



### Department Facelift Continues

As described in the most recent newsletter (Winter 2002), we have been embarking on renovations around the department. The latest laboratory to be revamped is room 13, which sits between the stockroom (room 11) and the main/center hallway. This lab houses several laboratory sections of general chemistry (CHEM 105L, 106L) and chemistry for nonmajors (CHEM 100L, 103L, 104L). As with the renovation of room 9, room 13 is laid out in a "pod" format. This layout affords clear views across the room, which improves safety and allows better interaction between students and instructors. In addition, the new layout increases traffic efficiency between the benches and hoods, eliminating the "pinch points" where students tended to become bunched up in the former, linear lab bench format.

Plans are also underway for the renovation of rooms 58 and 36. These laboratories are slated to become biochemistry and organic chemistry labs, respectively. This is, of course, pending sufficient funding, and the format of the renovations is subject to change until the dust starts flying.



**A student working in one of the newly remodeled teaching laboratories.**



**One of the remodeled undergraduate teaching labs. Note the "pod" layout of the lab benches.**

### Chair's Corner

It is an exciting time in the Department of Chemistry. The last few years have been a period of substantial growth. We have nearly 70 majors now (up 40% in five years) with 15-17 students graduating every year. Our students continue to be accepted into highly ranked graduate and professional programs across the U.S., and over 90% of our majors who applied to medical school in the past five years have been accepted. Record numbers of students are participating in undergraduate research (19 this year), and the department has organized, for the first time, a formal summer research program that will give 11 students the opportunity to work for ten weeks with a faculty mentor. For the tenth consecutive year we sent research students to a National ACS meeting, six students this time to the March meeting in Atlanta. New instrumentation is being installed in the department, including a 400-MHz Bruker NMR and an X-ray fluorescence spectrometer. We are proud of our program, students, and graduates!

It is also a period of significant transition. Arthur Halpern stepped down as chairperson this past September after 15 years of service to the department. Arthur has had a tremendous and positive impact on the program, overseeing the

modernization of instrumentation and equipment, the renovation of numerous teaching and research laboratories, the development of multiple tracks for the chemistry major, and the strengthening of the program's focus on research. We are grateful for his years of service. He continues to teach physical and general chemistry in the department and is developing and revising experiments for the third edition of his physical chemistry laboratory textbook.

Cuts to state appropriations challenge ISU now, and the administration seeks to prioritize all programs in the University and to eventually eliminate those that are underperforming. We're confident that the Chemistry Program will fare well in this process and hopeful that increased resources will eventually be directed to the department. We appreciate the gifts that many of you have made to the department through the ISU Foundation. These gifts help considerably during these times of particularly lean budgets.

I hope that you recall fondly your own experiences in chemistry at ISU. Continue to do great things, and keep in touch!

--Eric Glendening

## Faculty Profile: Stephen F. Wolf

Dr. Stephen F. Wolf is a graduate of Purdue University with a B.S. in chemistry (1987) and Ph.D. in analytical chemistry (1993). From 1993 to 2001 he was a staff chemist at Argonne National Laboratory. He came to ISU in the fall of 2001 and currently holds the rank of assistant professor.



**Dr. Wolf**

In his five years at ISU, Wolf has been active as a teacher and research mentor for more than 16 undergraduate and graduate students in chemistry and geology. He has taught a variety of courses for the department, including general chemistry, environmental chemistry, analytical chemistry, and instrumental analysis. He was recognized for his contributions and achievements as an educator in the classroom and laboratory with a College of Arts and Sciences Educational Excellence Award in 2005.

Wolf's current research interests focus on trace element analysis with application to cosmochemistry and environmental chemistry. He has distinguished himself as a research scientist, having authored and co-authored numerous journal articles, book chapters, and technical reports on the topics of cosmochemistry, nuclear waste material characterization, environmental chemistry, and analytical chemistry. He has received external funding from the Department of Energy, the Environmental Protection Agency,

Indiana Department of Natural Resources, the Research Corporation, and the Dreyfus Foundation. Recently he has been asked to contribute a chapter to the decennial publication *Chemistry of the Actinide and Transactinide Elements*.

In his spare time Wolf is a musician who writes, records, and performs music with his band The Prannies. He enjoys cooking, gardening, and playing softball. He has been married to his wife, Heather, for 12 years and resides in Terre Haute.

Additional information about Dr. Wolf and the activities of the Wolf Research Group can be found at <http://carbon.indstate.edu/wolf/wolf.html>

## Department Acquires New Instrumentation

The department is proud to announce the acquisition of several new instruments. This spring, a new 400 MHz nuclear magnetic resonance (NMR) spectrometer was installed. The NMR was purchased with funds from a National Science Foundation (NSF) grant, through NSF's Major Research Instrumentation Program. The grant was the result of a departmental proposal by Rick Fitch, Rich Kjonaas, and Larry Rosenhein last spring. A key part of the proposal involves use of the instrument by ISU as well as Rose-Hulman Institute of Technology (RHIT) and St. Mary-of-the-Woods



**The new 400 MHz NMR.**

College (SMWC), thanks to collaborations with Bruce Allison of RHIT and Ehren Bucholtz of SMWC. The new spectrometer will serve as a regional resource and will include features such as an automatic sample changer, gradient spectroscopy, and automated shimming. It is about 8-20 times as sensitive as the AC-250 spectrometer it is replacing and is much more user-friendly. It will be used by students in CHEM 351L, 352L, and 355, as well as for undergraduate research. The students will operate the instrument hands-on or remotely via software which will be served to the three campuses via the Web.

In addition to this acquisition, the department has been fortunate to receive several equipment and consumables donations from Eli Lilly, Pfizer, Roche pharmaceuticals, and Danisco Sweeteners. We are very grateful to these corporate donors for their generosity.

## Chemistry Master's Program

The Department of Chemistry's Master of Science Program was recently eliminated. Low enrollment, difficulties in obtaining foreign visas, insufficient funding for assistantships, lack of institutional support, and state requirements to eliminate or merge low enrollment programs all were contributing factors that led to the program's demise. Our Master's graduates have gone on to obtain doctoral degrees and/or pursue careers in academia, industry, and medicine. We know these former students appreciated the attention and training they received within the department. The faculty are now focused on development of the undergraduate program with an emphasis on increased undergraduate student participation in research projects.

## ACS-Student Affiliate Activities

About 15 chemistry majors currently are active in the ISU American Chemical Society Student Affiliate (ACS-SA). The organization provides opportunities for chemistry students to be involved in the community, plan their careers, serve the department, and build friendships through social activities.

The ACS-SA puts on the Kids 'n' Chemistry Program each month at the Terre Haute Children's Museum. Activities include making "gak" (a polymer made from borax and Elmer's glue), writing "magic messages" using tincture of iodine and lemon juice, and demonstrations of acid-base chemistry with household chemicals. They also performed chemical demonstrations for fifth graders at two Terre Haute elementary schools during the 2005 National Chemistry Week.

Members of the ACS-SA regularly attend Wabash Valley ACS-sponsored speaking events at ISU and nearby universities. Many members also attend the weekly departmental seminars and meet with the speaker following the seminar to discuss graduate school, career planning, and job options in chemistry.

The ACS-SA is responsible for providing refreshments for departmental seminars—a service that is greatly appreciated by all those in attendance! In addition, they host a cookout each semester, to which all faculty and chemistry majors are invited. ACS-SA members socialize by gathering for biweekly dinners at local restaurants. A trip to the Oliver Winery in Bloomington was a highlight of the fall 2005 semester's social activities. Near the end of the spring 2006 semester the group organized a send-off dinner for senior chemistry majors at a local restaurant.

## Faculty and Students Attend National ACS Meeting in Atlanta

Six chemistry majors attended the 2006 Spring ACS meeting in Atlanta, Georgia, along with Eric Glendening and Rick Fitch. All of the students presented posters at the meeting detailing their current research projects. The students reported that they appreciated the chance to present their work, that they had learned a lot, and had thoroughly enjoyed the trip!

The department has a history of enabling students to attend the spring ACS meeting each year. Nine students presented posters at the previous (2005) spring meeting in San Diego, California. Funding for the students' travels was provided by the department, the local ACS section, and the ISU Office of Sponsored Programs.



***ISU chemistry students at the 2006 Spring ACS meeting in Atlanta, Georgia.***



***Eric Glendening and students enjoy some free time at the coast during the 2005 Spring ACS meeting in San Diego, California.***

## Fall 2005, Spring 2006 Chemistry Graduates

The 15 graduating seniors this academic year were: Rebecca Coates, Susanna Curtis, Christopher Edwards, Brandon Elliott, Christy Ellis, Corey Frink, Carrie Green, Justin Hadar, Melissa Hamilton, Lauren Kuckewich, Michael Lowe, Shan Pigg, Andrew Powell, Meghan Williams, and Yolanda Wright. We are proud of our graduates and extend our best wishes to each of them!



***Drew Powell, a senior, working on his research project in Bill Flurkey's lab.***

## Summer Research Fellows

Eleven students have been selected to receive summer research fellowships for the summer of 2006. The department received an allocation from the College of Arts and Sciences to fund this effort, and three faculty received grant funds to support students for summer research as well. The students who have been selected and their research advisors are as follows:

Gordon Sturgeon (R. Fitch),  
 Brandon White (R. Fitch),  
 Adam Arnold (E. Glendening),  
 Byron Boulton (E. Glendening),  
 Stephanie Braun (E. Glendening),  
 Ryan Galloway (R. Kjonaas),  
 Michael Schulte (R. Kjonaas),  
 Sean Finley (S. Wolf), and  
 Matt Purcell (S. Wolf).

Congratulations to these deserving students on being selected for this program!

## Faculty Briefs...

**John Allen** just returned from sabbatical. Much of it was spent working on the book that he and his wife, Sandy, are writing for general education courses. **Sandy Allen** is keeping the Eisenhower Program alive. She also teaches Chem 100 lectures and labs and is working on the book that she and John are writing. **Rick Fitch** is a bioorganic chemist who joined us in the fall of 2003. He teaches the organic laboratory techniques and chemical information courses and just began teaching general chemistry. He is involved in student research and just landed two major grants. One is from NSF for the new 400 MHz NMR, and the other from NIH for a structural biology project aimed at crystallizing proteins to determine their structures. **Bill Flurkey** reports that he is still learning more biochemistry, and he continues to work with undergraduate and rural health research students. **Eric Glendening** graciously agreed to serve as interim chairperson for at least a year after Dr. Halpern stepped down. Eric still teaches general chemistry and works with research students in the area of computational chemistry. In August of 2005, after 15 years as chairperson, **Arthur Halpern** stepped down so that he could devote more time to teaching, research, and working on the third edition of his book. **Jennifer Inlow** joined the department as a temporary replacement in the fall of 2003, and then as a tenure track assistant professor in the fall of 2004. She teaches biochemistry and 100-level courses and does research in bioinformatics. Although **Rich Kjonaas** spends most of his time teaching organic lectures and labs, he usually has a couple of students carrying out some research. **"Rama" Ramachandran** has spent a considerable amount of time revamping the general chemistry experiments. As usual, he has been collaborating with other members of the department on various research projects. **Larry Rosenhein** is still single-handedly keeping inorganic chemistry alive

and well in the department. He teaches the upper level inorganic lecture and lab as well as general chemistry and usually has someone assisting with inorganic chemical research. **Alan Siegel** spent a year as acting associate dean of student affairs in the College of Arts and Sciences in 2002-2003. He then returned to the classroom and is still teaching first-semester organic lecture, as well as some 100-level courses. He is in his 28th year of doing Summer Honors and his 12th year as a college-wide advisor in arts and sciences. In addition to serving on the Faculty Senate, **Stephen Wolf** continues his research in cosmochemistry and environmental chemistry. He recently received a grant from the Dreyfus Foundation for the purpose of purchasing an X-ray Fluorescence Spectrometer for the department.

## Retired Faculty Briefs...

**Myong Ahn** and Mrs. Ahn are now living in the Midland, Michigan area. This gives them a chance to visit often with their son, daughter-in-law, and granddaughter. **Marlowe Owen** still lives in Terre Haute. She sometimes travels to Iowa to visit her daughter, son-in-law, and grandchildren. **D.J. Reuland** spends a lot of time around the department working for the Eisenhower Program. He now occupies the office that once belonged to Pat Tatum. **Pat Tatum** is enjoying retirement. When he is not traveling somewhere to see an opera, he is traveling somewhere to see a ballet. **W. A. Trinler** and his wife Jacquelyn are still living in the Seelyville area. They occasionally travel to Chicago to visit their daughter.

## Staff Briefs...

Monday through Wednesday **Patti Archer** is at her desk taking care of departmental business, but on Thursdays and Fridays she works as a registered nurse at Union Hospital. **Erik Ingebrightsen** spent some time in Norway recently, but is back in the stockroom keeping

the labs supplied. **Mitzi Nichols** is in the office Monday through Friday, so she has to hold down the fort by herself on those days when Patti is not in.

## 2005 Grants and Publications

The Department of Chemistry had a very productive year in 2005. Over 14 publications by faculty appeared in a variety of journals, including *Bioorganic and Medicinal Chemistry*, the *Journal of Inorganic Biochemistry*, the *Journal of Physical Chemistry*, the *Journal of Chemical Physics*, and *Analytical Chemistry*, to name just a few. In addition, more than 25 presentations were made at local, regional, and national meetings by undergraduates and faculty. Rick Fitch, Steve Wolf, and Jennifer Inlow secured external funding between 2004 and the present. Rick Fitch, Rich Kjonaas, and Larry Rosenhein were awarded an NSF grant (\$284,000) to acquire the new 400 MHz NMR. Rick Fitch was also awarded an NIH grant (\$175,000) to fund his work on multivalent ligands for nicotinic receptors.

## Obituary: Joseph Siefker

We are sad to report that Professor Joseph Siefker passed away in September. He joined the department in 1962 after earning a B.S. at Wabash College, an M.S. at the University of North Dakota, and a Ph.D. at Indiana University. He retired in 1995 shortly after learning that he had chronic leukemia. Joe taught a variety of courses, but mostly taught the analytical chemistry courses and supervised the research of many undergraduate and graduate students. Students perhaps remember him best for his deliberate and methodical way of doing things. He was always a gentleman and will be missed very much.

Indiana State University  
Department of Chemistry  
Terre Haute, IN 47809



## SyCHEMMore Notes

### We want to hear from you!

Future issues of *SyCHEMMore Notes* will include an "Alumni Notes" section featuring a summary of recent activities of ISU chemistry alumni. If you'd like your information included in the next issue, please send it to Jennifer Inlow (inlow@carbon.indstate.edu). Want to look up an old friend or read about the careers of other ISU chemistry grads? The alumni link

on the departmental Web page (<http://www.indstate.edu/chem/alumni.html>) provides the contact information of many of our alumni, as well as brief descriptions of the career paths and current work of some of them. To have your own contact information added to the Web site, contact Eric Glendening (ericg@carbon.indstate.edu) or Jennifer Inlow (inlow@carbon.indstate.edu).

### Check out the department's Web site...

For more information and recent photographs of our students and the department, visit our Web site at <http://www.indstate.edu/chem>

### Questions or comments?

Contact Eric Glendening,  
chairperson at:  
[ericg@carbon.indstate.edu](mailto:ericg@carbon.indstate.edu) or  
812-237-2239

**Breaking News!** President Benjamin has just approved funding for the renovation of room 36. This room will become the new organic chemistry lab, accommodating Chem 351, 352, and 355 lab courses.