



CHEMISTRY DEPARTMENT ALUMNI NEWSLETTER

Spring 2008

Volume 3, Issue 1

From the editor:

This issue of the newsletter announces the return of Dr. Beckman to full time teaching in the department. Not only does she bring her wonderful teaching talents back, but also a pleasant surprise for our students and faculty. I have returned from Harlaxton and bring my news from across the pond. We have happy (and sad) news about our alumni, as well as information about the activities of our faculty and students. Enjoy!!

Your editor,

D. L. Batema

Inside this issue:

A Harlaxton Experience	2
Alumni News	3
Faculty News	4
NCUR and MESCON	5
Student Awards	5
Chem Club	6
Graduating Class and Summer Research	6
Alumni Information Form	7

PLANTING AN ACORN

Early last summer Dr. Jean Beckman planted an acorn, of sorts. She has announced that the first income from a new kind of endowment to benefit chemistry students became available. The **Jean Beckman Undergraduate Research Fellowship Fund** was created to provide support for UE students and faculty mentors who participate in undergraduate chemistry research. A research grant will be awarded to a University of Evansville undergraduate student conducting research and majoring in a discipline within the Department of Chemistry. Preference will be given to students conducting summer research under the guidance of UE's Department of Chemistry faculty members. The Department of Chemistry faculty will select the fellowship recipient. Allowable expenses that may be paid from this fund include, but are not limited to, student stipends, faculty stipends, equipment and supplies, travel, summer housing, and honorariums.

"It's been a dream of mine for almost twenty years to find additional financial support for the faculty who mentor our students in summer research," said Dr. Jean Beckman. "As chair of the department in the 1990's, I began hiring faculty with the explicit expectation that they involve our students in research. And our Admissions Office began recruiting students with the expectation that such opportunities would be available to them. It was easy to see that the university's ability to support summer research through its regular budget alone would soon be outstripped by student and faculty interest."

The success of UExplore, the university's undergraduate research program, has certainly confirmed that prediction. Each year students from all areas of the university are given financial assistance to carry out research projects during the summer or the academic year. Applications have grown dramatically over the past ten to fifteen years. Although chemistry stu-

dents have been regularly awarded stipends and equipment money for summer research, there are always more proposals than UExplore can fund. Each year deserving students and faculty mentors with sound research projects are left without support.

According to the department chair, Dr. Bryan Lynch, "the department is always looking for funds to support our summer research students. In the past these funds have come mainly from UExplore or grants obtained from outside agencies by faculty, such as Dr. Miller's recent Merck/AAAS Grant. Dr. Beckman's Fellowship Fund will fully support a summer research student every three years, and it is a huge step forward in our efforts to provide a stable source of support for our undergraduate research program."

Fulfilling her dream has only just begun, but Dr. Beckman has taken impressive personal steps to achieve it. "Over the past five or six years I have been able to take advantage of a fortuitous convergence of circumstances to establish the endowment and help it grow to the point that it can actually pay out some benefits to students and faculty. During the years I served as an administrator, my twelve month contract and enhanced salary gave me some additional discretionary income. Then university matching funds, made possible by gifts from the Lilly Endowment, increased the value of my own contributions."

Dr. Beckman sees the fund as a long-term project. "I hope to keep increasing the value of the endowment each year. My dream is to see it large enough to fully support a student or a faculty stipend each summer. I know it is going to take a while, but it's gratifying to know that, since it's an endowment, whatever funds are available, they will be there 'forever'." As a department we are deeply appreciative of Dr. Beckman's gracious support. Now that the acorn has been planted and the tree is sprouted, it is up to all of us to help make it grow.

A HARLAXTON EXPERIENCE (by Dr. D. L. Batema)

Over the years the Chemistry Department has had students travel to Harlaxton College for a semester. However, as long as I have been with the Department, no faculty or staff member has made the trip. I was fortunate, and grateful, for the opportunity to teach at Harlaxton during the Fall of 2007. Among my teaching duties: Chemistry 100, Introduction to Environmental Science, and Field Zoology. I also had a student enrolled in an independent study class on the Birds of Britain and Ireland.

I had some apprehension about how the chemistry class was going to work out, especially the laboratory. Although I was told that folks at Harlaxton were working on a lab space, I had no idea of what to expect or what would work. In my planning I figured out how to do a set of reasonable labs by working out of a box if necessary. To do a full set of 13 labs, I had everything I needed packed in two boxes. But all this was before I meet Jan Beckett. Jan is the Director of Academic Services and Librarian who also is a judge in the city of Grantham. Most importantly, she is the go-to person to get things done at Harlaxton. Suffice it to say that no problem remains unresolved as long as Jan is on the case.

I am happy to report that Harlaxton now has a dedicated science laboratory for introductory classes. For any of you that have been to Harlaxton, this space was at one time an office for the visiting faculty and more recently the place art classes were held (hence the name Studio Lab). The main room (see pictures below) is the lab space with movable tables, a fume cabi-

net, counter space with sinks, and lots of storage for equipment. A smaller room is available for the secure storage of chemicals. I used this lab for 20 students in the Chemistry class and 8 students in the Biology class.

Although the laboratory part of Chem 100 comprised a traditional set of lab exercises, I took a non-traditional approach in lecture. I used the ACS text, *Chemistry in Context*, which emphasizes environmental topics such as acid rain, global warming, and ozone depletion as a means to introduce students to chemistry. The non-traditional aspect was introducing chemical concepts on a need-to-know basis only. So as each new environmental topic was introduced, I would discuss the chemical concepts needed to understand the chemistry associated with that topic. I liked the approach, but it was very different from the way we normally teach introduction to chemistry.

Because of my involvement in UE's environmental science program, it was logical that I also teach the environmental science class at Harlaxton. I was eager to do so because I thought it would be great to investigate a local environmental problem. After a few weeks of lecture on ecological concepts and covering the approach scientists take in the environmental problem-solving process, the class began to study a problem of local interest: the cultural eutrophication of The Broads area. Cultural eutrophication is the nutrient enrichment of a body of water which is accelerated due to human activity. (Continued on page 7)



Harlaxton College as seen from the Italian Gardens.



An aerial view of Trinity Broads, an example of the wetland area that was the focus of study for the environmental science class.



Views of the newly renovated Studio Lab at Harlaxton College.

Students working at the counter area (left) and at the movable tables (right).



ALUMNI NEWS

We are always grateful to receive news of our alumni and are happy to pass along their news to others. The following alumni made visits to the department, sent e-mails or made calls to let us know what they have been up to since graduating from UE:

Luke Turner '97. After his return from a research position at the University of Bath in England, Luke has landed in Melbourne, Florida. He taught high school chemistry at Coconut Creek H.S. for one year. Luke currently is teaching organic chemistry at Brevard Community College in Melbourne, Florida.

Josh Fessel '99. Josh met with several people in the department on a recent trip to Evansville. He is back at Vanderbilt after a brief stay in Boston. Josh is currently a resident in internal medicine, which will be followed by a fellowship in pulmonary/critical care medicine.

Crystal Steinmetz '02. Crystal is enrolling in an accelerated teacher education program at UE with the hopes of teaching chemistry after completion of the program.

Rebecca (Odle) Paxton '03. Rebecca and her husband Graham operate Swift Athletics in Evansville. Rebecca is also teaching chemistry and integrated chemistry/physics at North High School.

Kim Brown '04. Kim is a forensic scientist at the Indiana State Police lab in Indianapolis where she is involved in drug testing and acts as an expert witness.

David Winternheimer '05. We hear from David that he is at UCLA working with Craig Merlic doing organic synthesis.

Joe Pleen '06. Joe is currently pursuing a graduate biology degree from Angelo State University in Texas.

Jessica Frisz '06. Jessica reports that her graduate work at the University of Illinois is going well. She is doing work in protein purification and currently has a couple of projects that keep her busy.

Sam Kirsch '06. Sam writes to let us know that at a recent awards ceremony, she received the Outstanding Second Year Med Student honor. This achievement is impressive considering she was honored last year with the Outstanding First Year Med Student award. Sam also tells us she will be doing a family medicine rotation in Evansville, followed by her internal medicine rotation.

Ashley Newman '06. Ashley is keeping in touch and letting us know that everything is going well at dental school at IUPUI in Indianapolis.

Angela (Elsten) Myers '06. Angela recently married and is now teaching at Cambridge High School in Cambridge, Wisconsin. She teaches physics, pre-calculus, and physical science.

Kevin Ruble '07. Kevin is working as an analytical chemist at Eli Lilly in Indianapolis.

Kim Fessel '07. Kim is applying for graduate school, and in the meantime, has accepted a temporary position in quality control at Johnson & Johnson. She also has a recent publication based on her REU experience with Yide Gao. The paper appeared in *Chemical Physics Letters* 451 (2008) 8-13 and is entitled, "A kinetic study of the reaction of atomic hydrogen with iodobenzene."

Nancy Ubelhor

When Dr. Beckman moved back to the department, Nancy retired from the University. Since Nancy has had such a positive impact on so many of our alumni, we thought you would like an update on her activities. She keeps busy with gardening (no surprise there!) and fancy embroidery. She is also volunteering as a Court Appointed Special Advocate (CASA) for children. Most importantly she has more time to visit her daughters, Amy, and her husband Chris, live in Connecticut and both work in New York City. She also visits Dorrie, Jim and the four grandchildren in Houston, Texas.

JAMES ODLE AND PATRICK BLANDFORD

We are sorry to pass along the sad news of the deaths of a recent alum and a member of the graduating class of 2008.

James Odle '06, the son of Roy and Nancy Odle of Mt. Vernon, IN, and brother of UE alum Rebecca (Odle) Paxton '03, died unexpectedly on January 9, 2008 at home after a bout with pneumonia.

Patrick Blandford died on May 12, 2007 from injuries received in an automobile accident. He was the son of Dr. and Mrs. Dick Blandford. As many of you know, Dr. Blandford has taught many years in the engineering

school at UE.

The Blandfords have given money to the Chemistry Department at UE to establish a fund in the memory of Patrick. This gracious gift will be a permanent fund to provide support for the Chemistry Department. Initial funding will go to remodel the chemistry library as a student lounge/meeting room. Future funding will be set aside to purchase equipment and supplies needed to help teach chemistry. If you would like to contribute to Patrick's Fund, contact the Chemistry Department or the UE Development Office (812-488-2243).

FACULTY NEWS

The following notes from the faculty will give our alumni some idea of what our faculty have been up to during the last year and any significant news they would like to share:

Bill Morrison's Note:

I'm finishing my thirty-third year at the University of Evansville, and am announcing that next year will be my last. Many things have changed during my tenure here, both within the department and the university in general. Two constants, however, have been the flow of bright, enthusiastic students through our department and the many dear friends that I have had the honor and pleasure with whom to work. For the near future, Sue and I intend to continue living in the area where I am considering some involvement in historic preservation. Our daughter, Mary, will finish a theatre degree at Millikin University within a couple of years, so we can have the freedom to travel to her productions both there and wherever she may eventually settle. To all of you whom I've known, I say thank you for the hard work you put in and for your continuing friendship and support of our program.

Bryan Lynch's Note:

This was my first year as chair of the Department, and it has been a challenge to keep up with all the administrative tasks that go into keeping the Department running smoothly. But the faculty have been very supportive and Joann has been a tremendous help in keeping budgets and paperwork organized; without her I think I would be lost! Of course I still maintain my teaching duties in freshman chemistry and p-chem, which I thoroughly enjoy. And I have tried to maintain an active research program. My sabbatical work came to a close this year with the presentation of a paper at the Ohio State University International Symposium on Molecular Spectroscopy and the publication of a paper in the *Journal of Chemical Physics* **126**, 244307 (2007).

Marc Chavez, a freshman biochemistry major, and Megan Gootee, a senior professional chemistry

major, have been working with me in the physical chemistry laser lab, and this year was a year of progress. Iodine is routinely studied in the pchem lab, and our goal was to further its study to the highly excited electronic E state by introducing a double resonance (two-laser) technique commonly used in graduate research labs. To access the E state, we first excited iodine to the lower energy B state using the dye laser; once in the B state, the nitrogen laser further excited iodine to the E state. We believe this is the first time the E state has been examined in a pchem lab, and we are now working on ideas to increase the resolution of our experiment.

Jean Beckman's Note:

It's good to be back. After six years as Dean of the College of Arts and Sciences it's wonderful to be back in the Department of Chemistry and in the classroom full-time. I'm glad I was able to "keep my nerve up" by teaching a section of organic I while I was dean. I've felt especially happy to be in front of a couple of sections of that class this spring.

Last fall I returned to an old teaching assignment, CHEM 100, and took on a new one, general chemistry. After teaching multiple sections of CHEM 100 each year for the first decade of my career, it had been a while since I thought seriously about presenting the ideas and excitement of chemistry to students outside the sciences. And by teaching "gen chem" I relearned a lot of rusty equilibrium and thermodynamics. I learned a lot!

My years as an administrator gave me many opportunities to see the university from a different perspective. I have gained additional insight into the programs of the other schools and colleges at UE and, as a result, I think I see our own College of Arts and Sciences through different eyes. I'm grateful for the experiences and the new friends I made. I'm especially thankful for the support of President Jennings during those years and as I made the transition back to teaching.

My colleagues in the department have been very warm in their welcome and I'm happy to be "home" again.

Dr. Morrison announces his retirement; Dr. Lynch reflects on his first year as department chair; and Dr. Beckman returns to teaching full-time in the department.

STUDENTS PRESENT AT NCUR and MESCON

Several of our students have presented posters and given talks at various conferences during the year. Most notable were the National Conference for Undergraduate Research (NCUR) and UE's own Mathematics, Engineering, and Science Conference (MESCON).

NCUR was established in 1987 and is dedicated to promoting undergraduate research, scholarship, and creative activity in all fields of study. NCUR creates an environment for the celebration and promotion of undergraduate student achievement, provides models of exemplary research and scholarship, and helps to improve the state of undergraduate education. This year on April 10th-12th, senior chemistry majors Gollsheed Ouranos and Bryan Drury presented their undergraduate research at NCUR at Salisbury University in Maryland. Bryan presented a poster on his research with Anh Le and Dr. Kristy Miller titled, "Substrate specific Reductase Activity of 11 β -Hydroxysteroid Dehydrogenase Type I Using Absorption Spectroscopy." Gollsheed's poster presentation was titled, "Solid Phase Synthesis of Pyrimidine Rings." Her research progressed under the direction of Dr. Ray Lutgring.

The 4th Annual University of Evansville MESCON (Math, Engineering, and Science **C**onference) was held Saturday, April 19, 2008. The keynote speaker was George Brunemann, a 1981 UE graduate in computer engineering. He is the founder and president of New Generation Engineering Knowledge (NgEK), a company that specializes in embedded control, sys-

tem design, and development. His keynote address was, "It's not easy being green." This talk highlighted the difficulties that occur when applying a green approach to solving problems while also trying to meet performance objectives.

MESCON is an undergraduate research conference with a focus solely on math, engineering, and science. Unlike other research conferences, MESCON is a competitive conference with judging based on the quality of presentation as well as the technical merits of the paper presented. Monetary awards and other recognition are given for the best presentations. This year, MESCON attracted nearly 30 abstract submissions from universities and colleges in the tri-state that included: the University of Evansville, Belarmine University, Purdue-Calumet, and Rose-Hulman Institute of Technology.

The UE chemistry department had three presentations by students at MESCON. Sarah Schonaman, under the direction of Dr. Arlen Kaufman, presented a paper entitled, "Biological Warfare Agent Detection Using Packed-Bed Immunoaffinity Chromatography." Marc Chavez and Megan Gootee, working with Dr. Bryan Lynch, presented their work, "Dual Resonance Laser Spectroscopy of Iodine." And finally, Bryan Drury, Anh Le and Dr. Kristy Miller presented their work on the reductase activity of 11 β -Hydroxysteroid Dehydrogenase. Our chemistry students did well at MESCON this year; Bryan Drury was the first place winner (\$150), and Marc Chavez took second place (\$75).

STUDENT AWARDS

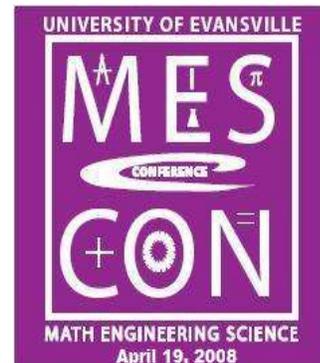
Student awards in the UE Chemistry Department were presented at the Senior Recognition Dinner on April 30th at the Acropolis restaurant.

Each year the American Chemical Society sponsors an award for both a sophomore and a senior. The ACS Outstanding Sophomore Student of the Year was presented to Aaron Wiles, a biochemistry major. Sarah Schonaman, a professional chemistry major, received the ACS Outstanding Senior Student Award. Both Aaron and Sarah received a \$200 award.

The CRC Freshman Award was shared this year by

Kate Upton and Lindsey Cornett. Both received a copy of the CRC Handbook of Chemistry and Physics.

New Award: We have a new award this year: the Outstanding Laboratory Assistant Award. In recognition of the great job many of our students do and in appreciation of their support of teaching efforts in our department, we have honored the individual that we consider the most outstanding lab assistant. Amanda Johnson was named the 2008 recipient. This award comes with a certificate and \$25.



The MESCON logo for 2008.

Two chemistry students, Bryan Drury and Marc Chavez, took home top honors at MESCON.



Awards Banquet

Pictured left to right: Kate Upton, Amanda Johnson, and Sarah Schonaman.

CHEMISTRY CLUB ACTIVITIES

The Chemistry Club started off the year with a welcome back picnic at Dr. Lutgring's house, which provided an opportunity for students and faculty to get together. Club members also raised some funds this year by selling lab notebooks and model kits to organic chemistry students. To end the first semester, the club had a pizza party and played bingo for prizes during exam week. In the spring, the students had fun making liquid nitrogen ice cream (which was very

good!). The club ended the year with the annual spring banquet at the Acropolis.

The club is anxiously looking forward to an exciting year next year. The officers for 2008-2009 are: President: Amanda Johnson, Vice President: Tonya Shepherd, Secretary: Michael Neal (fall semester) and Kate Upton (spring semester), Treasurer: Donna Ramsey, and Activities: Amanda Senechal.



A game of volleyball was enjoyed by many at the welcome back picnic at Dr. Lutgring's house this fall.

GRADUATING CLASS OF 2008

The UE chemistry department had 15 students graduate on Saturday, May 10, 2008 at ceremonies at Robert's Stadium. Our professional chemistry majors included: Patrick Blandford, Jordan Bruce, Kristiann Fry, Megan Gootee, Anh Le, and Sarah Schonman. Biochemistry graduates were: Helen Cuffe, Bryan Drury, and Brittany Sato. Graduating with a basic chemistry major were: Muhammad Shaban Hamid, Sean Vaughn, Kelly Vore, and Gollsheed Ouranos. Both Meagan McDonald and Jeff Yoder graduated with Chemistry Business degrees.

Some of our graduates have already secured a job or will continue their education in graduate school; others are mulling over offers or still in the application stage. Megan Gootee will be attending IUPUI in the Transition to Teaching Program for Secondary Education (Concentration in Chemistry); Sarah Schonman is off to Purdue to study analytical chemistry; Kelly

Vore will enter the pharmacy program at the University of Buffalo; Brittany Sato will be going home to Hawaii to pursue a degree in molecular and cellular biology at the University of Hawaii; Meagan McDonald has accepted a position as a chemist at Red Spot Paint and Varnish Company in Evansville, IN; Sean Vaughn will be a Technology Intern at Sabic Plastics in Mount Vernon, IN; Kristiann Fry will spend her summer biking from Florida to California as part of the Bike and Build Fundraising Trip, and she will follow that experience by joining the Peace Corp in the fall of 2008; and Shaban Hamid will be employed as a control engineer at Flanders Electronics in Phoenix, Arizona.

Not to be forgotten, we had two students graduate in December 2007- Bryce Gibson and Mark Murray. Bryce is applying to physician assistant school and Mark is applying to medical school.

Reflecting on his time at UE, Bryan Drury said, "UE is the place that pushed me to identify my talents and my dreams. The professors and staff are wonderful people who will help you out in anyway possible. I learned many things about myself in my studies that I would have never realized anywhere else. Thank you."

SUMMER RESEARCH

Several chemistry students from the department will be involved in research or internships during the summer of 2008. Six students will be doing their research in the Chemistry Department here at UE, thanks to support from the UExplore Research Program and the Merck/AAAS grant. Five students will receive support to carry out research at other institutions with funding from the NSF REU program or the Summer Undergraduate Research Program (SURP).

Those students working on the UE campus for the summer of 2008 as Merck/AAAS Fellows are Skyler Smith, Roshan Lamichine, Tonya Shepherd. The stu-

dents who received UExplore grants include Amanda Senechal, Angela Linney, and Ian Stamps.

The NSF REU program will be supporting Joel Melby, Zach Harms, and Ashley Nelson. Joel will be going to the University of Cincinnati; Zach will working on a glassy materials project at Coe College; and Ashley will do research in nanoscience and nanotechnology at the University of Iowa.

Kyle Knust will be doing his summer research at Indiana University as part of the Summer Research Project in Electrochemistry. Aaron Wiles will be at the University of Cincinnati in the College of Medicine and will receive his support from the SURP Program.

We have eleven students who will be involved in various research activities in the summer of 2008.



**SPRING
2008**

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DEPARTMENT OF CHEMISTRY ALUMNI INFORMATION FORM

Name _____ Year Graduated _____

E-mail Address _____

Current Position _____

Address _____

Education Since Leaving the University:

Travel/Hobbies/Honors/Family News:

We're on the Web:
chemistry.evansville.edu

A HARLAXTON EXPERIENCE *(Continued from page 2)*



A blue tit about to be released after being ringed at Marston Marsh during a field zoology class.

The Broads is the largest protected wetland area in Britain, is home to a wealth of wildlife, and is a favorite recreation and vacation area. It is a network of 7 rivers and 63 lakes (known locally as broads) comprising an area of 303 km² in Norfolk and Suffolk counties in East Anglia. This area has seen a significant decrease in water quality as a result of increase in nitrogen and phosphorus from sewage effluent and agricultural runoff.

My plan was to take advantage of the different majors represented in the class to generate and maintain interest in the project. The science majors did a scientific assessment and description of the problem; history majors covered the cultural and historical significance of the area; economics majors tackled the economics associated with tourism and the costs of implementing solutions; political science majors discussed the legal and political actions taken to solve the problem; education majors looked at ways the public is educated about the problem and its solution; and the theatre

majors were assigned the task of summarizing. As usual, the theatre majors came through with a creative way of looking at the problem and solution: They put together a YouTube segment that included a guest appearance by Harlaxton Principal, Dr. Gordon Kingsley.

The Field Zoology and Independent Study class focused on the birds in Britain and Ireland. There were two stand-out field trips. One was a birding cruise out in The Wash and the North Sea. Although it was a bad day to see birds, we saw 71 species of birds. The other trip was a bird banding (or ringing) trip to a site a couple of miles from campus called Marston Marsh. We were able to ring several species of birds (including the blue tit pictured at the left) with the kind assistance of Keith Bowden, a local bird ringer with over 30 years of ringing experience. Each student had the opportunity to release a bird after ringing.

Academically I had a full plate while at Harlaxton, but it was a fulfilling and rewarding experience.