

# GROVE CITY COLLEGE

## CHEMISTRY

Spring 2011



## Departmental News

By Dr. Timothy Homan, Chair

### Chemistry to get a new home

February 8, 2011, President Richard G. Jewell '67 announced that ground will be broken immediately following graduation in May for Phase I of a building program to replace Rockwell Hall with a new Science, Engineering and Mathematics building.

Phase I will involve the construction of a new facility containing 63,000 square feet of teaching and research space at a cost of \$37.2 million. The current Rockwell auditorium will be removed, and the new facility located directly adjacent to the existing Rockwell, which will require the closing of Campus Drive to vehicle traffic. See the artist's rendering below.

The new facility is designed to support new modes of teaching, particularly flexible laboratories and small-group interactions. It will ensure that Grove City College continues to

prepare students for future careers in an increasingly competitive workforce. Construction and outfitting of the building is expected to take 24 to 30 months. The architect of the Science, Engineering and Mathematics Building is Ballinger of Philadelphia, Pa., with PJ Dick of Pittsburgh, Pa., serving as construction manager.

When completed, Phase I will house the departments of Chemistry, Biology and the soon-to-be re-instated Chemical Engineering. The future Phase II of the project will involve demolition of the current Rockwell, and the completion of the new building (with a new tower!), at which time all departments in the Hopeman School of Science, Engineering and Mathematics will be housed in one building.

The decision to break ground in the spring of 2011 was made by the Grove City College Board of Trustees on Jan. 21. Phase I of this project is a key component of *Grove City Matters: A Campaign to Advance Grove City College*, which at \$90 million is the largest capital campaign in the College's history.



Architect's rendering of the completed Phase I of the New Science, Engineering and Mathematics Building, which will be located directly adjacent to the current Rockwell.



Architect's rendering of the completed New Science, Engineering and Mathematics Building, after demolition of Rockwell and completion of Phase II.

## Alumni Return to Grove City as Faculty

Dr. Kristina Odonish Pazehoski (BIOC, '01) will be returning to Grove City College as Associate Professor of Biology. Kristina earned her Ph.D. in Biochemistry from Duquesne University in 2006. Since 2006, she has been teaching at the University of Pittsburgh at Greensburg.

Dr. Devin L. Stauff (BIOC, '05) is returning to Grove City College as Assistant Professor Biology. Devin completed his Ph.D. in Microbiology at Vanderbilt University in 2009. Since then, he has been on a post-doc at Princeton University's Department of Molecular Biology.

## Survey Results

In our first Chemistry Department Newsletter last fall, we asked you to take an online survey to help the department understand our alumni better. Almost 80 of the 287 alumni who received the newsletter responded. Thank you! About half of the responses were from alumni who graduated before 1990 (the earliest a 1944 grad). We were gratified that over half of the responders indicated that they would be willing to serve the department in various ways.

Twenty four responders work or are retired from positions doing chemistry in industry. Nine reported the majority of their career was spent in management or marketing industrial positions. Thirteen are pursuing graduate degrees or have obtained faculty or staff positions in higher education. Fifteen are involved in secondary education. Ten reported being in the medical field, and six in various other careers.

While our department website (<http://www2.gcc.edu/dept/chem/>) is still under construction, we are grateful for those who gave us permission to include them and their accomplishments on the Alumni page. We understand that current high school students gain most of their knowledge of an institution from its webpage, and we hope to build ours so that it accurately reflects our strengths and will continue to attract strong students to our department.

Thanks again for responding. We are committed to connecting to our alumni, and utilizing the amazing resource that you are!

## Alumni Take Part in Career Services Panel

For the past few years, Careers Services has sponsored an *Alumni Career Panel Night*, where alumni return to speak to current students about careers and finding employment. Allison Atwood (BIOC, '04, Ph.D. from Vanderbilt in cancer biology), Max Majireck (CHEM, '05, Ph.D. from PennSt), and Jackie (Cole) Runco (CHEM, '04, applications chemist, Waters Corp.) returned to share their experiences and insights with those seeking careers in science. The session was chaired by Department Chair Tim Homan and sponsored by the Student ACS chapter. Trevor Baker (CHEM, '02, who designs and builds tube-based amplifiers for guitar and bass) spoke to those considering careers in the arts.

## Alumni Highlights

### Nate Luman '00

After graduating, Nate completed his Ph.D. in Chemistry at Boston University. He then completed a law degree at the University of San Diego and now works as a patent attorney.

*What does your job as a patent attorney involve?*

“My job as a patent attorney involves many types of activities centered on the development and enforcement of intellectual property rights. For example, yesterday I discussed the framework of a licensing agreement for a new pharmaceutical compound. Today I will write a letter responding to comments made by a patent examiner in New Zealand. Tomorrow, I will help prepare an expert witness to testify before a federal judge about the validity of a prescription drug patent. Overall, I find my job to be exciting and challenging because I get to work with inventors and entrepreneurial companies to develop their intellectual property portfolio.”

*How did your chemistry background prepare you for your work?*

“My chemistry background is essential to my job because most of my clients are small-to-medium-sized pharmaceutical companies. The technology that my clients are developing is complex, and most of the inventors that I work with have Ph.D.s in chemistry. Having a strong chemistry background ensures that I fully understand the nuances of my client's technology, which is especially important when I draft patent applications based on their chemical inventions.”

*How did you get interested in patent law?*

I first became interested in patent law while I was a graduate student in the department of chemistry at Duke University. My thesis advisor and I (along with some other graduate students) filed a patent application based on our research. Our technology was licensed to a start-up company called HyperBranch Medical Technologies. I became very interested in intellectual property through the process of filing a patent application and watching a new company grow out of research that I was involved with.



*Is thinking "like a lawyer" any different than "thinking like a chemist?"*

Yes. The process of drafting a patent application can highlight some of the typical differences between thinking like a lawyer and thinking like a chemist. For example, if a chemist tells me that a key step in their new synthetic method is oxidation using a peroxide solution, I will ask whether the chemist has found other oxidizing reagents (such as maybe a permanganate solution) to be suitable for their synthesis. It is important for me to think about drafting a patent application that fully and broadly describes the chemist's invention. I don't want to limit the application in such a way that competitors might easily design around the claimed invention. Today many chemists are patent savvy, which makes my job a lot easier.

*What is your favorite memory of being a chemistry major at Grove City College?*

It is hard to pick a single favorite memory. I had a lot of fun in Professor Homan's organic chemistry laboratory. I also remember the day that Professor Kriley made a fashion statement by lecturing while wearing a tie with a polo shirt. Looking back, one of the most valuable things I did as a chemistry major was to work on an independent research project in Dr. Augspurger's lab. I got an excellent head start on my career from the chemistry curriculum and faculty at Grove City.

## Andy Mitchell '01

Andy earned his Ph.D. from Texas A&M in 2008 working under Dr. Daniel Romo. After a postdoc at the University of Pennsylvania working with Dr. Jeff Bode, he started as Assistant Professor at Illinois State University in Fall 2010.

*What was your first semester as a professor like?*

"My first semester as a professor was wonderful. Although difficult and challenging, it was also enjoyable and rewarding. I taught a graduate organic synthesis course with 11 students. I was able to develop the course myself and cover the topics that I felt were the most important and interesting. Overall, the class was well-received by the students. In my research, I mostly worked on two proposals, one total synthesis project and one reaction development project, and I submitted them to the funding agencies before the deadline. I also recruited a few students and begin setting up my lab space. I felt like it was a productive semester as I settled into this new role as a professor that I believe I will enjoy for a very long time."



*Does being a professor take more or less time than being a graduate student?*

"That is a good question and a difficult one to answer perfectly. One answer is that being a professor takes much more time than being a graduate student, because you have so many different things to do. On the other hand, as I have moved from Grove City College to graduate school to a postdoc and now to being a professor, my efficiency has increased at each step. In parallel, as I have taken on new responsibility in family life, I have discovered improvement in my professional life. It is as if I learned to be more efficient simply as a matter of survival. So, the answer is yes."

## Postscript

While Andy was a graduate student at Texas A&M, he returned to Grove City College several years ago to give a talk about his research and to recruit more Grove City students to attend Texas A&M's graduate program. In his talk, he told about the synthesis of a new compound, spiroepoxy- $\beta$ -lactone, and its unusual stability. Dr. Augspurger, a computational chemist, was intrigued by this compound, and when he and Dr. Falcetta taught the new Computational Chemistry elective class in Spring 2010, he had the five members of the class use this compound and similar ones which were not stable as subjects of their class projects.

This year, senior Matt Stedjan has been doing research under Dr. Augspurger, calculating the ring strain energy of these spiro compounds. Matt presented his results as a participant in the yearly Swezey-Janicki research competition. The competition is open to seniors in biology, chemistry and physics. The winner of this competition receives a monetary award from a fund established by Mr. Robert ('56) and Mrs. Jane Janicki in 1992.

## Student News

We are excited to have many of our students pursuing research opportunities this summer!

Jamie Alburger (CHEM, '13) and Caleb Stewart (BIOC, '12) will be working with Dr. Falcetta developing computational chemistry lab "experiments" for General and Organic chemistry, funded by Grove City College's Swezey Fund to support research.

Shelby Anderson (BIOC, '12) will be taking part in a Research Experience for Undergraduates (REU) program at Wellesley College.

Peter Foster (CHEM, PHYS, MATH, '13) will be in a REU program at the University of Rochester.

Scott Harman will be working in the lab of Dr. Marcetta Darensbourg at Texas A & M.

Chris Haskins (CHEM, '12) and Jake Lytle (BIOC, '13) are working for Dr. Kriley, studying the effects of Marcellus Shale drilling on groundwater, funded by the II-VI corporation.

Pat Miller (BIOC, '13) will be in a REU program at Kent St. University.

Hannah Tubb (CHEM, '13) will be working with Donald Williams, senior furniture conservator at the Smithsonian Museum Conservation Institute, in the Katzenberger Internship Program.

Stephanie Wood (BIOC, '13) will be working in the Wildlife Rehabilitation Center in Pittsburgh.