

Summer 2010
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KSU Chemist

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Dear Friends –

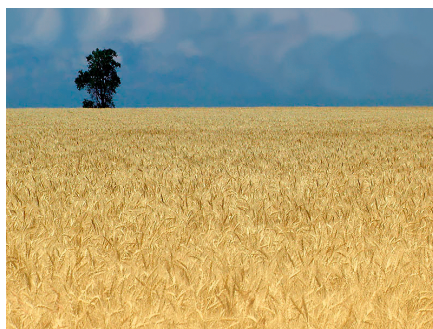
Greetings from K-State, where many people are still trying to figure out why it should be that the Big 12 Conference now has 10 member institutions while the Big 10 Conference now has 12 . . .

That incongruity aside, there are many things that I'd like to share with you about the past year in our department.

Three of our graduate students – Elizabeth Ploetz, Ola Alawode and Evan Hurley – were named as National Science Foundation GK-12 fellows for the 2010-11 academic year. These awards carry a \$30,000 stipend and are intended to help excellent young scientists hone their skills in communicating science to the general public: Elizabeth, Ola and Evan will accomplish this by serving as scientists-in-residence for 10 hours per week in the remarkably diverse classrooms at Junction City High School.

Elizabeth was also awarded an NSF Graduate Fellowship, which she will use to pursue her Ph.D. in Paul Smith's computational group. She becomes the fourth of our students in the past four years to receive this most distinguished award – our students are remarkable!

Early in 2010, Christine Aikens was designated as an NSF-CAREER awardee. Her five-year, \$600,000 project will explore fundamental details of both biological and inorganic water-splitting catalysis; other provisions include incorporation of software into our first-year teaching laboratories to help students better visualize molecular geometry, and the establishment of an energy-themed workshop targeting middle school students from rural areas. Christine becomes the fourth of our current graduate faculty members to have received this



prestigious recognition, joining Chris Levy, Dan Higgins and Chris Culbertson.

After a determined effort led by Chris Culbertson and Stefan Bossmann, last Spring the department was able to renew our NSF Research Experiences for Undergraduates (REU) award for 2011-2014. This grant will bring ten undergraduate chemists from across the country to conduct research with our faculty for eight weeks each summer. During our previous eight years as an NSF-REU site, we had 53 participants, several of whom later chose to enroll in our department for graduate work.

Last winter, Tim Marshall and Charles Chaffin, alumni from the Bill Fateley-Bob Hammaker group, generously endowed a magnificent new resource for our graduate students: the Fateley-Hammaker Award for Collaborative Research. Tim and Charles, who founded AeroSurvey Inc. after leaving K-State, believe strongly that their successful careers owe much to the collaborative and interdisciplinary training they received in their mentors' group. They wished to recognize current graduate students conducting collaborative research and to encourage the continued pursuit of such activities. The award can be used for a summer research stipend, or to provide travel to a scientific conference, *etc.*

The first annual Fateley-Hammaker Collaboration Award was presented at a special departmental ceremony in May to Mausam Kalita, whose thesis research is jointly supervised by Profs. Bossmann and Jankowiak.

At long last, we are now close to having the air handling system in the CB building renovated: this will be a \$2M project and it is scheduled to begin in September. We're told that hoods' face velocity will be increased, ductwork will be replaced, and nine hoods will be added on the fourth floor. All hoods will be equipped with energy-saving sensors that will automatically lower the sash if no one is nearby.

Last year, 15 students earned Ph.D. degrees from our department. While that is not a record number, it certainly qualifies as a "local maximum". Last year *was* a record year for extramural funding in the department: in calendar year 2009, our sixteen graduate faculty members accounted for more than \$3.5M in external grant funding – a testament to the quality of our faculty and their research teams.

Thanks to sustained generosity from our alumni and friends, last year the department was able to award over \$65,000 in scholarships to deserving undergraduates and our students are reciprocating with outstanding performances: over 40% of our majors have GPAs > 3.5. Were we able to do the same for our graduate students, we'd be extremely competitive and even more productive. Your continued interest and support are vital to our progress and are greatly appreciated.

Eric Maatta

KSU's Spring Open House – An Ideal Time to Visit Us



Chris Levy wows the crowd by making a flower “disappear” (aided by a bit of liquid nitrogen).

Should you need a little extra incentive to return to campus for a visit, perhaps you might consider coming back in April when the University holds its annual Open House.

It is a particularly beautiful time of year, and the entire campus is brimming with displays, activities, music, exhibits, food, *etc.* However, even an unbiased observer would conclude that the Chemistry Department's contributions are the stars of the event.

Our Alpha Chi Sigma student group, along with Lou Wojcinski and faculty advisor Chris Levy, work very hard to produce and put on absolutely wonderful and enjoyable “Magic Shows”. These feature pyrotechnics, solutions with oscillating colors, an array of cryogenic tricks, and various chemical puzzles; they are one of the most popular Open House activities and always elicit lots of laughter, “oohs and ahhs”, and applause from the audience.



A different type of an “April Shower”.



Jim Hodgson's glassblowing demonstrations always attract a packed house in the King Hall lecture room.

Senior Scientific Glassblower Jim Hodgson sets up shop in King 4, and he dazzles the assembled crowd with demonstrations of his exquisite techniques. Jim delights in providing information on the “how” and the “why” in his interactive presentations – his favorite parts of the demonstrations are answering the questions he receives from the audience.

Jim and Alpha Chi Sigma are terrific ambassadors for our department and our profession – you are cordially invited to stop by and see for yourself.



Liquid O₂ gets the barbecue started quickly!

Donors to the Chemistry Department 7/1/09 - 6/30/10: Thanks to one and all for your support!

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Generous contributions from the individuals, corporations and organizations above have helped us to support talented undergraduates, attract quality graduate students, enhance our instructional and research equipment, host outstanding scientists for interactive visits, and send our students to conferences to present their research findings. Should you be interested in contributing, please contact our department's KSU Foundation officer, Damon Fairchild (1-800-432-1578; 785-532-7524; damonf@found.ksu.edu). We would be honored to have your support.

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Call, write, e-mail, or
better yet, stop by.
We'd enjoy hearing
from you.

With a *Lot* of Help From Our Friends

Paraphrasing the Beatles' tune of more than 40 years ago, we are getting by with more than a little help from our friends. As one example, consider the photo below that shows Dan Higgins delivering a lecture to a group of newly-minted NSF fellows and their advisors. Dan's talk was held in CBC 209, which last year was converted into a high-tech classroom exclusively for our department's use with funding from Phi Lambda Upsilon and much sweat equity from Chris Levy, Tobe Eggers and Ron Jackson. Likewise, your generous support has enabled us to keep moving ahead in many ways despite a 70% reduction in our operating budget. Although recently it has been more *aspera* than *astra*, to quote another Beatles' title there is much that continues "Getting Better".



A Round of Applause for:

Takashi Ito, who earned tenure and promotion to Associate Professor of Analytical Chemistry.

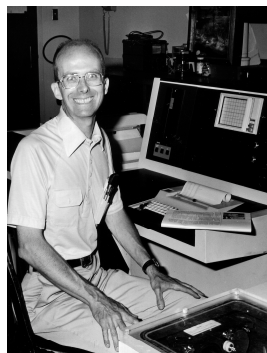
Chris Culbertson, recipient of the Distinguished Alumnus Award from the University of West Florida.

Ron Jackson, our Research Technologist, recognized by the College of Arts and Sciences as the Classified Employee of the Year.

Christine Aikens, recipient of the Sigma Xi Outstanding Junior Scientist award.

Christer Aakeröy, appointed as Associate Editor of the Royal Society of Chemistry's *CrystEngComm*.

Remember when?



The photo at left from *ca.* 1984 shows Bob Hammaker getting ready to do one of the things he does (and loves) best: analyze data.

After obtaining his Ph.D. from Northwestern, Bob joined the department's faculty in 1961 and served for a remarkable 43 (!) years.

His expertise in spectroscopy, physical chemistry, and analytical methods are all well-known, as are his devotion to rigorous instruction and legendary attention to detail.

Perhaps less well-chronicled are Bob's many contributions to the administration of the department: he served as Associate Head for many years (as seen at right with former Head Adrian Daane at the 1968 MASUA meeting), was the primary liaison with the Graduate School, and kept meticulous records of the department's actions and interactions with the University. Bob maintains his presence in the department to this day.



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