

SHORT VITAE: Kevin A. SCHUG



I. EDUCATION

- B.S. Chemistry, College of William & Mary – 1998
Ph.D. Chemistry (Analytical), Virginia Tech (Harold M. McNair) – 2002
Post-doc University of Vienna, Austria (Wolfgang Lindner) – 2003-2005

II. POSITIONS

- 08/2011 Associate Professor, Dept. of Chemistry & Biochemistry, U.T. Arlington
08/2005 Assistant Professor, Dept. of Chemistry & Biochemistry, U.T. Arlington

III. AWARDS, RECOGNITION, and NOTABLE SERVICE

- 2001 NSF “Academic Careers in Chemistry,” EAS, Atlantic City, NJ
2002 Phi Lambda Upsilon Honor Chemical Society, Alpha Theta Chapter
2005 Review article featured on the January, 2005 cover of *Chemical Reviews* (ACS)
2007 U.T. Arlington Research Enhancement Program Award
2007 Founder and Director of U.T. Arlington Mass Spectrometry Analysis Facility
2008 Top 5 Finalist, Emerging Leader in Chromatography (*LCGC* magazine)
2008 One of top downloaded review articles of 2008 in *J. Sep. Sci.* (Wiley)
2009 Emerging Leader in Chromatography Award (*LCGC* magazine)
2009 Featured Lecturer, Shimadzu Dinner Event at ASMS 2009 (Philadelphia, PA)
2009 National Science Foundation CAREER Award
2009- “Dean” of HPLC section of CHROMacademy interactive learning website
2009- Founding Editor and Editor-in-Chief, Journal of High School Research in the Chemical Sciences (www.uta.edu/chemistry/JHSR)
2009- Editorial Advisory Board, *Journal of Separation Science* (Wiley)
2009- Executive Advisory Board, Arlington Academy for Community College Excelling Students in STEM (AACCESS); NSF S-STEM program at UTA
2010 Eli Lilly and Company Young Investigator Award in Analytical Chemistry
2010 U.T. Arlington, College of Science Research Excellence Award
2010 Sigma Xi (U.T. Arlington Chapter) Outstanding Faculty Mentor Award
2010- Editorial Advisory Board, *LCGC Magazine* (Advanstar)
2011 Sigma Xi (U.T. Arlington Chapter) Outstanding Faculty Mentor Award

IV. RESEARCH INTERESTS

- Noncovalent binding determinations by electrospray ionization – mass spectrometry
- Fundamentals and mechanistic aspects of soft ionization mass spectrometry
- Enantioselective and biomimetic molecular recognition
- Natural products isolation and characterization
- Drug discovery and assay development
- Separation Science – Fundamentals and Applications
- Trace quantitative analysis from complex matrices

V. SCHOLARLY ACCOMPLISHMENTS

52 Peer-reviewed research articles, review articles, and book chapters published or in-press since 2002. Graduated 3 Ph.D. student and 6 M.S. students since joining UTA. Current research group comprises 13 members (6 graduate students and 7 undergraduate students).

SELECTED RESEARCH PUBLICATIONS:

- Nguyen, H.P.; Li, L.; Gatson, J.W.; Maass, D.; Wigginton, J.W.; Simpkins, J.W.; Schug, K.A. Simultaneous quantification of four native estrogen hormones at trace levels in human cerebrospinal fluid using liquid chromatography-tandem mass spectrometry. *J. Pharm. Biomed. Anal.* **2011**, *54*, 830-837.

- Wijeratne, A.W.; Yang, S.H.; Armstrong, D.W.; Schug, K.A. Solvent Molecules Undergo Homolytic Cleavage and Radical Recombination Processes during Negative-Mode Electrospray Ionization: Adduct Formation with Antimony(III)-Tartrate Dianion. *Anal. Chem.* **2010**, *82*, 5141-5146.
- Yang, J.; Zhang, Y.; Gautam, S.; Liu, L.; Dey, J.; Chen, W.; Mason, R.P.; Serrano, C.A.; Schug, K.A.; Tang, L. Development of Aliphatic Biodegradable Photoluminescent Polymers. *Proc. Nat. Acad. Sci. USA* **2009**, *106*, 10086-10091.
- Barnes, J.S.; Nguyen, H.P.; Shen, S.; Schug, K.A. General Method for Extraction of Blueberry Anthocyanins and Identification Using High Performance Liquid Chromatography-Electrospray Ionization-Ion Trap-Time of Flight Mass Spectrometry. *J. Chromatogr. A* **2009**, *1216*, 4728-4735.
- Fryčák, P.; Schug, K.A. Dynamic Titration: Determination of Dissociation Constants for Noncovalent Complexes in Multiplexed Format Using HPLC-ESI-MS. *Anal. Chem.* **2008**, *80*, 1385-1393. (Accelerated Article)
- Fryčák, P.; Schug, K.A. On-Line Dynamic Titration: Determination of Dissociation Constants for Noncovalent Complexes Using Gaussian Concentration Profiles by Electrospray Ionization Mass Spectrometry. *Anal. Chem.* **2007**, *79*, 5407-5413.

VI. TEACHING

I have taught six different courses since joining UTA in 2005. These include graduate courses in Analytical Chemistry and Analytical Spectroscopy & Mass Spectrometry. At the undergraduate level in chemistry, I have taught Quantitative Analysis, Biophysical Chemistry, and Instrumental Analysis. I have also had the opportunity to teach a General Chemistry course for Education Majors and teachers pursuing MAIS degrees, entitled “Physical Sciences – Chemistry.”

VII. SERVICE

- Mentor for Robert A. Welch Foundation Summer Scholar Program (2006-2011)
- Mentor for UT-system NSF LSAMP Undergraduate Program (2006-2011)
- Journal peer reviewer for 24 different journals
- Various departmental committees; Chair of Graduate Recruiting Committee
- Graduate Studies Committee, Environmental & Earth Sciences Program, COS (2008 – Present)
- University’s Sustainability Committee, UTA (2007 – Present)
- Diversity in Science in the United States (DISCUS; www.discusprogram.com), educational outreach program, Director and Founder

VIII. GRANTS, CURRENT

- Eli Lilly and Company, \$50,000/year (2 years)
- NSF, “CAREER: Quantitative Characterization of Noncovalent Interactions by Mass Spectrometry – A Systematic Approach,” (CHE-0846310) P.I., \$550,000 (2009 – 2014)
- NSF, STEM Talent Expansion Program “AURAS: Arlington Undergraduate Research-based Achievement in STEM” (DUE-0856796) co-P.I., \$1,995,073 (2009 –2014)
- NSF, “Metals in Environmental and Biological Systems. A Rational Approach to Sample Pretreatment and Analysis,” (CHE-0821969) co-P.I., \$500,000 (2008 – 2011); Jointly awarded with grant from NSF – China to Prof. Jianhua Wang, Northeastern University.
- Shimadzu Equipment Grants for Research, “Proteomics and Natural Products Research and Education Using HPLC-IT-TOF-MS,” P.I., \$200,000 (Awarded June, 2007)

May 9, 2011