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Present Position: Professor & Chair
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Experience:

07/05 - 07/08 Professor
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Brigham Young University-Hawaii
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7/99-1/02 Associate Professor
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Department of Chemistry
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California Institute of Technology
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Education: Spring 1990: Ph.D., University of New Mexico
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1985-1990: Graduate Student
Department of Chemistry
University of New Mexico

Fall 1985: B.S., University of New Mexico (Chemistry)

Awards: 1988/1989 Smith-Dow Graduate Fellowship

Professional Membership: American Chemical Society
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Other Activities:

Secretary, Hawaii Section of the ACS, 1994/1995
Chair Elect, Hawaii Section of the ACS, 1997
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Publications

1. "Prosthetic Group Content and Ligand Binding of a Spinach Catalase", Masaka Hirasawa, Kevin A. Gray, Randy W. Larsen, Mark R. Ondrias, Robert Shaw, K. John Marrow, and David V.B. Knaff, *Biochim. Biophys. Acta* (1988) 994, 229.
2. "Resonance Raman Studies of Cu_A Modified Cytochrome c Oxidase", R. W. Larsen, P. M. Li, R. A. Copel, S. I. Chan, and M. R. Ondrias, *Biochemistry* (1989) 28, 6418.
3. "Dynamics and Reactivity of HbXL99 : A Cross Linked Hemoglobin Derivative", Randy W. Larsen, Mark D. Chavez, Mark R. Ondrias, Scott H. Courtney, Joel M. Friedman, Margaret J. Lin, and Rhoda E. Hirsch, *J. Biol. Chem.*(1990) 265, 4449.
4. "Resonance Raman Characterization of *Chromatium vinosum* Cytochrome c': Effect of pH and Comparison of Equilibrium and Photolyzed Carbon Monoxide Species" J. D. Hobbs, R. W. Larsen, T. E. Meyer, J. H. Hazzard, M. A. Cusanovich, and M. R. Ondrias, *Biochemistry* (1990) 29, 4166.
5. "Room Temperature Characterization of the Dioxygen Intermediates of Cytochrome c Oxidase by Resonance Raman Spectroscopy" Randy W. Larsen, Wei Li, Robert A. Copeland, Bih-Show Lou, Sunney I. Chan, and Mark R. Ondrias, *Biochemistry* (1990) 29, 10135.
6. "Resonance Raman Investigation of a Soluble Cytochrome c₅₅₂ from *Bacillus firmus* RAB" Randy W. Larsen, Mark D. Chavez, David J. Nunez, Michael W. Davidson, David B. Knaff, Terry A. Krulwich, and Mark R. Ondrias, *Arch. Biochem. Biophys.* (1990) 283, 266.
7. "The Nature of Cu_X in Cytochrome c Oxidase" Lian-Ping Pan, Zhuyin Li, Randy Larsen, and Sunney I. Chan, *J. Biol. Chem.* (1991) 266, 1367.
8. "Could Cu_B Act as a Redox Linked Proton Pump in Cytochrome c Oxidase?", Randy W. Larsen, Lian-Ping Pan, Zhuyin Li, Siegfried M. Musser, and Sunney I. Chan, *Proc. Natl. Acad. Sci. USA* (1992) 89, 723-727.
9. "The Effects of pHMB Modification and Heat Treatment on the Cu_A Redox Potential in Cytochrome c Oxidase", Zhuyin Li, Randy W. Larsen, Lian-Ping Pan, and Sunney I. Chan, *J. Biol. Chem.* (1992) 266, 22858-22865.
10. "A Resonance Raman Investigation of the Effects of Cu Binding to Iron-Mesoporphyrin-Histidine-Rich Glycoprotein Complexes", Randy W. Larsen, David J. Nunez, William T. Morgan, Barry B. Muhoberac, and Mark R. Ondrias, *Biophysical J.* (1992) 61, 1007-1017.
11. "Structural Investigation of Heme a Reconstituted Myoglobin", Randy W. Larsen, David J. Nunez, Jason MacLeod, Andrew K. Shiemke, Siegfried M. Musser, Heip-Hoa Nguyen, Mark R. Ondrias, and Sunney I. Chan, *J. Inorg. Biochem.* (1992) 48, 21-31.
12. "Ligand Photolysis and Rebinding Dynamics of Ferrous Cytochrome c Peroxidase at Alkaline pH", J. Wang, R. W. Larsen, S. I. Chan, and M. R. Ondrias, *J. Am. Chem. Soc.* (1992) 114, 1487-1488.

13. "Photo-Initiated Electron Transfer between Cytochrome *c* and Cytochrome *c* Oxidase using a Novel Uroporphyrin/NADH Reducing System", Randy W. Larsen, Jay R. Winkler, and Sunney I. Chan, *J. Phys. Chem* (1992) *96*, 8023-8027.
14. "Conformational Dependence of Carbonmonoxide Ligation Dynamics in Cytochrome *c* Oxidase", B. Lou, R. W. Larsen, S. I. Chan, and M. R. Ondrias, *J. Am. Chem. Soc.* (1992) *115*, 403-407.
15. "Electron Transfer Studies on the Membrane Bound C552 from *Paracoccus denitrificans*", M.H.B. Stowell, R. W. Larsen, J. R. Winkler, D. C. Reese, and S. I. Chan, *J. Phys. Chem* (1993) *97*, 3054-3057.
16. "FT-IR Spectra of the Schiff-Base and Protonated Schiff Bases of 7-Cis and 7,9 DiCis-Retinal", Y. Zhu, R. W. Larsen, and R. S. H. Liu, *Photochem. Photobiol. B* (1993) *95*, 562-565.
17. "Fluorescence Quenching of Reconstituted NCD-4-Labeled Cytochrome-c-Oxidase Complex by Doxyl-Stearic Acids", Musser, S. M., Larsen, R. W., and Chan, S. I., *Biophys. J.* (1993) *65*, 2348-2359.
18. "Mechanisms of the *In Vitro* Antimutagenic Action of Chlorophyllin Against Benzo(A)Pyrene: Studies of Enzyme Inhibition, Molecular Complex Formation, and Degradation of the Ultimate Carcinogen", N. Tachino, D. Gua, W. M. Dashwood, S. Yamane, R. W. Larsen, R. Dashwood, *Mutation Res.* (1994) *308*, 191-203.
19. "Peroxide-Induced Spectral Perturbations of the 280-nm Absorption Band of Cytochrome *c* Oxidase", R. W. Larsen, *FEBS Lett* (1994) *352*, 365-368.
20. "Ligand Photolysis and Recombination of Fe(II)Protoporphyrin IX Complexes in Dimethylsulphoxide", R. W. Larsen, E. W. Findsen, and R. E. Nalliah, *Inorg. Chem. Acta* (1994) *234*, 101.
21. "Spectroscopic Characterization and Molecular Modeling Studies of Caffeine Complexes with DNA-Intercalating Drugs", R. W. Larsen, R. Jasuja, R. K. Hetzler, P. T. Muraoka, V. G. Andrada, and D.M Jameson, *Biophys. J.* (1996) *70*, 443-452.
22. "Cytochrome *c* Peroxidase Complexed with Cytochrome *c* has an Unperturbed Heme Moiety", J. Wang, R. W. Larsen, S. J. Moench, J. D. Satterlee, D. L. Rousseau, and M. R. Ondrias, *Biochemistry* (1996) *35*,453-463.
23. "A Study of the Forces Stabilizing Complexes between Chlorophylls and Heterocyclic Amine Mutagens", R. Dashwood, S. Yamane, and R. W. Larsen, *Environ. Mol. Mut.* (1996) *27*, 211-218.
24. "Transient and Time-Resolved Resonance Raman Investigation of Photoinitiated Electron Transfer in Ruthenated Cytochromes *c*", Simpson, M. C., Millet, F., Larsen, R. W., Hobbs, J. D., Fan, B., and Ondrias, M. R., *Biochemistry* (1996) *35*, 10019-10030.
25. "Structure and Dynamics of CO-Fe(II)Protoporphyrin IX in Dimethylsulphoxide", R. W. Larsen and E. W. Findsen, *Inorg. Chem.* (1996) *35*, 6254-6260.
26. "Photo-Induced Electron Transfer in Porphyrin Donor Acceptor Pairs: Observations on Proton-Mediated Charge Separation", T. Buranda, N. Soice, S.-L. Niu, R. W. Larsen, and M. R. Ondrias, *J. Phys. Chem.* (1996) *100*, 18868-18874.
27. "Photo-Induced Electron Transfer between Nucleosides and Nucleotides Complexed with Tetrakis (4-N-Methylpyridyl)Porphyrin", R. Jasuja, D. M. Jameson, K. Noshijo, and R. W. Larsen, *J. Phys. Chem.* (1997) *101*, 1444-1450.

28. "Photo-Induced Electron Transfer within Self-Assembled Ru(L)₃-Iron Porphyrin Complexes", R. W. Larsen, S.-L. Niu, and K. Dwivedi, *Photochem. Photobiol. Sect A* (1997) 107, 71-75.
29. "In Situ Photoreduction of Cytochrome c Reductase using a Novel Ru(II)tris(2,2'-bipyridine)/EDTA/Ubiquinone Reducing System", R. W. Larsen and S. N. Niu, *J. Bioch. Mole. Biol. Biophys.* (1997) 1, 27-33.
30. "Synthesis and Physical Characterization of Novel Heme-Based Model Systems for Photo-Induced Electron Transfer I. Complexation of a RuProHis Bifunctional Peptide and Microperoxidase-11", B. Fan, D. L. Fontenot, R. W. Larsen, M.C. Simpson, J.A. Shelnett, R. Falcon, L. Martinez, S.L. Niu, S. Zhong, T. Niemczyk, and M.R. Ondrias, *J. Inorg. Chem.* (1997) 36, 3839-3846.
31. "Conformational Modulation of Electron Transfer within Electrostatic Porphyrin:Cytochrome c Complexes", R. W. Larsen, D. H. Omdal, S.N. Niu, R. Jasuja, and D. M. Jameson, *J. Phys. Chem. B* (1997) 101, 8012-8020.
32. "Photolysis and Recombination of (bis-DMSO)Fe(II)Porphyrin Complexes", R. W. Larsen and E. W. Findsen, *Inorg. Chim. Acta* (1998) 271, 119-123.
33. "Peroxide Induced Conformational Changes in Cytochrome c Oxidase", S.N. Niu and R. W. Larsen, *J. Biochem. Mol. Biol. Biophys.* (1998) 1, 287-293.
34. "An Archaeal Aerotaxis Transducer Combines Subunit I Core Structures of Eukaryotic Cytochrome c Oxidase and Bacterial Methyl-Accepting Chemotaxis Proteins", A. Broun, J. R. Bell, T. Freitas, R. W. Larsen, and M. Alam, *J. Bacteriology* (1998) 180, 1642-1646.
35. "Photoactivity of the Red-Shifted Azulenenic Bacteriorhodopsin Analogs", J. R. Bell, R. Muthyala, R. W. Larsen, and R. S. H. Liu, *J. Phys. Chem. A* (1998) 102, 5481-5483.
36. "Volume Changes upon Photolysis of Fully Reduced CO-bound Cytochrome *bo₃* from *Escherichia coli*", R. W. Larsen, J. Osborne, T. Langley and R. B. Gennis, *J. Am. Chem. Soc.* (1998) 120, 8887-8888.
37. "Ground and Excited State Characterization of the Self-Assembled Tetrakis(4-Sulphonatophenyl)Porphine-24-Pyrimidinium Crown-6 Complex in Aqueous Solution", R. W. Larsen, M. K. Helms, Russel W. Everett, and D. M. Jameson, *Photochem. Photobiol.* (1999) 69, 429-434.
38. "Volume Changes Associated with CO-Photolysis from Fe(II)Meso-heme in Detergent Micelles", R. W. Larsen, *Inorg. Chim. Acta* (1999) 288, 74-81.
39. "Spectroscopic Characterization of the Soluble Transducers HtrX and HtrXI from *Halobacter salinarium*", R. W. Larsen, J. Yang, S. Hou, M. K. Helms, D. M. Jameson, and M. Alam, *J. Prot. Chem.* (1999) 18, 269-275.
40. "Volume Changes Associated with CO-Photolysis from Fully Reduced Bovine Heart Cytochrome *aa₃*", R. W. Larsen and T. Langley, *J. Am. Chem. Soc.* (1999) 121, 4495-4499.
41. "Isolation, Characterization and Kinetic Properties of Polymorphic Hemoglobin from the Blue-Trevally (*Caranx melampygus*)", Larsen, R. W., *J. Biochem. Mol. Biol. Biophys.* (1999) 3, 203-210.
42. "Activation Profiles for Intramolecular Electron Transfer in Bovine Heart Cytochrome c Oxidase", R. W. Larsen, *FEBS Lett* (1999) 462, 75-78.

43. "Temperature Dependence of Photo-Induced Electron Transfer within Self-Assembled Uroporphyrin:Cytochrome *c* Complexes", J. Croney, M. K. Helms, D. M. Jameson, and R. W. Larsen, *J. Phys. Chem. B.* (2000) 104, 973-977.
44. "Myoglobin-Like, Heme-containing Aerotaxis Transducers in *Archaea* and *Bacteria*", S. Hou, R. W. Larsen, D. Boudko, W. Riley, E. Karatan, M. Zimmer, G. W. Ordal, and M. Alam, *Nature* (2000) 403, 540-544.
45. "Photochemistry of Fe(II)protoporphyrin IX in Tetramethylene Sulphoxide", R. W. Larsen and E. W. Findsen, *Inorg. Chim. Acta* (2000) 319, 1-7.
46. "A General Method for Photoinitiating Protein Folding in a Non-Denaturing Environment", K. C. Hansen, R. S. Rock, R. W. Larsen, and S. I. Chan, *J. Am. Chem. Soc.* (2000) 122, 11567-11568.
47. "Applications of Photothermal Methods to Membrane Proteins: A Review", B. D. Barker and R. W. Larsen, *J. Biochem. Mol. Biol. Biophys.* (2001) 5, 407-434.
48. "Volume and Thermodynamic Profiles of CO binding to (4-sulphonatophenyl)Fe(II)porphyrin", B. D. Barker and R. W. Larsen, *J. Inorg. Biochem.* (2001) 85, 107-116.
49. "Globin-Coupled Sensor Proteins: Domain Organization and Identification of Heme-Binding Proximal Histidine of Myoglobin-Like Aerotaxis Transducers in *Archaea* and *Bacteria*", S. Hou, T. Freitas, R. W. Larsen, M. Piatibratov, V. Sivozhelozov, A. Yamamoto, E. A. Meleshkevitch, H. S. Yu, M. Zimmer, G. W. Ordal, and M. Alam, *Proc. Natl. Acad. Sci. USA* (2001) 98, 1741-1747.
50. "Temperature Dependence of Photoinduced Electron Transfer within Self-Associated Porphyrin:Guanine Monophosphate Complexes" R. Jasuja, T. L. Hazlett, M. K. Helms, S.-H. Lee, D. M. Jameson, and R. W. Larsen, *Chem. Phys. Lett.* (2001) 350, 515-521.
51. "Activation Volume of Intramolecular Electron Transfer in CO-Mixed Valence Cytochrome *bo*₃ from *Escherichia coli*", Ching, E., Gennis, R. B., and Larsen, R. W., *FEBS Lett.* (2002) 527, 81-85.³
52. "Aerotactic Response in Bacteria to Photoreleased Oxygen", H. S. Yu, J. H. Saw, R. W. Larsen, K. Watts, M. S. Johnson, M. Zimmer, G. Ordal, B. L. Taylor, and M. Alam, *FEMS Lett.* (2002) 217, 237-242.
53. "Ligand Binding Subsequent to CO Photolysis of Methionine Modified Cytochrome *c*", R. W. Larsen, *Biochim. Biophys. Acta* (2003) 1619, 15-22.
54. "Kinetics of Intramolecular Electron Transfer in CO-Mixed Valence Cytochrome *bo*₃ from *Escherichia coli*", Ching, E., Gennis, R. B., and Larsen, R. W., *Biophys. J.* (2003) 84, 2728-2733.
55. "Photo-Induced Electron Transfer within Electrostatically Stabilized Coproporphyrin:Horse-Heart Cytochrome *c* Complexes", J. Croney, M. K. Helms, D. M. Jameson, and R. W. Larsen, *Biophys. J.* (2003) 84, 4135-4143.
56. "Volume and Enthalpy Profiles for CO Rebinding to Horse Heart Myoglobin", J. Miksovská, J. Day and R. W. Larsen, *J. Biol. Inorg. Chem.* (2003) 8, 621-625.
57. "Photothermal Studies of the pH Induced Unfolding of Apo-Myoglobin", J. Miksovská and R. W. Larsen, *J. Prot. Chem.* (2003) 22, 387-394.
58. "A MD Method for Calculating Molecular Volume Changes Efficacious for Biomolecular Simulation", DeVane, R., Ridley, C., Larsen, R., and Space, B., *Biophys. J.* (2003) 85, 2801-2807.

59. "Photothermal Studies of the Photodegradation of (μ -Peroxo)(μ -Hydroxo)bis[bis(bipyridyl)Co(III)] and (μ -Peroxo)(μ -Hydroxo)bis[bis(phenanthroline)Co(III)] Complexes in Water", J. Miksovská and R. W. Larsen, *Inorg. Chimica Acta* (2003) 355C, 116-120.
60. "Measuring the Refolding of β -Sheets with Different Turn Sequences on a Nanosecond Time Scale", Chen, R. P.-Y., Huang, J. J.-T., Chen, H.-L., Jan, H., Velusamy, M., Lee, C.-T., Fann, W., Larsen, R. W., and Chan, S. I., *Proc. Natl. Acad. Sci. USA* (2004) 101/19, 7305-7310.
61. "Time Resolved Photoacoustic Study of Ruthenium(II)bis(2,2'-bipyridine)(4,4'-dicarboxy-2,2'-bipyridine) Complex", J. Miksovská and R. W. Larsen, *J. Inorg. Chem.* (2004) 43, 4051-4055.
62. "Direct measurement of the triplet quantum yield of poly(3-dodecylthiophene) in solution", Yi-Fang Huang, Hsin-Liang Chen, Joseph W. Ting, Chien-Shiun Liao, Randy W. Larsen, and Wunshain Fann, *J. Phys. Chem. B* (2004) 108, 9619-9622.
63. "Ligand Binding Subsequent to NO Photolysis of Partially Unfolded Cytochrome c", J. Miksovská and R. W. Larsen, *J. Chin. Chem. Soc.* (2004) 50, 1127-1132. Special Issue Honoring Sunney I. Chan.
64. "Rapid Photochemical Triggering of Protein Unfolding in a Non-Denaturing Environment", Rock, R. S., Hansen, K. C., Larsen, R. W., and Chan, S. I., *Chem. Phys.* (2004) 307, 201-208.
65. "Thermodynamic Profiles for CO Photodissociation from Heme Model Compounds: Effects of Proximal Ligands", J. Miksovská, J. Norstrom, and R.W. Larsen, *J. Inorg. Chem.* (2005) 44, 1006-1014.
66. "Characterization of Conformational Changes Coupled to Ligand Photodissociation from the Heme Binding Domain of FixL", J. Miksovská, C. Suquet, J. D. Satterlee, and R. W. Larsen, *Biochemistry* (2005) 44, 10028-10036.
67. "Volume and Enthalpy Changes Associated with Intramolecular Electron Transfer in *Escherichia coli* Cytochrome bo_3 ", J. Miksovská, R. B. Gennis, and R. W. Larsen, *FEBS Lett.* (2005) 579, 3014-3018.
68. "Effects of Turn Stability on the Kinetics of Refolding of a Hairpin in a β -sheet", N. N.-W. Kuo, J. J.-T. Huang, J. Miksovská, R. P.-Y. Chen, R. W. Larsen, S. I. Chan, *J. Am. Chem. Soc.* (2005) 127, 16945-16954.
69. "Thermodynamics of Carbon Monoxide Dissociation from the Fully Reduced Cytochrome aa₃ from *Rb. Sphaeroides*", J. Miksovská, R. B. Gennis and R. W. Larsen, *Biochim. Biophys. Acta* (2006) 1757, 182-188.
70. "A Combined Photothermal and Molecular Dynamics Method for Determining Molecular Volume Changes", C. Ridley, J. Miksovská, A. Stern, T. Green, R. DeVane, B. Space, and R. W. Larsen, *Chem. Phys. Lett.* (2006) 418, 137-141.
71. "Spectroscopic and Photothermal Study of Myoglobin Conformational Changes in the Presence of Sodium Dodecyl Sulfate", J. Mikšovská, J. Yom, B. Diamond, and R. W. Larsen, *Biomacromolecules* (2006) 7, 476-482.
72. "Molecular Building Blocks Approach to the Assembly of Zeolite-like Metal-Organic Frameworks (ZMOFs) with Extra-Large Cavities", Y. Liu, V. C. Krastov, R. W. Larsen and M. Eddaoudi, *Chem Comm.* (2006) 14, 1488-1451.

73. "Metal-Organic Framework Diversity via Heterocoordination of a Multifunctional Ligand: SrAl₂ and a Novel (3,4)-Connected Network", J. F. Eubank, R. D. Walsh, P. Poddar, H. Srikanth, R. W. Larsen and M. Eddaoudi, *Crystal Growth and Design* (2006) 6, 1453-1457.
74. "pH Dependence of the Thermodynamic Profiles for Mixed Valence Cytochrome c Oxidase from Bovine Heart", R. W. Larsen, *invited Paper: Photochem. Photobiol. Sci.*,(2006) 5, 603-610.
75. "Time-Resolved Thermodynamics of Ligand Binding in Heme Proteins", J. Miksovská, and R. W. Larsen, *invited paper: Coord. Chem. Rev.* (2007) 251, 1101-1127.
76. "Photophysical Studies of Cu-Hydroxy Nanoballs in Solution", R. W. Larsen, G. McManus, J. Perry and M. Zaworotko, *Inorg. Chem.* (2007) 46, 5904-5910.
77. "Evidence for Fast Conformational Change Upon Ligand Dissociation in the HemAT Class of Bacterial Oxygen Sensors", A. Mokdad, C. Suquet, J. D. Satterlee, and R. W. Larsen, *FEBS Lett.* (2007) 581, 4512-4516.
78. "Photophysical Studies of the *Trans* to *Cis* Isomerization of the Push-Pull Molecule: 1-(pyridin-4-yl)-2-(N-methylpyrrol-2-yl)-Ethene (mepepy)", A. Mokdad, J. Belof, S. W. Yi, S. E. Shuler, M. L. McLaughlin, B. Space and R. W. Larsen, *J. Phys. Chem. A.* (2008), 112, 8310-8315.
79. "How Fast do Metal Organic Polyhedra Form in Solution? Kinetics of [Cu₂(5-OH-bdc)₂L₂]₁₂ Formation in Methanol", R. W. Larsen, *J. Am. Chem. Soc.* (2008), 130, 11246-11247.
80. "Zeolite- Metal-Organic Frameworks (ZMOFs) as Platforms For Applications: On Metalloporphyrin-Based Catalysis", M. H. Alkordi, Y. Liu, R. W. Larsen, J. F. Eubank and M. Eddaoudi, *J. Am. Chem. Soc.* (2008), 130, 12639-12641.
81. "How Well Should the Active Site and the Specific Recognition Be Defined for Proficient Catalyses? —Effective and Cooperative Polyphenol/Catechol Oxidation and Oxidative DNA Cleavage by a Copper(II)-Binding and H-bonding Copolymer", V. Lykourinou, A. I. Hanafy, G. F. Z. da Silva, K. S. Bisht, R. W. Larsen, B. T. Livingston, A. Angerhofer, and L-J. Ming, *Eur. J. Inorg. Chem.* (2008), 16, 2584-2592.
82. "Photothermal Studies of CO Photodissociation from Horse radish and Soybean Peroxidases", A. Mokdad, J. Miksovská, R. W. Larsen, *Biochim. Biophys. Acta* (2009), 1794, 1558-1563.
83. "Kinetic and Thermodynamic Characterization of Dihydrotestosterone-Induced Conformational Perturbations in Androgen Receptor Ligand Binding Domain" R. Jasuja, J. Ulloor, C. M. Yengo, K. Choong, D. Jacobs, R. Swerdloff, J. Miksovská, R. W. Larsen, and S. Bhasin, *Mol. Endo* (2009), 23, 1231-1241.
84. "Co-crystal controlled solid-state synthesis of a thermally stable nicotinate analogue that sustains an isostructural series of porous metal-organic materials", J. A. Perman, K. Dubois, F. Nouar, S. Zoccali, L. Wojtas, M. Eddaoudi, R. W. Larsen and M. J. Zaworotko, *Cryst. Growth. Des.* (2009), 9, 5021-5023.
85. "Temperature and Concentration Control over Interpenetration in a Polymorphic Metal-Organic Material", J. Zhang, L. Wojtas, R. W. Larsen, M. Eddaoudi and M. J. Zaworotko, *J. Am. Chem. Soc.* (2009), 131, 17040-17041.
86. "Photothermal Studies of the Room Temperature Photoinduced Spin State Change in Fe(III)(Salten)(Mepepy) Complex", A. Mokdad and R. W. Larsen, *Inorg. Chimica. Acta* (2010), 363, 3338-3344.

87. "Excited State Properties of 9-Amino Acridine Adsorbed onto α Zr-Phosphate Galleries", C. Vetromile, J. Permon, M. Cheney, M. J. Zaworotko, and R.W. Larsen, *Spectrochim. Acta A Mol. Biomol. Spectr.* (2011), 78, 648-652.
88. "Sub-Nanosecond Photolysis Studies of Fe²⁺Protoporphyrin IX Solubilized in Neat Dimethyl Sulphoxide", R. W. Larsen, *Inorg. Chim. Acta* (2011), 370, 45-49.
89. "Time Resolved Thermodynamics Associated with Ligand Photorelease in Heme Peroxidases and Globins: Open Access Channels versus Gated Ligand Access", C. M. Vetromile, J. Miksovská and R.W. Larsen, *Biochim. Biophys. Acta* (2011), Invited Review, 1814, 1065-1076.
90. "Solid State X-Ray Structural Characterization and Solution Spectroscopy of a Dodecyloxy Copper Nanoball", J. J. Perry, V. Kravstov, M. J. Zaworotko, and R. W. Larsen, *Cryst. Growth. Design* (2011), 11, 3183-3189.
91. "Mimicking Heme Enzymes in the Solid State: Metal-Organic Materials with Selectively Encapsulated Heme ", R. W. Larsen, L. Wojtas, J. Permon, R. K. Musselman, M. J. Zaworotko, and C. M. Vetromile, *J. Am. Chem. Soc.* (2011), 133, 10356-10359.
92. "Solution Stability of Cu(II) Metal Organic Polyhedra", C. M. Vetromile, A. Lazano, S. Feola, and R. W. Larsen, *Inorg. Chim. Acta*, (2011), 378, 36-41.
93. "Ground and Excited State Properties of Zn(II) tetrakis(4-tetramethyl pyridyl) Porphyrin Specifically Encapsulated within an Zn HKUST Metal Organic Framework", R. W. Larsen, J. Miksovská, R. L. Musselman and L. Wojtas, *J. Phys. Chem. A* (2011), 115, 11519-11524.
94. "The Interplay of Turn Formation and Hydrophobic Interactions on the Early Kinetic Events in Protein Folding", J. J-T. Huang, R. W. Larsen and S. I. Chan, *Chem. Comm.* (2012), 48, 487-497.
95. "Understanding Ion Sensing in Zn(II) Porphyrins: Spectroscopic and Computational Studies of Nitrite/Nitrate Binding", C. Whittington, W. A. Maza, H. Woodcock, and R. W. Larsen, (2012), *Inorg. Chem.*, in press.

Manuscripts in Preparation

96. "Photo-Physical Studies of Ru(II)tris(2,2'-bipyridine) Confined within a Zn(II)-Trimesic Acid Metal Organic Framework", R. W. Larsen and L. Wojtasz, *Inorg. Chem.*, manuscript in preparation.
97. "Applications of Photoacoustic Calorimetry in Chemistry and Biology", R. W. Larsen, W. A. Maza, T. A. Word and C. M. Vetromile, *Invited Review, Trends in Photochemistry and Photobiology*, manuscript in preparation.
98. "Direct Observation of Molar Volume and Enthalpy Changes Associated with the Fast Folding of Horse Heart Cytochrome c", T. Word and R. W. Larsen, manuscript in preparation.
99. "Fluorescent Properties and Resonance Energy Transfer Applications of 3,4-bis(2,4-difluorophenyl)-maleimide". K P. Nacheva, W. Maza, D. Z. Mayer, F. Fronczek, R. W. Larsen, R. Manetsch, in preparation.
100. "Time Resolved Thermodynamics of Ligand Binding to Sol Gel Encapsulated Horse Heart Myoglobin", C. M. Vetromile and R. W. Larsen, *Biophys. J.*, manuscript in preparation.

101. "Probing the Mechanism of Metal Organic Polyhedra Formation in Solution" C. M. Vetromile, C. Young, R. W. Larsen, *Inorg. Chem.*, manuscript in preparation.
102. "Fitting to Lifetime Distributions in Photoacoustic Calorimetry", R. W. Larsen, manuscript in preparation.
103. "Time Resolved Photoacoustic Calorimetry and Debye-Hückel Theory: Determining Electrostriction Associated with Excited State Ru(II)(L)₃ Complexes ", A. Mokdad and R. W. Larsen, manuscript in preparation.
104. "Photothermal Studies of Ligand Binding to the Heme Domain of the Direct Oxygen Sensor (DOS) in *Escherichia coli*", J. Miksovská, C. Suquet, J. D. Satterlee , and R. W. Larsen, manuscript in preparation.
105. "Photothermal Studies of CO Binding to Chloramine-T Modified Horse Heart Cytochrome c", T. Word and R. W. Larsen, manuscript in preparation.

Book Chapters/Sections

1. "Time-Resolved Resonance Raman Spectroscopy of Biological Molecules", M. R. Ondrias, M. C. Simpson, and R. W. Larsen, in *Modern Techniques in Raman Spectroscopy*, J.J. Laserna, Ed., Wiley New York, 1995.
2. "Structure-Function Relationships in Metalloproteins", J. Miksovská and R. W. Larsen, in *Methods in Enzymology: Biophotonics*, Marriott, G., Ed., (2003), 360, pp 302-329.
3. "Early Kinetic Events in Protein Folding: The Development and Applications of Caged Peptides" Chan, S. I., Huang, J.-T. J., Larsen, R. W., Rock, R. S. and Hansen, K. C. in "*Dynamic Studies in Biology: Phototriggers, Photoswitches and Caged Compounds*", ed. by M. Gorldner and Givens, WILEY-VCH Verlag GmbH & Co. KgaA, Germany (2005).
4. "Time-resolved Thermodynamics of pH Induced Protein Folding", J. Miksovská and R. W. Larsen, in *Methods in Protein Structure and Stability Analysis: Conformational Stability, Size, Shape and Surface of Protein Molecules*, V. N. Uversky and E. A. Permyakov, Eds., Nova Science Publishers, (2007) pp 159-187.
5. "Zeolites Embrace Metal-Organic Frameworks: Building Block Approach to the Design and Synthesis of Zeolite-Like Metal Organic Frameworks (ZMOFS)", M. Eddaoudi, J.F. Eubank, Y. Liu, V. Krastov, R.W. Larsen, J.A. Brandt, in *Studies in Surface Science and Catalysis 170B (From Zeolites to Porous MOF Materials)*, Elsevier, (2007), 2021-2029.
6. " Exploring Biomolecular Thermodynamics in Aqueous and Non-Aqueous Environments using Time Resolved Photothermal Methods", R. W. Larsen, C. M. Vetromile, W. A. Maza, K. Pham and J. Miksovská, *Proteins in Solution and at Interfaces: Methods and Applications in Biotechnology and Materials Science*, J. M. Ruso and Angel Pineiro, Eds., Wiley and Sons, New York, 2011, in press.

Meeting Abstracts

1. "Resonance Raman Studies of the Structure and Dynamics of pHMB Modified Cytochrome c Oxidase", R. W. Larsen, P. M. Li, S. I. Chan, and M. R. Ondrias, American Chemical Society, Southwest Regional Meeting, Little Rock Arkansas, December 1987.

2. "Resonance Raman Studies of Cu_A Modified Cytochrome c Oxidase", R. W. Larsen, P. M. Li, R. A. Copeland, S. I. Chan, and M. R. Ondrias, Thirty First Annual Biophysical Society Meeting, Phoenix, Arizona 1987.
3. "Resonance Raman Characterization of the Equilibrium and Transients Species of Cytochrome c' from C. vinosum", J. D. Hobbs, R. W. Larsen, T. E. Meyer, M. A. Cusanovich, and M. R. Ondrias, *ibid.*
4. "Resonance Raman Characterization of Two Room Temperature Dioxygen Intermediates of Cytochrome c Oxidase", R. W. Larsen, W. Li, R. A. Copeland, S. I. Chan, and M. R. Ondrias, American Chemical Society, Southwest Regional Meeting, Corpus Christi, Texas, December 1988.
5. "The Structural Basis for Cross Linking Induced Functional Effects in HbXL99 : A Resonance Raman Study", R. W. Larsen, M. D. Chavez, J. M. Friedman, and M. R. Ondrias, Thirty Second Annual Biophysical Society Meeting, Cincinnati, Ohio, February 1989.
6. "Resonance Raman Characterization of the Dioxygen Intermediates in Cytochrome c Oxidase", R. W. Larsen, W. Lei, R. A. Copeland, S. I. Chan, and M. R. Ondrias, *ibid*
7. "Resonance Raman Studies of the Interaction of Meso-heme and Copper with Histidine-Rich Glycoprotein", B. B. Muhoberac, R. W. Larsen, D. J. Nunez, W. T. Morgan, and M. R. Ondrias, Thirty Third Annual Biophysical Society Meeting, Baltimore, Maryland, February 1990.
8. "Resonance Raman Study of the Non-Covalent Complex Formed by Cytochrome c and Cytochrome c Peroxidase", J. L. Wang, R. W. Larsen, S. J. Moench, J. D. Satterlee, and M. R. Ondrias, *ibid.*
9. "Structure and Reactivity of Heme a Reconstituted Myoglobin and Heme a Reconstituted Horseradish Peroxidase", R. W. Larsen, D. J. Nunez, J. MacLeod, M. R. Ondrias, and S. I. Chan, Thirty Fourth Annual Biophysical Society National Meeting, San Francisco, California, February 1991.
10. "The Nature of Cu_X in Cytochrome c Oxidase", L. P. Pan, Z. Li, R. W. Larsen, and S. I. Chan, *ibid.*
11. "The Effects of pHMB-Modification and Heat Treatment on the Cu_A Reduction Potential of Cytochrome c Oxidase", Z. Li, R. W. Larsen, L. P. Pan, and S. I. Chan, *ibid.*
12. "Resonance Raman Spectroscopy of Photoinduced Electron Transfer Reactions in a Ruthenium Bis-Bipyridine Dicarboxybipyridine Cytochrome c (Lys 72) Derivative" J. D. Hobbs, D. J. Nunez, R. W. Larsen, L. P. Pan, F. Millet, and M. R. Ondrias, *ibid.*
13. "Photo-Induced Electron Transfer between Cytochrome c and Cytochrome c Oxidase using a Novel NADH/Uroporphyrin Reducing System", R. W. Larsen, J. R. Winkler, and S. I. Chan, ASBM/Biophysical Society Joint Meeting, Houston, TX, February, 1992.
14. "Conformational Dependence of Carbonmonoxide Ligation in Cytochrome c Oxidase", B. S. Lou, R. W. Larsen, S. I. Chan, and M. R. Ondrias, *ibid.*
15. "Non-Covalent Complexation between Cytochrome c Peroxidase with Cytochrome c Shows Changes in Protein Structure. not in Heme Environment", J. L. Wang, R. W. Larsen, S. J. Moench, J. D. Satterlee, and M. R. Ondrias, *ibid.*
16. "Electron Transfer Studies in the Membrane Bound C552 from Paracoccus denitrificans", M H. B. Stowell, R. W. Larsen, D. C. Rees, and S. I. Chan, *ibid.*

17. "Resonance Raman Spectra of Cytochrome *c* Oxidase with Q-Band Excitation", B.S. Lou, R. W. Larsen, S. I. Chan, and M. R. Ondrias, Thirty Seventh Annual Biophysical Society National Meeting, Washington D. C., February 1993.
18. "Conformational Effects of Hydrogen Peroxide Binding to Cytochrome *c* Oxidase", R. W. Larsen and D. H. Omdal, *ibid.*
19. "Molecular Modeling Studies of Caffeine Complexes with DNA-Intercalating Drugs", R. W. Larsen, R. K. Hetzler, P. T. Muraoka, V. and G. Andrada, Thirty Eighth Annual Biophysical Society National Meeting, New Orleans LA, March 1994.
20. "Protein: Porphyrin Interactions and Electron Transfer Activity of Anionic Porphyrin: Myoglobin Complexes", R. W. Larsen and D. H. Omdal, *ibid.*
21. "A Molecular Mechanics and Resonance Raman Investigation of the Conserved Nonplanar Heme Distortions in Cytochromes *c*", J. D. Hobbs, K. K. Anderson, L. Lou, J. M. E. Quirke, R. W. Larsen, and J. A. Shelnut, *ibid.*
22. "Nonplanar Heme Distortions in Cytochromes *c* Investigated Using Resonance Raman Spectroscopy", K. K. Anderson, L. Lou, K. D. Stanely, R. W. Larsen, J. M. Quirke, and J. A. Shelnut, 1994 International Conference on Raman Spectroscopy, Hong Kong.
23. "Ligand Photolysis and Recombination of Fe(II) Protoporphyrin IX complexes in dimethyl sulphoxide" R. W. Larsen, E. W. Findsen, and R. E. Nalliah, Thirty Ninth Annual Biophysical Society National Meeting, San Francisco, CA, March 1995.
24. "Effect of Porphyrin Electronic Environment upon Electron Transfer Characteristics in Anionic Porphyrin-Cytochrome *c* Complexes", D. H. Omdal and R. W. Larsen, *ibid.*
25. "*In Situ* Photo-Reduction of Bovine Cytochrome *c* Reductase using a Novel Ru(II)*tris*(bipyridine)/EDTA/Ubiquinone Reducing System", S.-L. Niu and R. W. Larsen, *ibid.*
26. "Time-Resolved Transient Raman and Absorption Spectroscopy: Photo-Induced Electron Transfer in Porphyrin-Quinone Donor Acceptor Pairs", T. Buranda, S.-L. Niu, R. W. Larsen, and M. R. Ondrias, *ibid.*
27. "Time-Resolved Optical Studies on the Electron Transfer Structural Dynamics of Ruthenium Polypyridine Modified Microperoxidase", B. Fan, R. W. Larsen, L. Matrinez, and M. R. Ondrias, *ibid.*
28. "Structure and Dynamics of CO-Fe(II)Protoporphyrin IX complexes in Dimethyl sulphoxide", R. W. Larsen and E. W. Findsen, American Chemical Society Annual Meeting, August 1995, Chicago, IL.
29. "Photo-Induced Electron Transfer between Nucleosides and Nucleotides complexed with Tetrakis(4methylpyridyl)porphine", R. Jasuja, D. M. Jameson, C. K. Noshijo, and R. W. Larsen, Fortieth Annual Biophysical Society National Meeting, Baltimore, MD, February 1996.
30. "Photo-Induced Electron Transfer between Water Soluble Free-Base Porphyrins and Ubiquinones", R. W. Larsen and S. L. Niu, *ibid.*
31. "Characterization and Electron Transfer Studies on a Coordination Complex Between Microperoxidase-11 and Ruthenium trisbipyridine derivatised Bifunctional Peptides", B. Fan, R. W. Larsen, C. Simpson, S. Niu, R. Falcon, L. Marteniz, D. L. Fontenot, and M. R. Ondrias, *ibid.*

32. "Photo-Induced Electron Transfer in Porphyrin-Quinone Donor Acceptor Pairs:pH Modulation of Charge Separation Yield", T. Buranda, N. Soice, S. Niu, R. Larsen, and M. R. Ondrias, *ibid.*
33. "Thermo- and Conformational Dynamics of Photo-Induced Electron Transfer between Guanosine Mono-Phosphate and Tetra(4-N-Methylpyridyl)Porphyrin Singlet Excited State", R. Jasuja, D. M. Jameson, T. Hazlett, and R. W. Larsen, Forty First Annual Biophysical Society National Meeting, New Orleans, LA, March 1997.
34. "Ligand Photolysis and Recombination of CO-Cytochrome *c* in 4.5M Guanidine-HCl: Relevance to Protein Folding", S.L. Niu and R. W. Larsen, *ibid.*
35. "Conformational Dynamics Associated with CO-Photolysis from Fe(II)Meso-heme in Detergent Micelles", R. W. Larsen, *ibid.*
36. "Cu_B as a Proton Pump in Terminal Oxidases: An Indirect Coupling Model", T. Langley and R. W. Larsen, Forty Second Annual Biophysical Society National Meeting, Kansas City, MO, February 1998.
37. "Volume and Thermodynamic Profiles of CO-Binding to Escherichia coli Cytochrome *bo*", R. W. Larsen and R. B. Gennis, *ibid.*
38. "Photoinduced Electron Transfer within Self-Assembled Electrostatic Complexes of Horse Heart Cytochrome *c* and Coproporphyrin", J. C. Croney, M. K. Helms, D. M. Jameson, and R. W. Larsen, *ibid.*
39. "An Attempt to Study the Photocycles of Azulenic Bacteriorhodopsin Analogs", J. R. Bell, R. Muthyala, R. W. Larsen, M. Alam, and R. S. H. Liu, *ibid.*
40. "Temperature Dependence of Photoinduced Electron Transfer within Uroporphyrin:Cytochrome *c* Complexes", J. C. Croney, M. K. Helms, D. M. Jameson, and R. W. Larsen, Forty Third Annual Biophysical Society National Meeting, Baltimore, MD, February, 1999.
41. "Pressure Dependence of Intramolecular Electron Transfer in Cytochrome *c* Oxidase", R. W. Larsen, *ibid.*
42. "Photochemical and Photophysical Characterization of Ubiquinone Photoinitiators", T. Langley and R. W. Larsen, *ibid.*
43. "Ligand Photolysis and Recombination of Fe(II)PPIX in Mixed DMSO/Water Solvent Systems", E. W. Findsen and R. W. Larsen, *ibid.*
44. "Ground and Excited State Characterization of Anionic Photosensitizers with Cationic Macrocycles", R. W. Larsen and T. Freitas, Association for Biochemistry and Molecular Biology Annual Meeting, San Francisco, CA, May, 1999.
45. "Fluorescence Studies of Self-Assembled Complexes in Aqueous Solution: Models for Protein:Protein and Protein:Small Molecule Interactions", R. W. Larsen, M. K. Helms, and D. M. Jameson, 4th International Weber Symposium on Innovative Fluorescence Methodologies in Biochemistry and Medicine, Maui, HI, June, 1999.
46. "Isolation, Characterization, and Kinetic Properties of Polymorphic Hemoglobin from the Blue Trevally (*Caranx melampygus*)", R. W. Larsen, J. R. Bell, and W. J. McAuliffe, Forty Fourth Annual Meeting of the Biophysical Society, New Orleans, LA, February, 2000.
47. "Photothermal Beam Deflection Studies of CO-binding to Water Soluble Porphyrins", R. W. Larsen and B. D. Barker, *ibid.*

48. "Photochemistry of Fe(II)protoporphyrin IX in Tetramethylene Sulphoxide", R. W. Larsen and E. W. Findsen, PacifiChem 2000, Honolulu, HI, December 2000.
49. "Photothermal Beam Deflection Studies of the Br-L and L-M₁ Transitions in Bacteriorhodopsin: A Second Look", B. Barker and R. W. Larsen. *ibid.*
50. "Thermodynamics of Intramolecular Electron Transfer in Cytochrome *bo*₃", E. Ching, R. B. Gennis, and R. W. Larsen, Forty Fith Annual Meeting of the Biophysical Society, Boston, MA, February, 2001.
51. "Ligand Binding in Fe(II)protoporphyrin IX in Neat Tetramethylene Sulphoxide", R. W. Larsen, P. Wheeler, and E. W. Findsen, *ibid.*
52. "Photothermal Beam Deflection Studies of the Br-L and L-M₁ Transitions in Bacteriorhodopsin: A Second Look", B. Barker and R. W. Larsen. *ibid.*
53. "Ligand Binding Subsequent to CO Photolysis of Methionine Modified Cytochrome *c*", R. W. Larsen, Forty Sixth Annual Meeting of the Biophysical Society, San Francisco, CA, February, 2002.
54. "Characterization of Conformational Changes During the N to I Transition in Apomyoglobin", J. Miksovskaja and R. W. Larsen, *ibid.*
55. "Photothermal Studies of Intramolecular Electron Transfer in Cytochrome *bo*₃ from *E. coli*", R. W. Larsen, American Chemical Society National Meeting, Orlando, FL, April, 2002.
56. "Intramolecular Electron Transfer in Heme/Copper Oxidases: A Tale of Two Enzymes", R. W. Larsen, *ibid.*
57. "Time Resolved Photoacoustic Study of the Ruthenium(II)bis(2,2'-bipyridyl)(4,4'-dicarboxy-2,2'-bipyridine) Complex", J. Miksovskaja and R. W. Larsen, *ibid.*
58. "Fluorescence Studies of Energy Landscapes in Electron Transfer", R. W. Larsen, 5th International Weber Symposium on Innovative Fluorescence Methodologies in Biochemistry and Medicine, Kauai, HI, June, 2002.
59. "Study of Ligand Photodissociation from the Heme Domain of bjFixL and EcDos", J. Miksovskaja, J. D. Satterlee, and R. W. Larsen, Forty Seventh Annual Meeting of the Biophysical Society, San Antonio, TX, March, 2003.
60. "A Novel Porphyrin-Polymer System for Biomimetic Oxidation", A. King, L.-J. Ming, and R. W. Larsen, *ibid.*
61. "Photothermal Studies of the Bacteriorhodopsin Photocycle", J. Day, R. W. Larsen, *ibid.*
62. "Photothermal Studies of the Photodegradation of (μ-Peroxo)(μ-Hydroxo)bis[bis(bipyridyl)Co(III)] and (□-Peroxo)(□-Hydroxo)bis[bis(phenanthroline)Co(III)] Complexes in Water", J. Miksovskaja and R. W. Larsen, *ibid.*
63. "Photothermal Studies of CO Photolysis from Methionine Sulfoxide Modified Cytochrome *c*", R. W. Larsen, Forty Seventh Annual Meeting of the Biophysical Society, San Antonio, TX, March, 2003.
64. "Characterization fo the Heme Domains of FixL and EcDos Proteins", J. Miksovskaja, J. D. Satterlee, and R. W. Larsen, *ibid.*

65. "Volume and Enthalpy Profiles for Single Electron Input into Fully Oxidized Bovine Cytochrome c Oxidase", J. Day and R. W. Larsen, *ibid.*
66. "Photothermal Studies of CO-Photolysis from Methionine Sulfoxide Modified Cytochrome c", R. W. Larsen, Forty Eight Annual Meeting of the Biophysical Society, Baltimore, MD, Feb, 2004.
67. "Characterization of the Ligand Rebinding to the Heme Domain of FixL and EcDOS Proteins", J. Miksovskaja, J.D. Satterlee, and R. W. Larsen, *ibid.*
68. "Volume and Enthalpy Profiles for Single Electron Input into Fully Oxidized Bovine Cytochrome c Oxidase", J. Day and R. W. Larsen, *ibid.*
69. "Spectroscopic and Photothermal Study of Myoglobin Conformational Changes in the Presence of Sodium Dodecyl Sulfate", Miksovskaja, J., Yom, J., Diamond, B., and Larsen, R.W., 19 Symposium of the Protein Society, Boston, MA, July 30-August 3, 2005.
70. "Spectroscopic and Photothermal Study of Myoglobin Conformational Changes in the Presence of Sodium Dodecyl Sulfate", Miksovskaja, J., Yom, J., Diamond, B., and Larsen, R.W., 230th ACS National Meeting, in Washington, DC, Aug 28-Sept 1, 2005.
71. "Time Resolved Photoacoustic Calorimetry Studies of CO Dissociation From Fully Reduced and Mixed Valence Forms of Bovine Cytochrome C Oxidase", R. W. Larsen, 49th Annual Meeting of the Biophysical Society, Long Beach, CA, Feb 12-16, 2005.
72. "Photothermal Studies of CO Binding to Human Hemoglobin", J. Ganley, R. W. Larsen, *ibid.*
73. "Biophysical Studies of Heme Oxygen Sensors", R. W. Larsen, 57th Southeast Regional Meeting of the American Chemical Society, November 1-4, 2005, Memphis, TN.
74. "Photo-Induced pH Changes in Nafion Thin Films", A. Gorden, E. Trout, R.W. Larsen, *ibid.*
75. "Photothermal Studies of Ligand Binding to Horseradish Peroxidase", J. Ganley, R. W. Larsen, 3rd Annual Florida Inorganic Mini-Symposium, Univ. of Florida, Sept. 2005.
76. "Biophysical Studies of Heme Oxygen Sensors", R. W. Larsen, 81st Florida Meeting of the American Chemical Society, Orlando, FL, May, 2005.
77. "Photothermal Studies of pH Induced Folding in PolyGlutamic Acid", D. Lekic and R. W. Larsen, 50th Annual Meeting of the Biophysical Society, Salt Lake City, Utah February 2006.
78. "Thermodynamics of Ligand Binding to the Oxygen Sensor HemeAT-Bs", A. Mokdad, J. D. Satterlee and R. W. Larsen, *ibid.*
79. "Photothermal Studies of CO Mixed Valence Bovine Heart Cytochrome c Oxidase", R. W. Larsen, *ibid.*
80. "Proton Coupled Electron Transfer in Heme/Copper Oxidases", R. W. Larsen, 231st Meeting of the ACS, San Francisco, CA September 2006.
81. "Photophysical Properties of Three Calix[4]Resorcinarenes of Amphiphilic Character", W. Maza, S. N. Parulekar, K. S. Bisht and R. W. Larsen 60th Southeast Regional Meeting of the American Chemical Society, November, 2007, Greenville, SC.

82. "Excited State Properties of 9-Amino Acridine Adsorbed onto α -Zirconium Phosphate Galleries", C. Vetromile, M. L. Chaney, J. A. Perman, A. Mokdad, M. J. Zaworotko and R. W. Larsen, *ibid*.
83. "Photothermal Studies of CO Binding to Horseradish Peroxidase and Soybean Peroxidase", A. Mokdad and R. W. Larsen, *ibid*.
84. "Nanosecond Calorimetry: Applications in Chemistry and Biology", R. W. Larsen, 2007 Meeting of the Florida Section of the American Chemical Society, May, 2007, Orlando, FL.
85. "Transient Optical and Photothermal Studies of CO-binding to CT-cytochrome c at high pH", D. Lekic and R. W. Larsen, 51st Meeting of the Biophysical Society, Baltimore MD, March 2007.
86. "Photothermal Studies of CO binding to the Heme Domain of the CO sensor CooA from *Rhodospirillum rubrum*", A. Mokdad, J. Burstyn, and R. W. Larsen, *ibid*.
87. "Photothermal Studies of CO Photodissociation from an Engineered CcOMb Containing a Cu₈ Ligand Binding Site", R. W. Larsen and Y. Lu, *ibid*.
88. "Time Resolved Thermodynamics of Inter-Molecular Electron Transfer Between Water Soluble Anionic Free-Base Porphyrins and Ubiquinone", W. Maza and R.W. Larsen, 2008 South East Regional Meeting of the ACS, Nashville, Tennessee November 12-14.
89. "Time-Resolved Thermodynamics of CO Photolysis from An Engineered Copper Center in Sperm Whale Myoglobin", M. Small, Y. Lu and R. W. Larsen, *ibid*.
90. "Photophysical Characterization of Tetra(N-methyl-4-pyridyl) Porphyrin Intercalated within Zirconium Phosphate Galleries", C. M. Vetromile, A. Boyle and R. W. Larsen, *ibid*.
91. "Transient Optical and Thermodynamic Studies of CO Binding to Fe²⁺ Microperoxidase-11 Immobilized in an α -Zirconium Phosphate Lattice, R. W. Larsen, 2008 Meeting of the Biophysical Society, Long Beach, CA, February 2008.
92. "Photothermal Studies of Ligand Photolysis from Two Heme Peroxidases", A. Mokdad and R.W. Larsen, *ibid*.
93. "Applications of Metal Organic Materials in Chemical/Biological Decontamination Systems", R. W. Larsen, M. Eddaoudi and M. J. Zaworotko, Chemical and Biological Defense-Physical Science and Technology Conference, New Orleans, LA November 2008.
94. "Time Resolved Thermodynamics of Fast Protein Folding in Cytochrome c", R. W. Larsen, 2009 Meeting of the Biophysical Society, Boston, MA, February 2009.
95. "Time-Resolved Thermodynamics of CO Photolysis from an Engineered Cu₈ Center in Sperm Whale Myoglobin", M. Small, Y. Lu and R. W. Larsen, *ibid*.
96. "Time Resolved Thermodynamics of Inter-Molecular Electron Transfer Between Water Soluble Anionic Free-Base Porphyrins and Ubiquinone", W. A. Maza and R. W. Larsen, *ibid*.
97. "Solution Stability of Cu(II) Hydroxy Nanoballs", C. Vetromile, A. Lazano, S. Feola and R. W. Larsen, 2009 South East Regional Meeting of the American Chemical Society, San Juan, Puerto Rico, October 2009.
98. "Time Resolved Photothermal Studies of Cytochrome c Folding", R. W. Larsen, *ibid*.

99. "Photoacoustic Calorimetry in Chemistry and Biology: Listening to What Molecules Have to Say", R. Larsen, Invited Seminar, Johns Hopkins University, October 2009.
100. "Probing Free Base and Metalloporphyrins as Molecular Recognition Elements for Nerve Agents", C. Vetromile, W. Maza, M. Small, A. Mokdad, C-S. Kim, K. Fields, P. Zhang and R. W. Larsen, 2009 Chemical and Biological Defense Science and Technology Conference, Dallas, TX November 2009.
101. "Time Resolved Thermodynamic Studies of Ligand Binding/release to Sol-Gel Encapsulated Horse Heart Myoglobin", C. Vetromile and R. W. Larsen, 2010 Meeting of the Biophysical Society, San Francisco, CA February 2010.
102. "Fitting To Lifetime Distributions in Photoacoustic Calorimetry", R. W. Larsen, *ibid.*
103. "Time-Resolved Thermodynamics of Inter-Molecular Electron Transfer Between Water-Soluble Anionic Free-Base Porphyrins and Ubiquinone", W. A. Maza and R. W. Larsen, *ibid.*
104. "Fast assembly of metal organic materials", R. W. Larsen, 66th SWRM/62nd SERMACS, New Orleans 2010
105. "Time resolved thermodynamics of ligand binding to sol gel encapsulated Horse heart Myoglobin", C. M. Vetromile and R. W. Larsen, *ibid.*
106. "Nitrite/nitrate selectivity of Zn(II) porphine", C. Young, H. L. Woodcock, and R. W. Larsen, *ibid.*
107. "Thermodynamics and kinetics of peptide folding" T. A. Word and R. W. Larsen, *ibid.*
108. "Threat Mitigation by Design: Porphyrins as Platforms for ChemBio Sensors/Decontamination Materials", R. W. Larsen, 2010 Chemical and Biological Defense Science and Technology Conference, Orlando, FL November, 2010.
109. "Threat Mitigation by Design: Porphyrins as Platforms for ChemBio Sensors/Decontamination Materials", R. W. Larsen, 2010 Chemical and Biological Defense Science and Technology Conference, Orlando, FL November, 2010.
110. "Threat Mitigation by Design: Porphyrins as Platforms for ChemBio Sensors/Decontamination Materials", R. W. Larsen, 2010 Chemical and Biological Defense Science and Technology Conference, Orlando, FL November, 2010.
111. "Threat Mitigation by Design: Porphyrins as Platforms for ChemBio Sensors/Decontamination Materials", R. W. Larsen, 2010 Chemical and Biological Defense Science and Technology Conference, Orlando, FL November, 2010.
112. "Metal Organic Frameworks for Heme Biomimetic Chemistry: Porphyrin Encapsulated HKUST", R. W. Larsen, 2011 Chemical and Biological Defense Science and Technology Conference, Las Vegas, NV November, 2011.
113. "MOMZYMES- Heme Biomimetic Metal Organic Framework Materials" R. W. Larsen, C. M. Vetromile, L. Wojtas, J. Perman, M. Zaworotko. 55th Annual Meeting of the Biophysical Society, Baltimore, MD. March, 2011.
114. "Towards metal organic photocatalysts: Photophysical properties of Ru(II)tris bipyridine and Zn(II)tetrakis (4-tetramethylpyridyl porphyrin) encapsulated in metal organic frameworks", R. W. Larsen, C. M. Vetromile, L. Wojtas, South East Regional ACS Meeting, Richmond, VA, October, 2011.

Other Professional Activities

American Cancer Society Institutional Research Grant Committee, 1996-1999.

American Heart Association, National Peer Review Study Group member, 2000-2004. 2012

American Heart Association, Southeast Affiliate Peer Review Study Group Member, 2008, 2009, 2010, 2012.

NIH SSP Study Section, November, 2001.

NIH, MFSA Temporary Study Section Member, 2008.

NIH, MSFE Temporary Study Section Member, 2009.

Associate Chair, Department of Chemistry Univ. South Florida 2004, 2007.

Co-Chair, Protein Folding and Stability Symposium, 2009 Meeting of the Biophysical Society.

Summary of Teaching Accomplishments at the University of Hawaii

<u>Course</u>	<u>Avg Enrollment</u>	<u>Avg. Evaluation</u>
Chemistry 171 (Introductory Chemistry)	35	4.16
Chemistry 171A/181A (Honors Introductory Chemistry)	45	4.25
Chemistry 333/333L (Instrumental Analysis/Lab)	21	4.11
Chemistry 352L (Physical Chemistry Laboratory)	10	N/A
Chemistry 601 (Graduate, Chemical Bonding)	7	4.45
Chemistry 602 (Graduate, Survey of Spectroscopy)	7	4.20
Chemistry 751 (Graduate, Special Topics: Spectroscopy of Biological Molecules)	5	4.67

- Evaluation scores are on a scale of 1 to 5 with 5 being the highest rating.

Dept. of Chemistry Nominee for the 1996/1997, 1997/1998, 1998/1999, 1999/2000 University of Hawaii Excellence in Teaching Award.

Courses Taught at BYU-Hawaii

<u>Course</u>	<u>Avg. Enrollment</u>
Chemistry 361/361L Physical Chemistry I/Physical Chemistry I Laboratory	10
Chemistry 362/362L Physical Chemistry II/Physical Chemistry II Laboratory	10
Chemistry 421 Intermediate Inorganic Chemistry I	8
Chemistry 422 Intermediate Inorganic Chemistry II	8

Summary of Teaching Accomplishments at the University of South Florida

<u>Course</u>	<u>Avg Enrollment</u>	<u>Avg Evaluation</u>
Chemistry 3400/4410 (Physical Chemistry I)	35	4.2
Chemistry 3401/4411 (Physical Chemistry II)	5	4.25
Chemistry 3402L	6	3.75

(Physical Chemistry Lab) Chemistry 4413	25	4.2
(Biophysical Chemistry) Chemistry 4131	10	4.2
(Methods of Chemical Analysis) Chemistry 6398	12	4.7
(Graduate, Spectroscopy) Chemistry 6398	7	4.1
(Graduate, Photochemistry and Photobiology)		

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