Welcome to the inaugural issue of the IPFW Department of Chemistry Newsletter. We hope that you find Periodically Speaking as enjoyable to read as it was for us to prepare! We intend to publish the newsletter once or twice a year, with a target audience including alumni, current students, community members, and IPFW faculty. Since it will appear in electronic form, the newsletter will be accessible to any individual wishing to get a chemistry department update.

We anticipate that the general format of the newsletter will largely remain the same and include faculty updates and spotlights (pages 2, 5), student scholarships and awards (page 3), and alumni updates and spotlights (page 4).

Some items are briefly highlighted here. We are very pleased that one of our newest faculty members, Assistant Professor Steven Stevenson, achieved tenure and promotion to the rank of associate professor, effective fall 2014. This follows Assistant Professor Daryoush Tahmassebi, whose tenure and promotion took effect fall 2011. We are also very pleased that during the 2014–2015 academic year we are joined by Meghan McCormick, a chemistry graduate student at Indiana University who is teaching general and inorganic chemistry as a Future Faculty Teaching Fellow.

A number of chemistry majors won departmental scholarships and awards. One scholarship announced for the first time last spring was the Ken Stevenson Memorial Award, established by the Stevenson family in memory of a member of the chemistry faculty from 1968 to 2003, and who served as chairperson for 23 of those years. We are very grateful to the Stevenson family for establishing this scholarship.

We highlight two alumni in the newsletter, Brad Cox and Andzela Zilka. It is wonderful to learn about our graduates productively using their chemistry degrees. We look forward to sharing further success stories with you.

Again, welcome to this inaugural issue of the newsletter, and we would love your feedback for future stories.
When I decided to major in the sciences (my undergraduate degree was actually in forensic science), teaching was nowhere in my mind as a future career choice at the time. My dreams included working for the FBI—solving cases or researching new techniques to stop international crimes. Unlike my fellow classmates, I found the chemistry aspects of various forensics topics—specifically, the precursors and decomposition products of explosives—most interesting, so it caused me to delve deeper into the world of chemistry. Thus my next plan was to attend graduate school for a Ph.D. in chemistry. Thankfully, getting higher-level degrees in the sciences often has the distinct advantage of essentially being free. I was paid a stipend to teach (now I could feed and shelter myself!) and 95 percent or more of my tuition was paid for (no debilitating debt!). Indiana University in Bloomington was closer to my family (St. Louis), and it also had a top-ranked chemistry program. Unfortunately, even though I made top grades in undergrad, my forensic science knowledge was almost useless; thus I had only my effective studying and problem-solving skills to tackle the advanced analytical chemistry graduate courses I was required to take. I struggled to balance teaching duties, classes, and research. Topics like electronics and chromatography and spectroscopy, I sadly found out, were not my forte, so research became a burden instead of an opportunity to excel.

There was, however, a light at the end of the tunnel. Through my teaching responsibilities, I discovered that not only was I apparently really good at teaching undergraduates, but I really, really enjoyed the feeling of knowing I could make an impact on at least one person’s education. Every time a student had that “lightbulb moment” I was soaring inside. Inevitably, I found myself putting almost all of my time and effort into teaching—making extra worksheets, cheat sheets, flowcharts, review problems for my students, holding three-hour-long review sessions before exams, holding extra office hours and not leaving until everyone’s questions were answered.

My focus on teaching, however, was not exactly encouraged by my advisor at the time and the Research 1 (R1) University I was attending. My failure to excel in research almost forced me to leave graduate school. The professor I was teaching for at the time, Professor Baik, was very aware of my teaching efforts. Surrounded by colleagues who only focused on research, he actually saw the value in teaching as well as all of the hard work I put into it. He believed that I had great potential as a scientist, but that I just needed the right mentoring and the right focus of study. So after two miserable years as an analytical chemist, I was now required to be an inorganic chemist. To say I was scared and intimidated was an understatement. I knew next to nothing about inorganic chemistry because I was not required to take the course for my undergraduate degree. I was determined, however, not to waste my second chance at graduate school. During my free time I would grab any and every general inorganic chemistry textbook and start reading. I taught myself. It was easier than expected because the material was new and interesting to me and…it just clicked! I had found my niche! Over the next couple of years, I excelled in all of my inorganic chemistry graduate courses, typically earning the best grades in each class. The research projects I was given were interesting, challenging, and relevant to today’s world problems. Finally, I also had a mentor, Professor Baik, who actually cared about my education, professional development, and passion for teaching. As a result, I am now the graduate student that others in my department go to if they have a fundamental inorganic chemistry question.

Overall, do not be afraid to branch out of your comfort zone. Look for opportunities to advance yourself in the topics and fields that you love and show your strengths. Money does not have to be the limiting factor for reaching your education and career goals. If you’re struggling with a subject, don’t isolate yourself, but find a friend, colleague, or mentor who will help you build your strengths. Finally, do not let someone force you to quit or give up if what you are great at is not considered “important” to them. Stick with your goals, fight for what you want to do with your life, and look for the support to help you along the way.
The department held its annual spring award banquet in April. Congratulate the following students who were recognized for their academic achievements and service to the department:

Arthur W. Friedel Endowed Chemistry Scholarship: Cole Davis

Leepoxy Plastics Inc. Scholarship: Luis Navarro

Outstanding Organic Chemistry Student Scholarship: Jacquelyn Kelty

David P. Onwood Scholarship: Josiah McMillen

The Ken Stevenson Outstanding Chemistry Major Award: Christopher McKay

Outstanding Student Affiliate: Kali Fridholm

Faculty/Alumni Scholarship: Cameron Griffith, Morgan Gascoyne, Mieke Peels, Jacquelyn Kelty, Christopher McKay

William F. Erbelding Award in Analytical Chemistry: Shori Gerardot

ACS Division of Inorganic Chemistry Award: Jun-Kyu Byun

Outstanding Chemistry Major: Jun-Kyu Byun

The Chemistry Club took part in the celebration of Mole Week, October 20–24, 2014, which is observed by many chemists. One main purpose is to raise money to help fund trips for students to learn what chemists do at their full-time jobs. This year, it will help with the trip to Argonne in Illinois. Additionally, Mole Week informs students about what chemists actually do in the real world and what materials chemists have made that make our modern world possible.

During Mole Week, a competition called “Pie the Professor” was held to also raise money for the club. In the competition, students, faculty, and staff members placed money into a specific jar that has a professor’s face on it to “vote” for which professor would receive the pie in the face. Whoever has the most “votes”—or money in their jar—wins the competition. This year, however, a second part was added to the competition called “Pie the Officer,” which is the same concept, but consisted of only the Chemistry Club officers. This new competition was a big hit with the student body and all together the Chemistry Club raised over $700. The professor who won this year was Professor Friedman and the winning officer was Sean Dunaj (pictured).

A video produced by Vice President Stan Boschet and Activities Chair Tre Steffen was shown all week. It demonstrated chemical reactions that can only be done live in a lab due to open flames and other hazards. Some experiments were done live for students, which included a tube of a non-Newtonian fluid for people to touch and feel, and the elephant toothpaste reaction was performed to show a reaction that has a high release of gas. Overall, this year’s Mole Week was a great success thanks to the professors, officers, and student body! We are looking forward to Mole Week again next year.
Learn More About Alumnus Brad Cox

1. What made you decide to pursue a degree in chemistry?

Chemistry is a tool that allows me to solve complex problems and offer solutions to a society that is critically in need of scientific advancement, plus you get to make money using insanely cool equipment.

2. What did you personally gain from earning a degree? How do these skills help you in your duties at your current job?

Earning a Purdue chemistry degree from IPFW prepared me for a rigorous graduate experience at Michigan State University, where I earned a Ph.D. in organic chemistry. Today, I am a fermentation scientist at Dow AgroSciences where I can offer great value by bringing a chemist’s expertise and perspective to a biological world.

3. Do you have any memorable experiences within the IPFW chemistry department that you would like to share?

I remember spending time with friends in the Mole Hole and Saturdays taking exams in Professor Columbia’s course, where we were reprimanded for having chariot races in the hall as a way to take the edge off.

4. Do you have recommendations for future students who are considering pursuing a degree in chemistry?

Spend a large amount of time and take a hard look at what you want to do when you graduate. Seriously consider summer internships at companies or government labs, or take advantage of the lab research positions available on campus. I am grateful for the time I spent working with Professors V. Maloney, R. Berger, and K. Stevenson. These opportunities will shape your preferences for when you graduate, and the networks you’ll have in place will bode well for the future.

5. Is there anything you’d like to share with us about your family, your hobbies, your job, etc.?

Since school, I met my awesome wife of almost 6 years now, Jennie, and we recently had a future Nobel Laureate, Connor. Jennie is a research scientist for Eli Lilly, developing biomarker assays for the clinic, and I work at Dow AgroSciences in the bioengineering and bioprocessing R&D department, focusing on fermentation of renewable commodity chemicals for Dow Chemical. Connor is currently learning to roll over while laughing and working on seeing how much drool a four-month-old can produce.
Dr. Ronald Duchovic (pictured left) published a new textbook called Understanding Life: Perspectives from Physical, Organic, and Biological Chemistry in August 2014.

Dr. Ronald Friedman (pictured right) published a 2nd edition of a textbook called Physical Chemistry: Quanta, Matter, and Change with coauthors Peter Atkins and Julio de Paula.

Dr. Peng Jing (pictured left) coauthored a manuscript that was published in Oncogene in 2014.

Dr. Donald Linn (pictured right) coauthored with IPFW undergraduates articles that were published in Dalton Transactions and Inorganic Synthesis. Dr. Linn also had a presentation at the ACS National Meeting in August 2014.

The National Science Foundation invited Dr. Vincent Maloney (pictured left) to help lead a four-day Chemistry Collaborations, Workshops and Communities of Scholars (cCWCS) mini-workshop entitled “Active Learning in Organic Chemistry” June 22 - 25, 2015, in Washington, DC. He attributes this invitation and a previous workshop invitation to his transformation of the organic chemistry course sequence, funded in part by a 2013 CELT Summer Instructional Development grant.

Dr. Mohammad Qasim (pictured right) authored an article that was published in Protein Peptide Letters in 2014.

Dr. Steven Stevenson (pictured left) was promoted to Associate Professor and received tenure. He also received the Pippert Award and the Outstanding Research Award at IPFW. Dr. Stevenson also published two invited book chapters and three research manuscripts with multiple IPFW undergraduate coauthors.

Dr. Eric Tippmann (pictured right) presented research at the Royal Society of Chemistry’s Challenges in Organic Chemistry in China in August 2014. Dr. Tippmann also coauthored a manuscript that will be published in Chemical Science in 2015.