When I have a spare moment, I enjoy looking back over the many changes to the department in the less than four years I have been department chair. We are continuing to hire new faculty each year, with Drs. Steven Stevenson, Douglas Masterson, and Wujian Miao joining us in 2004. Those three faculty were hired because we lost two faculty members, Drs. Kenneth McMurtry and David Creed to retirement. In addition, Tina Masterson has joined our freshman laboratory teaching staff, replacing Jamie Speed who returned to high school teaching in December 2004. Looking forward to the next three years, I anticipate that there will be a few more retirements and even more new faces in the department. This turnover is a bit unsettling to those of us who have been around awhile, but it is also an exciting time with new ideas and opportunities.

As I look over the Ph.D. alumni list, I am happy to see at least twenty graduates who are faculty at colleges or universities, with several more faculty at community colleges. In fact, Delta State University now has three faculty who are alumni of our department (Mark Steele, Chuck Smithhart, and Alline “Rie” Peeler)! The other multiple-alums department I know of is Texas State University, where Chad and Rachell Booth are assistant professors. We would like to interact more with our faculty alumni, so please stay in touch with seminar exchanges, student exchanges, research collaborations, etc.

In addition to our doctoral graduates, I always brag about our undergraduate program. As you can see from the list below, we have a number of excellent students on scholarships provided by your generous donations. Besides the departmental scholarships, six Southern Miss Presidential Scholars and one Barry Goldwater Scholar were chemistry majors in 2004, a further tribute to the quality of our undergraduate program.

Finally I will mention that we are reviving our External Advisory Board (EAB). Most members are alumni and most are from industry, although we have also invited the chemistry chairs from Vanderbilt and UAB to join us and help us improve our program. The department is working on a three-year plan, which will be presented at the EAB meeting in April for feedback from the EAB members. We appreciate the continued support of our EABs and of all alumni and friends of the department.

Let me close with one final example of alumni support. Dr. Richard Pratt has driven down from Grenada to bring us surplus glassware from Ole Miss as well as a potential student from Holmes Community College. In addition, Dr. Pratt has endowed a scholarship within the college for students such as our chemistry licensure undergraduates who are preparing to be high school science teachers in Mississippi. My thanks again to Dr. Pratt and our other scholarship donors who support our undergraduate majors.

Robert Bateman
Dawn Anderson  
Chemistry/Biochemistry Alumni Scholarship  
Donald Bratton  
Robert E. Jordan Scholarship  
Tara M. Craft  
Bobby R. Thornton Memorial Scholarship  
Garrett B. Dickerson  
Bobby R. Thornton Memorial Scholarship  
Patrick Heidingsfelder  
Northrop Grumman (formerly Litton) Scholarship  
Laura Ingram  
Chemistry/Biochemistry Alumni Scholarship  
Leslie J. Myrick  
Bobby R. Thornton Memorial Scholarship  
Hitish Nathani  
Northrop Grumman (formerly Litton) Scholarship  
Meredith L. Todd  
Professor Rajive Khanna Scholarship  
Shamika R. Wright  
Bobby R. Thornton Memorial Scholarship

A “THANK YOU” FROM DR. SABINE HEINHORST,  
SCHOLARSHIP COMMITTEE CHAIR

On behalf of all our majors who have benefited from the generous contributions you, our alumni, and friends have made to our scholarship fund: A heartfelt “Thank You”!

We appreciate your loyal support of our many excellent chemistry/biochemistry majors throughout the years. If you have not yet contributed to our latest annual fund raiser, which you should have received in the mail in December 2004, there is still time to do so. If you have misplaced the return envelope and donor card and would like to receive a new one, please contact the chair of the scholarship committee, Dr. Sabine Heinhorst (phone no. 601-266-4710; email sabine.heinhorst@usm.edu).

WHAT’S NEW IN DEVELOPMENT?
Well, first of all, the director of development for our College of Science and Technology, Jonathan R. Ahern! “I am enjoying the opportunity to serve in this capacity. As a Jackson, Mississippi, native, I’m thankful to be back in my home state. I hope you all will share my excitement about our college’s emerging opportunities and recent accomplishments. I’m excited about the opportunity to work with the Department of Chemistry and Biochemistry and the successful alums of this department. External funding is becoming very important for this college and the many great departments we have to grow and succeed. Many of the alums from chemistry and biochemistry have been very faithful through the years and have given generously. I hope more will remember their department in their future charitable giving and would like to thank you in advance for your continued support. I look forward to meeting many of you in the near future. In the meantime, please feel free to contact me at (601) 266-4887 or at jonathan.ahern@usm.edu if you have any questions or suggestions regarding the College’s development efforts. Southern Miss to the Top!”

FACULTY NEWS
Drs. Sabine Heinhorst and Dr. Gordon C. Cannon, together with former graduate student Cecilia Chi-Ham and current graduate student Steven Adamson, co-authored a chapter in a new book on plant organelle molecular biology and biotechnology. In addition to their research on plant proteins that compact DNA, they are investigating structure and function of polyhedral protein nanocompartments that sequester oxygen-sensitive enzymes in a variety of bacteria. A central goal of this project is to understand how the protein components of these particles assemble into a functional bacterial “organelle.” The principles governing this assembly might be applicable toward the development of future protein-based nanoreactors.

Dr. David L. Wertz’s research group continues to work on three long-term projects: the DOD-funded environmental analysis of MLRS rocket firings at Camp Shelby, the effects of liquids on coal structure, and the WOMBAT process to convert scrap tires into useful materials. The latter has been funded by the U.S. Department of Agriculture and the Mississippi Department of Environmental Quality and operates its own pilot plant.

OUR NEW FACULTY AND STAFF
Dr. Douglas S. Masterson obtained his Ph.D. degree from the University of Oklahoma and completed postdoctoral studies at Vanderbilt University, where he also held a lecturer position and taught an introductory chemistry course for nonmajors. Dr. Masterson’s research interests range from developing synthetic routes for unnatural amino acids and biologically active peptides, to catalysis and the development of new mass spectrometric/chemical analysis of biological materials.

Dr. Wujian Miao’s research interests include electroanalytical chemistry, electrochemical quartz crystal microbalance, scanning electrochemical microscopy, electrogenerated chemiluminescence (ECL), biosensors based on ECL technique, and corrosion prediction and protection. Before joining our department, Dr. Miao was a postdoctoral fellow in the lab of Dr. Allen J. Bard at the University of Texas at Austin. Upon completion of his Ph.D. degree at Monash University in Australia, Dr. Miao was a research scientist in the Commonwealth Scientific and Industrial Research Organization (CSIRO) in Australia.

Dr. Steven Stevenson received his Ph.D. degree at the Virginia Institute of Technology and held an industrial appointment as a senior research scientist with Luna Technologies, Inc. His research focus merges the fields of nanomaterials and analytical chemistry. Current research efforts include the electric-arc plasma formation of nanoclusters, separation science, synthesis and characterization of nanomaterials and application areas of their derivatives.

Ms. Tina Masterson served in the United States Airforce for four years as a radar systems specialist before obtaining her B.S. degree in chemistry at the College of Charleston in South Carolina, and her M.S. degree at The University of Oklahoma. She has worked in the biochemical and biomedical field as a research assistant before joining our department as a laboratory instructor.

WORDS OF WISDOM FROM DR. DAVID CREEDE, WHO RETIRED FROM OUR DEPARTMENT IN 2004
I joined the faculty in the late summer of 1977 and retired at the end of August 2004. As a student in the radical sixties, I was well aware of Mississippi’s problems (racism, poverty) but also of its creativity (music, literature) and so had no qualms about coming here. Currently there are only two Professors (Fawcett and Wertz) and ‘Mr. Frank’ who were here when I arrived. Of course, the physical environment of the department has changed, but the biggest difference between the department then and now is in the area of research. As is still the case, new faculty in 1977 and before were expected to establish research programs, but there was a dearth of released time and start-up funds. In fairness I should say that departmental expectations of untenured faculty were not as high as they are now. The efforts of many people both inside and outside the department over the intervening years have largely corrected this unfortunate situation. I had half of a nice lab on the top of the Johnson Science Tower, but the department had a very weak instrument base for my research. Our nmr was a 60 MHz Varian, which had been rendered obsolete over ten years earlier by the introduction of 100 MHz machines. Then, as now, we had no equipment for routine mass spectra of organic compounds. We had no research quality fluorimeter, which meant I could not follow up my earlier work and do research involving any kind of photophysical measurement. The infrared spectrometers were up to date but had complex mechanical components, so the Perkin Elmer repairman was a frequent and expensive visitor! Current students and young faculty have no recollection (fortunately) of how tedious and costly it was to maintain even the simpler instruments in those days! Only two or three faculty had research grants in 1977 and almost all the graduate students were supported by the university on teaching assistanships (TAs). This situation is quite different now. The department’s TA budget was last raised in 1984-85, and thus we have roughly half as many TAs as we had in 1977. Most faculty have research grants, and over half our current graduate students are supported by those grants. The pattern (and expectation) now is that within a few years of arrival a new professor will obtain research funding. Collaboration both inside and outside the department was rare for the faculty. Now with the increasing complexity of problems being tackled at the interfaces of chemistry with biology, materials science, etc., collaboration among investigators that often transcends national boundaries is becoming the norm. There were two biochemists in the department in 1977, now there are six! A really significant difference between then and now is that we now require all students to do undergraduate research. This and tighter course and grade requirements have improved the quality of our B.S. graduates over the years. Some of our students now start research as freshmen and continue until they graduate. My first class was sophomore organic chemistry, which, even then, had over one hundred students! I believe I could teach my 1977 class material to the current class, and they would miss very little in content. What has changed in teaching is the introduction of sophisticated equipment for both presenting information and for testing the students. I regard these technical developments with a degree of cynicism. Absence of student motivation was a curse in 1977 and remains a curse in 2005!

What of the future? Inadequacy of state funding was, I’m sure, an aggravation to Jack Bedenbaugh, the chair in 1977 and must be even worse for Bob Bateman, the current chair who faces a situation of inadequate budgets that continue to decline as the state continues to incarcerate more and more people and tries to deal with the health problems of an aging and poorly educated population!

However, I am optimistic that the department will continue to thrive and improve unless some damaging and unprecedented action occurs at the state level. When I first arrived in 1977, the department boasted that its faculty was “young and vigorous.” That statement is becoming true again with the department now having a cadre of faculty who truly believe that its programs at all levels can be successful and that excellence in research does not preclude excellence in teaching!

I conclude by thanking my ex-colleagues, old and new, for providing a congenial environment for me to pursue my career. I’d particularly like to thank Jack Bedenbaugh for hiring me and his kindness in helping my family settle here in 1977; Dave Wertz who played a crucial role in modernizing the department during his first term as chair and who therefore made my subsequent job as chair that much easier; and my sometime partners in research, Newt Fawcett, Charlie Hoyle, and Andy Griffin. I also thank my colleagues for putting up with my occasional intemperate rhetoric over the years and who, more recently, tolerated my frequent lectures to them that invariably began with “in the past...”. I understand John Pojman is taking on the task of periodically reminding the faculty that “he who does not remember the past may be condemned to repeat it”.

**NEWS FROM OUR GRADUATES**

Rabih O. Al-Kaysi (Ph.D. ’02) has taken a second postdoctoral position in laser spectroscopy at the U. of California, Riverside. Rabih recently had a communication accepted by JACS on his postdoctoral work at the U. of Rochester.

Christopher Anderson (B.S. ’95) has completed his two-year research fellowship and is currently a clinical general surgery resident at the medical school of Vanderbilt University. Chris has accepted a liver/kidney/pancreas transplant fellowship at Washington University in St. Louis following his residency at Vanderbilt. Undoubtedly the most important news in the Anderson household is brand-new baby Burkitt Christopher, whom Chris, Theresa and their daughter, Adeline Therese, welcomed into their family this January.

Naomi Campbell (née Flowers; Ph.D. ’89) joined the chemistry faculty at Jackson State University
in 2004 after serving on the chemistry faculty at the University of South Alabama for 11 years. Her research interests focus on environmental genomics, and she is involved in recruitment and retention of African Americans into chemistry-related professions. Dr. Campbell and her two sons (3 and 7 years old) live in Clinton, Miss.

Cecilia Chi-Ham (Ph.D. ’02) completed two years of postdoctoral work at Michigan State University. She is now participating in a collaborative project between international universities and nonprofit research institutions to manage agricultural intellectual property and ensure that existing and emerging biotechnologies are available to develop subsistence crops for developing countries and specialty crops in the developed countries (see: www.pipra.org).

Bonnie Cook (B.S. ’03) is a research associate in the USDA’s MAFES plant pathology lab in Stoneville, Miss. Her duties include maintaining cultures of pathogenic soybean, rice and cotton fungi in the lab, as well as some field work.

Herbert J. Dedeaux (B.S. ’92, M.S. ’03) works as a program manager and forensic chemist inspector at the U.S. Drug Enforcement Administration Headquarters in Washington, D.C. He, his wife Teresita, and their children Brianna (10) and Bryton (9) are hoping to move back to the South in the near future.

Gina Egan (née Bowden; B.S. ’97; Ph.D. Penn. State Univ. ’01) has a new job as a forensic chemist in the Chemistry Unit of the FBI Laboratory, where she analyzes and identifies evidence involving drugs, unknown solids, and banks dye chemicals using FTIR, GC/MS, LC/MS, TLC, color tests, light and scanning electron microscopy. “My chemistry background provides me with a level of knowledge and experience with instrumentation and chemical properties that greatly facilitates my analytical tasks.”

Mignon Keaton (B.S. ’01) is a Ph.D. candidate in the Department of Pharmacology and Cancer Biology at Duke University. She is supported by her own U.S. Department of Defense Breast Cancer Training Grant, which she obtained in 2002.

Wesley Lewis (B.S. ’94; M.S. ’02) is employed by the U.S. Navy at Stennis Space Center, where he handles all bathymetry requests for the Mine Warfare fleet. He and his wife, Olga, had baby Wyatt in 2003.

Chandra Pandey (Ph.D. ’95) has been moved by his company, Akzo Nobel, from Houston, Texas, to Newcastle upon Tyne, England, for two years. Chandra, his wife, Yamini, and their two children, Amogh and Vrinda, are enjoying the different pace of life in the U.K., particularly the opportunity to walk to parks and grocery stores and for Amogh to ride his bike to school.

Rie Peeler Somlai (Ph.D.’02) is now assistant professor of chemistry in the Department of Physical Sciences at Delta State University. Her husband, Louis Somlai, (Ph.D. in Polymer Science ’03) is working for Baxter International in Cleveland, Miss.

Tihomira (Tia) Petkova (B.S. ’01) worked in New Orleans in a forensic science lab and played cello for the New Orleans Opera for a season after her graduation. In 2003, she married her husband Julian in Bulgaria and followed him to Houston, where she is pursuing a combined Ph.D. and doctorate degree in optometry at the University of Houston, College of Optometry. Tia’s dissertation research will be on corneal-wound healing.

Reade A. Quinton (B.S. ’95; M.D. Louisiana State Univ. ’99) completed a five-year residency in anatomic and clinical pathology and is currently finishing a forensic pathology fellowship at the University of Texas Southwestern Medical Center in Dallas. He will become a medical examiner and will join the faculty of the UT Southwestern Dept. of Pathology in July. Reade and his wife, Kim, had their first child, Logan, in September 2004.

Alecia Saunders (née Nix, B.S. ’00) has been working in the blood-banking industry and plans to join the Integrated Biomedical Sciences Graduate Program at Ohio State University.

Harn-Cherng Shiue (B.S. ’99) is a second-year internal medicine resident at Duke University Medical School. Harn plans to specialize in cardiology or become a hospitalist after his third and final year at Duke.