

Seattle Pacific University Department of Chemistry and Biochemistry 206-281-2102 [pierck1@spu.edu](mailto:pierck1@spu.edu)

**Education** 2007 – Ph.D. Analytical Chemistry, University of Washington, February 8, 2007  
2002 – B.S. Chemistry, ACS certified, Seattle University, Seattle, WA

### **Teaching and Research**

**Assistant Professor** (2008-current) Seattle Pacific University, Teaching analytical chemistry (4 courses), general chemistry (2 courses), introduction to research methods, USEM, and introduction to the nature of science. Mentor for undergraduate research assistants with projects involving chemometrics, chromatography, and dynamic surface pressure. Academic advisor.

**Visiting Assistant Professor** (Winter 2007 – Summer 2008) Seattle University, Taught gen. chem.. (3 courses), quantitative analysis

**Graduate Research Assistant** (Fall 2002 – Winter 2007), Advisor: Robert E. Synovec, Ph..D., University of Washington. Developed chemometric tools for chromatographic retention time alignment, feature selection, data mining and pattern recognition for analysis of GC-FID, GC-MS, GCxGC, and GCxGC/TOFMS separations

### **Peer Reviewed Publications (K. Pierce mentored the underlined undergraduate researchers)**

18. **Karisa M. Pierce**, Jeremy S. Nadeau, Robert E. Synovec. Handbook of Separation Science: Gas Chromatography Chapter 17: Data Analysis Methods, Ed. Colin F. Poole, invited, currently accepted and in production. Expected publication date February 2012.
17. **Karisa M. Pierce**, Rachel E. Mohler. Recently accepted and in press at **Separation and Purification Reviews** (May 25, 2011).
16. Ying Luo, **Karisa M. Pierce**. Recently accepted and in press at **Galenics** (May 25, 2011).
15. **Karisa M. Pierce**, Stephen P. Schale, Trang M. Le, Joel C. Larson, **J. Chemical Education** (2011) 88: 806-810.
14. **Karisa M. Pierce**, Stephen P. Schale. **Talanta** (2011) 83: 1254-1259.
13. **Karisa M. Pierce**, Emilia Bramanti, Massimo Onor, Roberto Spiniello, Alexandra Kangas, Kristen J. Skogerboe, Robert E. Synovec. **Talanta** (2010) 80: 1445–1451.
12. **Karisa M. Pierce**, Jamin Hoggard, Rachel Mohler, Robert E. Synovec **Journal of Chromatography A** (2008) 1184: 341-352.
11. Eric Burnham, L. Bender, G. Eiceman, **Karisa M. Pierce**, S. Prasad. **Journal of Wildlife Management** (2008) 72: 792-797.
10. Satendra Prasad, **Karisa M. Pierce**, Hartwig Schmidt, Jaya V. Rao, Robert Güth, Robert E. Synovec, Geoffrey B. Smith, Gary A. Eiceman, **The Analyst** (2008) 6: 760-767.
9. Satendra Prasad, **Karisa M. Pierce**, Hartwig Schmidt, Jaya V. Rao, Robert Güth, Sabine Bader, Robert E. Synovec, Geoffrey B. Smith and Gary A. Eiceman. **The Analyst** (2007) 132: 1031-1039.
8. **Karisa M. Pierce**, Bob W. Wright, and Robert E. Synovec **Journal of Chromatography A** (2007) 1141: 106-116.
7. Rachel Mohler, K. Dombek, J. Hoggard, **Karisa M. Pierce**, E. Young, Robert Synovec. **The Analyst** (2007) 132: 756-767.
6. **Karisa M. Pierce**, J. Hoggard, J. Hope, P. Rainey, A. Hoofnagle, R. Jack, B. Wright, R. Synovec. **Analytical Chemistry** 78 (2006) 14: 5068-5075.
5. N. Watson, M. VanWingerden, **K. M. Pierce**, B. Wright, R. Synovec. **Journal of Chromatography A** 1129 (2006) 1: 111-118.
4. **Karisa M. Pierce**, Janiece L. Hope, Jamin C. Hoggard and Robert E. Synovec. **Talanta** 70 (2006) 4: 797-804.
3. **Karisa M. Pierce**, Janiece L. Hope, Robert E. Synovec. **Lab Plus International** (November 2005) Invited, not peer reviewed
2. **Karisa M. Pierce**, Lianna F. Wood, Bob W. Wright, and Robert E. Synovec. **Analytical Chemistry** 77 (2005) 23: 7735-7743.
1. **Karisa M. Pierce**, J.L. Hope, K.J. Johnson, B.W. Wright, R.E. Synovec. **Journal of Chromatography A** (2005) 1096: 101-110.

### **Awards:**

Publication #12 again recognized as “Top 50 Most Cited Articles from 2008-2010” published by **J. Chromatogr. A.**, June 2011  
Publication #12 recognized as “Top-50 Most Cited Articles from 2007-2009” published by **J. Chromatogr. A.**, June 2010  
Best poster -- Eigenvector University April 24, 2006  
Best poster – Center for Process Analytical Chemistry conference May 3, 2005  
Boris Weinstein Fellow (2003), University of Washington  
Seattle University Undergraduate Award in Analytical Chemistry (2001)  
Bannan Scholar (2001), Seattle University  
Washington Scholar 1998-2002  
Seattle University Presidential Scholar 1998-2002

### Long-term Service to the Scientific Community and to SPU:

Supervising undergraduate research (2004-current)

Reviewer for journal manuscripts (2006-current)

Faculty advisor of SPU ACS club (2009-current)

SPU undergraduate academic advisor (2009-current)

Annual Science Workshop Teacher (2000 – 2007), Expanding Your Horizons Conference, Seattle, WA

Member of SPU Faculty's Academic Advising and Retention Committee (Sept 2011 to present)

### Some of My Lectures and My Research Assistants' Oral Presentations:

20. Ninth Annual Erickson Conference, 5/13/11, **SPU**. Oral presentation by Stephen Schale ('11)
19. Seattle Pacific University, 1/18/08, **Seattle, WA** "Analyzing Complex Samples Using Chromatography, Spectroscopy, and Chemometrics."
18. Xavier University, 11/09/07, **Cincinnati, OH** "Using Chemometrics to Analyze Chromatographic Data."
17. Amgen Inc, 9/13/07, **Longmont, CO** "Screening peptone lots using chemometrics and NMR."
16. Amgen Inc, 8/24/07, **Thousand Oaks, CA** "Screening peptone lots using chemometrics and NMR."
15. New Mexico State Univ., 12/06/06, **Las Cruces, NM** "Interpreting Complex Data from One-Dimensional and Multidimensional Chromatography."
14. CPAC Meeting, 11/07/06, **Seattle, WA** "Addressing the Needs of Process Analysis through Advancements in High-Speed GC, Multi-dimensional GC, and Data Analysis."
13. ChevronTexaco, 11/01/06, **Richmond, CA**, "Interpreting Complex Data from Multidimensional Chromatography"
12. Pacific Northwest National Laboratories, 09/06/06, **Richland, WA**, "Analytical Advances with Gas Chromatography and Chemometrics"
11. ExxonMobil, 07/10/06, **Clinton, NJ**, "Extracting Information from Chromatographic Separations of Complex Samples."
10. CPAC Meeting, 05/09/06, **Seattle, WA** "Addressing the Needs of Process Analysis through Advancements in High-Speed GC, Multi-dimensional GC, and Data Analysis."
9. CPAC Meeting, 11/08/05, **Seattle, WA**, "Chemometrics for multidimensional chromatographic analysis."
8. Federation of Applied Chemistry and Spectroscopy Societies 2005, 10/10/05, **Quebec City, Canada**, "Chemometrics and Chromatography: Extracting Information from Large Volumes of Multivariate Data"
7. DOW Chemical Co., 06/07/05, Live web broadcast world-wide from **Seattle, WA**, "Gas Chromatography: Advances in Separation Technology."
6. deCODE Genetics, Inc, 05/31/05, **Bainbridge Island, WA**, "Chemometric Analysis of Gas Chromatographic Data using Retention Time Alignment, Feature Selection and Principal Component Analysis."
5. International Symposium on Capillary Chromatography and Electrophoresis, May 24, 2005, **Las Vegas, NV**, "Chemometric Analysis of Gas Chromatographic (GC and GCxGC) Data using Retention Time Alignment, Feature Selection and Principal Component Analysis."
4. CPAC Meeting, 05/03/05, **Seattle, WA**, "Chemometrics for multidimensional chromatographic analysis."
3. CPAC Meeting, 11/09/04, **Seattle, WA**, "Process GC with Chemometrics."
2. Pacific Northwest National Laboratory, 11/01/04, **Richland, WA**, "Objective Classification of Gasoline Samples Using Chromatographic Fingerprints."
1. Univ. of Wash. Dept. of Chemistry, 2/23/04, **Seattle, WA**, "Using Fluorescence Polarization to Determine Fetal Lung Maturity."

### My Posters and Posters by My Research Assistants:

Ninth Annual Erickson Conference at **SPU**, 5/13/11. Three projects and three posters by Brittany Raab ('12), Trang Le ('12), Stephen Schale ('11)

241<sup>st</sup> National ACS Meeting, **Anaheim, CA**, 3/28/11. Two research posters by Trang M. Le, Stephen P. Schale and Brittany Raab, other undergraduate student representatives also presented the SPU ACS student club poster.

Murdock Symposium 11/13/10 at Linfield College, **McMinnville, OR**. Two research posters by Trang M. Le, Stephen P. Schale and Brittany Raab.

Eighth Annual Erickson Conference at **SPU**, 5/14/10. Separate projects and posters by Trang M. Le and Stephen P. Schale

Puget Sound ACS at Central Washington University, **Ellensburg, WA**. 5/1/10. Research poster by Stephen P. Schale

239<sup>th</sup> National ACS Meeting, **San Francisco, CA**. 4/22/10. ACS club poster with 4 undergraduate student representatives.

Murdock Symposium 10/31/09 at Gonzaga University, **Spokane, WA**. Research project poster by Stephen P. Schale

Seventh Annual Erickson Conference 5/8/09, **Seattle, WA**. Seattle Pacific University. Three different posters representing three different undergraduate research projects by Alexandra Kangas ('09), Kathryn L. King ('10), and Stephen P. Schale ('11).

Puget Sound ACS Undergraduate Research Conference at University of Puget Sound 5/2/09, **Tacoma, WA**. Advisee Stephen Schale presented poster "Classification of Species by Chemometric Analysis of Gas Chromatography-Mobility Spectrometry Separations of Scat Samples"

Eigenvector University 5/6/08, **Seattle, WA**, "Chemometric Analysis of Complex NMR Spectral Data."

Eigenvector University 4/24/06, **Seattle, WA**, "Correcting Retention Time Shifts in Chromatography for Improved Data Analysis."

PittCon 3/13/06, **Orlando, FL**, "Correcting Retention Time Shifts in Chromatography for Improved Data Analysis."

International Symposium on Capillary Chromatography and Electrophoresis 5/24/05, **Las Vegas, NV**, "Tools for the Extraction of Useful Information from Metabolic Profiles: Techniques for Mining the GC x GC-TOFMS Data Cube."

CPAC Meeting 11/03, **Seattle, WA**, "Process Gas Chromatography and Chemometrics."

CPAC Meeting 5/03, **Seattle, WA**, "Process Gas Chromatography and Chemometric Analysis."

CPAC Meeting 11/02, **Seattle, WA**, "Online measurement of interfacial properties: Dynamic surface tension detection."