A Message from the Chair

As we celebrate the close of the 2015-2016 academic year, summer is going by faster than ever and preparations are coming together for another fall semester. Looking back at the past year, we graduated 56 majors in Chemistry, 19 majors in Forensic Chemistry and 18 Forensic Science masters students. Looking forward, we will have 230 chemistry majors, 204 forensic chemistry majors and 6 chemistry secondary education majors with us for the coming semester. This continues to put us in the company of some of the most productive Chemistry programs in the country!

We had a great showing of Towson Chemistry students presenting their research at national and regional conferences, including the American Chemical Society national meetings, and meetings of the Society of Environmental Toxicology and Chemistry and the Mid-Atlantic Association of Forensic Scientists, among others. Our students also continued to publish their research with their faculty mentors in numerous peer-reviewed journals.

On July 1, 2016, we bid a fond farewell to Valerie Smith who served as the lead administrative assistant for the department for 23 years. Val kept the office running smoothly while pursuing her passion of art in her spare time. With her retirement, Val can now put all of her efforts into her art, and she can be seen all around the Baltimore art scene these days. Best wishes to Val on her retirement!

With Val’s retirement, we have the opportunity to welcome our new administrative assistant, Ms. Cindy Wolfe. Cindy has been with Towson University in several roles for about 10 years and comes to us most recently from the Department of Interprofessional Health Studies in the College of Health Professions. Welcome Cindy!

The Chemistry Department was the beneficiary of an outstanding year of giving from our alumni and friends. This support allowed us to provide additional summer student research opportunities, enhance our seminar series of external speakers and also support long-standing awards presented to deserving students in honor of friends and former faculty of the department. On behalf of the department, I would like to express our sincere gratitude for gifts large and small that support our mission.

Sincerely,

Dr. Ryan Casey, Professor and Chair
Chemistry Program News

Publications


David Ownby was a co-author (with his father Dennis Ownby as another co-author; the two D.R. Ownbys are not a typo!) on the following paper:


Research Presentations

The Chemistry Department sent four faculty members and six students to the 251st ACS National Meeting in San Diego, CA.

Faculty presentations included:

The Analytical Chemistry faculty (Ryan Sours, Shannon Stitzel, Beth Kautzman, and John Sivey) delivered a platform presentation in the Chemical Education Division at the 251st ACS National Meeting in San Diego, CA, entitled, Development, pilot testing, and full implementation of an authentic research experience in undergraduate analytical chemistry: Quantitative analysis of caffeine in coffee.


Student presentations included:

Broadwater, M. A.; Sivey, J. D. Influence of often-overlooked free chlorine and free bromine species on regiospecific halogenation rates of salicylic acid.

Taggart, G. A.; Sivey, J. D. Regiospecific rates and steric effects of phenyl ether bromination by aqueous free bromine.


Smiddy, B., Sours, R. 2016. Chromatographic investigation of the interaction between the polymorphic compound mCyPU and tailored surface. Poster session.


Presentations at other conferences include:


Tim Brunker gave an invited presentation at the North East Regional meeting of the American Chemical Society at Ithaca College, NY on June 13 entitled “Studies of neutral and cationic azaferrocene-borane Lewis pairs”.

Recent ENVS masters graduate, Bill LaBarre presented the following poster in Spain:


John Sivey delivered the following platform presentation at the 250th ACS National Meeting in Boston, MA: Buffers as potential catalysts of hydrolysis and halogenation during agrochemical fate experiments in bench-scale reactors; Division of Agrochemistry.
Allison Ricko (Environmental Science MS graduate, advised by John Sivey) delivered the following poster presentation at the 250th ACS National Meeting in Boston, MA and was also the recipient of a graduate student travel grant from the ACS Division of Agrochemistry:

Buffers as potential catalysts of hydrolysis and halogenation during agrochemical fate experiments in bench-scale reactors; Division of Agrochemistry.

Shelby Weatherbee Weatherbee (Honors Student) and Erik Hobbs (MS in Applied Physics) gave platform presentations at TOUR Expo. (faculty mentor: Devadas)

Sarah Talamantez-Lyburn and Thomas Kountz gave poster presentations at TOUR Expo. (faculty mentor: Devadas)

**Grants**

The UPLC/ESI-MS instrument acquired under National Science Foundation Major Research Instrumentation grant 1531562 (MRI: Acquisition of a Liquid Chromatograph-Mass Spectrometer to Support Multidisciplinary Research and Undergraduate Education at Towson University; PI Dr. Ryan Sours), total award $382,737 has been installed in the UEBL lab space.

Undergraduate Chemistry major Hannah Burdge was awarded a $5000 summer research grant from the Organic Division of the American Chemical Society. Dr. Keith Reber is the PI on the grant and her research mentor.

**Faculty Professional Development**

Beth Kautzman reviewed a research proposal for NOAA.

Beth Kautzman attended “Anthropogenic Influences on Organic Aerosol Formation and Regional Climate Implications” U.S. EPA Meeting and Webinar.


David Ownby reviewed for Environmental Science and Technology and Bulletin of Environmental Contamination and Toxicology and a book proposal for CRC Press.

Ryan Casey reviewed for Landscape and Urban Planning, Urban Water and Environmental Pollution.

Beth Kautzman reviewed a manuscript for Environmental Science and Technology

Tim Brunker reviewed a manuscript for the Journal of the American Chemical Society, and a grant proposal for the American Chemical Society - Petroleum Research Fund.

Dan Macks reviewed 2 manuscripts for the Journal of Chemical Education.

Mary S Devadas reviewed a manuscript for the Journal of Physical Chemistry.

**Faculty Awards**

Beth Kautzman was presented The 2016 President’s Diversity Award (Faculty Research).
**Student Awards**

Allison Ricko received a Graduate Student Research Award from the Office of Graduate Studies at Towson University for her Master of Science in Environmental Science thesis entitled, *Anaerobic abiotic reduction of dichloroacetamide safeners: Effects of manganese oxides and agrochemical co-formulants*. Allison graduated in August 2015 and currently works as a scientist at Critical Path Services, a company that supports agrochemical environmental fate studies to assist major agrochemical companies with EPA product registration. Allison’s thesis advisor was John Sivey.

Matthew Broadwater was selected to receive a 2016 Undergraduate Student Award from the ACS Division of Environmental Chemistry. This award recognizes outstanding achievement in undergraduate coursework and/or research related to environmental chemistry. Matthew’s research advisor is John Sivey.

Cassidy Stout and Pierce Publico were awarded Raspet summer research fellowships from the endowment established by Ron and Linda Raspet.

Cassidy’s research project, conducted under the supervision of Dr. Tim Brunker was “Examining the Effects of Ligand Structure on the Stereoisomers of Ruthenium (II) Dichloride Complexes with Chiral, Tetradeutate Aminosulfoxide Ligands.” She presented her work to the department on Feb. 4, 2016.

Pierce, a senior, worked with Dr. Cynthia Zeller on a project titled, “Development of a Real-Time PCR Assay for the Identification of Body Fluids.” She presented her work to the department on March 10, 2016.

**Community Outreach**

John Sivey delivered an invited research seminar in the Department of Civil Engineering at Villanova University.

Research from John Sivey’s group was the subject of a recent segment (Jan. 13, 2016) on NPR’s *The Academic Minute* national broadcast.

John Sivey presented an outreach event, "Mathematics of Color and Light,” at Stricker Middle School on April 20, 2016.

Beth Kautzman presented an invited talk entitled “Unraveling Uncertainties in Global Climate Change: Evaluating the Chemistry and Physics of Atmospheric Aerosols” to the Girl’s STEM Club, Sacred Heart of Glyndon Girls School.

The Department of Chemistry hosted the central Maryland site for the national chemistry competition called You Be The Chemist Challenge®. The event for high school students was held on March 19, 2016 and was hosted by Mary S. Devadas on behalf of the department.

Mary S Devadas presented an invited talk on “Size Scale Matters” at Notre Dame Preparatory School to Middle School Students on May 18th 2016.
Miscellaneous

Rodney Dixon attended the "National Drive Electric Week Event" in Devon, PA, on Saturday, September 19. Rodney attended presentations by Dr. Michael Feinberg (of DVN GL Energy) and Dr. Diane Phillips (of St. Joseph’s Univ.), got a close look at the University of Pennsylvania's REV1 electric racer. The day's highlight was getting to drive a Tesla - it was great!

Forensic Programs News

The BS in Forensic Chemistry and MS in Forensic Science programs were reaccredited by the Forensic Science Education Programs Accreditation Commission (FEPAC) in March. Congratulations to the Forensic faculty! Towson University is 1 of 7 universities in the US that has both its undergraduate and graduate forensic programs FEPAC accredited.

Publications

Kelly Elkins had the following papers accepted.


Presentations


DeAngelo, T. “Potential Sources of DNA Cross Contamination from Non-Disposable Equipment,” Oral presentation, MAAFS: Mid-Atlantic Association of Forensic Scientists, Richmond, VA, May 19, 2016. Dr. Elkins was her research mentor.


The below poster presentations were made at the Towson University Undergraduate and Graduate Student Research Expo (TU-UGSRE), April 20, 2016:

DeAngelo, T.M.; Elkins K.M. “Potential Sources of DNA Cross Contamination from Non-Disposable Equipment.”

Quinn, A.A.; Elkins K.M. “Analysis of ATR FT-IR Spectra to Differentiate Menstrual and Venous Blood on Various Substrates.”
Boise, T.H.; Elkins K.M. “Comparison of Detection of Food-Borne Pathogens by a PCR HRM Assay to a Rapid on the Market Test Kit,” Poster Presentation, Towson University Undergraduate and Graduate Student Research Expo (TU-UGSRE), April 20, 2016.


Quinn, A.; Elkins K.M. “Analysis of Attenuated Total Reflectance/Fourier Transform Infrared (ATR/FTIR) Spectra to Differentiate Menstrual and Venous Blood on Various Substrates,” poster


**Grants**

Community Outreach

**Kelly Elkins** co-hosted a Maryland ACS 2016 Women in Chemistry event at Towson University on Feb. 17, 2016.

Dr. Elkins was invited to serve on the ACS Exams Institute Diagnostic of Undergraduate Knowledge (DUCK) 2017 Exam Committee. The committee has met twice at the ACS National Meetings in Boston in August 2015 and in San Diego in March 2016.

Dr. Elkins was also nominated to serve on the ACS Committee on Ethics (ETHX) for 2016 and joined the committee for the first time at the ACS National Meeting in San Diego in March 2016.

Faculty Professional Development

**Kelly Elkins** was interviewed for a featured article about her research on GenomeWeb.com (155,000 monthly unique visitors), “Researchers Describe Rapid, Multiplexed High-Res Melt Assay for Species Differentiation,” February 25, 2016 based on research published in Analytical Biochemistry.


Student News

Forensic Chemistry graduates **Sun Yi Li** and **Kaitlyn Palmquist**, have been admitted into Sam Houston State University’s Ph.D. in Forensic Science Program for the fall 2016 semester. They are 2 of only 7 applicants from across the country who were granted admission into this prestigious program in 2016.

Other News

**SAACS Corner**
Those interested in joining SAACS should go to our Facebook page (http://www.facebook.com/groups/towsonsaacs/) and join our group on the involved@TU page.

The Towson University SAACS Club is an official branch of the Student Affiliates of the American Chemical Society. Student members come from a variety of departments - you don't have to be a chemistry major to join!

**Forensic Science Student Organization (FSSO)**
Those interested in joining FSSO should go to our Facebook page (http://www.facebook.com/groups/FSSOTU/) and join our group.
Baltimore County Public School students participating in the "Mathematics of Color and Light" outreach activity developed by Dr. John Sivey.

Sarah Talamantez-Lyburn at the Colonial Academic Alliance April 2016 – 1 of 10 students selected to represent TU
Photos

Erik Hobbs at the American Physical Society March 2016.

Thomas Kountz at the American Physical Society March 2016.
Photos

Chemistry Department Awards Recipients with Dr. Ryan Casey and Dr. Clare Muhoro. From left to right Dr. Casey, Nicolas Fioravante, Zelle Ndika, Hannah Burdge (front), Ryan Dias, Paige Sudol (front) Emily Fleischman, Cassidy Stout (front), Thomas Boise, Dr. Muhoro.

Dr. Dean Vanko right along with Dr. Al Pribula (left) (Retirement from Towson), Dr. Shannon Stitzel (Fisher College Teaching award), Dr. Clare Muhoro (Fisher College Service award).

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