

Lisa M. Ponton

Assistant Professor, Chemistry Department, Elon University
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Education

- 2000 – 2004 Iowa State University - Ames, IA
Ph.D., Analytical Chemistry, December 2004
Dissertation: Coupling temperature control with electrochemically modulated liquid chromatography: fundamental aspects and applications
- 1997 – 2000 University of Michigan - Ann Arbor, MI
M.Sc., Chemistry, May 1999 (GPA 7.04/8.00)
- 1991 – 1996 University of Wisconsin - Stevens Point, WI
B.Sc., Honors, May 1996 (GPA 3.56/4.00)
Majors: Chemistry (ACS Certified) and Mathematics

Experience

Teaching

- 2004 – Present Chemistry Department, Elon University, Elon, NC
Assistant Professor
- General chemistry for science majors (CHM 111, 112)
 - General chemistry laboratory (CHML 113)
 - Quantitative analysis (CHM 311)
 - Environmental chemistry (CHM 305)
 - Elon 101
- 2004 Chemistry Department, Iowa State University, Ames, IA
Temporary Instructor
- First term general chemistry (Chem 163)
- 2002 – 2004 Women in Science and Engineering, Iowa State University, Ames, IA
Chemistry Tutor
- General chemistry for science and engineering majors
- 2000 – 2002 Chemistry Department, Iowa State University, Ames, IA
Teaching Assistant
- General chemistry for engineering and science majors
 - Participated in the science writing heuristic chemical education study
- 1997 – 2000 Chemistry Department, University of Michigan, Ann Arbor, MI
Graduate Student Instructor
- General chemistry, physical chemistry for non-majors, analytical laboratory, and professional development

Research

- 2004 – Present Elon University, Elon, NC
- Analysis of NC wastewater effluent and natural waters for estrogens and antibiotics, currently involving four undergraduate students
 - Analysis of polybromodiethylethers and acrylamides in cooking oil, currently involving one undergraduate student, collaborative project with Matthew Clark, Biology Department, Elon University

- 2000 – 2004 Iowa State University/Ames Laboratory (USDOE), Ames, IA
 Graduate Research Assistant, Advisor: Marc Porter
- Temperature effects in electrochemically modulated liquid chromatography
 - Use of solid phase extraction for archiving of spacecraft water
- 1997 – 2000 University of Michigan, Ann Arbor, MI
 Graduate Research Assistant, Advisor: Christine Evans
- Pressure-induced perturbations in HPLC with mobile-phase additives
 - Development of an in-line injection valve for CE
- 1996 University of Wisconsin – Stevens Point, Stevens Point, WI
 Undergraduate Research Assistant, Advisor: Eugene Johnson
- Comparison of sediment extraction methods by GC/MS
- 1994 – 1995 University of Wisconsin – Stevens Point, Stevens Point, WI
 Undergraduate Research Assistant, Advisor: Paul Hladky
- Theoretical study of thermodynamic values of Van der Waals Fluids

Service to the University and Community

- 2006 – present Serving on an ACS Exam Institute Committee to develop a new comprehensive chemistry exam titled: Diagnostic of Undergraduate Chemical Knowledge
- 2006 – present Serving on Elon University’s Hearing Board
- March 2006 Interviewed students for acceptance into the Fellows program at Elon University
- Fall 2005 Worked with 4th and 5th grade students in the HEART after-school program at Andrews Elementary School on science fair projects
- Spring 2005, 2006 GlaxoSmithKline Women in Science Scholarship Committee
- March 2005 Interviewed students for acceptance into the Fellows program at Elon University
- March 2005 Sat on a panel of faculty, “Conversations with Elon Faculty,” for the admissions office Guidance Counselor Fly-In program
- 2004 – present Assisted students in gaining approval for a martial arts club, Aiki Bujitsu Club, at Elon University by serving as advisor, gained developmental status fall 2004 and provisional status spring 2005.

Full Time Employment

- 1996 – 1997 University of Wisconsin – Milwaukee, Milwaukee, WI
 Laboratory Preparation Technician
- Maintained organic stockroom
 - Prepared materials for organic courses and a general chemistry course
 - Assisted with laboratory development for a general chemistry course

Part Time and Summer Employment

- 2006 – present RhoSigma Consulting
 Associate Consultant
- 1995 – 1996 Environmental Task Force - Trace Organic Laboratory, Stevens Point, WI
 Laboratory Assistant
- Prepared groundwater and sediment samples for analysis by GC/MS
- Summer 1994 Great Lakes Biochemical, Milwaukee, WI
 Laboratory Assistant
- Tested products for quality assurance using a Flame AAS
 - Analyzed pool and spa water samples using wet chemistry methods

- 1993 – 1994 University of Wisconsin – Stevens Point, Stevens Point, WI
Laboratory Preparation Assistant
- Prepared materials for the quantitative analysis class
- Summer 1993 University of Wisconsin – Milwaukee, Milwaukee, WI
Apprentice Glassblower
- Learned basic glassblowing skills

Involvement

- American Chemical Society (ACS) – Regular Member 1997 – present
– Student Affiliate UWSP chapter member 1992 – 1996,
President 1994 – 1995
- Council on Undergraduate Research (CUR) – Active Member 2003 – present
CUR Dialogues – The Art of Grantsmanship, April 17-19, 2005.
The Balanced Academic Life Workshop – Careers at Predominantly Undergraduate Institutions
September 6, 2003
- Elon University Aiki Bujitsu Club – Advisor, Assistant Instructor 2004 – present
Taekwondo – Second Degree Black Belt
- Vice-President of Fundraising 2002-2003, ISU Karate Club
 - Guest Instructor, Ames Park and Recreation Taekwondo Club, Ames, IA
 - Guest Instructor, Voorhees Taekwondo, Des Moines, IA
- Society of Les Voyageurs – Active Member 1998 – 2000, Vice President 1999 – 2000

Awards

- 2003 Academic Award:
Awarded for excellence in academics by the State of Iowa Black Belt Association
- 2002 Honors Recognition:
Awarded for teaching contributions to ISU Honors Program by the Honors Student Board,
ISU
- 2002 Dedication Award:
Awarded for dedication by the ISU Karate Club
- 2002 Academic and Leadership Award:
Awarded for excellence in academics and leadership by the State of Iowa Black Belt
Association
- 2001 Teaching Excellence Award:
Awarded for teaching excellence in chemistry by Chemistry Department, ISU
- 1996 American Institute of Chemists Award:
Awarded for a demonstrated record of leadership ability, character, and scholastic
achievement by Chemistry Department, UWSP
- 1995 Weaver Award:
Awarded for outstanding performance in biochemistry by a major by Chemistry
Department, UWSP
- 1994 Distinguished Achievement Award in Chemistry:
Awarded for above average achievement in the major; ability to speak and write clearly and
effectively; interest in exploring a variety of academic areas; and demonstrating intellectual
curiosity by Academy of Letters and Science, UWSP

1992 Trytten Award:

Awarded for outstanding performance in general chemistry by a major by Chemistry Department, UWSP

Presentations

- “Analysis of river and wastewater effluent for the presence of estrogenic compounds,” Black, Ashley L., Ponton, Lisa M.; 233rd National Meeting of the American Chemical Society, Chicago, IL, March 26, 2007.
- “Get the Word out: Dissemination of Research,” Ponton, L.M.; Collegiate Academy of the North Carolina Academy of Science (CANCAS) Undergraduate Research Workshop, November 5, 2005.
- “Archiving Trace Organic Constituents in Spacecraft Water,” Ponton, L.M.; Gazda, D.; Lipert, R.J.; Fritz, J.S.; Porter, M.D.; Rutz, J.; Mudgett, P.; Dungan, D.; Schultz, J.; International Conference on Environmental Systems, July 7-10, 2003.
- “Thermodynamic Insights into Retention Processes in Electrochemically Modulated Liquid Chromatography,” Ponton, L.M.; Porter, M.D.; Uppsala University, Uppsala, Sweden, February 1, 2003.
- “High-Speed Electrochemically Modulated Liquid Chromatography,” Ponton, L.M.; Porter, M.D.; 24th Annual Spring Minnesota Chromatography Forum Symposium, Eden Prairie, MN, Abstract number 34, May 14-15, 2003.
- “Colorimetric Solid Phase Extraction: A Method for the Rapid, Low Level Determinations of Biocide Concentrations in Spacecraft Water Supplies,” Porter, M.D.; Arena, M.; Fritz, J.S.; Gazda, D.B.; Ponton, L.M.; Mudgett, P.; Rutz, J.; Schultz, J.; NASA Bioastronautics Investigators’ Workshop, Galveston, TX, January 13-15, 2003.
- “Thermodynamic Insights into Retention Processes at Carbon-Based Stationary Phases,” Ponton, L.M.; Porter, M.D.; 44th Rocky Mountain Conference on Analytical Chemistry, Denver, CO, Abstract number 287, August 1, 2002.
- “Insights into Adsorption Processes at Carbon-Based Electrodes and Stationary Phases,” Porter, M.D.; Keller, D.W.; Ponton, L.M.; Weisshaar, D.E.; Invited Presentation, Canadian Society of Chemistry, Vancouver, BC, Canada, June 1-5, 2002.
- “Electrochemically Modulated Liquid Chromatography: an Electrochemical Strategy to Manipulation of Chromatographic Retention,” Porter, M.D.; Keller, D.; Gazda, D.B.; Harnisch, J.A.; Ponton, L.; Takano, H.; Weisshaar, D.E.; Invited Presentation, Royal Society of Chemistry: Electroanalytical Group, New Direction in Electroanalysis Symposium, University of Salford, April 22-25, 2001.
- “Fundamental and Practical Impact of Pressure on HPLC Separations with Mobile-Phase Additives,” Ponton, L.M.; Evans, C.E.; Pittcon 2000, New Orleans, LA, Abstract number 323, March 13, 2000.
- “Pressure in Graduate Research: How Pressure Affects HPLC Separations with Mobile-Phase Additives,” Ponton, L.M.; Evans, C.E.; Chemistry Department Seminar, University of Wisconsin – Stevens Point, February 18, 2000.
- “The Impact of Pressure on Liquid Chromatographic Separations using Mobile-Phase Additives,” Ponton, L.M.; Hoenigman, S.M.; Evans, C.E.; Pittcon 1999, Orlando, FL, Abstract number 1898P, March 8, 1999.
- “Enthalpies of Vaporization of Van der Waals Fluids,” Ponton, L.M., Hladky, P., 26th Annual Wisconsin Undergraduate Research Symposium in Chemistry, University of Wisconsin – Eau Claire, Eau Claire, WI, Abstract number 481 2-2, May 4, 1996.

“Thermodynamics of Van der Waals Fluids,” Ponton, L.M., Hladky, P., 25th Annual Wisconsin Undergraduate Research Symposium in Chemistry, University of Wisconsin – Stevens Point, Stevens Point, WI, Abstract number P9, May 6, 1995.

Publications

- Black, A.L.; Ponton, L.M. Research Note: Analysis of Wastewater Effluent for Estrogens. *Visions Magazine* **2007**, *1*, 11-13.
- Ponton, L.M.; Keller, D.W.; Porter, M.D. Thermodynamics of Retention in Electrochemically Modulated Liquid Chromatography. *In preparation*.
- Ponton, L.M.; Porter, M.D. Electrochemically Modulated Liquid Chromatographic Separations of Polycyclic Aromatic Hydrocarbons. *In revision*.
- Keller, D.W.; Ponton, L.M.; Porter, M.D. Assessment of supporting electrolyte contributions in electrochemically modulated liquid chromatography. *J. Chromatogr. A* **2005**, *1089*, 72-81.
- Ponton, L.M.; Porter, M.D. Electrochemically Modulated Liquid Chromatographic Separations of Inorganic Anions. *J. Chromatogr. A* **2004**, *1059*, 103-109.
- Ponton, L.M.; Porter, M.D. High Speed Electrochemically Modulated Liquid Chromatography. *Anal. Chem.* **2004**, *79*, 5823-5828.
- Ponton, L.M.; Gazda, D.; Lipert, R.J.; Fritz, J.S.; Porter, M.D.; Rutz, J.; Mudgett, P.; Dungan, D.; Schultz, J. Archiving Trace Organic Contaminants in Spacecraft Water. Presented at the 33rd International Conference on Environmental Systems, Vancouver, Canada, 2003; SAE Technical Paper 2003-01-2408.
- Ponton, L.M.; Evans, C.E. In-Line Valve Injection for Capillary Electrophoresis. *Anal. Chem.* **2001**, *73*, 1974-1978.
- Ponton, L.M.; Hoenigman, S.M.; Cai, M.; Evans, C.E. Liquid Chromatographic Separations with Mobile-Phase Additives: Influence of Pressure on Coupled Equilibria. *Anal. Chem.* **2000**, *72*, 3581-3589.
- Evans, C.E.; Ringo, M.C.; Ponton, L.M. Pressure as a Unifying Parameter in Chromatographic Retention. In *Unified Chromatography*; Parcher, J.F.; Chester, T.L., Eds.; American Symposium Series 748; American Chemical Society: Washington DC, 2000; p. 30-36.

References

- Dan Wright ♦ 2625 Campus Box, Elon University, Elon, NC 27244 ♦ 336-278-5655 ♦ wright@elon.edu
- Eugene Gooch ♦ 2625 Campus Box, Elon University, Elon, NC 27244 ♦ 336-278-6221 ♦ gooch@elon.edu
- Marc Porter ♦ Biodesign Department, Arizona State University, PO Box 87 6401, Tempe, AZ 85287 6401 ♦ Marc.Porter@asu.edu ♦ 480-727-8598
- Christine Evans ♦ ceevans@chartermi.net ♦ 734-878-9760
- Thomas Greenbowe ♦ 3051 Gilman Hall, ISU, Ames, IA 50011 ♦ 515-294-4050 ♦ tgreenbo@iastate.edu
- Thomas Holme ♦ Chemistry Department UWM ♦ 414-229-3970 ♦ tholme@uwm.edu