

### Students and Faculty Present Research at National Meetings



In May, Danielle Clark (double major in IST) presented her research on "Identification of amino acid galactation sites in human albumin" with Dr. Menashi Cohenford (of IST) at Posters on the Hill. Students from around the country present their work to members of Congress at this annual event. Each year 60 posters are selected and Danielle was the only presenter from West Virginia. She and Dr. Cohenford met with Rep. Rahall and the staffs of both Senators Byrd and Rockefeller in Washington, D.C. Danielle is currently a first year student in the M.D./Ph.D. program at the Medical University of South Carolina.

Several students and faculty members made presentations at the Salt Lake City national ACS meeting in April. Rudolf Burcl's students Charlie Lowe (now an MS graduate student in Marshall's math department) and Brennon Chambers presented posters on theoretical studies of hydroxide radicals with small organic molecules, while Johannes Fahrman presented a computational study on the structure and spectra of phthalocyanine derivatives. Danielle Clark presented a more technical version of her work. Dr. Masudur Rahman, a postdoctoral fellow in the Norton laboratories, presented a paper describing progress in design and construction of molecular testbeds for the directed sequential self-assembly of DNA based nanostructures which can be used as single molecule sensors. Bin Wang presented a paper on the development of an integrated microfluidic device for RNA structural analysis. Bill Price presented a computational study of dendrimer fragmentation.

In August, Ken O'Connor, one of our newest faculty members, delivered an oral presentation at the Washington national ACS meeting on his research to improve and modernize organic chemistry laboratory experiments using handheld computers. The department hopes to begin using these experiments in the next two years. For more information about these and other departmental research projects, please visit individual faculty websites linked off our main webpage.

### Derrick R.J. Kolling Joins the Department

Derrick is a Pittsburgh native who received his bachelor's degree from Penn State in biochemistry and molecular biology. He then received a Ph.D. in biophysics and computational biology under the direction of Dr. Antony Crofts at the University of Illinois at Urbana-Champaign, followed by post-doctoral research with Dr. Charles Dismukes at Princeton University. His research interests include the photosynthetic oxidation of water and the photon-dependent assembly of the water-oxidizing catalyst in photosynthesis. He also plans to investigate biofuel production from algae and cyanobacteria. He comes to Marshall with his wife, Amanda, who is a communications specialist.



### Industrial Outreach Poster Session

On the Friday of alumni weekend, the Department invited scientists from several local companies employing chemists to a poster session presented by our students. About a dozen students presented their Capstone and graduate research projects to scientists from Alcon, Bayer Material Science, the Chemical Alliance Zone, Dow Chemical, Flint Group Pigments, Marathon Petroleum, MATRIC, and Research, Environmental, and Industrial Consultants. Alumni Rhonda (Stephens) Daughtery, Randy Black, Gary Ellis, and Tammy (Montgomery) Church represented some of the companies. Before we got started, there was a facility tour and afterwards everyone got together for a group lunch. We were also joined by Drs. Kopp (MU president), Ormiston (provost), and Maher (VP of research). We hope the poster session expands communication with the local chemical community. Participants gave us excellent feedback and we plan to make this a yearly event. If you plan to be in Huntington next year for alumni weekend, please let us know. You are more than welcome to join us.



# Our Vision

To be  
known as  
one of  
the top  
undergraduate  
and MS  
programs  
in the nation  
by integrating  
teaching  
with research  
experience.

## External Review and Strategic Planning

Last fall, the Department received a grant from the West Virginia Division of Science and Research to conduct an external departmental review and to send our faculty to visit "best practice" universities to learn from them. Last December, Drs. Bernadette Donovan-Merkert (UNC-Charlotte chemistry chair) and Silvia Ronco (Research Corp. program officer) visited Huntington for two days and met with faculty, students, staff, and administrators to develop an understanding of our program. In March, we received their report. Its principal recommendations were the development of a 5-year strategic plan, development of written personnel policies, and an examination of ways to make the Capstone Experience more effective for both students and faculty.

In August, the members of the department held a two day retreat to develop a vision statement and strategic plan. It was facilitated by Dr. Kevin DiGregorio (executive director of the WV Chemical Alliance Zone). Please let us know if you'd like a copy of our strategic plan at either 304-696-2430 or [chemistry@marshall.edu](mailto:chemistry@marshall.edu). We are currently developing the more detailed action plans needed to implement our strategic goals. Our vision statement appears in the left margin.

## Army Research Office Funds Disease Surveillance Research

Mike Norton was recently awarded a 4-year \$600,000 grant from the Army Research Office. The long range objective of the project is to use highly parallel arrays of single molecule DNA sequencers to enable the sequencing of an entire human genome in 5 minutes or less. An important application is the rapid and full sequencing of all people to provide a strong basis for genetic medicine. There are many other drivers for this line of investigation. One of these is continuous disease surveillance. The current flu epidemic involves a virus that could change from its current, relatively benign form to a much more devastating disease. What is less apparent is that several other viruses also have this potential. This research seeks to help medicine cope more rapidly with emerging biological threats.

WE ARE... **MARSHALL**

## Resolve to Educate Aspiring Chemistry Teachers



In 2008, the Department was approached by our local regional education district about creating a program that would train high school teachers in southern West Virginia to be certified in chemistry. The program is needed because the state now mandates that all students graduating from high school must have taken a chemistry course. In response, Ken O'Connor, a chemical education specialist, developed Project REACT. It is a 3-year series of summer courses and academic year assignments to bring these teachers up to speed on teaching basic chemistry. Sixteen teachers from 12 high schools and middle schools are participating and will be certified to teach Chemistry I in the fall of 2010.

## Dan Babb Turns 70!

This August Dan turned 70. As many of you know, he joined the Department in 1972 and is now our most senior colleague. Besides being department chair for many years he recently won the university's Distinguished Service Award. He's still a very active instructor and students continue to line up to take his classes. If you'd like to drop him a line or a note, he'd enjoy hearing from you. His phone number is 304-696-2355 and email address is [babb@marshall.edu](mailto:babb@marshall.edu).



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