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Fall 2005

The ArmStrong Chemical Bond

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The ArmStrong Chemical Bond

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The Link Between Faculty, Alumni and Friends of the Pirate Chemist

The Byrds Have Flown South!

Dr. Jim Byrd is on the move. He has accepted the position of Associate Dean for Academic Affairs and Professor of Chemistry at Florida Southern College and moved to Lakeland, Florida. Jim joined the faculty of the Department of Chemistry and Physics at Armstrong State College in 1990. An analytical chemist specializing in environmental chemistry and chemical oceanography, Jim taught general and analytical chemistry to hundreds of stu-

dents during his tenure at AASU. Jim continued his research in the analysis of metalloids in the environment and directed several students in their research projects.

Jim proved to be a valuable asset to AASU. He served for several years as Assistant to the Vice President for Academic Affairs. In 1992, he directed the University's Southern Association of Colleges and Schools (SACS) self-study and site visit, which

led to the best re-accreditation report ever received by AASU. Each year Jim traveled abroad as the director of USG Summer Study Program in France. These credentials made him a perfect fit for the position at Florida Southern, where he will lead their SACS self-study, and develop International Studies Programs. We will miss Jim, but we wish him and Katy all the best. If you wish to contact Dr. Byrd, his e-mail address is jbyrd@flsouthern.edu

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Dr. Sabitra Brush and Science Teachers – One Busy Summer

This summer Dr. Brush had three summer courses. All the courses were designed to prepare K-12 science teachers in science content and laboratory skills based on the Georgia Performance Standards. Courses involved various pedagogical techniques required to reach a diverse group of learners and bring them to a higher cognitive level based on current research. Methods included development of inquiry based activities, field trips, use of various community resources such as local scientists and engineers, and the utilization of lab teaching resources. Various methods of assessment were used such as tests, retests, pre and posttests, daily journals, daily quizzes, peer evaluation and fieldwork. Small group as well as individualized projects were designed and conducted. Over \$63,000 in grant monies were used to fund the following

graduate courses: *Physical Science Middle/High School Teachers* funded by PRISM in April 2005, "*Science Process Skills for Teachers*" funded by the Georgia Improving Teacher Quality Program in March 2005 and "*Physical Science for Elementary Teachers*" funded by the Georgia Improving Teacher Quality Program in March 2005. In addition, the Savannah-Chatham County Public School System funded \$8,000 in PRISM funds for payment of stipends to their K-12 science teachers participating in the Georgia Teacher Quality Programs.

Each teacher received a science content text, tuition, graduate credit and a stipend. In the Science Process Skills course teachers spent three days on Sapelo Island attending lectures, working in the lab, collecting samples in collaboration with Ms Brooke Vallaster from

the Sapelo Island National Estuarine Research Reserve. These teachers participated in a mini workshop lead by Mr Patrick Connor of Gulfstream Aerospace. Project Wet activities were conducted by Ms Dawn Zenkert, Education Coordinator at Jekyll Island 4-H. Mr. Joseph Traywick (Richmond Hill High School), and Ms Marsha Lucas (Savannah Country Day School) served as co-teachers and Jessica Hester, an AASU chemistry student, served as program assistant.

Many thanks to PRISM, Georgia Improving Teacher Quality Program, and the Savannah-Chatham County Public Schools for their continued support of our K-12 science training activities. Thanks also to all the K-12 teacher participants, and support staff for a great and successful summer.



Alumni News

We are so glad to have heard from many of you over the last year. Please email nivensde@mail.armstrong.edu if you have information for the next newsletter

Alex Yang (1999) received a professional Master's of Science in Biomedical Engineering from the University of Pennsylvania and spent some time performing research in the field of cardiology at the Pat and Jim Calhoun Cardiology Center at the University of Connecticut Health Center. When we heard from him, in June, he was a MD/PhD student at Louisiana State University Medical School in New Orleans. Given recent events in New Orleans, we extend our concerns for Alex and hope to get an update from him soon.

Dr. Noel L. Phipps (1992) is a radiologist in Florence, SC. He is married to Michele G. Phipps, MD, and they have two children. He received

his MD degree from MCG in 1998 and completed a fellowship in Musculoskeletal Imaging at the University of Alabama at Birmingham in 2004.

Liz Baker (2005) recently moved to California after a month in Europe this summer. She is living in Pasedena and is working for LA Testing.

Marquit'a C. Bullock-Warren (2005) gave birth to her first child, SaNiya, in May, just after graduation! Congratulations!

Sofie Hakansson (2004) returned to Sweden and is currently a teacher at an elementary school.

(Shannon) Renee Lyons (2002) is a PharmD Candidate in the inaugural class at the South University School of Pharmacy in Savannah. She is expected to graduate in June and is the APHA-ASP National Nominating Officer for 2005.

Nin Dingra (2005) is now a graduate student in biochemistry at the University of South Carolina. She is teaching three classes of general chemistry lab and enjoying it (so far!)

Kate Strong (2002) is a Technical Sales Associate at Georgia Pacific in Atlanta.

Upcoming Events !!!!

AASU Day will be October 12, 2005. If you are in Savannah, please come to support the Student Affiliates with their very "sweet" booth this year!

Dr. Lynch and **Dr. Nivens** will present "Light Induced Nano Transformations: The Good and Bad of Biological and Environmental Nanophotochemistry," as part of the Armstrong Atlantic State University Faculty Lecture Series on November 18, 2005. The lecture will be in Univer-

Student and Faculty News

Nguyen Nguyen, a senior chemistry student presented his summer research entitled "Electrochemical Bioassays in Small-Volume Electrochemical Cells" on September 28, 2005. This research was performed at Clemson University's NSF summer undergraduate research program under Dr. Steven Creager.

Beverly Harris, a senior chemistry student, was recently hired as a chemist at SNF Chemtall.

Faculty presented research at the ACS National Meeting in Washington DC. **Drs. Lynch, Nivens, and Schiza** presented "Application of Nanotechnology Laboratories in Inor-

ganic Chemistry and Instrumental Analysis," with **Nguyen Nguyen, Jennifer Fiser ('05)** and **Beverly Harris**. **Drs. Wallace and Lynch** presented "Enhancing the Undergraduate Chemistry Experience with High-field NMR" co-authored with **Ms. Carpenter** and **Dr. Nivens**.

Faculty have also been busy publishing their teaching and research endeavors. **Dr. Wallace and Ms. Carpenter** published "Using Spreadsheet Software in a "Value-Added" Review of Infrared Spectroscopy in the Organic Chemistry Laboratory Course" in *The Chemical Educator*, 2005, vol. 10, pg. 308-309.

Dr. Nivens and **Dr. Lynch** published "Nanoparticle Mediated Photodefluorination Monitored by 19F NMR" in *Journal of Photochemistry and Photobiology A: Chemistry*, 2005, vol. 173, pg 156-160 with **Joyce Chow ('04)**, **Nin Dingra ('05)**, **Liz Baker ('05)**, and **Brian Helmly ('04)**.

Dr. Maria Schiza is now an Assistant Professor of Chemistry at Millersville University in Pennsylvania. Maria. Schiza@millersville.edu

Dr. Curt Woolever is now an Assistant Professor of Chemistry at Southwestern Oklahoma State University. curt.woolever@swosu.edu

New Faculty

Dr. Kelly Elkins

Dr. Kelly Elkins holds a doctorate in chemistry from Clark University (Worcester, MA), and bachelor's degrees in chemistry and biology from Keene State College (Keene, NH).

Her graduate research focused on understanding metal binding in proteins and small organic molecules, the fulvic acids. During her graduate study at Clark, Dr. Elkins was a Fulbright Scholar and spent one year in Heidelberg, Germany conducting research focused on understanding protein-protein interactions. Dr. Elkins was a post-doctoral fellow at the Massachusetts Institute of Technology for two years conducting research on analyzing and redesigning the interaction specificity of proteins involved in programmed cell death. She taught introductory chemistry and biology as well as an Ecology and Environmental Science course previously in Kansas and New Hampshire. Dr. Elkins' research interests include using protein structure to understand protein function and protein-protein interactions. Her research interests also extend into environ-

mental chemistry in which she has probed the metal and herbicide and pesticide binding capacity of fulvic acids, materials produced by the decay of dead plant and animal matter.

Dr. Brent Feske

Dr. Brent Feske did his undergraduate studies at Southeastern Louisiana University, where he also competed as an NCAA Division I track and field and cross-country athlete. In 2000, he received his B.S. in chemistry and moved to the University of Florida. He worked with Dr. Jon Stewart in the biochemistry division, where his research focused on the synthesis of a catalytic antibody to fight Vancomycin resistant bacteria. However, he changed his academic interest to biocatalysis; focusing on enzymatic reductions using a library of bakers' yeast reductases. He has recently published this research in the *Journal of Organic Chemistry* and *Tetrahedron: Asymmetry*. Dr. Feske graduated in August 2005 with a Ph.D. in chemistry from the University of Florida. He is teaching a variety of classes this semester and quickly

assembling an academically diverse group of students who are contributing to his research in biocatalysis. This research includes the enzymatic and/or whole-cell reduction of oximes, β -keto nitriles, α -keto esters, and also understanding how steric hindrance can affect the enantiomeric excess for enzymatic reductions.

Dr. Joseph Williams

"From Snowy Syracuse to Sunny Savannah" Dr. Williams completed his B.S. degree at Loyola College, Chennai India and the M.S. in Chemistry at the Indian Institute of Technology, Chennai. The next six years he spent at Syracuse University, Syracuse, NY doing the Ph.D. under the tutelage of Dr. Michael Sponsler, in organometallics, where he got his feet (more accurately his hands) dirty in organic ligand synthesis, inorganic complex synthesis, polymer chemistry and boron chemistry. From there his next stop was AASU.

Dr. Williams has always wanted to be a college teacher, and his position at AASU is his first teaching endeavor. Organic chemistry is why he's hooked, but he had interest in teaching in interdisciplinary areas. Now that he can pursue his own research interests, he will focus on the synthesis of new nucleophilic heteroatom-containing carbenes which can act as ligands to generate a whole new variety of complexes which can in turn act as catalysts for a multitude of reactions.

Annual Giving

The Department of Chemistry and Physics maintains accounts within the non-profit Armstrong Atlantic State University Foundation, Inc. If you are considering a donation to the university, please keep us in mind. The Department relies on foundation monies for the maintenance and upkeep of instrumentation, travel, the annual banquet, undergraduate and faculty research, the student affiliates and outreach programs. If interested visit <http://www.external-affairs.armstrong.edu/pledge.htm> or contact Gail Roun-

tree, Coordinator of Annual Fund, Office of External Affairs 11935 Abercorn Street, Savannah, GA 31419, (912) 927-5208, (912) 921-5740 (Fax). Please designate your gift to Chemistry/Physics (189) so that you will have the biggest impact on our students and faculty. You can also designate funds to the Robert Kolodny Scholarship Fund (#333) to support outstanding chemistry and physics students.

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The New BA program

IT'S OFFICIAL~WE HAVE A NEW DEGREE!!!

As of August 2005, the Department of Chemistry and Physics has a brand new degree~the Bachelor of Arts with a major in Chemistry. The faculty proposed the B.A. to expand the availability of education in chemistry to a wider range of students, particularly students in pre-professional programs and science-related professions in education, management and sales. The cumbersome process of creating a new degree was completed in record time with the Board of Regents'

approval coming less than one year after the idea was first proposed. The curriculum for the new degree provides greater elective flexibility making it attractive to "late declarers", double majors and those students pursuing admission to a professional medical program, teacher certification, or employment in health-related fields. With the addition of the B.A. in chemistry, the number of chemistry graduates is projected to double over the next four years. Our B.A. graduates will join the long list of Armstrong Atlantic B.S. graduates who have used their chemistry degrees to

become successful members of society.

If you or someone you know is interested in the new BA Chemistry degree, please contact Dr. Hizer or any chemistry advisor for more information about the degree.

