GREETINGS FROM THE CHAIR

Now that I have officially received the “keys to the department” from Dr. Bateman (see photo) and am the new chair of the Department of Chemistry and Biochemistry, I want to welcome our graduates of the 2010-11 academic year into our alumni community. We sincerely hope that you will keep in touch and will tell us about your professional and personal accomplishments in the years to come. The same request goes to our “more seasoned” alumni. We love to hear from you! After all, the success you have in your respective careers is hear from you, so please become involved, provide feedback to our departmental initiatives, and make suggestions for changes that you think would benefit our educational and research efforts.

My heartfelt “thank you” to our alumni and friends who have supported our students with their donations to the departmental scholarship fund or have initiated their own endowed Foundation accounts over the years! Your generosity is greatly appreciated, and I hope that you will continue to support our efforts to provide scholarships to our most academically talented students.

Warm Regards,

Dr. Robert Bateman (left) turns over his keys to Dr. Sabine Heinhorst

Sabine Heinhorst
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OUR 2010-11 GRADUATES

Bachelor of Science Degrees: Courtney Allen, Karissa Baudoin, Amanda Blair, Jessica Coats, Crystal Cox-Serrano, Tommi Daniels, Suzanna Ellzey, Travis Erves, Carrie Hofmann, Robert Hunt, Samantha Pope, Caitlyne Shirley, Luke Seymour, Rebekah Shows, My Le Thompson, William Thompson, Steven Wand

Master’s Degrees: Danielle Landry

Doctoral Degrees: Shawna Balof, Suman Parajuli, Yilin Zhang
David Arrington (B.S., '97), who obtained his Ph.D. in chemistry from the University of Alabama, has been an assistant professor at Troy University in Dothan, Ala., for the past five years. We are very proud to report that he was elected the 2009-10 Teacher of the Year by the Student Government Association of Troy University.

Max Bonner (B.S., '05) recently obtained his Ph.D. from the University of Central Florida and returned to his home state and city to join his father, Mike Bonner (B.S., '71), in leading the family business, Bonner Analytical Labs. Max's wife, Brandi, is a senior grants administrator with the Southern Miss Sponsored Programs Administration.

After graduating from Southern Miss, Eric Boyer (B.S., '07) obtained his M.S. in medicine at Trevecca Nazarene University in Nashville, Tenn. He now works as a certified physician assistant in the Emergency Department of Baptist-Collierville Hospital, where he evaluates and helps treat all patients.

Jennifer Dickens (née Clark) (B.S., '96), husband Jackson and son Jack (pictured on the left) welcome Katherine Ellen (Kate), who was born June 5, 2011, to the Dickens family.

Joseph (Joey) Emfinger (B.S., '08), after receiving his M.S. in mathematics from Southern Miss in 2010, joined Dr. Max Rubinstein's group in the Chemistry department at the University of North Carolina as a doctoral student.

Lakeshia Gibson (B.S., '09) recently accepted a position as an anatomy technician at William Carey University College of Osteopathic Medicine.

Andrew J. Holder (Ph.D., '87), professor of chemistry at The University of Missouri–Kansas City, is one of 213 American Chemical Society (ACS) members who were named 2011 ACS Fellows. “These distinguished scientists are being recognized and honored for their significant contributions to the science and for providing excellent service to the ACS” (quote from ACS website). Congratulations to our distinguished alumnus!

Lauren McGowan (B.S., '09) is pursuing a Ph.D. in computational/biophysical chemistry at Georgia State University.

Erick Moffett (B.S., '10) realized that teaching is his true passion after teaching science at Mendenhall Middle School for the past year. He has decided to pursue graduate studies at Southern Miss for an M.A. in teaching degree (science emphasis). Erick and his wife, LaShundra, a medical technology major at Southern Miss, celebrated their first wedding anniversary this July.

Daniel Murin (B.S., '08) left his position as lead research specialist in the Biochemistry department at Emory University to begin his graduate studies at the Scripps Research Institute in San Diego, Calif., this fall. Daniel is particularly interested in the areas of structural/functional biology and molecular evolution.

Samuel (Sammy) Popwell (B.S., '05) was featured in the University of Florida (UF) Magazine for Gators. Sammy completed an M.S. in organic chemistry at UF and is now a doctoral candidate in the Department of Materials Science and Engineering. His research is focused on developing a novel, polymeric materials-based therapy for targeting solid tumors, a task for which he says his studies at Southern Miss prepared him well.

Claretha (Clare) Nichols Lyas (B.S., '01) graduated from the University of Alabama (UAB) Medical School in May 2010 and has completed her first year of internal medicine residency at UAB. Clare plans to specialize in nephrology and will begin a nephrology fellowship in 2013. Clare is married to National Board-certified eighth grade science teacher, Tommy Lyas, who is pursuing an Ed.D. in curriculum development. Any “free” time Clare and Tommy have is spent with their 16-month-old son Nicholas.

Jason Olaivar (B.S., '10) was accepted to several dental schools and chose the dental school at the University of Mississippi Medical Center. He will move to Jackson, Miss., to begin his studies this fall.

Dale (D.J.) Rosado (B.S., '05; Ph.D., '09) has returned to his home state after a post-doctoral stint at Vanderbilt University. He is an assistant professor in the Department of Chemistry and Biochemistry at Mississippi College.

Harn-Cherng Shiue (B.S., '99) accepted a position in interventional cardiology at Kaiser Permanente Roseville Medical Center in Sacramento, Calif.

Scott Walper (B.S., '04; Ph.D., '10) and his wife, Southern Miss alumna Kristina, announce the birth of their daughter, Caroline Elisa (3-18-2011). Consensus among those “in the know” is that Caroline looks like her mom.
Congratulations to **Souvik Banerjee**, doctoral student in Dr. Douglas Masterson's lab, for receiving a Division of Organic Chemistry Travel Award for the 2011 ACS meeting in Denver!

**Hugh Broome**, who participated in our Summer Undergraduate Research Program last year and graduated from William Carey University in the spring, was awarded one of its Sledge/Benedict Fellowships by the National College Honor Society Alpha Chi. Hugh will officially join our graduate program this fall but has already been conducting research in Dr. Karl Wallace's lab for the past year.

**Suzanna Ellzey** is this year’s Higher Education Appreciation Day, Working for Academic Excellence (HEADWAE) Award recipient from Southern Miss. She and the other recipients were honored in a ceremony at the state Capitol in Jackson in February. Suzanna, a Presidential Scholar and Honors student, performed the research for her Honors thesis in Dr. Anthony Bell’s lab. She graduated this spring with a 4.0 GPA and will begin her dental medicine studies in the fall at the University of Mississippi Medical Center.

**Suzanna Ellzey**, **Devin McDougald** (BSC) and graduate student **Crystal Serrano** are co-authors on the first book chapter from the Bell Lab, published this July in “Biotechnology of Biopolymers” by Intech.

Senior biochemistry emphasis student **Elizabeth Fucich** won two national scholarships from the Alpha Lambda Delta Honor Society, a first for a Southern Miss student.

**Amit Kumar**, a third-year graduate student in Dr. Rangachari’s research group, won a Yarborough Award for the best research paper presented at this year’s Graduate Research Symposium.

Being the student with the highest score on the ACS standardized examination garnered our major **Long Nguyen** an ACS Division of Analytical Chemistry Undergraduate Award.

**Caitlyne Shirley**, who graduated in May, has been accepted to the Department of Chemistry graduate program at the University of Georgia, where she will be joining Dr. Nigel Adams’ group to pursue research in physical and atmospheric chemistry.

### Annual Departmental Student Awards:

- **General Chemistry**: **Sandra Bohn**
- **Organic Chemistry**: **Stephen Williams**
- **Analytical Chemistry**: **Long Nguyen**
- **Physical Chemistry**: **Suzanna Ellzey**
- **Inorganic Chemistry**: **Grant White**
- **Chemical Education**: **Courtney Allen**
- **Biochemistry**: **Matthew Planchar**
- **Culpepper (ACS-certified major with highest GPA)**: **Jessica Panella**
- **Outstanding Graduate Student**: **Shawna Balof**
- **Outstanding Graduate Teaching Assistant**: **Erendra Manandhar**

### 2010-11 Scholarship Recipients

- **Courtney Allen**: Noyce Scholarship
- **Jessa Faye Arca**: Cecil Sharp Endowed/ Rajive K. Khanna Scholarships
- **Kimberly Bladsacker**: Noyce Scholarship
- **Amanda Blair**: Deterly-Pratt Scholarship
- **Chris Bolden**: Charles and Carolyn Brent/ Chemistry Alumni Scholarship
- **Jessica Coats**: Noyce Scholarship
- **Robert Hunt**: Robert D. Jordan Scholarship
- **Jessica Panella**: Stella D. Elakovich Scholarship
- **Jane Pickens**: Noyce Scholarship
- **Jillian Smith**: Fred and Nadyne Drews Scholarship
- **Anna Thomas**: Noyce Scholarship
- **Jessica Walley**: Chemistry Alumni Scholarship
- **Stephen Williams**: John and Janice Wells-Addison/ Chemistry Alumni Scholarship

### 2010-11 Presidential Scholars

- **Meredith Barefield**: Ann Marie Brahan
- **Tyler Brown**: Suzanna Ellzey
- **Nathan Freeman**: Elizabeth Fucich
- **Elyse Garon**: Rebecca Gaudet
- **John Caleb Grenn**: Taylor Herring
- **Laken Kendrick**: Clint Moore
- **Jordan Rimes**: Michael Samel
- **Arik Shams**: Caitlyne Shirley
- **Morgan Woodrow**: Amanda Yeates
DEPARTMENTAL NEWS AND INITIATIVES

Preparing for Life after Graduate School (PfLAGS): In May, our department hosted the first PfLAGS event in the state of Mississippi. The PfLAGS program is conducted by the American Chemical Society and involves three days of workshops that included résumé/ CV preparation and mock interviews, as well as discussions about choices between government and industrial jobs versus post-doctoral positions. The workshop for the 20 attendees from our department and from polymer science was moderated by Dr. Lisa Balbes from Balbes Consulting and retired Eastman Kodak researcher Dr. George O’Neill. Because of the overwhelmingly positive feedback we received from the graduate students who attended the event, we will definitely host this workshop again in the future.

G-K12 Graduate Fellows: Polymer scientists Drs. Sarah Morgan and Jeffrey Wiggins, biologist Dr. Sherry Herron, and biochemist Dr. Sabine Heinhorst received close to $2,500,000 in NSF funding over a five-year period for their G-K12 proposal, “From Molecules to Muscles” (http://www.usmgk12.org/). The program partners selected graduate students and local high school science teachers with the goal of enhancing the graduate students’ communication and teaching skills through the integration of their research into lessons and hands-on activities they deliver to high school students. Pictured are doctoral students Maureen Smith (Masterson group) and Scott Jones (Wallace group) who were chosen to participate in the program this coming year.

Exciting Happenings in the Organic Chemistry Teaching Labs: We have gone microscale! Thanks to herculean efforts by Mrs. Tina and Dr. Douglas Masterson, experiments have been revamped over the past year so that Southern Miss students now learn organic chemistry lab techniques on a small scale, which saves resources, helps minimize waste, and is in line with the sustainability efforts of our university. The Masterson husband-and-wife team is also developing a video series that provides students a pre-lab glimpse of the lab techniques they will perform. This ensures that the concepts and techniques we expect our students to learn are all taught the same way and gives them the opportunity to ask their teaching assistants more pertinent questions for clarification.

National Recognition for Our Licensure Program: Dr. Deborah Booth, who led the effort in developing an assessment system and in collecting data for the licensure programs in science for the National Council for Accreditation of Teacher Education (NCATE), learned that the Chemistry, Physics and Biology licensure programs at Southern Miss have been nationally recognized and accredited by NCATE until 2019. Dr. Booth’s recruiting strategies to increase the number of majors who enroll in our licensure program have been very successful. We now have 14 licensure students, as opposed to four in 2004.

Another SURE Summer: Of last year’s SURE students who performed summer research in our department, Mamadu Saffa from Ramapo College, N.J., Aaron Davis from Nicholls State University, La., and Hugh Broome from William Carey University liked what they saw so much that they will join our graduate program in the fall. This year’s SURE group consisted of another enthusiastic cohort of students from colleges and universities across the country.

Project SEED: This year, our department hosted its fourth SEED program, the ACS-sponsored summer research program for high school students. High school students Chondrea Jordan of Petal and Gajin Yoo and Dakota Pendergrass of Oak Grove worked for 10 weeks in the labs of their respective mentors, Drs. Doug Masterson, Wujian Miao and Paige Buchanan, and presented their research results at a poster session that was attended by their teachers, Mrs. Megan Fortenberry and Mrs. Lucretia Carpenter. We are grateful for additional funds that were provided for this program by our dean and by the VP for Research.

Distinguished Scholar Researchers: Bijal Patel, a distinguished scholar student at Oak Grove High School, began her two-year research project in Dr. Vjay Rangachari’s lab this summer. Bijal is studying the aggregation of amyloid-beta protein, which is known as the toxic agent in Alzheimer’s disease. Nickolas Whitehead, also a distinguished scholar student at Oak Grove High School, is making headlines again this year. Nick won a bronze medal at the international I-SWEEP competition in the Energy category for his multi-year research project, “Creating a CsoS1A–GFP Construct” under Dr. Sabine Heinhorst’s mentorship. The I-SWEEP competition (http://isweep.org/) featured 440 entries from students who hailed from 70 different countries. Hats off to Nick!
ASM Materials Science Workshop: This summer, our lab teaching supervisor, Mrs. Tina Masterson, helped host a materials science workshop for area high school science teachers. The event was sponsored by the American Society for Materials and the Office of Naval Research. Three master teachers introduced their Mississippi colleagues to simple, inexpensive, hands-on activities that illustrate properties of metals, ceramics and polymers, and the concepts of conductivity and density. The teachers had an enjoyable experience and took some fresh ideas back into their classrooms. The ASM folks were so impressed by Tina’s organization of the workshop that they plan to come back for a repeat performance possibly as early as next year.

FACULTY AND STAFF NEWS

Dr. Alvin Holder was one of five successful applicants nationwide who were awarded an ACS GREET Pilot Program Fellowship this year to carry out research in a host lab abroad. Forensics science major Dorothy C. Horton accompanied Dr. Holder to the University of York in the U.K., where the team pursued metallomesogen research in Dr. Duncan Bruce’s lab this summer. A follow-up ACS GREET workshop is planned for September at Southern Miss, and the research results will be presented at the spring 2012 ACS National Meeting in San Diego.

Dr. Anthony Bell (left) and his wife, Judy Beth Tyler, became proud parents of baby girl Elizabeth Grace on July 22, 2011.

Longtime biochemistry professor Dr. Gordon Cannon was selected to serve as the associate VP for Research. Dr. Cannon will assist VP for Research, Dr. Denis Wiesenburg, in the operation of the Research Office. He will be involved in developing a research mentoring program and will utilize his past experience with funding agencies to assist faculty with their efforts to obtain external funding. Dr. Cannon will also oversee the Office of Research Integrity. He will maintain a presence in our department and plans to lead a robust research program in collaboration with Dr. Heinhorst.

Ms. Rosemary Stuart, our departmental secretary for more than 30 years, decided to retire from Southern Miss this spring to pursue other professional venues. “Ms. Rosie” was the confidante of many graduate and undergraduate students and loved to take care of all students who brought their problems to her to “fix.” She will be sorely missed, but she promised that she would be back to participate in departmental get-togethers.

Dr. Wujian Miao is hosting visiting scholars, Professors Aixiang Wang and Lin Li from Linyi University (China). Their visit is financially supported by the International Exchange Foundation of Shandong Province for Overseas Studies and Linyi University, respectively, for a period of six months. In addition to scientific research collaboration, both professors would also like to gain information on university teaching and chemistry curriculum development. Dr. Miao’s group has hosted six visiting scholars over the past six years.

UNIVERSITY AWARDS: This year, our department dominated the university-level research awards that were selected by the University Research Council.

Dr. Faqing Huang received the Basic Research Innovation Award for his research at the interface of chemistry and life sciences, supported by grants from NASA and the National Cancer Institute (NCI) of NIH. One of his major research projects aims to develop therapeutic drug delivery systems based on nanotechnology. Dr. Huang is constructing cancer cell–targeted nanoplexes to specifically deliver to cancer cells small interfering RNAs (siRNAs) that achieve potent anticancer effects without undesirable side effects.

Dr. Wujian Miao is the 2011 Applied Research Innovation Award recipient for his research contribution in the exploration of biosensors based on electrogenerated chemiluminescence (ECL). Dr. Miao and his research group have employed the ECL technology to detect and quantify analytes that are explosive, important for clinical diagnosis, forensic chemistry and environmental investigations with high sensitivity. Dr. Miao’s research is supported by an NSF CAREER grant.
WORDS OF WISDOM
Dr. Robert Bateman, retired June 2011

As many of you know, I retired from Southern Miss at the end of June and am now joining Jeff Evans as a full-time professor of biochemistry in the William Carey University College of Osteopathic Medicine (WCUCOM). I will also be director of the Master of Biomedical Science program, which is within the COM. If you are interested in osteopathic medicine or the M.B.S. program, feel free to e-mail me at rbateman@wmcarey.edu.

Dr. Heinhorst suggested I write some words of wisdom. I imagine over the last 10 years the faculty and staff have heard enough of my “wisdom,” so I’ll direct a few comments to those of you that are students and alumni. I recommend you focus getting experience and getting organized. These two things will be important no matter the stage of your career. Your experience of research in the department is foundational, but it is just a start. Take advantage of internships, workshops, trips to other labs, etc., to gain the experience that is critical to further your career. Organizational skills are also something I have found important to develop in a deliberate manner, whether it is by reading a new book on the topic each year or learning a new piece of software. To start, I highly recommend Steven Covey’s ageless book, “The 7 Habits of Highly Effective People,” for general principles, followed by David Allen’s book, “Getting Things Done,” for increased productivity and workflow.

I write this newsletter blurb from London, where Maureen and I are celebrating our 25th wedding anniversary by touring several of the castles and palaces of England and Wales. We have enjoyed the homeland of former colleagues Karl Wallace, Andy Lowe and David Creed. We’ve even enjoyed the British food, especially the lamb and duck. We rented a car for a few days but did not enjoy driving on the narrow roads. May your roads be broad with wide shoulders, and may our paths cross again.

Bob Bateman
July 2011

PUZZLE: WHAT IS THE SIGNIFICANCE OF THE STRUCTURE ON THE FRONT PAGE?

E-mail your answer to Dr. Heinhorst. The first one to submit the correct answer will win a 50th anniversary beaker mug.

SCHOLARSHIP CONTRIBUTION CARD

Enclosed is my check (in the amount of $_____________) payable to the USM Foundation.

☐ Please add to the Chemistry/Biochemistry 50th Anniversary Scholarship Fund (#1719).

☐ Please add to the Chemistry/Biochemistry Alumni Endowed Scholarship Fund (#371).

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