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Chemistry Department Newsletter 2017

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News from McKinney...

Joe Crockett honored with the Martha B. Thornton Award

Dr. Joe Crockett received the Martha B. Thornton Faculty Recognition Award at the 2017 Founder's Day Convocation. The award is given annually to recognize a full-time faculty member for exemplary teaching and advising. Joe just completed his 32nd year at BC, having arrived in 1985 to fill the position held by John Martin. Joining a list of 27 other BC faculty that have received this award since its inception in 1990, Joe is the first member of the department to be so honored at the Founder's Day event. The award came just in time because Joe's retirement was mistakenly announced at the last faculty meeting of the year. It was a surprise to all of us, especially Joe.

Alumni donations are funding student research

Donations to our alumni fund allowed three students to travel to the University of North Carolina at Chapel Hill Solar Energy Research Center. Dr. Ian McNeil took his research students (Bella Krider, Josh Bollinger, & Cheyenne Mitchell) to the October meeting where they presented a poster of the group's work.

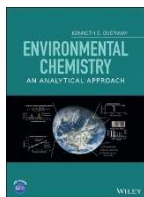


In addition, Dr. Ellen Mitchell was able to purchase starting material for a crucial reaction in her research. Her students have been trying to synthesize an asymmetric porphyrin, which could ultimately be used as a dye sensitizer in Ian's dye-sensitized solar cells (DSSC), which might someday be a low-cost, more efficient replacement for the current silicon-based technology. In fact, Ian's research interests have spread to Dr. Ken Overway's research students, one of which attempted to extract a porphyrin from brown egg shells. This "eggs-citing" work will continue during the 2017-18 academic year.

The department also purchased a new infrared spectrometer with our alumni funds. The Cary 630 FT-IR is a fraction of the size of our older instruments and has a diamond anvil for reading the samples – no more KBr pellets, Nujol mulls, or salt plates! Does anyone need our 12-ton hydraulic press? It makes a great paper weight!

Faculty Publications

Ken's textbook was finally published in March 2017. The book, started in the summer of 2012 and completed in Dec. 2016, will be assigned to students in the ENVR 320: Analytical Environmental Chemistry course. Published by John Wiley & Sons, the book is available on Amazon and makes a great X-mas gift for loved ones who you think need a refresher on general chemistry and environmental issues or a new door-stop.



Ken was also a co-author on a paper in the *Journal of STEM Education*, which presented findings from an NSF grant used to provide at-risk science majors with a pre-college summer program focused on math & science preparation.

Citation: Kolvoord, Miller, Phillips, Puffenbarger, Ryan, McGhee, Overway, Sowers *J. STEM Educ.* **2016**, *17(4)*, 8-18.

Students' Corner...

Our new graduates

The department added 9 new members to the chemistry major alumni family this spring. Our first biochemistry majors graduated this year along with a healthy number of applied and traditional chemistry majors.

Josh Bollinger (chem.)	Ariana Brice (appl. chem.)
Daniel Feivor (chem.)	Keli Groux (appl. chem.)
Chrizar Limbo (biochem.)	Isaac Noffsinger (chem.)
Christina Penzer (appl. chem.)	Kiersten Schreiber (appl. chem.)
Michelle Spencer (biochem.)	

These graduates will be going on to mission work, graduate programs (U. Maryland Eastern Shore School Pharmacy, U. of Florida College of Pharmacy, Mary Baldwin U. Murphy Deming College of Health Sciences) and to careers (teacher at Fort Defiance, VA). We wish them well!

Research Poster Sessions

Four students, Hallie Blevins, Garrett George, Isaac Noffsinger, and Carleigh Studtmann, presented the results of their research at the ACS poster session at the UVA on April 14th and again at the ASPIRE poster session in Ninger Hall on May 3rd. Three of the projects involved work on porphyrins for dye-sensitized solar cells and the fourth project's focus was on detecting atrazine in agricultural soil and run-off using chromatography and mass spectrometry.

Awards

Five students were honored at the spring College Awards Ceremony. The following students joined our department's honor role.

<i>First-Year Chemistry Award:</i>	Sabrina Volponi
<i>John Martin Award for Organic Chemistry:</i>	Mary Shingler
<i>Garland Reed Award:</i>	Carleigh Studtmann
<i>Stuart R. Suter Endowed Scholarship:</i>	Cheyenne Mitchell
<i>ACS Outstanding Senior Award:</i>	Josh Bollinger

The 3rd Annual Carter/McFarland Water Balloon Fight

How do traditions start? One way is when students insist on chasing down the poor faculty while holding water balloons. This annual free-for-all began with Carrie Carter ('15) and Miesca McFarland ('15) and brings faculty and students out to the McKinney lawn just before final exams in the spring. The students ignored the faculty-imposed prohibition against large volume squirt guns once again. No one escaped without significant hydration, however.



Bridgewater College Chemistry Club (BC₃)

Students involved in the chemistry club (now BC₃) were active throughout the academic year. They participated in the Pumpkin Periodic Table event on Halloween (pumpkins carved with the elements!), the McKinney Science Night (a fun community event in November), and brought some chemistry demos to Cub Run Elementary School in March. The group concluded the year with a rousing end-of-year party at Dr. Fitzgerald's house, complete with pick-up basketball and s'mores. Someone left a chalk sketch of a porphyrin in the driveway – no surprise!

A Special Thanks to two BC Alumni...

With the growth curve that BC has been on since the presidency of Phillip Stone, adjunct faculty have been a staple of the department's workforce. Chemistry has been particularly fortunate to have found retired alumni who are interested in helping with uncovered lab assignments. Harold Furr ('68) returned to help with a CHEM 161 lab. Harold, who spent his career teaching and practicing chemistry as a nutritional biochemist, spends part of his retirement at BC and Mary Baldwin Univ. as an adjunct. Larry White ('65), who retired from a career as a chemistry HS teacher, proctored the first biochemistry lab that our department has hosted in recent memory.

Larry combined his knowledge of biochemistry with our dept. instrumentation to construct a rigorous experience for students (and instructor!). It is a dept. chair's dream to have such dedicated and qualified alumni to call on in times of need, and I am certainly grateful for all that Larry and Harold have done for the department.

In Memoriam

Many of may remember Dr. Erich Brumbaugh, a 1966 graduate of BC and professor of physical chemistry from 1986-2013. He was half of the department, along with Joe Crockett, for 10 years. After his retirement he moved to Clinton, Maine with his late wife, Terry. Erich died on Dec. 12th. Fortunately, he was able to make it back to campus one last time for his 50th graduation reunion during Homecoming in October 2016. In his long career at BC, Erich will be remembered, among other things, for his marathon 3-hour p-chem classes, his passion for his partial molar volume projects, and his unique interterm course titled "Science and Pseudoscience." He was simultaneously intimidating to some general chemistry students and endearing to the majors. He was a colleague to most of us and a professor to two of us. He will be missed.



The 2016-2017 Chemistry Department



Joe Crockett
organic chemistry
(32nd year at BC)



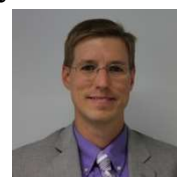
Sarah Fitzgerald ('03)
medicinal
combinatorial
chemistry
(7th year at BC)



Ian McNeil ('08)
physical chemistry
(4th year at BC)



Ellen Mitchell
inorganic
chemistry
(21st year at BC)



Ken Overway
analytical
Chemistry
(14th year at BC)



David Morris
stockroom manager
(2nd year at BC)



Amy Thompson
geology
(16th year at BC)



Larry White
adjunct
(9th year at BC)



Harold Furr
adjunct