

SURF Endows and a Lot More!

Late last summer, we received the donation that pushed us over the \$100,000 needed to endow the summer undergraduate research fellowship (SURF). Almost 80 alumni have contributed to the fellowship fundraising drive and that makes our contribution rate almost double the norm for fundraising appeals. We are deeply appreciative of the generosity of our alumni. While we were fundraising, the lab manuals and William Dudley supported a total of 8 students who are now pursuing a range of activities ranging from a chemistry doctorate, medical school (4), an M.D./Ph.D., employment with an environmental testing company, and a senior biochemistry major. In January, we learned that matching money from *WV's Research Trust Fund* will raise our total to almost \$180,000 by the end of March 2011. The *RTF* will dollar-for-dollar match every donation to SURF from March 16, 2008 (about \$55,000 so far) until March 15, 2013. As a result we are very close to being able to ensure that each summer two students will be guaranteed the opportunity to work in a Marshall chemistry professor's lab. SURF students will participate in our new, vibrant summer research program that is described in the next article.

Inaugural Summer Research Program Launches

The Department organized a new summer research program in 2010. In previous years, students worked in faculty labs that rarely interacted, but this year we designed a program with group activities to better engage students and foster a sense of community. Our goal for the Summer Research Program for Undergraduate Chemistry is to build a culture of research among our students. We believe that students should view this as an opportunity and a privilege rather than a necessity or degree requirement. The aims of the program are to develop student camaraderie, to increase student-faculty interactions, to elevate the profile of research within the Department, and to improve students' oral communication skills. To kick off



the program, each of the sixteen undergraduate, two masters, and one high school research student presented a short, two-minute research proposal to acquaint everyone participating in the program with each others' research goals for the summer. Students worked full time for ten weeks but it wasn't all just hard work. For example, the photo above was taken while some of the students and faculty enjoyed watching a minor-league baseball game in Charleston. An ice cream social was held with a rotating trophy awarded to a research group for the following academic year for their achievement in a group competition. This summer, the trophy went to Scott Day's group for the highest average score in a Wii Bowling tournament. Students and faculty also traveled to Charleston and toured the State Police Crime Lab, which served to introduce students to several aspects in the daily life of a forensic chemist. Alumna Farrah Boggess-Machado provided a great tour of the facility. To wrap up the summer, a finale symposium in which students presented their summer research in a formal setting was held at the Huntington House. We will continue to develop our research program with a goal of operating each summer with 25-30 students and all research-active faculty. Each summer, we'll incorporate fun, social activities along with educational, career-building exercises.

Student and Faculty Accomplishments

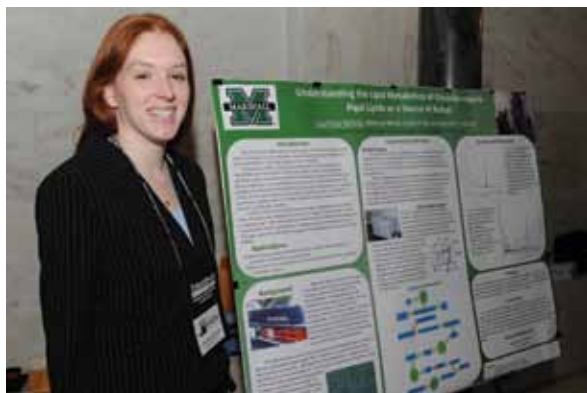
Rebecca Ragland (BS 2010) became the Department's first recipient of a Graduate Research Fellowship from the NASA West Virginia Space Grant Consortium. She started her project during the summer on the development of an integrated microfluidic device for transporting nanocargo in Scott Day's lab. Samantha Cotsmire (biochemistry major) received an Undergraduate Research Fellowship from the NASA West Virginia Space Grant Consortium for a projects in Mike Norton's laboratory. In addition, chemistry majors Allison Combs and Benjamin Crowder and biochemistry majors Paul Brooks, Cameron Buchman, Rebekah Jamieson, and Evan Riley received NASA Fellowship awards. Two students co-authored

Our Vision

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

research publications with faculty: Tiffany Bell with Leslie Frost working on a study addressing the disease galactosemia, and Rebecca Klug (BS 2007) with Rudolf Burcl on a study of the internal energetics of small molecules. Rebecca is currently a student at Marshall's medical school while Tiffany will graduate next year. Bin Wang (3), Scott Day (2), and Mike Norton (2) also published papers this year, with Bin mentoring undergraduate students from math and integrated science and technology. Five different faculty members coauthoring 9 publications from Marshall is easily our best year ever! Mike Castellani presented faculty development talks on mentoring undergraduate research students and advice for prospective department chairs at the Council on Undergraduate Research national conference.

Dawn Nicholas (MS 2010) presented her research with Mike Norton at the fall 2010 ACS national meeting in Boston. On January 25, 2011, two research groups from the Department of Chemistry shared their work with state politicians and fellow scientists at the Eighth Annual Undergraduate Research Day at the Capitol. Courtney Nichols, Rebecca Mead, Ben Blodgett, Shaheed Elhamdani, and Cameron Buchman presented three posters on work that they had accomplished in Derrick Kolling's lab. Sara Lilly and Allison Combs presented a poster on work that they had accomplished in Laura McCunn's lab. Last January, three students: Austi Sergent Roush (BS 2010), Michael Adams (BS 2010), and Sara Lilly, who worked in Laura McCunn's lab presented at the 7th Annual Undergraduate Research Day. In December 2009, Michael Norton teamed with faculty in biology and the School of Medicine to obtain nearly a million dollars for a multi-photon, confocal microscope. This technique allows fluorescent imaging of multilayered samples.



Alumni Accomplishments

2010 was a good year for our alumni too. In the past year, Gregory Hale, MD (BS, 1986; MD, 1990) was named one of the *Best Doctors in America* in pediatrics hematology-oncology and was

chosen as recipient of the Marshall University Distinguished Alumni Award. He is currently Clinical Associate Professor of Pediatrics at the University of South Florida. Marisa Rubio (BS 2008) received a prestigious National Science Foundation doctoral fellowship and is a Ph.D. student in the Department of Molecular Biophysics and Biochemistry at Yale University. We also learned that Dr. Halimatun Hamdan (MS 1981), Prof. of Chemistry at the Universiti Teknologi Malaysia won the 2009 Merdeka Award in Health, Science and Technology.

Scott Day Receives Funding From Research Corp.

Scott Day recently received a two-year, \$35,000 grant from the Research Corporation for Science Advancement. These awards are given to researchers at primarily undergraduate institutions in their first three years of appointment for their project's potential to further fundamental scientific knowledge and for its potential to develop into a long term viable research program. Scott's award will be used to study some fundamentals of self-assembly needed to understand how DNA aptamers attached to gold substrates can best be used in capturing various targets. DNA aptamers are particular sequences of DNA that recognize specific target molecules. The grant provides summer stipends for undergraduate students to work on the project and will help them gain experience in chemical synthesis, in using common separation techniques, and in using methods for characterizing the structure and function of the DNA monolayers.

Transitions

Joyce Maynard, our long time secretary, retired at the end of October and Rudolf Burcl will be leaving to enter Marshall's medical school to seek a medical degree. Both will be missed and we wish them well in the next phases of their lives. We welcome Melinda Combs who will join us as our new secretary on March 1.



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