

Faculty and Students Present at the ACS National Meeting

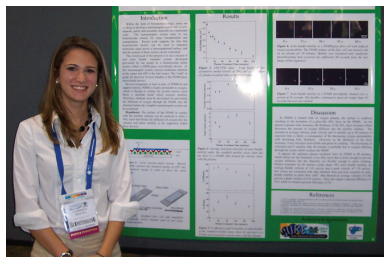


The Department was well represented at the 244th National Meeting and Exposition of the American Chemical Society in Philadelphia, held in August 2012. Undergraduate students **Caleb Calvary, Derek Collins, Courtney Hatten, Catherine Higgins, Christian Warner** and graduate students **Irfan Khan** and **Jessica Neal** presented

posters on their research conducted in departmental laboratories. Chemistry professors Gary Anderson, Scott Day, Leslie Frost, Laura McCunn, Mike Norton, and Ken O'Connor also attended the conference.

While in Philadelphia, the group enjoyed a dinner in Chinatown and a visit to the Liberty Bell and Independence Hall. They were given a special tour of the Chemical Heritage Foundation museum. Highlights of the tour included several Nobel Prize-winning instruments and an exhibit on chemistry in fashion. Five students and professors from the group enjoyed viewing historical landmarks while participating in the 5K fun run sponsored by the ACS Younger Chemists Committee.

The student attendees reported that the meeting was a very valuable experience. Networking with chemists at the poster sessions and career expo helped students to choose a direction for their career path. A few students are considering graduate programs in chemistry as a result of their experiences at the meeting. Everyone agreed that the chance to discuss their research with people who shared their passion for chemistry was one of the best parts of the trip. The Department hopes to continue sending undergraduate researchers to national conferences on a regular basis.



John Hubbard wins Marshall's Distinguished Service Award

In his over 30 years at Marshall, John has held a number of positions of distinction both on campus and off. John was elected by his peers to serve two terms each on the Faculty Senate, Research, Faculty Personnel, and Physical Facilities and Planning Committees. Each of the committees in turn selected John as their chair. John has represented the local American Chemical Society section for 25 years as either its councilor or alternate councilor. Councilors represent the local sections to the national organization at the national professional meetings. The *Journal of Organic Chemistry* has recognized him



as one of its best reviewers and it frequently sends very challenging manuscripts for evaluation. John has served on and chaired numerous departmental and college committees and has served as the Department's associate chair for more than six years.

E. Stephenson Hanrahan, 1929-2013

We are saddened to report that Dr. E. S. "Steve" Hanrahan passed away on February 22. Born September 8, 1929 in Parkersburg, WV, Steve graduated from Parkersburg High School and the University of Mississippi where he completed his B.S. in Chemistry in June 1952. He served in active duty in the Korean conflict.

He completed his Masters' and Ph.D. degrees at West Virginia University. He worked for DuPont as a research chemist for 6 years before joining Marshall University as an assistant professor at in 1963. He became Chair of the Department in 1967 and in 1977 became the inaugural Dean of the College of Science. While Dean, he oversaw the renovation of the Science Building and then the construction of the Science Building addition. While serving in administration, he always insisted on teaching a section of "Principles of Chemistry" in order to stay in touch with student needs and interests. He was active in the American Chemical Society and served as Councilor for the Central Ohio Valley Section from 1970-1983. He mentored many students who pursued careers in chemistry and medicine.



He is survived by his wife, Mary and numerous children, grand- and great-grandchildren. Dr. Hanrahan's obituary is linked off the Department of Chemistry's newspaper. A scholarship is being established in his memory. Please contact Rick Robinson, MU Foundation, for more details: 304-696-7081; roboris@marshall.edu.

Eiselstein Scholarship and Dudley/Combs Summer Fellowships

The family of Herbert Louis Eiselstein established a scholarship in his memory for students planning to pursue careers in the chemical sciences. Dr. Eiselstein was a Vice-President of Technology, Research and Development at INCO alloys for many years and was credited with many patents, some of which are still used with gas turbine engine technology in the aerospace manufacturing industry. The scholarship is being endowed by his wife, Maryellen, children Carol, June, Larry and other family and friends. It will be awarded annually to a student who will do research in the Department as part of the award.

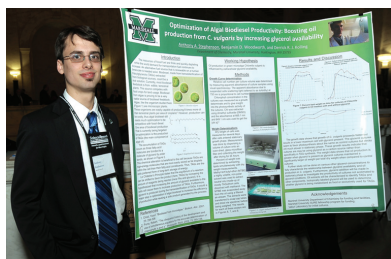
Two alumni contributed enough to our SURF fundraising campaign that, between them, they funded one fellowship annually. The faculty decided to honor William C. Dudley (MS, 1954) and Roger J. Combs (BS, 1976) by naming a SURF fellow in alternating years in their honor. Thus, in years where two or more students receive a summer fellowship, the first will be an Alumni Summer Undergraduate Research Fellowship awardee, and the second will be either a Dudley or Combs awardee. We and our students are indebted to Mr. Dudley and Dr. Combs for their generosity.

Student and Faculty Accomplishments

Four students co-authored research publications with faculty: **Ashley Litchfield** (BS Biochemistry 2010) and **Srinivasarao Thulluri** (MS 2010) reported with Bin Wang and Eric Blough (Pharmacy) on how sex and advanced age affect the expression of molecules involved in iron metabolism and neurodegeneration in the rat hippocampus. **Benjamin Crowder** (BS Chemistry 2012) published his work on using biomolecules to control a bionanodevice with Leslie Frost and Eric Blough. **Cody Stover**, senior Major in Chemistry, had a paper published in the prestigious journal *Cancer Research* on his research project on the carcinogenic effects of nicotine. He is working with Piyali Dasgupta (Pharmacology).

Michael Norton also published manuscripts on the immobilization of carbon nanotubes onto DNA Origami and absorption signatures in DNA solutions. Derrick Kolling had a paper come out on his doctoral research on the oxidation states of manganese required to catalyze photosynthetic water oxidation. Finally, Leslie Frost had a second paper published on the non-enzymatic glycation of melamine. Links to these papers or their abstracts may be found on our website newspaper.

Master's student **James Board** (BS Chemistry 2012)



presented his research with Derrick Kolling at the Midwest/Southeast Photosynthesis meeting. Masters student **Irfan Khan** placed second in

the oral presentation category at the joint meeting of the WV Academy of Sciences and WV STaR conference. He works with Mike Norton and Bin Wang. At the 10th WV Undergraduate Research Day at the Capitol, chemistry fielded a large contingent of students. **Courtney Hatten**, **Brian Warner**, **Emily Wright** (McCunn), **Anthony Stephenson** (Kolling), **Rebekkah Brown** (Valentovic) presented their research to members of the WV state legislature.

Faculty members were quite active presenters themselves. Mike Norton presented invited talks at *FNANO 2012* and Concord University at their fall colloquium. Ken O'Connor made an invited presentation at the Kanawha Valley section of the ACS. He also presented results of his research on chemical education at both the *Biennial Conference on Chemical Education* and 43rd Middle Atlantic Regional Meeting of the American Chemical Society. Bill Price and Bin Wang made presentations at the 243rd ACS National Meeting in San Diego in March. Laura McCunn made an oral presentation at the 67th *International Symposium on Molecular Spectroscopy* and Derrick Kolling a poster presentation at the *Midwest/Southeast Photosynthesis* meeting. Mike Castellani was elected as secretary to the *Council on Undergraduate Research*.

Three chemistry majors, **Victoria Ledford**, **Marjorie McCoy**, and **Matthew Osteen**, are members of the Marshall University "Thundering Word" intercollegiate debate team. Each placed at the *Ohio State Holiday Frolic Invitational* against competition from 27 other colleges and universities.

Department Faculty and Student Grants

Grant funding can provide financial resources beyond what state funds and tuition to support student education. Towards that end, the past year has been very successful for the Department of Chemistry.

Derrick Kolling, Mike Castellani, and Mike Norton, along with Nalini Santanam (Pharmacology, Physiology, and Toxicology), Xiaoping Sun (Chemistry at University of Charleston), Maria Babiuc-Hamilton (Physics), and Judy Fan (Physics) received a \$338,845 Major Research Instrument Grant from NSF for the "Acquisition of an EPR Spectrometer for Studies in Biochemistry, Chemistry, and Physics." It will allow researchers to directly observe free radicals and transition metals and their environments. Laura McCunn received a \$65,000 Undergraduate Research Grant from the ACS Petroleum Research Fund for "The FTIR Analysis of the Radical and Molecular Products from Thermal Decomposition of Aldehydes and Nitrite Esters." The award will support her lab's research into the pyrolysis of molecules that are formed during the production of biofuels and combustion of fossil fuels. Bin Wang received the following four awards: a one-year \$10,000 Research Seed Grant from the NASA WV EPSCoR program for "Assembly of Ferritin IRE-based Nanostructures"; a three-year, \$60,000 contract from Everbest Int'l Group Co., Ltd. to develop microfluidic point-of-care diagnostic devices; a one-year, \$6,667 Research Initiation Grant from the NASA WV Space Grant Consortium for "An Investigation of Iron-IRE Interactions in the mRNAs of Ferritin, APP, and ASN"; a five-year, \$122,000 contract from Wan King International Ltd to develop biomarker-based diagnostic tools for neurodegenerative diseases.

In collaboration with the Department of Chemistry, the Central Ohio Valley ACS Section has received a \$1,150 Innovative Project Grant for "Recruiting high school students from rural Appalachia to pursue careers in chemistry." The funds will be used by faculty to visit high schools in West Virginia to inform students about career possibilities in the chemical sciences.

Finally, many of the Department's students became NASA WV Space Grant Consortium Scholars. Here is a list of the university-level awardees (\$2000): **Caleb Calvary** (Castellani), **Sumaiya Chaudhry** (Sasha Zill), **Tabitha Norman** (Menashi Cohenford), **Jacob Potter** (Norton), **Eric Slayton** (O'Connor), **Brian Warner** (McCunn), and **Emily Wright** (McCunn). And here is a list of the state-level awardees (\$5000): **Derek Collins** (Frost), **Courtney Hatten** (McCunn), **Catherine Higgins** (Day), **Patricia Mihm** (O'Connor), and **Matthew Thompson** (Kolling).

Transitions

Two new faculty members will be joining the Department in the fall: Rosalynn Quiñones (Analytical Chemistry, PhD Duquesne University) and John F. Rakus (Biochemistry, PhD University of Illinois). We'll tell you more about them in next spring's newsletter. Tina Hall joins us as our new stockroom manager after teaching high school chemistry for 15 years in Kentucky. Finally, Pamela Hamilton joins us as our new office manager. She replaces Melinda Combs who has moved to the College of Science dean's office.

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