S. Scott Saavedra

PEER-REVIEWED PUBLICATIONS AND BOOK CHAPTERS:

1. C.H. Lochmüller and S.S. Saavedra, *Anal. Letters*, **1986**, *19*, 47-64. Sample and Sorbent Integrity During Combustion Source Sampling.
2. C.H. Lochmüller and S.S. Saavedra, *Anal. Chem.*, **1986**, *58*, 1978-1981. Conformational Changes in a Soil Fulvic Acid Measured by Time-Dependent Fluorescence Depolarization.
3. C.H. Lochmüller and S.S. Saavedra, *J. Amer. Chem. Soc.*, **1987**, *109*, 1244-1245. Interconversion of Conformation of Apomyoglobin Adsorbed to Hydrophobic Silica Gel.
4. C.H. Lochmüller and S.S. Saavedra, *Langmuir*, **1987**, *3*, 433-438. Intrinsic Fluorescence Characteristics of Apomyoglobin Adsorbed to Microparticulate Silica.
5. S.S. Saavedra, A.W. Grobin, and C.H. Lochmüller, *Anal. Chem.*, **1988**, *60*, 2156-2158. Fluorescence of Chemically Modified Papain Adsorbed to Silica Gel.
6. S.S. Saavedra and C.H. Lochmüller, "The Adsorption of Proteins on Chemically Modified Hydrophobic Surfaces", in *Chemically Modified Surfaces in Science and Industry*, D.E. Leyden and W.T. Collins, Eds.; Gordon and Breach, New York, **1988**; pp. 67-77.
7. S.S. Saavedra and E.G. Picozza, *Analyst*, **1989**, *114*, 835-838. Time-Resolved Fluorimetric Detection of Tb-Labelled DNA Separated by Gel Electrophoresis.
8. S.S. Saavedra and W.M. Reichert, *Appl. Spectrosc.*, **1990**, *44*, 1210-1217. Prism Coupling Into Polymer Integrated Optical Waveguides with Liquid Superstrates.
9. D.S. Walker, S. Putegnat,[&] S.S. Saavedra and W.M. Reichert, *Opt. Comm.*, **1990**, *78*, 128-132. Apparent Inequivalence Between the In- and Outcoupling Angles of Prism Coupled IO Waveguides.
10. S.S. Saavedra and W.M. Reichert, *Appl. Spectrosc.*, **1990**, *44*, 1420-1423. A Flow Cell for Mode-Specific, Integrated Optical Waveguide Spectroscopy in Aqueous Superstrates.
11. S.S. Saavedra and W.M. Reichert, *Anal. Chem.*, **1990**, *62*, 2251-2256. Integrated Optical Attenuated Total Reflection Spectrometry of Aqueous Superstrates Using Prism-Coupled Polymer Waveguides.
12. S.S. Saavedra and W.M. Reichert, *Langmuir*, **1991**, *7*, 995-999. In Situ Quantitation of Protein Adsorption Density by Integrated Optical Waveguide ATR Spectrometry.
13. W.M. Reichert and S.S. Saavedra, "Materials Considerations in the Selection, Performance and Adhesion of Polymeric Encapsulants for Implantable Sensors", in *Materials Science and Technology - A Comprehensive Treatment*, *Vol. 14 - Medical and Dental Materials*, D.F. Williams, Ed.; VCH, Weinheim, FRG, **1991**; pp. 303-341.
14. D.J. Iuliano,[&] S.S. Saavedra, and G.A. Truskey, *J. Biomed. Mat. Res.*, **1993**, *27*, 1103-1113. The Effect of the Conformation and Orientation of Adsorbed Fibronectin on Endothelial Cell Spreading and the Strength of Adhesion.
15. M.D. Garrison,[&] D.J. Iuliano,[&] S.S. Saavedra, G.A. Truskey, and W.M. Reichert, *J. Colloid Interface Sci.*, **1992**, *148*, 415-424. Postadsorption Changes in the Emission Maximum of Acrylodan-Labelled Bovine Serum Albumin Using Total Internal Reflection Fluorescence.
16. P.L. Edmiston,[&] S. Kölchens and S.S. Saavedra, *Appl. Spectrosc.*, **1993**, *47*, 250-253. Temporally Gating a Slow-Scan CCD With a Liquid Crystal Shutter.
17. D.S. Walker, H.W. Hellinga, S.S. Saavedra and W.M. Reichert, *J. Phys. Chem.*, **1993**, *97*, 10217-10222. Integrated Optical Waveguide ATR Spectrometry and Resonance Raman Spectroscopy of Adsorbed Cytochrome *c*.

18. J.E. Lee and S.S. Saavedra, *Anal. Chim. Acta*, **1994**, *285*, 265-269. Evanescent Sensing in Doped Sol-Gel Glass Films.

19. P.L. Edmiston,[&] C.L. Wambolt,[&] M.K. Smith,[&] and S.S. Saavedra, *J. Colloid Interface Sci.*, **1994**, *163*, 395-406. Spectroscopic Characterization of Albumin and Myoglobin Entrapped in Bulk Sol-Gel Glasses.

20. F. Banovac,[&] S.S. Saavedra, and G.A. Truskey, *J. Colloid Interface Sci.*, **1994**, *165*, 31-40. Local Conformational Changes to Vitronectin Upon Adsorption to Glass and Silane Surfaces.

21. L. Yang, S.S. Saavedra, N.R. Armstrong, and J. Hayes, *Anal. Chem.*, **1994**, *66*, 1254-1263. Fabrication and Characterization of Low Loss, Sol-Gel Planar Waveguides.

22. L. Yang and S.S. Saavedra, *Anal. Chem.*, **1995**, *67*, 1307-1314. Chemical Sensing Using Sol-Gel Derived Planar Waveguides and Indicator Phases.

23. S. Phimphivong, S. Kölchens, P.L. Edmiston[&] and S.S. Saavedra, *Anal. Chim. Acta.*, **1995**, *307*, 403-417. Time-Resolved, Total Internal Reflection Fluorescence Microscopy of Cultured Cells Using a Tb Chelate Label.

24. S. Mendes, Lifeng Li, J. Burke, J.E. Lee, and S.S. Saavedra, *Appl. Optics*, **1995**, *34*, 6180-6186. 70 Nanometer Bandwidth Achromatic Waveguide Coupler.

25. J.E. Lee and S.S. Saavedra, in *Proteins at Interfaces II*, T.A. Horbett and J.L. Brash, Eds.; *ACS Symposium Series 602*; American Chemical Society: Wash., D.C., **1995**, pp. 269-79. Molecular Orientation in Adsorbed Cytochrome *c* Films by Planar Waveguide Linear Dichroism.

26. P.L. Edmiston, L.L. Wood, J.E. Lee, and S.S Saavedra, *J. Phys. Chem.*, **1996**, *100*, 775-784. Dipole Orientation Distributions in Langmuir-Blodgett Films by Planar Waveguide Linear Dichroism and Fluorescence Anisotropy.

27. L. Yang, S.S. Saavedra, and N.R. Armstrong, *Anal. Chem.*, **1996**, *68*, 1834-1841. Sol-Gel Based, Planar Waveguide Sensor for Gaseous Iodine.

28. C.L. Wambolt[&] and S.S. Saavedra, *J. Sol-Gel Sci. Tech.*, **1996**, *7*, 53-57. Iodide Fluorescence Quenching of Sol-Gel Immobilized BSA.

29. S. Mendes, L. Li, J. Burke, J.E. Lee, and S.S. Saavedra, *Langmuir*, **1996**, *12*, 3374-3376. Broad-Band Attenuated Total Reflectance Spectroscopy of a Hydrated Protein Film on a Single Mode Planar Waveguide.

30. J.E. Lee and S.S. Saavedra, *Langmuir*, **1996**, *12*, 4025-4032. Molecular Orientation in Heme Protein Films Adsorbed to Hydrophilic and Hydrophobic Glass Surfaces.

31. D. Dunphy, S. Mendes, L. Li, J. Burke, J.E. Lee, S.S. Saavedra, and N.R. Armstrong, in *New Trends in Electroanalytical Chemistry*, J. Leddy and M. Wightman, Eds.; *Proc.-Electrochem. Soc.*, **1996**, *96-9*, 174-185. Electroactive Integrated Optic Waveguides (EA-IOWs): Spectroelectrochemistry in Ultrathin Film Materials.

32. P.L. Edmiston, J.E. Lee, S.-S. Cheng, and S.S Saavedra, *J. Amer. Chem. Soc.*, **1997**, *119*, 560-570. Molecular Orientation Distributions in Protein Films. I. Cytochrome *c* Adsorbed to Substrates of Variable Surface Chemistry.

33. L.L. Wood, S.-S. Cheng, P.L. Edmiston, and S.S Saavedra, *J. Amer. Chem. Soc.*, **1997**, *119*, 571-576. Molecular Orientation Distributions in Protein Films. II. Site-Directed Immobilization of Yeast Cytochrome *c* on Thiol-Capped, Self-Assembled Monolayers.

34. S.B. Mendes, L. Li, J. Burke, and S.S. Saavedra, *Opt. Comm.*, **1997**, *136*, 320-326. Achromatic Prism-Coupler for Planar Waveguide.

35. D.R. Dunphy, S.B. Mendes, S.S. Saavedra, and N.R. Armstrong, *Anal. Chem.*, **1997**, *69*, 3086-3094. The Electroactive Integrated Optical Waveguide (EA-IOW): Ultrasensitive Spectroelectrochemistry of Submonolayer Adsorbates.

36. L.A. Wenzler, G.L. Moyes, G.N. Raikar, R.L. Hansen, J.M. Harris, T.P. Beebe, Jr., L.L Wood and S.S. Saavedra, *Langmuir*, **1997**, *13*, 3761-3768. Measurements of Bond Rupture Forces Between Self-Assembled Monolayers of Organosilanes with the Atomic Force Microscope.

37. P.L. Edmiston and S.S Saavedra, *Chem. Mater.*, **1997**, 9, 2599-2603. Fabrication and Characterization of Uranium Oxide Doped Sol-Gel Planar Waveguides for Attenuated Total Reflectance Spectrometry.

38. P.L. Edmiston and S.S Saavedra, *Biophys. J.*, **1998**, *74*, 999-1006. Molecular Orientation Distributions in Protein Films. III. Yeast Cytochrome *c* Immobilized on Pyridyl Disulfide Capped Phospholipid Bilayers.

39. P.L. Edmiston and S.S Saavedra, *J. Amer. Chem. Soc.*, **1998**, *120*, 1665-1671. Molecular Orientation Distributions in Protein Films. IV. Yeast Cytochrome *c* Biospecifically Bound to Streptavidin Immobilized to a Biotin Capped, Planar Supported Phospholipid Bilayer.

40. S. Phimphivong and S.S. Saavedra, *Bioconjugate Chem.*, **1998**, *3*, 350-357. Terbium Chelate Membrane Probe for Time-Resolved, Total Internal Reflection Fluorescence Microscopy of Substrate-Adherent Cells.

41. T.E. Plowman, S.S. Saavedra, and W.M. Reichert, *Biomaterials*, **1998**, *19*, 341-355. Planar Integrated Optical Methods for Examining Thin Films and Their Surface Adlayers.

42. Peter J. Skrdla, S. Scott Saavedra, Neal R. Armstrong, Sergio B. Mendes, and N. Peyghambarian, *Anal. Chem.*, **1999**, *71*, 1332-1337. Sol-Gel Based, Planar Waveguide Sensor for Water Vapor.

43. Sergio B. Mendes and S. Scott Saavedra, *Optics Express*, **1999**, *4*, 449-456. On Probing Molecular Monolayers: A Spectroscopic Optical Waveguide Approach of Ultra-Sensitivity

44. D.R. Dunphy, S.B. Mendes, S.S. Saavedra, and N.R. Armstrong, in *Interfacial Electrochemistry* , A. Wieckowski, Ed., Marcel Dekker, New York, **1999**, Chapter 29. Spectroelectrochemistry of Monolayer and Submonolayer Films Using an Electroactive Integrated Optical Waveguide.

45. P.E. Smolenyak, R.A. Peterson, D.R. Dunphy, S. Mendes, K.W. Nebesny, D.F. O'Brien, S.S.Saavedra, and N.R. Armstrong, *Porphyrins and Phthalocyanines*, **1999**, *3*, 620-633. Formation and Spectroelectrochemical Characterization of Multilayer and Submonolayer Films of 2,3,9,10,16,17,23,24-octa(2-benzyloxyethoxy) Phthalocyaninato Copper ($CuPc(OC_2OBz)_8$).

46. Peter J. Skrdla, S. Scott Saavedra, and Neal R. Armstrong, *Appl. Spectrosc.*, **1999**, *53*, 785-791. Reduction of Indicator Leaching From Doped Sol-Gels by Attachment of Macromolecular Side-Chains.

47. Sergio B. Mendes and S. Scott Saavedra, *Appl. Optics*, **2000**, *39*, 612-621. A Comparative Analysis of Absorbance Calculations for Integrated Optical Waveguide Configurations by the Electromagnetic Wave Theory and the Ray Optics Model.

48. Yue-Zhong Du, Laurie L. Wood, and S. Scott Saavedra, *Materials Science & Engineering C*, **2000**, *7*, 161-169. Growth Behavior and Structure of Alkyltrichlorosilane Monolayers Bearing Thioacetate and Acetate Termini.

49. John C. Conboy, Katherine D. McReynolds, Jacquelyn Gervay-Hague, and S. Scott Saavedra, *Angewandte Chemie*, **2000**, *39*, 2882-2884. Gp120 Binds Cooperatively to Several Biologically Relevant Glycosphingolipids: Quantitative Measurements at Equilibrium Using Total Internal Reflection Fluorescence Microscopy.

50. L.A. Erlich, P.J. Skrdla, W.K. Jarrell, J.W. Sibert, N.R. Armstrong, S.S.Saavedra, A.G.M. Barrett, and B.M. Hoffman, *Inorganic Chemistry*, **2000**, *39*, 3963-3969. Preparation of Polyetherol-Appended Sulfur Porphyrazines and Investigations of Peripheral Metal Ion Binding in Polar Solvents.

51. M.D. Senarath-Yapa and S.S. Saavedra, *Anal. Chim. Acta*, **2001**, *432*, 89-94. Dye Leaching from a Doped Sol-Gel is Eliminated by Conjugation to a Dendrimer.

52. Eric E. Ross, Bruce Bondurant, Tony Spratt, John C. Conboy, David F. O'Brien, and S. Scott Saavedra, *Langmuir*, **2001**, *17*, 2305-2307. Formation of Self-Assembled, Air-Stable Lipid Bilayer Membranes on Solid Supports.

53. Yingmei Gu, Rachel LaBell, David F. O'Brien, and S. Scott Saavedra, *Angewandte Chemie*, **2001**, *40*, 2320-2322. Quantitative Studies of Binding Between Synthetic Galactosyl Ceramide Analogues and HIV-1 Gp120 at Planar Membrane Surfaces.

54. Katherine D. McReynolds, Abhijit Bhat, John C. Conboy, S. Scott Saavedra, and Jacquelyn Gervay-Hague, *Bioorganic and Medicinal Chemistry*, **2002**, *10*, 625-637. Non-Natural Glycosphingolipids and Structurally Simpler Analogs Bind HIV-1 Recombinant Gp120.

55. John C. Conboy, Katherine D. McReynolds, Jacquelyn Gervay-Hague, and S. Scott Saavedra, *J. Amer. Chem. Soc*., **2002**, *124*, 968-977. Quantitative Measurements of Recombinant HIV-1 Surface Glycoprotein 120 Binding to Several Glycosphingolipids Expressed in Planar Supported Lipid Bilayers.

56. Asma El Kasmi, Michael C. Leopold, Ryan Galligan, Rebecca T. Robertson, S. Scott Saavedra, Kacem El Kacemi, and Edmond F. Bowden, *Electrochem. Commun.*, **2002**, *4*, 177-181. Adsorptive Immobilization of Cytochrome *c* on Indium/Tin Oxide (ITO): Electrochemical Evidence for Electron Transfer Induced Conformational Changes.

57. Peter J. Skrdla, Neal R. Armstrong, and S. Scott Saavedra, *Anal. Chim. Acta,* **2002**, *455*, 49-52. Starch-Iodine Films Respond To Water Vapor.

58. John T. Bradshaw, Sergio B. Mendes, and S. Scott Saavedra, *Anal. Chem.*, **2002**, *74*, 1751-1759. A Simplified Broadband Coupling Approach Applied to Chemically Robust Sol-Gel, Planar Integrated Optical Waveguides.

59. Peter J. Skrdla, Sergio B. Mendes, Neal R. Armstrong, and S. Scott Saavedra, *J. Sol-Gel Sci. Technol*., **2002,** *24*, 167-173. Planar Integrated Optical Waveguide Sensor for Isopropyl Alcohol in Water.

60. Walter J. Doherty, Carrie L. Donley, Neal R. Armstrong, and S. Scott Saavedra, *Appl. Spectrosc*., **2002**, *56*, 920-927. A Broadband Spectroelectrochemical ATR Instrument for Molecular Adlayer Studies.

61. Eric Ross, Lynn Rozanski,[&] Tony Spratt, Sanchao Liu, David F. O'Brien, and S. Scott Saavedra, *Langmuir* **2003**, *19*, 1752 - 1765. Planar Supported Lipid Bilayer Polymers Formed by Vesicle Fusion. 1. Influence of Diene Monomer Structure and Polymerization Method on Film Properties.

62. Eric Ross, Lynn Rozanski,[&] Tony Spratt, Sanchao Liu, David F. O'Brien, and S. Scott Saavedra, *Langmuir* **2003**, *19*, 1766 - 1774. Planar Supported Lipid Bilayer Polymers Formed by Vesicle Fusion. 2. Adsorption of Bovine Serum Albumin.

63. John Thomas Bradshaw, Sergio B. Mendes, Neal R. Armstrong, and S. Scott Saavedra, *Anal. Chem* **2003**, *75*, 1080-1088. Broadband Coupling Into a Single-Mode, Electroactive, Planar Integrated Optical Waveguide for Spectroelectrochemical Analysis of Surface Confined Redox Couples.

64. C.L. Donley, D.R. Dunphy, W.J. Doherty, R.A.P. Zangmeister, A.S. Drager, D.F. O'Brien, S.S. Saavedra, and N.R. Armstrong, in *Molecules as Components in Electronic Devices*, M. Lieberman, Ed..; *ACS Symposium Series 844*; American Chemical Society: Wash., D.C., **2003**, pp. 133-153. "Indium-Tin Oxide/Organic Interfaces."

65. John C. Conboy, Sanchao Liu, David F. O'Brien, and S. Scott Saavedra, *Biomacromolecules* **2003**, *4*, 841-849. Planar Supported Lipid Bilayer Polymers Formed by Langmuir-Blodgett Deposition and UV Irradiation.

66. Yue-Zhong Du and S. Scott Saavedra, *Langmuir*, **2003**, *19*, 6443-6448. Molecular Orientation Distributions in Protein Films. V. Cytochrome *c* Adsorbed to a Sulfonate-Terminated, Self-Assembled Monolayer.

67. Anne F. Runge and S. Scott Saavedra, *Langmuir*, **2003**, *19*, 9418-9424. Comparison of Microcontact Printed and Solution Adsorbed Cytochrome *c* Films on Indium Tin Oxide Electrodes.

68. Sergio B. Mendes, John Thomas Bradshaw, and S. Scott Saavedra, *Applied Optics*, **2004**, *43*, 70-78. Angular Orientation of Molecules Bound to the Surface of Arbitrary Planar Optical Waveguides.

69. Renée A. Lawton,[#] Colin R. Price,[#] Anne F. Runge, Walter J. Doherty III and S. Scott Saavedra, *Colloids and Surfaces A: Physicochem. Eng. Aspects*, **2005**, *253*, 213–215. Air Plasma Treatment of Submicron Thick PDMS Polymer Films: Effect of Oxidation Time and Storage Conditions.

70. Ware H. Flora, Sergio B. Mendes, Walter J. Doherty III, S. Scott Saavedra, Neal R. Armstrong, *Langmuir*, **2005**, *21*, 360-368. Determination of Molecular Anisotropy in Thin-Films of Discotic Assemblies Using Attenuated Total Reflectance UV-Visible Spectroscopy.

71. John Thomas Bradshaw, Sergio B. Mendes, and S. Scott Saavedra, *Analytical Chemistry*, **2005**, *77*, 28A-36A. New Dimensions in Planar Integrated Optical Waveguide Spectroscopy.

72. Anne F. Runge, Nicole C. Rasmussen,[&] S. Scott Saavedra, and Sergio B. Mendes, *J. Phys. Chem. B*, **2005**, *109*, 424-431. Determination of Anisotropic Optical Constants and Surface Coverage of Molecular Films Using Polarized Visible ATR Spectroscopy. Application to Adsorbed Cytochrome *c* Films.

73. Chenhao Ge, Walter J. Doherty III, Sergio B. Mendes, Neal R. Armstrong, and S. Scott Saavedra, *Talanta*, **2005**, 65, 1126-1131. Voltammetric and Waveguide Spectroelectrochemical Characterization of Ultrathin Poly(Aniline)/Poly(Acrylic Acid) Films Self-Assembled on Indium-Tin Oxide.

74. Todd W. McBee and S. Scott Saavedra, *Langmuir*, **2005**, *21*, 3396-3399. Stability of Lipid Films Formed on γ-Aminopropyl Monolayers.

75. Varuni Subramaniam, Isabel D. Alves, Gilmar F. J. Salgado, Pick-Wei Lau,[&] Zdzislaw Salamon, Gordon Tollin, Victor J. Hruby, Michael F. Brown, and S. Scott Saavedra, *J. Amer. Chem. Soc*., **2005**, *127*, 5320-5321. Rhodopsin reconstituted into a planar supported lipid bilayer retains photoactivity after cross-linking polymerization of lipid monomers.

76. Walter J. Doherty III, Neal R. Armstrong, and S. Scott Saavedra, *Chem. Mater.*, **2005**, *17*, 3652-3660. "Conducting Polymer Growth in Porous Sol-Gel Thin Films: Formation of Nanoelectrode Arrays and Mediated Electron Transfer to Sequestered Macromolecules.

77. Walter J. Doherty III, Adam G. Simmonds, Sergio B. Mendes, Neal R. Armstrong, and S. Scott Saavedra, *Appl. Spectrosc.*, **2005**, *59*, 1248-1256. Molecular Ordering in Monolayers of a Perylene-Bisimide Dye by Attenuated Total Reflectance (ATR) UV-Visible Spectroscopy.

78. Todd W. McBee, Liying Wang, Chenhao Ge, Brooke M. Beam, Ana L. Moore, Devens Gust, Thomas A. Moore, Neal R. Armstrong, and S. Scott Saavedra, *J. Amer. Chem. Soc.*, **2006**, *128*, 2184-2185. Characterization of Proton Transport Across a Waveguide-Supported Lipid Bilayer.

79. Walter J. Doherty III, Ronald J. Wysocki, Jr., Neal R. Armstrong, and S. Scott Saavedra, *J. Phys. Chem. B.,* **2006,** *110,* 4900-4907. Potential-Modulated, Attenuated Total Reflectance Spectroscopy of Poly(3,4-Ethylenedioxythiophene) (PEDOT) and Poly(3,4-Ethylenedioxythiophene Methanol) (PEDTM) Copolymer Films on Indium-Tin Oxide.

80. Anne F. Runge, S. Scott Saavedra, and Sergio B. Mendes, *J. Phys. Chem. B*, **2006**, *110*, 6721-6731. Combination of Polarized TIRF and ATR Spectroscopies for Determination of the Second and Fourth Order Parameters of Molecular Orientation in Thin Films and Construction of an Orientation Distribution Based on the Maximum Entropy Method.

81. Anne F. Runge, Sergio B. Mendes, and S. Scott Saavedra, *J. Phys. Chem. B*, **2006**, *110*, 6732-6739. Order Parameters and Orientation Distributions of Solution Adsorbed and Microcontact Printed Cytochrome *c* Protein Films on Glass and ITO.

82. Eric E. Ross, James R. Joubert, Ronald J. Wysocki, Jr., Tony Spratt, David F. O'Brien, and S. Scott Saavedra, *Biomacromolecules*, **2006**, *7*, 1393-1398. Patterned Protein Films on Poly(Lipid) Films by Microcontact Printing.

83. Walter J. Doherty III, Ronald J. Wysocki, Jr., Neal R. Armstrong, and S. Scott Saavedra, *Macromolecules*, **2006**, *39*, 4418-4424. Electrochemical Copolymerization and Spectroelectrochemical Characterization of 3,4-Ethylenedioxythiophene (EDOT) and 3,4-Ethylenedioxythiophene Methanol (EDTM) Copolymers on Indium-Tin Oxide.

84. Zeynep Ozkan Araci, Anne F. Runge, Walter J. Doherty III, and S. Scott Saavedra, *Israel Journal of Chemistry*, **2006**, *46*, 249-255. Potential-Modulated Attenuated Total Reflectance Spectroscopy of Prussian Blue Films on ITO.

85. Chenhao Ge, Neal R. Armstrong, and S. Scott Saavedra, *Anal. Chem*., **2007**, *79*, 1401-1410. pH-Sensing Properties of Poly(Aniline) Ultrathin Films Self-Assembled on Indium-Tin Oxide.

86. Muditha D. Senarath-Yapa, Sam Phimphivong, Jason W. Coym, Mary J. Wirth, Craig A. Aspinwall, S. Scott Saavedra**,** *Langmuir* **2007**, *23*, 12624-12633. Preparation and characterization of poly(lipid)-coated, fluorophore doped silica nanoparticles for biolabeling and cellular imaging.

87. Zeynep Ozkan Araci, Anne F. Runge, Walter J. Doherty III, and S. Scott Saavedra, *J. Amer. Chem. Soc.* **2008**, *130*, 1572-1573. Correlating Molecular Orientation Distributions and Electrochemical Kinetics in Subpopulations of an Immobilized Protein Film.

88. Roger Michel, Varuni Subramaniam, Sally McArthur, Bruce Bondurant, Gemma D. D'Ambruoso, Henry K. Hall, Jr., Michael F. Brown, Eric E. Ross, S. Scott Saavedra, David G. Castner, *Langmuir*, **2008**, *24,* 4901-4906. Ultra-high vacuum surface analysis study of rhodopsin incorporation into supported lipid bilayers.

89. Saliya N. Ratnayaka, Ronald J. Wysocki, and S. Scott Saavedra, *J. Colloid Interface Sci.* **2008**, *327*, 63–74. Preparation and Characterization of Asymmetric Planar Supported Bilayers Composed of Poly(bis-Sorbylphosphatidylcholine) on *n*-Octadecyltrichlorosilane SAMs.

90. Varuni Subramaniam, Gemma D'Ambruoso, H. K. Hall, Jr., Ronald J. Wysocki, Jr., Michael F. Brown, and S. Scott Saavedra, *Langmuir* **2008**, *24,* 11067-11075. Reconstitution of Rhodopsin into Polymerizable Planar Supported Lipid Bilayers: Influence of Dienoyl Monomer Structure on Photoactivation.

91. David L. Roberts, Yaning Ma, Steven E. Bowles, Colleen M. Janczak, Jeffrey Pyun, S. Scott Saavedra and Craig A. Aspinwall, *Langmuir* **2009**, *25*, 1908-1910. Polymer-stabilized phospholipid vesicles with a controllable, pH-dependent disassembly mechanism.

92. Benjamin A. Heitz, Juhua Xu, Henry K. Hall, Jr., Craig A. Aspinwall, S. Scott Saavedra, *J. Amer. Chem. Soc.* **2009**, *131*, 6662–6663. Enhanced long-term stability for single ion channel recordings using suspended poly(lipid) bilayers.

93. James R. Joubert, Kathryn A. Smith, Erin Johnson, John P. Keogh,[&] Vicki H. Wysocki, Bruce K. Gale, John C. Conboy, and S. Scott Saavedra, *ACS Applied Materials & Interfaces*, **2009**, *1*, 1310–1315. Stable, ligand-doped, poly(bis-SorbPC) lipid bilayer arrays for protein binding and detection.

94. Zhijie Sui, Nathan J. Hanan,[&] Sam Phimphivong, Ronald J. Wysocki, Jr, and S. Scott Saavedra, *Luminescence*, **2009**, *24*, 236–242. Synthesis, characterization, and sol-gel entrapment of a crown ether-styryl fluoroionophore.

95. Han Zhang, Kristina S. Orosz, Hiromi Takahashi, S. Scott Saavedra, *Appl. Spectrosc.*, **2009**, *63*, 1062-1067. Broadband Plasmon Waveguide Resonance Spectroscopy for Probing Biological Thin Films.

96. Han Zhang, James R. Joubert, and S. Scott Saavedra, *Adv. Polym. Sci.*, **2010**, *224*, 1-42. Membranes from Polymerizable Lipids.

97. Bo Yun Kim, In-Bo Shim, Zeynep O. Araci, S. Scott Saavedra, Oliver L.A. Monti, Neal R Armstrong, Rabindra Sahoo, Divesh N. Srivastava, and Jeffrey Pyun, *J. Amer. Chem. Soc.* **2010**, *132*, 3234–3235. Synthesis and Colloidal Polymerization of Ferromagnetic Au-Co Nanoparticles into Au-Co_3O_4 Nanowires.

98. Erin L. Ratcliff, P. Alex Veneman, Adam Simmonds, Brian Zacher,[&] Daniel Huebner,[&] S. Scott Saavedra, Neal R. Armstrong, *Anal. Chem.* **2010**, *82*, 2734–2742. A Planar, Chip-Based, Dual-Beam Refractometer Using an Integrated Organic Light Emitting Diode (OLED) Light Source and Organic Photovoltaic (OPV) Detectors.

99. Benjamin A. Heitz, Ian W. Jones, Henry K. Hall, Jr., Craig A. Aspinwall, and S. Scott Saavedra, *J. Amer. Chem. Soc.*, **2010**, *132*, 7086–7093. Fractional Polymerization of a Suspended Planar Bilayer Creates a Fluid, Highly Stable Membrane for Ion Channel Recordings.

100. Sergio B. Mendes, S. Scott Saavedra, and Neal R. Armstrong, in *Optical Guided-Wave Chemical Sensors and Biosensors I*, Zourob, M. and Lakhtakia, A., eds., Springer Series on Chemical Sensors and Biosensors 7, Springer-Verlag, Berlin, **2010**. "Broadband Spectroelectrochemical Interrogation of Molecular Thin Films by Single-Mode Electro-Active Integrated Optical Waveguides."

101. Zeynep O. Araci, Clayton. R. Shallcross, Neal. R. Armstrong, S. Scott Saavedra, *J. Phys. Chem. Lett.*, **2010**, *1*, 1900-1905. Potential-modulated attenuated total reflectance (PM-ATR) characterization of charge injection processes in monolayer-tethered CdSe nanocrystals.

102. Jonathan Page, Benjamin A. Heitz, James R. Joubert, John P. Keogh,[&] Tim Sparer, S. Scott Saavedra, Wei He, *J. Biomed. Mater. Res. A*, **2011**, *97*, 212-217. An *in vitro* study of macrophage and fibroblast interactions with planar supported polymerized lipid bilayers.

103. Benjamin A. Heitz, Juhua Xu, Ian W. Jones, John P. Keogh,[&] Troy J. Comi,[&] Henry K. Hall, Jr., Craig A. Aspinwall, and S. Scott Saavedra, *Langmuir*, **2011**, *27*, 1882-1890. Polymerized Planar Suspended Lipid Bilayers for Single Ion Channel Recordings: Comparison of Several Dienoyl Lipids.

104. Anne M. Simon, Nicole E. Marucci,[&] and S. Scott Saavedra, *Anal. Chem*., **2011**, *83*, 5762–5766. Measuring Photochemical Kinetics in Submonolayer Films by Transient ATR Spectroscopy on a Multimode Planar Waveguide.

105. Chenhao Ge, Kristina S. Orosz, Neal R. Armstrong, and S. Scott Saavedra, *ACS Applied Materials & Interfaces*, **2011**, *3*, 2677–2685. Poly(aniline) nanowires in sol-gel coated ITO: A pH-responsive substrate for planar supported lipid bilayers.

106. Ian W. Jones, Anne M. Simon, S. Scott Saavedra, and H. K. Hall Jr., *Tetrahedron Lett.*, **2011**, *52*, 5547-5549. Synthesis of a Diverse Library of *N,N*-Dimethyamino-Containing Monomers Appropriate for Lipid Head Groups.

107. Nathan W. Polaske, Hsiao-Chu Lin, Anna Tang, Mayunk Mayukh, Luis Oquendo, John T. Green, Erin L. Ratcliff, Neal R. Armstrong, S. Scott Saavedra, and Dominic V. McGrath, *Langmuir*, **2011**, *27*, 14900-14909. Synthesis and Characterization of Phosphonic Acid Functionalized Asymmetric Phthalocyanines.

108. Hsiao-Chu Lin, Nathan W. Polaske, Luis E. Oquendo, Matthew Gliboff, Kristina M. Knesting, Dennis Nordlund, David S. Ginger, Erin L. Ratcliff, Brooke M. Beam, Neal R. Armstrong, Dominic V. McGrath, and S. Scott Saavedra, *J. Phys. Chem. Lett.*, **2012**, *3*, 1154-1158. Electron-Transfer Processes in Zinc Phthalocyanine–Phosphonic Acid Monolayers on ITO: Characterization of Orientation and Charge-Transfer Kinetics by Waveguide Spectroelectrochemistry.

109. Saliya N. Ratnayaka, El Hadj Elandaloussi, Bryan D. Korth, Robert B. Bates, Jeffrey Pyun, Henry K. Hall Jr., and S. Scott Saavedra, *Chem. Phys. Lipids*, **2012**, *8*, 809-812. Studies of Mixed Liposomes with Novel Sorbyl Functionalized Head Group Lipids.

110. Benjamin A. Heitz, Craig A. Aspinwall, and S. Scott Saavedra, "Highly Stable Polymerized Lipid Membranes for Ion Channel Recordings," in *Molecular Self-Assembly: Advances in Chemistry, Biology and Nanotechnology*, Comrie, J. P., ed., Nova Science: Hauppauge, NY, **2013**; pp. 159-182.

111. Ahmed Al-Obeidi,[&] Chenhao Ge, Kristina S. Orosz, and S. Scott Saavedra, *J. Materials*, **2013**, Article ID 676920, DOI:10.1155/2013/676920. ITO/poly(aniline)/sol-gel glass: A pH-responsive substrate for supported lipid bilayers.

112. Elyssia Gallagher, Seid Adem, Christopher Baker, Saliya Ratnayaka, Ian Jones, Henry K. Hall, Jr., S. Scott Saavedra, and Craig A. Aspinwall, *J. Chromatogr. A* **2015**, *1385*, 28-34. Highly stabilized, polymer-lipid membranes prepared on silica microparticles as novel stationary phases for capillary chromatography.

113. Boying Liang, Yue Ju, James Joubert, Erin Kaleta, Rodrigo Lopez,[&] Ian Jones, Henry K. Hall, Jr., Saliya Ratnayaka, Vicki Wysocki, and S. Scott Saavedra, *Anal. Bioanal. Chem.* **2015**, *407*, 2777-2789. MALDI-TOF MS label-free detection and identification of bacterial toxins captured by membrane receptors in polymerized lipid bilayers.

114. Hsiao-Chu Lin, Gordon A. MacDonald, Yanrong Shi, Nathan W. Polaske, Dominic V. McGrath, Seth R. Marder, Neal R. Armstrong, Erin L. Ratcliff, and S. Scott Saavedra, *J. Phys. Chem. C*, **2015**, *119*, 10304–10313. Influence of Molecular Orientation on Charge-Transfer Processes at Phthalocyanine/Metal Oxide Interfaces and Relationship to Organic Photovoltaic Performance.

115. Ramanan Ehamparam, Nicholas Pavlopoulos, Michael W. Liao, Lawrence J. Hill, Neal R. Armstrong, Jeffrey Pyun, and S. Scott Saavedra, *ACS Nano*, **2015**, *9*, 8786–8800. Band Edge Energetics of Heterostructured Nanorods: Photoemission Spectroscopy and Waveguide Spectroelectrochemistry of Au-Tipped CdSe Nanorod Monolayers.

116. Leonard Bright, Christopher Baker, Robert Bränström, S. Scott Saavedra, Craig Aspinwall, *ACS Biomater. Sci. Eng.*, **2015**, *1*, 955–963. Methacrylate Polymer Scaffolding Enhances the Stability of Suspended Lipid Bilayers for Ion Channel Recordings and Biosensor Development.

117. Kristina S. Orosz, Ian W. Jones, John P. Keogh,[&] Christopher M. Smith, Kaitlyn R. Griffin,[&] Juhua Xu, Troy J. Comi, H. K. Hall, Jr. and S. Scott Saavedra, *Langmuir*, **2016**, *32*, 1577–1584. Photopolymerization of Dienoyl Lipids Creates Planar Supported Poly(lipid) Membranes with Retained Fluidity.

118. Kai-Lin Ou, Ramanan Ehamparam, Gordon MacDonald, Tobias Stubhan, Wu Xin, R. Clayton Shallcross, Robin Richards, Christoph Brabec, S. Scott Saavedra, and Neal Armstrong, *ACS Appl. Mater. Interfaces*, **2016**, *8*, 19787–19798. Characterization of ZnO Interlayers for Organic Solar Cells: Correlation of Electrochemical Properties with Thin Film Morphology and Device Performance.

119. Yilong Zheng, Anthony J. Giordano, R. Clayton Shallcross, Sean R. Fleming, Stephen Barlow, Neal R. Armstrong, Seth R. Marder, and S. Scott Saavedra, *J. Phys. Chem. C*, **2016**, *120*, 20040–20048. Surface Modification of Indium-Tin Oxide with Functionalized Perylene Diimides: Characterization of Orientation, Charge-Transfer Kinetics and Electronic Structure.

120. Yilong Zheng, Fadi M. Jradi, Timothy C. Parker, Stephen Barlow, Seth R. Marder, and S. Scott Saavedra, *ACS Appl. Mater. Interfaces*, **2016**, *8*, 34089–34097. Influence of Molecular Aggregation on Electron Transfer at the Perylene Dimide/Indium-Tin Oxide Interface.

121. Marvin J. Slepian, Jawaad Sheriff, Marcus Hutchinson, Phat Tran, Naing Bajaj, Joe G.N. Garcia, S. Scott Saavedra, and Danny Bluestein, *J. Biomechanics*, **2017**, *50*, 20-25. Shear-Mediated Platelet Activation in the Free Flow: Perspectives on the Emerging Spectrum of Cell Mechanobiological Mechanisms Mediating Cardiovascular Implant Thrombosis.

122. Mark T. Agasid, Troy C. Comi,[&] S. Scott Saavedra, and Craig A. Aspinwall, *Anal. Chem.*, **2017**, *89*, 1315–1322. Enhanced Temporal Resolution with Ion Channel-Functionalized Sensors Using a Conductance-Based Measurement Protocol.

123. Yilong Zheng and S. Scott Saavedra, *Anal. Sci.*, **2017**, *33*, 427-433. Characterization of Charge Transfer Kinetics at Organic/Electrode Interfaces Using Potential-Modulated Attenuated Total Reflectance (PM-ATR) Spectroscopy.

124. R. Clayton Shallcross, Yilong Zheng, S. Scott Saavedra and Neal R. Armstrong, *J. Amer. Chem. Soc.*, **2017**, *139*, 4866–4878. Determining Band-Edge Energies and Morphology-Dependent Stability of Formamidinium Lead Perovskite Films Using Spectroelectrochemistry and Photoelectron Spectroscopy.

125. Ramanan Ehamparam, Luis E. Oquendo, Michael W. Liao, Ambjorn Karl Brynnel,[&] Kai-Lin Ou, Neal R. Armstrong, Dominic V. McGrath, and S. Scott Saavedra, *ACS Appl. Mater. Interfaces*, **2017**, *9*, 29213–29223. Axially Bound Ruthenium Phthalocyanine Monolayers on Indium Tin Oxide: Structure, Energetics and Charge Transfer Properties.

OTHER PUBLICATIONS:

1. G.A. Truskey, D.J. Iuliano,[&] and S.S. Saavedra, *FASEB J.*, **5**, *A372* (1991). The Effect of the Conformation of Adsorbed Fibronectin on Endothelial Cell Adhesion.

2. B.L. Potter,[&] D.S. Walker, L. Greer,[&] S.S. Saavedra and W.M. Reichert, *Proc. SPIE-Int. Soc. Opt. Eng.*, **1991**, *1368*, 251-257. Multimode, Multilaser Coupling into Polymer Thin Film Waveguides.

3. L. Yang, M.J. Huskey, N.R. Armstrong, and S.S. Saavedra, *Polymeric Materials Science and Engineering*, **1997**, *76*, 453. Chemical and Biochemical Sensors Based on Sol-Gel Derived, Laminate Planar Waveguide Structures.

4. S.B. Mendes, J. Burke, S.S. Saavedra, L. Li, and N. Peyghambarian, *Optical Interference Coatings - OSA Technical Digest Series*, **1998**, *9*, 397-399. How to determine the spectral properties of a 3-nm thin film?

5. N.R. Armstrong, D. Dunphy, P. Smolenyak, H. Rengel, S. Mendes, S.S. Saavedra, D.F. O'Brien, G. Wegner, *Polym. Prepr.*, **1998**, *39*, 723-724. Electrochemical Processes of the Polyphthalocyaninatosiloxanes and Related Cofacially Aggregated Phthalocyanine Assemblies.

6. D.R. Dunphy, Sergio B. Mendes, L. Li, J.J. Burke, J.E. Lee, N.R. Armstrong, and S. Scott Saavedra, *Proc. SPIE-Int. Soc. Opt. Eng.*, **1999**, *3602*, 140-148. New Planar Waveguide Attenuated Total Reflectance Techniques for Organic Thin Film Spectrosocopy and Chemical Sensing.

7. S. Scott Saavedra, Paul L. Edmiston, John E. Lee, Laurie L. Wood, Darren R. Dunphy, Rebecca T. Robertson, Elizabeth A. Gabbard, and Sergio B. Mendes, *Proc. SPIE-Int. Soc. Opt. Eng.*, **1999**, *3858*, 146-150. Probing Structure and Function in Planar Supported Protein Films.

8. S. Scott Saavedra, Eric E. Ross, David F. O'Brien, and Tony Spratt, *Polymeric Materials Science and Engineering*, **2003**, *88*, 254. Highly stable planar supported lipid bilayer polymers.

9. S. Jones-Willy, W. Xia, S.S. Saavedra, N.R. Armstrong, in *Biological and Bio-Inspired Materials Assembly*, T. Deming, A.E. Barron, H.-A. Klok, Eds., *Mat. Res. Soc. Symp. Proc.*, **2004**, pp. H6.19.1-H6.19.3. Patterned Deposition of Tobacco Mosaic Virus on Mica Surfaces.

10. Brooke M. Beam, Adam Simmonds, P. Alex Veneman, Erin Ratcliff, Sergio B. Mendes, S. Scott Saavedra, Neal R. Armstrong, *ECS Transactions*, **2009**, *19*, 109-117. Waveguide-Based Chemical and Spectroelectrochemical Sensor Platform.

11. Cai, M., Zhang, H., Dedek, M.M., Saavedra, S.S., Hruby, V.J., *J. Peptide Science*, **2012**, *18*, S49. Selective cell signaling study of GPCR via PWR spectroscopy.

[&] Undergraduate student

[#] High school student

PATENTS:

S.S. Saavedra and E.G. Picozza, "Time-Resolved Fluorescence Detection of Lanthanide Labeled Nucleotides", U.S. Patent No. 4962045-A, Oct 9, 1990; Foreign Patents: EP340675-A2, EP340675-A, JP2017445-A, CA1330030-C, EP340675-B1, DE68923035-E, JP2732892-B2.

D. A. Goldberg, D. C. Howson, S. W. Metzger, D. A. Buttry, S.S. Saavedra, "Sensitive and Rapid Determination of Antimicrobial Susceptibility"; U.S. Patent No. 7687239 B2, Mar 30, 2010.

D. A. Goldberg, D. C. Howson, S. W. Metzger, D. A. Buttry, S.S. Saavedra, "Sensitive and Rapid Determination of Antimicrobial Susceptibility"; U.S. Patent No. 8460887 B2, Jun 11, 2013.

D. A. Goldberg, D. C. Howson, S. W. Metzger, D. A. Buttry, S.S. Saavedra, "Sensitive and Rapid Determination of Antimicrobial Susceptibility"; U.S. Patent No. 8895255 B1, Nov 25, 2014.