



EDUCATION

Ph.D., Analytical/Environmental Chemistry, August 1995.

University of Colorado, Boulder, CO.

Thesis Title: *The Measurement, Modeling and Applications of Metal β -Diketonate Complexes Dissolved in Supercritical Carbon Dioxide* Advisor: Dr. Robert E. Sievers

B.S., Chemistry, May 1990.

Virginia Polytechnic Institute and State University, Blacksburg, VA.

ACADEMIC SCHOLARSHIPS

University of Colorado/NIST Postdoctoral Fellowship, 1995-1998.

University of Colorado/NIST Graduate Fellowship, 1993-1995.

Cooperative Institute for Research in Environmental Studies Fellowship, 1991-1992.

Virginia Tech Department of Chemistry Undergraduate Research Scholarship, 1987-1990.

TEACHING EXPERIENCE

Assistant Professor of Chemistry: August 2004 – present

Villanova University - Villanova, PA

Faculty: Department of Chemistry, Villanova Center for the Environment

Teaching: 3511 Instrumental Analysis, 3501 Instrumental Analysis Laboratory, 9551 Graduate Chromatography and Mass Spectrometry, 1152 General Chemistry, 1104 General Chemistry Laboratory, 1058 Chemistry and Art, 1008 Chemistry and Art Laboratory

National Science Foundation: Center for Workshops in the Chemical Sciences

Advanced Chemistry and Art: June 21-26, 2009, June 13-20, 2010 (expected)

Assistant Professor of Chemistry: August 2001 – August 2004

Penn State University - Worthington Scranton Campus, Dunmore, PA

Instructor of Chemistry: June 2000 – August 2000

Front Range Community College, Boulder, CO

RESEARCH MENTORING

Undergraduate Students: Villanova University (8), Marywood University (1), Penn State University (6), University of Colorado (4), Louis Pasteur Institute (2), Cornell University (1).

Graduate Students: Villanova University (10), Virginia Tech (1), University of Colorado (1), University of Western Australia (1), Dagestan Scientific Institute (1), University of Colorado Health Sciences Center (1).

RESEARCH EXPERIENCE

Staff Chemist: October 1998 – present (faculty researcher status)

National Institute of Standards and Technology, Boulder, CO

Research: Initiated and led a diverse experimental and theoretical research program in solvent-solute intermolecular interactions of chlorofluorocarbon replacement solvent systems.

Post-Doctoral Researcher: August 1995 – October 1998

National Institute of Standards and Technology, Boulder, CO

Graduate Research Assistant: August 1990 – August 1995

University of Colorado, Boulder, CO

Summer Researcher: May 1990 – August 1990

National Oceanic and Atmospheric Administration, Boulder, CO

Lake Michigan Oxidant Study (Waukegan, IL). Aircraft monitoring of gases in troposphere (O_3 , NO_x , SO_2), meteorological conditions, particulates over Lake Michigan.

SOCIETIES AND AFFILIATIONS

Alpha Chi Sigma Chemistry Honor Society

Phi Eta Sigma National Honor Society

Golden Key National Honor Society

American Chemical Society, Environmental Division

American Chemical Society, Analytical Chemistry Division

American Chemical Society, Chromatography Division

American Chemical Society, Philadelphia Local Section
The Society of Environmental Toxicology and Chemistry (SETAC)
Delaware Valley Mass Spectrometry Discussion Group
Villanova Center for the Environment, Faculty
National Institute of Standards and Technology (NIST), Academic Researcher

FUNDING AND AWARDS

- Villanova University Undergraduate Summer Research Grant, (Jaclyn Olsen, 2008) \$5,850
- National Science Foundation Award No. 0718530 "RUI: Development of alternative solvent extraction methods and tandem mass spectrometric analysis of polybrominated diphenyl ethers in automobile interior dust", (9/2007-9/2010) \$191,000
- U.S. Department of Agriculture, U.S. Forest Service "Evaluation of imidacloprid and metabolites in hemlock treated with imidacloprid" (7/2004-6/2010) \$110,144
- U.S. Department of Agriculture, U.S. Forest Service "Measurement of phytochemicals in *Tsuga* cultivars and an evaluation of their role in host resistance to the hemlock woolly adelgid (*Adelges tsugae*)" (7/2005-9/2007) \$75,000
- National Science Foundation Award No. IOS-0720018 (role: co-investigator) "RIG: Chemical signaling, paternity, and the heritability of promiscuity: sexual selection in a polygamous moth", (9/2007-9/2009) \$146,007
- National Science Foundation Award No. 0619394 "MRI: Acquisition of a Liquid Chromatograph/Mass Spectrometer", (8/2006-8/2009) \$329,236
- Villanova Institute for Teaching and Learning "Addition of a Painting Authentication/Conservation Laboratory to the CHM3501 Instrumental Analysis Laboratory", (2006) \$6,000
- Villanova University Undergraduate Summer Research Grant, (Frank Calvosa, 2006) \$5,350
- U.S. Environmental Protection Agency "Pollution Prevention of Pharmaceutically Active Chemicals from University Dormitories and Municipal Wastewater Treatment Plants" (11/2005 – 10/2007) \$133,750
- Villanova University Undergraduate Summer Research Grant, (Frank Calvosa, 2005) \$4,200
- Penn State Undergraduate Research Equipment Grant "Purchase of a Milli-Q water purification system" (2003) \$8,000
- U.S. Department of Agriculture, U.S. Forest Service "Measurement and function of terpenoids in *Adelges tsugae* infested *Tsuga*" (2002-2004) \$70,000
- Penn State, Dr. Richard J. & Sally Matthews Award for Scholarly Activity, (2003) \$1,000
- Greater Scranton Penn State Chapter Faculty Research Endowment (2003-2004) \$1,600
- Penn State Research and Development Grant (yearly, 2001-2004) \$7,500

PUBLICATIONS

1. A.F. Lagalante T.D. Oswald, and F.C. Calvosa "Polybrominated Diphenyl Ether (PBDE) Levels in Dust from Previously Owned Automobiles at United States Dealerships" *Environ. Int.*, **35**, 539-544 (2009).
2. J. Tierney, V. Koyfman, K. Cannon, L.M. Mascavage, and A.F. Lagalante "A Second Study - Predicting the ¹³C Chemical Shifts for a Series of Substituted-3-(4-methoxyphenyl)-2-phenyl-1,3-thiazolidin-4-ones" *Heterocyclic Comm.*, **14(6)**, 452-460 (2008).
3. A.F. Lagalante and T.D. Oswald "Analysis of Polybrominated Diphenyl Ethers (PBDEs) by Liquid Chromatography with Negative-Ion Atmospheric Pressure Photoionization Tandem Mass Spectrometry (LC/Ni-APPI/MS/MS). Application to Household Dust" *Anal. and Bioanal. Chem.* **391(6)**, 2249-2256 (2008).
4. J. Tierney, N. Colasante, J. Eagles, S. Kelly, G. Lehmiche, O. Lucas, C. Mannikarottu, O. Mehmood, M. D. Nguyen, V. Rai, J. Tsai, V. Koyfman, L. M. Mascavage, and A.F. Lagalante "A Comparison Of Substituent Effects Using ¹³C Chemical Shifts For A Series Of Substituted 2-Phenyl-3-pyridyl-1,3-thiazolidin-4-ones Compared To Similarly Substituted 1,3-thiazolidin-4-ones" *Heterocyclic Comm.* **13**, 335-342 (2007).
5. A.F. Lagalante, M.E. Montgomery, F.C. Calvosa, and M.N. Mirzabeigi, "Characterization of Terpenoid Volatiles from Cultivars of Eastern Hemlock (*Tsuga canadensis*)" *J. Agric. Food Chem.* **55(26)**, 10850-10856 (2007).
6. A.F. Lagalante and P. Greenbacker "Flow injection analysis of imidacloprid in natural waters and agricultural matrixes by photochemical dissociation, chemical reduction, and nitric oxide chemiluminescence detection", *Anal. Chim. Acta* **590**, 151-158 (2007).
7. T. Rowhani and A.F. Lagalante "A Colorimetric Assay for the Determination of Polyhexamethylene

- Biguanide in Pool and Spa Water using Nickel-Nioxime" *Talanta* **71(2)**, 964-970 (2007).
8. A.F. Lagalante, N. Lewis, M.E. Montgomery and K.S. Shields "Temporal and Spatial Variation of Terpenoids in Eastern Hemlock (*Tsuga canadensis*) in Relation to Feeding by *Adelges tsugae*" *J. Chem. Ecol.* **32(11)**, 2389-2403 (2006).
 9. A.F. Lagalante and M.A. Felter "Silylation of Acrylamide for Analysis by Solid-Phase Microextraction/Gas Chromatography/Ion-Trap Mass Spectrometry" *J. Agric. Food Chem.* **52(12)**, 3744-3748 (2004).
 10. A.F. Lagalante and M.E. Montgomery "Analysis of Terpenoids from Hemlock (*Tsuga*) Species by Solid-Phase Microextraction/Gas Chromatography/Ion-Trap Mass Spectrometry" *J. Agric. Food Chem.* **51(8)**, 2115-2120 (2003).
 11. B.F. Graham, J.M. Harrowfield, R.D. Trengrove, A.F. Lagalante and T.J. Bruno "Host:Guest Complex Formation Between Carbon Dioxide and the *p*-t-Butylcalixarenes" *J. Inclusion Phenom.* **43(3-4)**, 179-182 (2002).
 12. A.F. Lagalante, A. Abdulagatov, and T.J. Bruno "Kamlet-Taft Thermosolvatochromic Parameters of Hydrofluoroethers and Hydrofluoroether Azeotropic Mixtures" *J. Chem. Eng. Data* **47(1)**, 47-51 (2002).
 13. W.C. Andersen, R.E. Sievers, A.F. Lagalante, and T.J. Bruno "Solubility of Cerium(IV), Terbium(III), and Iron(III) β -Diketonates in Supercritical Carbon Dioxide" *J. Chem. Eng. Data* **46(5)**, 1045-1049 (2001).
 14. A.F. Lagalante, M. Spadi and T.J. Bruno "Kamlet-Taft Solvatochromic Parameters of Eight Alkanolamines" *J. Chem. Eng. Data* **45(2)**, 382-385 (2000).
 15. A.F. Lagalante, A.M. Clarke and T.J. Bruno "Modeling the Water-R143a Partition Coefficients of Organic Solutes using a Linear Solvation Energy Relationship" *J. Phys. Chem., B* **103(34)**, 7319-7323 (1999).
 16. A.F. Lagalante "Atomic Absorption Spectroscopy: A Tutorial Review" *Appl. Spectrosc. Rev.* **34(3)**, 173-190 (1999).
 17. A.F. Lagalante "Atomic Emission Spectroscopy: A Tutorial Review" *Appl. Spectrosc. Rev.* **34(3)**, 191-207 (1999).
 18. A.F. Lagalante and T.J. Bruno "Modeling the Water-Supercritical CO₂ Partition Coefficients of Organic Solutes using a Linear Solvation Energy Relationship" *J. Phys. Chem., B* **102(6)**, 907-909 (1998).
 19. A.F. Lagalante, R.L. Hall and T.J. Bruno "Kamlet-Taft Solvatochromic Parameters of the Sub- and Supercritical Fluorinated Ethane Solvents" *J. Phys. Chem., B* **102(34)**, 6601-6604 (1998).
 20. B.F. Graham, J.M. Harrowfield, R.D. Trengrove, A.F. Lagalante and T.J. Bruno "Solubility of *p*-t-Butylcalix[n]arenes (n=4,6,8) in Supercritical Carbon Dioxide: A Comparison of Static and Dynamic Measurement Techniques" *Fluid Phase Equilib.* **151(2)**, 829-838 (1998).
 21. A.F. Lagalante, A.M. Clarke and T.J. Bruno "Modeling the Water-R134a Partition Coefficients of Organic Solutes using a Linear Solvation Energy Relationship" *J. Phys. Chem., B* **102(44)**, 8889-8892 (1998).
 22. A.F. Lagalante, C. Wood, A.M. Clarke and T.J. Bruno "The Kamlet-Taft Solvatochromic Parameters for 25 Glycol Ether Solvents and Glycol Ether Aqueous Solutions" *J. Solution Chem.* **27(10)**, 887-900 (1998).
 23. A.F. Lagalante, R.J. Jacobson and T.J. Bruno "UV/Vis Spectroscopic Evaluation of 4-Nitropyridine N-Oxide as a Solvatochromic Indicator for the Hydrogen-Bond Donor Ability of Solvents" *J. Org. Chem.* **61(18)**, 6404-6406 (1996).
 24. A.F. Lagalante, B.N. Hansen, T.J. Bruno and R.E. Sievers "Solubility of Copper(II) and Chromium(III) β -Diketonates in Supercritical Carbon Dioxide" *Inorg. Chem.* **34(23)**, 5781-5785 (1995).
 25. B.N. Hansen, A.F. Lagalante, T.J. Bruno and R.E. Sievers "High-Pressure Cell for Solubility Measurements in Supercritical Fluids" *Rev. Sci. Instrum.* **65(6)**, 2112-2114 (1994).

26. R.E. Sievers, S.B. Turnipseed, L. Huang and A.F. Lagalante "Volatile Barium β -Diketonates for Use as MOCVD Precursors" *Coord. Chem. Rev.* **128(1-2)**, 285-291 (1993).
27. B.M. Hybertson, K.S. Rutledge, C.J. Beehler, J.E. Repine, A.F. Lagalante and R.E. Sievers "Pulmonary Drug Delivery of Fine Aerosol Particles from Supercritical Fluids" *J. of Aerosol Med.* **6(4)**, 275-283 (1993).

PATENTS

U.S. Patent 6,334,949 "Process for the Removal of Carbonyl Sulfide from Liquefied Petroleum Gas" T.J. Bruno, A.F. Lagalante (January 1, 2002).