

Laura Alvarez-Avilés
Department of Chemistry and Biochemistry
University of Alaska Fairbanks
(907) 474-2436

PO Box 753302
Fairbanks AK 99775
ftla@uaf.edu

Education:

Ph.D. candidate, Environmental Chemistry, University of Alaska Fairbanks Aug 03 - Present
B.S. with honors in Chemistry, Universidad de Puerto Rico Recinto de Río Piedras May 2003

Awards and fellowships:

Department of Energy, Global Change Educational Program, Graduate Research Educational Fellowship Aug 04 – Sept 07
Department of Energy, Global Change Educational Program, Summer Undergraduate Research Experience Summer 2001, 2002, 2003
Minority Access to Research Careers Aug 2000 - May 2002

Experience:

Research Assistant, Analysis of melted snow and ice samples using Ion Chromatography, aerosol sampling using a 3-stage impactor (DRUM), 4 campaigns in the Arctic sampling snow and different ice surfaces at University of Alaska Fairbanks, Chemistry Department Aug 03 – Present

Teaching Assistant, University of Alaska Fairbanks, Physical Chemistry laboratory Fall 2004

Summer intern, working with monitoring and maintaining field equipment, ozone, CO, NO_x monitors, Department of Energy, Global Change Educational Program, Summer Undergraduate Research Experience at Argonne National Laboratory in Chicago Summer 2002

Research Assistant, Photochemistry of Polycyclic Aromatic Hydrocarbons adsorbed to particulate matter research using Ultraviolet Visible Spectroscopy and a fluorimeter, University of Puerto Rico Aug 1999 – May 2000

Research Assistant, Characterization of Volatile Organic Compounds in rainwater using Gas Chromatography/Mass Spectroscopy/Solid Phase Micro-extraction, University of Puerto Rico Aug 2000 – May 2002

Summer intern, Characterization of Black Carbon using Evolved Gas Analysis and Absorbance, Department of Energy, Global Change Educational Program, Summer Undergraduate Research Experience at Lawrence Berkeley National Laboratory in Berkeley Summer 2001

Instrumentation:

Ion Chromatography (extensive experience), Gas Chromatography, Ultraviolet Visible Spectroscopy, Aerosol sampling and analysis, Fluorescence spectroscopy, Pollution monitoring instruments (CO, NO_x, O₃), Solid-phase micro extraction.

Community Service:

Committee member for outreach activities involving the community, International Polar Year Young Researcher's Network Fall 2006-present

Publications (published and in press):

Douglas, T. A., M. Sturm, W. R. Simpson, J. D. Blum, L. Alvarez-Aviles, J. Keeler, D. K. Perovich, A. Biswas, and K. Johnson, The Influence of snow and ice crystal formation and accumulation on mercury deposition to the Arctic, *Environmental Science and Technology*, in press, (2007)

Simpson, W. R., L. Alvarez-Aviles, T. A. Douglas, M. Sturm, and F. Domine, Halogens in the coastal snow pack near Barrow, Alaska: Evidence for active bromine air-snow chemistry during springtime, *Geophys. Res. Lett.*, 32, L04811, (2005).

Publications (in preparation):

Alvarez-Aviles, L., W. R. Simpson, T. A. Douglas, M. Sturm, D. K. Perovich, and F. Domine, Observations of chemical composition during frost flower growth and their implications with regard to aerosol production and bromine activation, to be submitted in JGR.

Alvarez-Aviles, L., W. R. Simpson, D. Carlson, Correlation plots of ions in Arctic surface snow show unique patterns and provide evidence of snow-air interactions. In preparation for ACPD

Alvarez-Aviles, L., W. R. Simpson, D. Carlson, T. A. Douglas, M. Sturm, A. Laskin, A Multiphase Study of the Chemical Composition of Air, Aerosol Particles, Snow, and Ice Forms Collected Near Barrow, Alaska Provides Information on Bromine Activation. In preparation

Conferences (presenter underlined):

Orientation workshop Department of Energy / Graduate Research Educational Fellowship, 30 minute oral presentation, Argonne National Laboratory, Alvarez-Aviles, L., W. R. Simpson, T. A. Douglas, M. Sturm, F. Domine, The chemistry that deposits chemistry in the Arctic in the springtime Jun 9, 2004

American Geophysical Union Fall meeting, San Francisco, Poster presentation, Alvarez-Aviles, L., W. R. Simpson, T. A. Douglas, M. Sturm, F. Domine, Observations of halogen concentrations in polar snow near Barrow Alaska, indicate that bromide is highly affected by atmospheric chemistry December 13th – 17th, 2004

Orientation workshop Department of Energy / Graduate Research Educational Fellowship, 30 minute oral presentation, New Orleans, Alvarez-Aviles, L., W. R. Simpson, T. A. Douglas, M. Sturm, The chemistry that deposits chemistry in the Arctic in the springtime Jun 12, 2005

Orientation workshop Department of Energy / Graduate Research Educational Fellowship, 30 minute oral presentation, Washington, D.C., Alvarez-Aviles, L., W. R. Simpson, T. A. Douglas, M. Sturm, D. Perovich, Observations of chemical composition in frost flower growth process and their implication in aerosol production and bromide activation chemistry August 22, 2006

American Geophysical Union Fall meeting, San Francisco, Poster presentation, Alvarez-Aviles, L., W. R. Simpson, T. A. Douglas, M. Sturm, D. Perovich, Observations of chemical composition in frost flower growth process and their implication in aerosol production and bromide activation chemistry December 11th – 15th, 2006