal of Alzheimer's Disease & Parkinsonism
Journal of Infectious Diseases and Epidemiology
Journal of Neuroscience Methods
Journal of Physical Chemistry
Journal of the American Chemical Society
Journal of Separation Science
National Science Foundation
Lab on a Chip
Langmuir
Nature
Nation Science Foundation
National Aerospace Adminstration
National Institutes of Health
Petroleum Research Fund- American Chemical Society
Royal Society of Chemistry

Royal Society of Chemistry - Advances
Royal Society of Chemistry-Newsgroup
Research Corporation
Scientific Reports
The Analyst

Meetings (also see 'service to profession' section above)

SciX Conference (FACSS 44) 2017, Session co-Chair (Mei Hi, KSU) – Electroporation and Electrokinetic Study of Cells (AES Session)

American Chemical Society National Meeting, August 2016, Session Chair -- Advances in Electrophoresis and Electrokinetics

SciX Conference (FACSS 43) 2016, Session Chair – Dielectrophoresis (AES Session)

AIChE/AES Annual Meeting Session Chair 2016 -- Electrokinetics for Sample Preparation

Dielectrophoresis 2016, Session Chair, Cambridge MA, July 2016

Dielectrophoresis 2016, Organizing Committee, Cambridge MA, July 2016

SciX Conference (FACSS 42) 2015, Session Chair – Capillary Electrophoresis (AES Session)

SciX Conference (FACSS 41) 2014, Session Chair – Capillary Electrophoresis (AES Session)

SciX Conference (FACSS 39) 2012, Section Chair – Electrophoresis (first AES Electrophoresis Society coordinated sessions).

FACSS 2009, Section Chairs: Next Generation Separations and Arrays I & II, Greg Klunder-Program Chair, Session Speakers: Lapizco-Encinas, Wooley, Ivory, Davalos, Hayes, Ros, Ross.

Ad Hoc Committee for Dispersed Electronic Meeting FACSS Chair 2006-2007

FACSS 2006, Presider and host: Electrophoretic Separations, Douglass Gilman Organizer; Session Speakers: Woolley, Colyer, Berezovski, Fernanda, McMasters, Rezesnom.

Past Governing Board Chair FACSS 2006

Integrated Biosystems Research: Fall Workshop, Co-organizer and Regional Proteomics Team Leader, November 2005

Co/local-organizer: The Directors of Industrial Research Analytical Group (DIR- AG), February 2005, Unversity Club at ASU.

FACSS 2005, Section Chair: Bioanalytical Measurements Using Lab-on-a-Chip Technology, Paul Farnsworth-Program Chair, Session Speakers: Zare, Spence, Martin, Timperman.

Organizer: Arizona Applied Nanosensors Workshop, ASU, May 2004

Co-organizer: 3rd Microsensors Workshop, Scottsdale AZ, April 2004

Governing Board Chair - Elect FACSS 2004

Session Chair, FACSS 2003, Bioanalytical Chemistry, Jim Rydzak-Program Chair

Organized Session, PittCon 2003, Electroosmosis: If We Could Only Measure It and Control It, Dr. A. Michels, program chair.

Co-organizer, presider: Biodevice Interface Science and Technology Workshop, Scottsdale, AZ, Sept. 2002

Session Chair, PittCon 2002, Novel Imaging Applications (Session 182), Dr. Sharpe, program chair.

Session Chair, PittCon 2002, TOF Mass Spectrometry (Session 181), Dr. Sharpe, program chair.

Session Chair, PittCon 2002, Sensors II (Session 71), Dr. Sharpe, program chair.

Session Chair, PittCon 2002, Liposomes in Analytical Chemistry: Their Study and Application (Session 78), Dr. Sharpe, program chair.

Organized Session, PittCon 2002, Liposomes in Analytical Chemistry: Their Study and Application (Session 78), Dr. Sharpe, program chair.

Session Chair, PittCon 2001, HPLC: Chromatography of Polymers and Biopolymers (Session 144), Dr. Kirol program chair.

Session Chair, PittCon 2001, Sample Preparation of Plant and Animal Tissue (Session 145), Dr. Kirol program chair.

Session Chair, PittCon 2001, Electrophoresis in Microfabricated Channels (Session 18), Dr. Kirol program chair.

Awards Program Chair, FACSS 2001, David Butch-Program Chair, David Coleman, Felix Schneider- Co-Chairs.

FACSS 2000, Section Chair: Bioanalytical/Biophysical, Mike Carraba-Program Chair, Session Leaders: Rosenzweig, Xu, Van Orden, Henry, McGaw, Timperman, Vo-Dihn.

Organized ‘Western States Undergraduate Research Symposium’ Nov. 97, ASU.

Department/University/Community Service

Department Committees: Undergraduate Programs, Graduate Programs, Seminar, Safety, Graduate Admissions, Various Search Committees (assistant/mid-career professors)

2016(AY)-present	Department of Chemistry and Biochemistry Budget and Personnel Committee
2015-2017	University Promotion and Tenure Committee
2012	Dean of Natural Sciences Search Committee
2008-2010	President, Islands Home Owners Association
2002-2011	Board Member, Islands Home Owners Association

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