



Henry "Hank" Hartsfield, Jr., '54, Physics

Space Flight Experience: STS-4-1982, STS-41D-1984, STS-61A-1985

Kathryn C. Thornton, Ph.D., '74, Physics

Space Flight Experience: STS-33-1989 STS-49-1992, STS-61-1993

...it is by standing on the shoulders of giants.

- Isaac Newton, 1675

Hank Hartsfield '54 and Kathryn Thornton '74 are giants. To stand on their shoulders during a space mission, one would have to travel in excess of 16 million miles. As accomplished NASA astronauts, they have established a standard of excellence that challenges today's COSAM students and faculty to reach for their own stars — throughout a broad spectrum of science and mathematics disciplines.

When he penned those famous words, Sir Isaac Newton never dreamed that the shoulders on which one could stand would reside outside the reaches of the Earth's atmosphere. Imagine how far the next generation of COSAM giants will see standing on the shoulders of Hank Hartsfield and Kathryn Thornton.

ABOVE:
Astronaut Kathryn Thornton prepares
to release a solar panel from the Hub
Space Telescope during a servicing
mission in 1993.



COLLEGE OF SCIENCES

BIOLOGICAL SCIENCES - CHEMISTRY AND BIOCHEMISTRY GEOLOGY AND GEOGRAPHY - MATHEMATICS AND STATISTICS - PHYSICS

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A Message From

Stewart Schneller

Prior to the start of each academic year my colleagues and I, who make up the Dean's Council, spend a day off campus assessing the past year and sharing our plans and excitement for the coming year. At the meeting this past summer, we also discussed the framework for the college's strategic plan to be in place to present to the new AU President. This plan was to build on the previous Third Millennium plan under which we had operated through 2006. That plan saw the college achieve a number of its intended goals, some of which are evident in this issue of Journey including:

- ♦ Increasing undergraduate enrollment in the college (1,700 students in the year 2000 to 2,700 for the fall of 2007);
- ♦ Continuing to improve upon the student quality in the college (the incoming freshman COSAM students have consistently had the highest high school GPA, while upperclassmen have been recognized as USA Today Academic All-Americans, Goldwater scholars, Phi Kappa Phi outstanding seniors, and almost 50% of COSAM's seniors have graduated with honors);
- Seeing our annual extramural research funding exceed \$10 million (see *Spectrum* for confirmation of that);
- ♦ Adding the position of Associate Dean for Diversity and Multicultural Affairs (a position once held by Dr. Overtoun Jenda, now the current Provost with the same responsibilities campus-wide) that has led to COSAM exceeding the all-campus percentage for African-American students;
- ♦ Adding the position of Director of Outreach with a focus on K-12 science and mathematics (Mary Lou Ewald has led this effort with many programs such as Youth Experiences in Science, AU Explore, Leadership Institute for Females Exceptional (LIFE) in Science, Boosting Engineering Science and Technology (BEST) and Arboretum Days);

- ⇒ Building new facilities, including a new state-of-the-art, three-building \$40 million teaching complex along Roosevelt (now a pedestrian concourse);
- ◆ Establishing a \$16 million capital campaign goal to enhance scholarships, professorships, programs of excellence, etc. and, with this writing, the goal is in sight.

The guiding principle of our new strategic plan will be: college excellence depends on retaining and recruiting outstanding faculty as the main ingredient to attracting quality students, conducting internationally acclaimed research, and serving the global community.

To retain and recruit outstanding faculty it will be essential to provide: (1) an environment that encourages scholarly activity, (2) state-of-the-art instrumentation, technology, and facilities, (3) opportunities to see a vision become a reality, (4) a reward system that recognizes commitment and success, (5) a means to reach out to the community and share expertise, and (6) outstanding diverse students who like to be challenged and enjoy the learning experience.

I am committed to seeing that these benchmark necessities are realized so that the College of Sciences and Mathematics can look to its dedicated faculty to see that the trajectory of the past six years is continued without interference. In some ways this will be a team effort where we will need to call upon the assistance of the readers of this issue of *Journey*. I am hopeful the stories herein will be inspirational and that you will share with us in the forthcoming journey.

Thanks for reading and WAR EAGLE,

Stewart W. Schneller Dean and Professor

to Schueller

Journey 2007



- 3 Dean's Message
- 4 Table of Contents
- 6 President's Message
- 7 Dr. Wit's Message
- 8 Dana Fields' Message
- 9 New President
- 10 Department News
- 12 COSAM Leaders/Dean's Medalists
- 13 AMSTI Opens New Site at Auburn University
- 14 Hansfords Find Inspiration in Navajo Art
- 17 L.I.F.E. in Science
- 18 **Development**
- 20 **Donor List**
- 21 Dean's Scholarship Golf Classic
- 22 COSAM Athletes
- 23 Student Highlights
- 24 COSAM Collections
- 26 Alumni Updates
- 27 In Memoriam
- 28 Roger Hudgins and Baby Noor
- 30 Leadership Council/Jordan Named Auburn Alumni Association President

on the COVER

A stint with the United States Health Service on a Navajo reservation introduced Bill and Gerrie Hansford to many aspects of Native American

culture. Their time at the clinic near Chinle, AZ sparked a lifelong interest in collecting and preserving Navajo sand paintings and other art forms. Their engaging story is on page 14.

Cover Photo by Sylvia Martin.



SPECTRUM

32

Dr. Wooten's Message

FEATURES

33
Ellis Recipient of NSF
CAREER Award

34 Laura Silo-Suh How to Save a Life

Michael McKee One Chemist's Dream Come True

35

36 **Ashraf Uddin**Unearthing the Himalayas

37 **A.J. Meir**Math: The Universal
Language of Science

38
Minseo Park
Kicking off a Brighter
Future Through
Nanotechnology Research

AWARDS

- 39 Research Park
- 40 Dean's Research Awards/New Faculty
- 41 COSAM Faculty Honored at University Awards Ceremony
- 42 Student Research

COSAM Mission Statement

The mission of the Auburn University College of Sciences and Mathematics is three-fold: to *teach* by providing an environment that ensures excellence in the biological, physical, and mathematical sciences for the purpose of preserving, interpreting, and conveying existing knowledge; to *research* by creating, integrating, and applying new knowledge; and to *reach out* to others by fostering educational exchange within the university, the Alabama community, and society as a whole.



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Questions concerning the college's development program should be directed to Tammy Beck Hartwell at: 334.844.1449 or Sherri Rowton at: 334.844.1235 or rowtosj@auburn.edu.

Correction.

In the last edition of Journey, Dr. Lorraine Wolf's participation in securing funding from Vulcan Materials for studies of acid-mine drainage, and from USGS-NEHRP for paleohydrologic studies in the New Madrid fault zone, was omitted. We regret the error.

Dr. Wolf is continuing her work related to the New Madrid seismic zone.

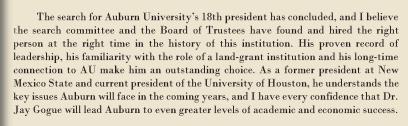
To learn more on this and other Geology and Geography related highlights, please see Department News on pages 10 & 11.

Auburn University is an equal opportunity educational institution/employer.

President's

Message...

Dear Auburn Alumni and Supporters,



Even now, AU alumni and friends have many reasons to look to the future with great optimism and confidence. In its 2007 rankings, U.S. News & World Report ranked Auburn the 39th best among public universities. This is the 14th consecutive year that Auburn has ranked in the top 50. Within COSAM, Department of Chemistry Professor Dave Worley's work with HaloSource on water purification technology is establishing a business presence in India to support its HaloPure water purification business expansion. Professors Frank Bartol of Animal Sciences and Raymond Henry of Biological Sciences were awarded a \$1.5 million grant for three years through the National Science Foundation to establish the Center for Environmental and Cellular Signal Transduction. The center is intended to be a resource for any scientist statewide who is interested in studying how organisms respond and adapt to environmental stress. And that's just three areas of Auburn's academic excellence. To see a list of AU's academic rankings since 2002, I encourage you to visit www.ocm.auburn.edu/rankings.html.

Auburn's objective is not to be the biggest school in Alabama, but to be the best school. In the fall semester 2006, Auburn set a record for overall enrollment (23,547) and a near-record for new freshman enrollment (4,092). And our new students are not just numerous, but also very bright. The entering freshmen class for the current academic year averaged an ACT score of 24.3 and a high school grade-point average of 3.56. Forty percent of our students are from outside Alabama, and these students are willing to pay three times state tuition rates to attend Auburn. Auburn University has and continues to enjoy a strong demand for enrollment. Applications are up approximately 40 percent over the past three years.

In December 2006, I appointed Larry Fillmer to the newly created post of executive director for the Institute of Natural Resources, which comprises the Center for Bioenergy and Bioproducts and the Alabama Water Resources Center. The AU Board of Trustees approved \$3 million from the university's general budget to fund the Center for Bioenergy and Bioproducts, which will coordinate and promote specific agriculture and natural resource-based programs from across campus to benefit the state. The Alabama Water Resources Center has the mission to improve the management and use of water in the state and the Southeast by addressing problems caused by saltwater intrusion, contamination, weather, lower water tables and inadequate distribution systems. More than any other issue, I believe the quality and quantity of water will become critical for the nation in the near future.

I am pleased to bring you up-to-date regarding the efforts of the Office of Development. Private giving to the university broke records during the 2005-06 fiscal year by reaching \$105.3 million, which topped the previous year's record of \$101.2 million, representing an outstanding achievement for the "It Begins at Auburn" campaign. To date, the campaign has generated more than \$466 million, or 93 percent of the campaign goal and is the highest level of campaign giving in Alabama history.

As we undergo a change in leadership in July, the university is well positioned to engage and fulfill a strategic vision for the 21st century.

War Eagle!

Edward R. Richardson

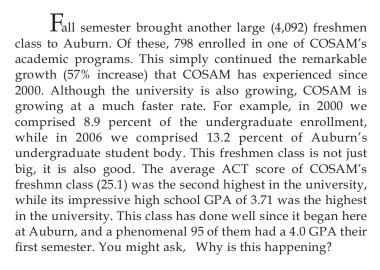
Eduard Rhelander





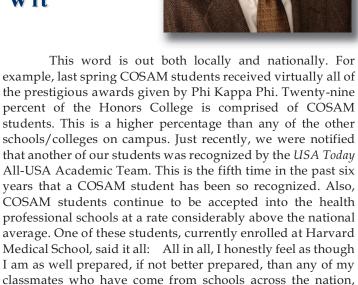
Associate Dean for Academic Affairs

Larry Wit



First and foremost, it is because students still get a great education at Auburn. Yes, some of the faces of the professors have changed, yet the quality of the educational experience is outstanding. Whether a student is in a lecture section of general chemistry or in a one-on-one encounter in an undergraduate research experience, our faculty are committed to giving their students the education they need for the 21st century. This educational experience may take place in one of the state-of-the-art teaching laboratories in our new facilities, on the ice of Antarctica, beneath the surface of the Gulf of Mexico, or in a swamp of Alabama. Wherever and whenever, COSAM students are getting a phenomenal educational experience.





and I am very proud of my Auburn education. Yes, it is people like you who make us look so good as you succeed in

your professions and make an impact in the workplace.

Also, we have been more attractive to prospective students because of the progress we have been able to make in offering scholarships. Last year, COSAM awarded scholarships in excess of \$500,000. This year, the university has unveiled a more expansive and competitive scholarship package for entering students which should improve the quality of our students even more. By no means are we where we need to be, but we are headed in the right direction. Our competition is keen, but we are determined to make Auburn an attractive choice for quality students. For those of you who have helped by donating to our scholarship fund, we are deeply grateful. For those of you who have not taken that opportunity, let me encourage you to do so.

I would love to hear from you. Please drop me an e-mail at witlawr@auburn.edu. Of course, if you are ever in the area, I would enjoy showing you around the new facilities; you will be stunned by the changes and improvements that have occurred on campus.

Dr. Wit pictured with Karl and Glenda Albright '70 at the COSAM AU vs. LSU tailgate, fall 2006.





Minority Programs

Dana Fields - Interim Director of Diversity

f Ihe Office for Diversity and Special Academic Projects has been in a year of transition but continues to move forward with the goal of recruiting and retaining minority students in COSAM. The Summer Bridge Program, which has been a valuable asset to COSAM and its minority students since 1994, is still one of the major retention programs in our office. The 2006 Summer Bridge class consisted of thirty-five incoming COSAM freshmen who continued in the tradition of completing four weeks of intense coursework in chemistry and pre-calculus. They were also given a unique experience of a college student's "life on the plains."

We continue to visit high schools throughout the state to recruit promising young, African-American students to the COSAM family. Due to last year's success of the high school minority visitation day, another one was hosted by COSAM this year. Instead of just targeting the students and their parents, counselors were contacted at area high schools and asked to bring juniors and seniors interested in the sciences and pre-health professions. At least six high schools and counselors from the surrounding area responded, and over 75 students attended.

This year the Alabama EPSCoR Summer Research Program was extended to the fall and spring semesters. The Alabama EPSCoR Research project collaborates with the NSF-supported Alabama Louis Stokes Alliance for Minority Participation (LSAMP) project to increase the participation of underrepresented minorities in EPSCoR research activities. The students selected for the program are denoted as EPSCoR/LSAMP interns. Research mentors are identified for the recruited students, and support is provided for these students to effectively engage in selected research. The EPSCoR/LSAMP interns present their research findings at the annual AGEP/ALSAMP Research Conference held each spring at the AU Hotel & Dixon Conference Center.

The diversity office is undergoing many changes. The position of Associate Dean for Diversity and Multicultural Affairs remains open; however, three very qualified candidates are being interviewed, and we are hopeful that we will have a new person leading the way in diversity efforts for the college in the near future. In January, we also said goodbye to Charria Campbell, our minority programs coordinator, who made the difficult decision to leave this position and further her education. We wish her well and thank her for all her hard work.

> It has been evident to us that change is inevitable, but we welcome it with open arms. I await the arrival of the new Associate Dean with great expectations of new, innovative methods for recruiting and retaining minority students. I look forward to continuing the current programs, which have been successful, and also expanding our recruiting efforts, embracing the challenges facing minority students, and strengthening our commitment to diversity in COSAM.



2006 Summer Bridge Class



Dr. Jay Gogue

GOGUE NAMED 18th PRESIDENT OF AUBURN UNIVERSITY

Jay Gogue, president of the University of Houston and chancellor of the UH system, was named Thursday, March 22 as the 18th president of Auburn University. The AU Board of Trustees unanimously selected Gogue (rhymes with "rouge") after a two-year national search. Gogue, who received two AU degrees in horticulture, spent two days on campus talking with faculty, staff, students and alumni.

"The Auburn family found the same exceptional qualities in Dr. Gogue that we discovered during an exhaustive and comprehensive search for Auburn's next leader," said Charles McCrary, chairman of the presidential search committee. "He is a visionary leader who is committed to academic excellence. We welcome him back to campus as Auburn's new president."

Gogue is expected to start in mid-July, replacing Ed Richardson, who has held AU's top position since 2004. Richardson was first selected on an interim basis and later named AU's 17th president in recognition of his service and performance.

"We cannot thank Dr. Richardson enough for his straight-forward and steady leadership," said Earlon McWhorter, president pro tem of the AU Board. "He focused resources on academic progress, strengthened recruitment of Alabama's brightest students, reinvigorated Auburn's research mission, and set the stage for the new president to continue moving Auburn forward."

Gogue, a native of Waycross, Ga., received a doctorate in horticulture from Michigan State University in 1973. After working at the U.S. Department of Interior, Gogue served in a variety of research and agriculture positions at Clemson University.

Gogue became provost of Utah State University in 1995 and was selected president of New Mexico State University in 2000. In 2003, he was named to the top position at the University of Houston.

DEPARTMENT' HICHLIGHTS



COLLEGE OF SCIENCES AND MATHEMATICS

GEOLOGY

Chuck Savrda Department Chair



- Robert B. Cook and Tom Martinson announced their intentions to retire in Summer 2007. Searches to fill their positions are underway.
- → Ming-Kuo Lee and Bill Hames were promoted to full professor, and Luke hurricane-related coastal hazards Marzen was promoted to associate
- international field forum focusing on the 3rd GIS Symposium and Workshop. Wetumpka marine impact crater.
- Luke Marzen received a NASA A. Salotti Earth Science Education EPSCoR grant, with Dave King, for studies of possible wet-target impact craters on Mars.
- ◆ Mark Steltenpohl and graduate students spent the summer mapping in East Greenland as part of an international expedition funded by the Norwegian petroleum industry.
- ♦ Chuck Savrda and Ron Lewis received an NSF grant to support graduate students Sean Bingham and Terry Knight with their studies of an extraordinarily fossiliferous Cretaceous clay lens in eastern Alabama.
- Lorraine Wolf and a graduate student initiated new studies of seismic wave amplification in alluvium overlying the New Madrid seismic zone.

- ◆ Toni Alexander organized an AU Outreach-supported L.I.F.E in Science pilot program designed to attract women
- Phil Chaney continued his studies of
- In partnership with Environmental Institute and Troy David T. King and students led an University, the department hosted the
 - Bob Cook received the 2006 Charles Award. Ashley Gilomen received a COSAM Outstanding GTA award, while Thomas Key received a COSAM undergraduate research fellowship. Michelle Messner and Nathan Layfield were named Outstanding Senior and Junior, respectively. Sean Bingham was named as one of AU's Top 10 Masters Students.
 - Alumni Herb Martin (BS '79) and Art '79) received the Merkle (BS department's first Alumni Service
 - A new scholarship was established by alumnus Robert S. Fousek (MS '96), and a new undergraduate research grant program was established by alumni Rob Hargett (BS '99) and Jacob Dunston (BS '99) with help from ConocoPhillips.

PHYSICS





- The research enterprise in the physics department continues its steady growth. In fiscal year 2006, we garnered \$2.8M in extramural funding, the highest ever for the department. To help set new records in the future, we hired a new tenure-track assistant professor, Stuart Loch, who holds a joint position at Auburn and the Oak Ridge National Laboratory. We also have added two new research assistant professors. Connor Ballance in atomic theory and Xueyi Wang in space plasma simulations.
- Chervl Matheny retired in December of 2005 after more than 26 years at Auburn and more than 24 years with the Physics Department. She is recently married and enjoying retirement. Along with Cheryl's departure, we have an entirely new office staff. Freddie Killian is the administrative assistant, Paula Davis is the accountant (this position was upgraded from a bookkeeper to accountant) and Melanie Woods is the receptionists. We hope that our alumni will stop by for a visit to meet our new office staff.
- The Auburn University Student Space Program gives an opportunity to undergraduate students to realize their dream of building and launching space vehicles. The Auburn High Altitude Ballooning (AHAB) team launches payloads to the edge of space - above 99%of the atmosphere. Based on results of eight flights to near 100,000 feet altitudes, the team has perfected a launcher that can now be used by high school students, university students and researchers alike to conduct atmospheric and space experiments. Thanks to the financial support of Harry Knowles through the Carr Professorship in Physics, a first set of high school experiments were launched in November of 2006. Students from Brewer High School and from Columbus High School designed, built and tested an accelerometer and a magnetometer that functioned perfectly during the whole three hours of flight. The experiments provided striking information about the effects of the atmosphere on the flight vehicle.

- For example, we can tell from the data that on the way up, and on the way down, the balloon launcher encountered winds of over 100 miles per hour as it passed through the jet stream! We also found out that the balloon rotates violently at some places during its journey. Data are still being analyzed to yield information on the cause for these wild rotations and hopefully a means to reduce them on future launchers as they can entangle the rigging system. We are poised to involve another set of four high schools in fall 07. This program is an excellent recruitment tool to attract top high school students to Auburn University.
- The AubieSat team is building a small satellite that is planned to be launched in 2008 on a Russian ICBM. AubieSat-I, the first student satellite built at Auburn University is a 4-inch, 2.2 lbs satellite that carries a new material being developed in the physics department's nanophotonics laboratory by Minseo Park. This material converts the Sun's ultraviolet radiation into electrical power. AubieSat-I provides a unique capability to test this material's properties in the real space environment for a very low cost. The AubieSat-I team has built a ground station that has successfully received signals from the International Space Station and from satellites as they pass over Auburn. This ground station will be used to communicate with AubieSat-I once it has been launched.
- All our programs have been funded by the Alabama Space Grant Consortium, and Harry Knowles through the Carr Professorship and supported by the Physics Department, COSAM, the School Engineering and outstanding individuals such as Mr. J. Cook (retired, manager of Viking-I and VP at Lockheed Martin) and Mr. J. Klingelhoeffer (President, Intelsat).

BIOLOGICAL SCIENCES

James Barbaree Department Chair

- entitled "Ivorybill Hunters: The Search for Proof in a Flooded Wilderness."
- Steve Kempf was initiated as an honorary member of COSAM's Alpha Epsilon Delta (AED) organization for future health professionals.
- **⇒ James Barbaree** was elected president of the Southeastern Branch of the American Society for Microbiology, and will host the annual meeting here at AU November 8-10, 2007. This is the second time for Barbaree to serve in this capacity.
- Les Goertzen led a USDA Germplasm Exploration team last summer searching for native grapevine species from Florida to Texas to replenish the live grapevine repositories at Cornel, NY and Davis, CA. He recently received an NSF grant to work on a collaborative project called The Deep South eFlora.
- Craig Guyer and his graduate students discovered a fossil in Alabama of a 40 million year old manatee.

- ♦ Geoff Hill just published a book ♦ Marie W. Wooten, has been appointed for a four-year term to the Molecular Neuropharmacology and Signaling review panel for the Center for Scientific Review. The panel meets three times a year to review grants submitted to the National Institutes of Health.
 - Jessica Hagins, a graduate student in Laura Suh's research laboratory, won first place for poster competition at the annual AU Research Forum.
 - ⇒ Jim Bradley is teaching the first offering of Concepts of Nanoscience, a core curriculum science course taught by an interdisciplinary team of professors from the Colleges of Liberal Arts, Science and Mathematics, and Engineering at Auburn University, and also professors from Tuskegee University and AUM. The course was developed as part of an NSF grant to bring technological and ethical issues associated with nanotechnology into the undergraduate classroom.
 - ⇒ Jack Feminella was promoted from associate professor to full professor.

Vincent Ortiz



CHEMISTRY BIOCHEMISTRY

- Department Chair Auburn University's highest
- recognition for scientific innovation, the Creative Research and Scholarship Award, was presented to S. D. Worley by former Vice President for Research Michael Moriarty at a ceremony on September 7, 2006. On the same occasion, Michael McKee was awarded a five-year Alumni Professorship in recognition of his accomplishments in research, teaching and service. Fifteen members of the faculty conduct research that is sponsored by external funding agencies.
- Two promotions were approved by President Richardson. Thomas Albrecht-Schmitt will ascend to the rank of professor and will become director of a newly instituted Center for Actinide Science in the College of Sciences and Mathematics. Holly Ellis will become a tenured associate professor. Ellis also received a prestigious CAREER Award from the National Science Foundation.
- Two promising young scientists have joined the faculty as assistant professors. Orlando Acevedo, a theoretical and computational chemist with interests in solvent effects, ionic liquids, drug design and methodological development, is now

- a member of the organic division. The latest addition to the analytical division is Wei Zhan, whose interests include novel biosensing strategies and devices for clinical diagnosis and biomedical research. A search for a junior inorganic chemist is now in progress. Approximately one quarter of the faculty holds the rank of assistant professor.
- The new department chairman is Vincent Ortiz, formerly University Distinguished Professor at Kansas State University, who also becomes the first Ruth W. Molette Professor of Chemistry and Biochemistry. Ortiz's research concerns molecular electronic structure theory and its applications in the interpretation of spectroscopic and scattering experiments.
- The department is in the process of acquiring state-of-the-art equipment for mass spectrometry, powder x-ray diffractometry and the measurement of a variety of magnetic and thermodynamic properties.

MATHEMATICS STATISTICS

Michel Smith Department Chair



- The department of mathematics continued its support of the collaborative TEAM-math project that successfully obtained a nearly \$9 million NSF grant. Overtoun Jenda, Chris Rodgers, Michel Smith, Steven Stuckwisch and Phillip Zenor are participants in the project; Narendra Govil and Dean Hoffman have been recently involved as additional senior personnel. This year supplementary NSF \$365,000 grant was successfully obtained to add three new school systems to the TEAM-Math project. Over 700 teachers participated in the 2006 summer workshop - including principals and administrators, there were over 1,000 attendees during one day of the workshop.
- Overtoun Jenda, Ash Abebe and Chris Rodgers are Co-PI's (along with faculty from other COSAM departments) on the almost \$2,000,000 grant for "GK-12 Fellows in Science and Mathematics for Fast Alabama Schools."
- Krystyna Kuperberg PI (T. Inniss, B. Pasik-Duncan, J. Roitman Co-PI's.) NSF/AWM Travel Grants for Women in Mathematical Sciences, period from 08/31/2005-08/31/2008, the amount: \$343,642.
- Geraldo De Souza and Jack Brown received an NSF grant that supported the 21st Harmonic Analysis Conference held at Auburn in November 2006.

- Olav Kallenberg was named the 2006 Distinguished Graduate Faculty Lecturer: he received the award and presented a public lecture in April 2006.
- **♦ Krystyna Kupperberg** received the prestigious Waclaw Sierpinski Medal awarded by the Polish Academy of Science and Warsaw University. She is invited to give a lecture related to the medal ceremony, which will take place in Warsaw on May 17th, 2007 (all expenses are covered).
- Andras Bezdek received the Academic Doctor title given by the Hungarian Academy of Sciences in December 2006 after his defense in May; this is the highest academic degree given to mathematicians in Hungary. There are only 90 living mathematicians who have been so recognized.
- Amnon Meir is the President of the Southeastern Atlantic Section of SIAM for the 06-07 term; during the 05-06 term he served as secretary, treasurer and president-elect.

In addition, numerous invitations to international events and requests to join editorial boards of prestigious journals were received by departmental faculty.

COSAM HOSTS 5TH ANNUAL DEAD DAY **SYMPOSIUM**

COSAM was proud to host Frontiers in Evaluating the Extent and Impact of Environmental Contaminants Dead Day Symposium on Tuesday, May 1 in the Sciences Center Auditorium. Popu-



lation growth and economic development have brought with them stress to our biosphere and ecosystems. To address this, scientists from a number of disciplines have come together to learn how natural systems work, how human activities disrupt the balances within these systems, how changes in one system affects another, and how to apply results from these studies to guide well-informed choices for managing the symbiosis of all inhabitants of the planet Earth. Featured speakers were leading scientists who clearly represent the application of contemporary sciences and mathematics in a blended way to address the role contaminants are playing in the disruption of the environment that now exists and which is projected to worsen if left unchecked. For more information and a list of speakers, log on to: www.auburn.edu/cosam/symposium.

2006-2007 COSAM Leaders

The COSAM Leaders are an exemplary group of students who serve the college as its official ambassadors.



Back row (from left): Ty Ashley, Chris Fioritto, Clay McEntire, David Kyle, Josh Ricciardone, David Johnson, Scott Littlepage, Stephen Tonks. Front row (from left): Caylen Nevins, Mary Coleman Bostick, Kacie Jackson, Kelly Moreland, Emily Tapley, Anjali Gandhi, JaRyce Nabors, Joanna Lianos

2006 Dean's Medalists



Brett J. Elmore Biological Sciences Luverne, AL



David Upchurch Biological Sciences Chicago, IL



Stefanie N. Lycans Biomedical Sciences Madison, AL



Jeffery C. Thompson Biomedical Sciences Lake Charles, LA



Michele R. Messner Geology & Geography Buchanan, GA



Jennifer S. Dart Physics Leesburg, AL



Michael G. Paine Chemistry & Biochemistry West Paducah, KY



Evan N. Epps Mathematics & Statistics Birmingham, AL



Katherine L. McMillian Biological Sciences Lilburn, GA



Left: Dr. Joe Morton, State Superintendent of Education and Auburn University President, Dr. Ed Richardson talk with Drake Middle School Students about "hands-on" learning.

Below: Dr. Marie Wooten, COSAM Associate Dean for Research, speaks at Drake Middle School AMSTI kickoff.



ALABAMA MATH, SCIENCE & TECHNOLOGY INITIATIVE OPENS NEW SITE AT AUBURN UNIVERSITY

"Students retain more knowledge when they are involved with hands-on learning experiences."

- Dr. Joe Morton, Superintendent of Education Schools in East Alabama will join the growing number of schools across the state who benefit from the Alabama Math, Science & Technology Initiative (AMSTI). Superintendent of Education Joe Morton, along with Auburn

along with Auburn University President Ed Richardson, recently announced the new state appropriation of \$831,000 for the first year to fund the expansion of AMSTI serving eligible schools in East Alabama through the newly established site at Auburn University, which will be referred to as AMSTI-AU.

AMSTI is the state Department of Education's initiative designed to improve math and science teaching and learning statewide, and provides professional development, equipment and materials, and on-site support to K-12 public school teachers and administrators.

"Auburn University welcomes the opportunity to participate in the AMSTI program," said Dr. Richardson. "I commend Dr. Morton and the State School Board for expanding this research-based program that has shown measurable results. Improved skills in mathematics, science and technology are critical to Alabama's economic growth and will lead to continued improvements in college and university academic programs."

AMSTI provides three services: professional development, equipment and materials, and on-site support. Schools become official AMSTI schools by enrolling all of their math and science teachers and administrators in two-

week summer institutes for two summers. At the institutes, teachers receive subject-specific professional development that is applicable to their classroom. Instruction is provided by "master" teachers who have been certified as AMSTI trainers.

AMSTI sites provide schoolteachers with essentially all of the equipment, supplies and resources needed to effectively engage students with hands-on, inquiry-based learning. The resources arrive packaged in "kits" ready for immediate use. Each kit is customized for the specific activities that will be taught. Once students complete the activities from a kit, it is returned to a materials center where it is refurbished to "like-new" condition. Then, another kit targeting the next classroom activity is delivered to the teacher, and the newly refurbished kit is sent to another teacher.

Currently, more than 111,000 students and approximately 200 public schools are served by AMSTI statewide. Through the partnership of the College of Sciences and Mathematics and College of Education, the Auburn University site, led by Marllin Simon, Physics and Gary Martin, Curriculum and Development, will potentially serve an additional 13 schools in East Alabama in the first year.

COSAM Associate Dean for Research Marie Wooten explained, "AMSTI builds upon the long-term collaborative efforts between faculty in the College of Sciences and Mathematics and the College of Education. This endeavor is represented by a portfolio of programs that has received funding from various state and federal sources. Our goals are to improve content delivery, enhance the curriculum, and professional development of teachers in both the sciences and mathematics in our public schools. These efforts will drive student success and interest in pursuit of careers in these and related areas."



Hansfords Find Inspiration in Navajo Art

- Timothy Meeks

Beginning with their first contact, the relationship between generations of Native Americans and the European colonists who traveled to the new world was rooted in their differences. The initial curiosity between the indigenous residents and colonists quickly gave way to animosity as the cultures collided. Unfortunately, as centuries passed, the clashes often represented a zero sum conflict where the advancement of one group came at the expense of the other.

Ask Bill '64 and Gerrie '63 Hansford about the differences they experienced in their encounters with Native Americans and they will likely share an anecdotal observation or two. However, ask them about similarities and you will find there is much more to learn. By spending time in the Navajo

world in the early 70s, the Hansfords discovered foundations in the Native American culture that relate to the importance of family, balance in life and appreciation of heritage – not unlike their own. More surprisingly, Bill and Gerrie learned of scientific and medical developments that mirror, in their own unique way, parallel evolution in other cultures. Over 35 years later, many of those experiences still shape the lives of the Hansfords and reflect an engaging blend of the two cultures.

A 1970 vacation in Oklahoma led to a chance encounter with a Native American parade that piqued the Hansfords' interest in this colorful culture. It took a major leap of faith, but with new baby Anne in tow, the Hansfords set out for the isolated clinic in Chinle, Arizona where Bill would serve Navajo residents at the United States Health Service clinic.

Any preconceived ideas about what he would encounter on the reservation and ensuing conflict over patient care were quickly abated as Bill developed what he called "a very close, working relationship" with the resident medicine men. Cooperatively, Bill partnered with the medicine men to develop an understanding of what medical problems were best served by treatment at the clinic. Mutual admiration developed as he observed the holistic approach to health exhibited by the medicine men. "There was a real need for the medicine man on the reservation," recalls Bill. "They served as minister, psychologist and healer and were often so correct in their understanding of the patients' needs. When someone came in with a spiritual or psychological problem, it was clear I could not help them as much as a medicine man. When it was evident it was a medical problem, they always looked to me to take the lead."



Photography Courtesy of Sylvia Martin.

Some cases exhibited what Bill believes are some of the interesting pharmacological roots of Native American medicine. He recalls the case of a child with a skin rash that would not respond to normal topical treatments. Her mother's subsequent trip to a medicine man produced a clear-skinned child three days later. "I sure would like to know the makeup of that medicine," joked Bill, "but it was a secret." Over the course of his time at the clinic, he encountered frequent examples of time-tested Native American remedies that tangentially followed the evolution of modern pharmacology.

It's no surprise that the one medicine man that left a lasting impression on the Hansfords was Fred Stevens, Jr. Also known by his Indian name, Grey Squirrel, he was a clan grandson to Hosteen Klah, one of the most renowned Navajo

medicine men. Stevens' connections to Navajo traditions ran deep and direct. As a medicine man, also known as a chanter or singer, he was well-versed in the ceremonial art of healing and possessed the sacred ability to create sand paintings. Passed down over generations, this secretive art form could be utilized as part of a 3-day healing ceremony. Additionally, paintings could capture and communicate stories of the tribe's relationship to one another, earth or creation. Utilizing only natural elements, each line, mark and color had a distinct meaning. Historically, the sand paintings were temporary, the contents swept away at sunrise. However, Fred Stephens was the first to perfect a permatizing technique – ironically, a decision that would haunt him for his remaining years. Gerrie remembers his concerns, "he was concerned if he would be cursed by preserving the art."

When Gerrie first met Stevens, she experienced a profound illustration of the Navajo concept of friendship and trust. A simple introduction by the school superintendent's wife, who had befriended Stevens, clearly placed Gerrie in a position of trust. A true friend would have no reason to betray him and Stevens considered Gerrie a confidente from that day forward. The degree to which Stevens connected with the Hansfords is a testament to both his desire to engage other cultures and the sincerity he felt that Bill and Gerrie exhibited in their connection to the Navajos.

As the Hansfords prepared to leave Chinle, Fred Stephens presented Bill with a sand painting that reflected the treatment for eye disease - Bill was preparing for an ophthalmology residency. The Hansfords left Arizona with much more than a start on a collection of Navajo art. (Continued on page 16.)

Editor's note:

There is truly not enough space in this publication to do justice to the depth of art in the Hansford collection. Each piece communicates an engaging story, with powerful symbolism that can be simple or complex, but strikingly harmonic.

The appearance of symbols, connecting to almost all modern religions, presents an intriguing juxtaposition. Foundational concepts of modern psychiatry, chemistry and astronomy illustrate the Native Americans' quest for discovery.



Journey 2007



Fred Stevens continued with his commitment to introducing the Navajo ways to others. Always willing to demonstrate the mystique of sand art, Stevens was invited to Buckingham Palace, traveled to the Far East and exhibited at several major museums. But the effort to seamlessly blend cultures was never easy for Stevens.

Even with the best intentions, Stevens wondered if he was compromising his sacred traditions. Near the end of his life in 1983, which was tainted by alcohol in which he attempted to find solace, the medicine man lamented the end of a tradition. He was unable to engage the younger generations in his work and passions. He worried that there would be no one to pass on the collective knowledge and wisdom of his culture. However, in an ironic, but telling twist, Grey Squirrel had indeed passed on this legacy and discovered two enthusiastic stewards in Bill and Gerrie Hansford. The beauty of the legacy, and the lesson learned, is that the integrity of Navajo traditions did not have to be compromised when they encountered a different culture. Focusing on the similarities and celebrating the differences provided a balanced perspective on the evolution of each culture.

Although 35 years have passed since their time in Chinle, Arizona, Bill and Gerrie Hansford's connection to the Navajo culture is alive in their Birmingham, Alabama home. Their infectious enthusiasm and vivid storytelling bring the sand paintings to life. It's hard to imagine that Bill and Gerrie won't be links in a chain passing down the engaging story of Grey Squirrel and the mystique of Navajo sand art.



Above: Students participate in various workshops at the 2006 Summer Institute.

L.I.F.E. in Science

Encourages Female Scientists

The Leadership Institute for Females Exceptional in and tutoring middle school and high school girls. Also, to pursue careers in the physical sciences and mathematics.

The program consists of the summer institute and mentoring which continues throughout the school year. professionals.

continue working with their mentors through a website bulletin beneficial aspect of the camp."

board where students may post questions to AWIS members and faculty. Students also take part in a "Discover Alabama" field trip experience and a two-day visit to the AU campus where they shadow their AWIS mentors and have lunch with COSAM faculty.

L.I.F.E. participants take on the of mentors themselves by conducting hands-on science activities



Science (L.I.F.E. in Science) is a new program designed to following completion of the first year of the program, encourage exceptional high school females from across the state participants will be invited back to campus to complete a twoweek science research project under the guidance of an AU faculty member.

L.I.F.E. participant, Lara Stubbs, will come to Auburn Selected participants from throughout the state of Alabama in the fall to study physics. She says that though she had attend a five-day residential camp on Auburn's campus. already chosen physics, the L.I.F.E. program gave her more Students receive hands-on training in physical science-related confidence in her decision. "L.I.F.E. camp made me more mini-courses; tour the science research and educational secure in my decision to pursue physics as a career after facilities at AU; and interact with members of the AU having the opportunity to interact with physics department Association for Women in Science (AWIS) and COSAM faculty and viewing some of their facilities," she said. "I also faculty mentors, as well as other sciences and mathematics met a female faculty member in the physics department. This helped to boost my confidence in my own capabilities to be successful in a male-dominated field. I think this, along with The following school year, L.I.F.E. participants meeting more girls my age interested in science, was the most



The L.I.F.E. in Science program is meant to build girls' confidence and skills necessary for success in the fields of sciences and mathematics. The program is supported by the AU Vice President's Office for Outreach, the Society of Women in Sciences and Mathematics, and COSAM's Department of Geology and Geography.

G I W S A T A U B U R N



The public phase of the "It Begins at Auburn" campaign is in full swing. Support from generous COSAM benefactors has put the college's goals in sight. With each additional gift, the possibility to meet and exceed the \$16 million mark becomes a probability. Private support from a wide range of gift sizes and types ensures the continued success of the College of Sciences and Mathematics for current and future generations.

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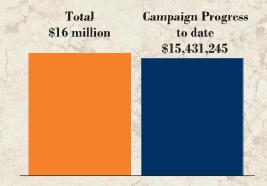
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COSAM CAMPAIGN GOALS



2006 SCHOLARSHIP STATISTICS

Number of students who applied for scholarships in 2006.

Number of students who received aid.

\$1,954 Average received per student.

\$535,405 Total awarded.

Scholarships \$5 million
Distinguished Professorships \$5 million
Endowed Programmatic \$3 million
Examples:

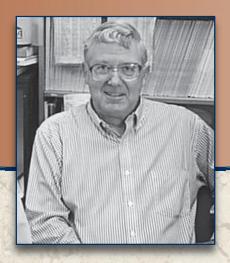
Summer Bridge Program COSAM Outreach Programs Donald E. Davis Arboretum

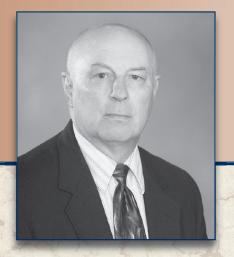
Funds for Excellence \$3 million

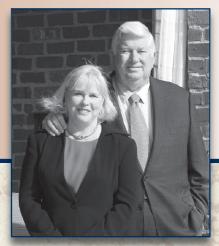
Examples:

Lectureships
Faculty Travel
Student Recruitment

Total \$16 million
Campaign Progress to date \$15,431,245







COSAM Faculty Provide Endowments

Retired professor Jack Brown, mathematics and Davis Worley, former interim chemistry and biochemistry department chair have established endowments that will provide on-going scholarship funds for COSAM. The Jack and Jane Brown Undergraduate Scholarship will support students pursuing a degree in the field of mathematics at Auburn. The S.D. and Karen Worley Scholarship will support the department of chemistry.



COLLEGE OF SCIENCES
AND MATHEMATICS

Logans Support Mathematics with \$1.2 Million Gift

Don and Sandy Logan have committed over \$1.2 million to COSAM as part of the ongoing "It Begins at Auburn" campaign. The Logan gift will create the first endowed chair in the department of mathematics and statistics. Endowed chairs are vital to attracting and retaining internationally acclaimed faculty members, and play a significant role in strengthening the department. In addition, the gift will support graduate fellowships in the department of mathematics and statistics. This generous donation is the largest gift ever given to the department.

Bush Planned Gift to Benefit Scholarships

Claranne (Tinky) Bush '65 has established, through a bequest, an endowment to support scholarships for students in COSAM. Bush, who also received an MS degree from Auburn in 1968, is a career educator and has spent over 30 years in college, university and higher education administration. Bush credits her time at Auburn as directing her career path and remains committed to the fundamentals of the Auburn Creed.

Molette Estate Establishes Chemistry Chair

Ruth Molette, who passed away in 2006, established through her estate (husband William, Auburn '27 preceded her in death) the Ruth W. Molette Professor of Chemistry and Biochemistry. In August of 2006, new Department Chair Vince Ortiz became the first "Molette Professor."



The College of Sciences and Mathematics would like to recognize those who have supported the COSAM campaign with a gift or pledge of \$25,000 or more:

Dr. and Mrs. Roger W. Allen, Jr. and Family

Drs. T. Lee and Brenda Baumann

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Gifts made as of March 31, 2007



20

COLLEGE OF SCIENCES AND MATHEMATICS

Thank You!



In 12 years, proceeds from the Dean's Scholarship Golf Classic have provided more than 35 full tuition scholarships to COSAM students.

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Above: Ronda Gullatte teaching at the L.I.F.E. in Science Program 2006.

Never tell Ronda Gullatte that she can't do something.

This recent COSAM said. But, she had a great support system in her parents who graduate has never let the always told her she could do it.

- Carol Nelson

words, "You can't," stop not out to prove anything," she says. "It's just that when someone tells me that I can't do something, my

her from doing anything "I had to deal with so much negativity, but I was lucky enough she sets her mind to. "I'm to have strong family support, she said. "A lot of the kids that I work with don't have anyone to give them that support, so it's great if I can be the one person who does." And it is through her work in COSAM that she has

interests and accomplishments illustrates her commitment to rise above that and to go out and do it." achieve the many goals she sets for herself. A member of Auburn's first ever national championship women's track and great enthusiasm has played a role in a number of COSAM's high school, and received a scholarship. outreach activities as well, including Y.E.S., BEST and L.I.F.E. in

question is, 'Why not?' If begun to do just that. As a freshman, Gullatte tutored high something sounds fun or school chemistry. She remembers a particular student: "She interesting to me, I'm going to go out and at least try it." it," she said. "Everyone was telling her that she wouldn't even make it through high school, much less go to college. While I was Gullate's varied list of tutoring her, I told her not to listen to what everyone else said; to

"I have always loved science, and I always knew that I wanted to go into a science-related field," she said. "Like most kids who love science, I wanted to be a doctor," Gullatte said.

A couple of years later, Gullatte was walking to class on field team, she holds the school record for the hammer and campus and heard a voice calling out to her. The voice was that weight throws. As a student at AU, she started a book club in one of the student she had tutored, who was now an AU student of the local elementary schools for 4th and 5th grade girls. Her majoring in chemistry. She had worked hard, graduated from

But in high school, she says she was always viewed as an athlete. "Though my teachers recognized that I was a good

Gullatte says that she will continue to pursue all the dreams she has for herself, and will continue to encourage other girls and young women to do the same. She is currently working at the Winship Cancer Institute at Emory University as a tumor registry follow-up analyst in the oncology data center. She is also awaiting acceptance into a program in bioinformatics at Georgia Tech. Gullatte says that she would like to pursue cancer research, and still have the opportunity to educate so she can be with "her student, they questioned my desire to study science and pushed kids," as she refers to the students she mentors. "I have a lot of other career goals. They always told me I couldn't do it," she goals, but more than anything, I want to give back," she says.

COSAM Students Excel in Academics and Athletics

For more on COSAM's accomplished athletes, visit www.auburn.edu/cosam/recognition/StudentRecognition.





The men's swimming and diving team recently won their 5th straight national title, while the women's swimming and diving team is celebrating back-to-back national championships. COSAM students Kara Denby, Lauren Duerk, Caleb Dunnichay, Kristen Hastrup, Leslie Lunnsman, Kelly Marx, Daniel Mazzaferro, Kara Nelson, Marshal Renz, and John Scott are members of the championship teams.



Photo Courtesy of Todd Van Emst and AU Athletics.

COSAM gymnast Nicole Barnett and COSAM swimmer **Denby** were named Academic All-Americans by the Sports Information





Photo Courtesy of AU Athletics.

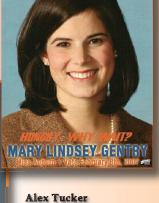
Geography major Ronda Brooks was named to the Southeast Region First Team by Soccer Buzz for the third straight year. In her final season at AU, Brooks led the team to their fifth SEC West Division Title and a trip to the NCAA Tournament. She was also named SEC Defensive Player of the Year.

Photo Courtesy of David Lann and AU Athletics.

COSAM Student Highlights

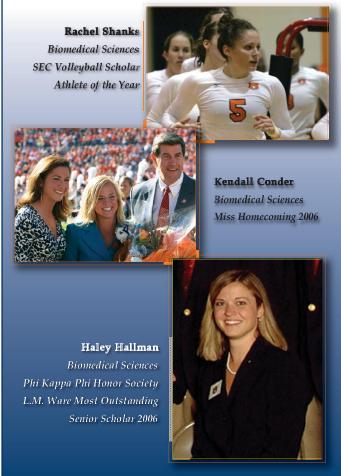
Mary Lindsey Gentry
Pre-Pharmacy
Miss Auburn 2007-2008





Microbiology
USA Today All-American

- ♦ COSAM junior *Mary Lindsey Gentry* was elected Miss Auburn for the 2007-2008 academic year. A pre-pharmacy major, Gentry serves COSAM as a peer instructor and represents the college as a student delegate for the Committee of 19. The Committee of 19 represents the 19 cents it takes to feed a hungry child in a developing country per day. As Miss Auburn, she seeks to continue the goals of the committee to provide hunger awareness and to increase opportunities for involvement in the War on Hunger on campus.
- → Alex Tucker was named a USA Today All-American. Tucker is the fifth COSAM student in six years to receive this honor. In the fall, he won the President's Award for the Best Undergraduate Research Poster presentation at the annual meeting of the Southeast Branch of the American Society for Microbiologists for his presentation entitled, "Effect of tmRNA on Pseudomonas aeruginosa Virulence Factor Production." Additionally, he was recognized as the Dean's Research Awards Undergraduate Recipient, as well as an Undergraduate Research Fellowship Recipient. Learn more about his research in this issue of Spectrum magazine.
- ♦ COSAM junior and biomedical sciences major **Rachel Shanks** was recently named SEC Volleyball Scholar Athlete of the Year by the Southeastern Conference office. In addition, Shanks was named to the *ESPN The Magazine* Academic All-America third team. She becomes the first Auburn player ever to earn the volleyball Scholar Athlete of the Year award and became the first AU Academic All-American since 1992. She started each match in 2006 for the Tigers and finished as the only player in the SEC to be in the top 10 statistically in both kills and digs. In addition to her on-court success, Shanks is also a member of the SEC Academic Honor Roll and the dean's list. She has also been named Auburn Academic Top Tiger and was a part of the National Society of Collegiate Scholars.
- ◆ Senior biomedical sciences major *Kendall Conder* was named Miss Homecoming 2006 during halftime at the Auburn vs. Tulane football game. She is a COSAM Peer Instructor and is involved in a number of campus organizations including Camp War Eagle, Student Recruiters, Mortar Board, ODK, and Catholic Student Organization.
- ➡ Biomedical sciences major *Haley Hallman* was named the Phi Kappa Phi Honor Society L.M. Ware Most Outstanding Senior Scholar for 2006. The scholarship award is presented annually to the most outstanding senior student at Auburn University in honor of Dr. L.M. Ware. Criteria include scholarship activities and character, and a minimum 3.699 GPA. Phi Kappa Phi seeks to recognize and encourage superior scholarship in all academic disciplines. Phi Kappa Phi is one of the oldest and most respected academic honor societies dedicated to the recognition and promotion of academic excellence in all fields of higher education. Hallman is the fifth consecutive COSAM senior to receive this honor.



COSAM COLLECTIONS



Photo Courtesy of Heather Carson.

COSAM's research collections are an invaluable treasure to the college, as well as to the university. Not only are the collections accessible to students and faculty, but through regional and international databasing programs, collections are also available on loan to researchers all over the world. The collections span the scientific disciplines and include plants, fish, invertebrates, reptiles amphibians, birds and mammals. The persons responsible for the collections are Leslie Goertzen (herbarium), Jonathan Armbruster (fish), Jack Feminella (invertebrates), Craig Guyer (reptiles & amphibians), Geoffrey Hill (birds), Troy Best (mammals), and Dee Smith (arboretum). Currently, the collections are being brought together as the Auburn University Natural History Learning Center and Museum.

"Without the collections, our programs would be lacking the reference specimens that are crucial to the student learning experience," said James Barbaree, biological sciences department chair. "The collections play a major role in a number of our own programs, as well as those of other researchers all over the world. They are especially beneficial to our outreach programs which introduce science to future researchers and scientists."

The John D. Freeman Herbarium

→ The John D. Freeman Herbarium houses a valuable research collection of flowering plants, gymnosperms, ferns, mosses, fungi, and lichens. With over 70,000 specimens of flowering plants, gymnosperms and ferns; 2000 specimens of bryophytes and lichens; and 2500 specimens of fungi, the Freeman Herbarium is the largest in Alabama and serves as the official state herbarium.

As the official state herbarium, the collection is significantly focused on Alabama and the southeastern United States, which is a biologically unique ecoregion in North America. However, the herbarium also houses specimens from every other continent but Antarctica.



Photos Courtesy of Curtis Hansen.



The herbarium serves several AU departments including forestry, wildlife sciences, biological sciences, entomology & plant pathology, agronomy & soils, horticulture, and the Alabama Cooperative Extension System. It is also an important resource for other state colleges and universities, wildflower societies, the Alabama Invasive Plant Council, and state government agencies including the Alabama Natural Heritage Program, Alabama Poison Control Center and the Medical Examiner's Office.

The Freeman Herbarium plays a key role in the NSF's Southeast Regional Network of Expertise and Collections (SERNEC) project, which is a collaboration among major herbaria in the southeast to facilitate an ongoing effort to database all plant collection information from regional herbaria to be made available online for use by students and scientists. Label data from more than 62,000 herbarium sheets have been entered into the database.

The Donald E. Davis Arboretum

→ The 13.5 acres of the Donald E. Davis Arboretum is home to 515 identified native species, and is the world's most concise and complete public collection of Alabama's hundreds of native trees. The arboretum's collection of 30 oak species is currently under review to represent the southeastern United States in the North American Plant Collections Consortium.

The arboretum grounds are used by many disciplines on campus including botany, horticulture, forestry, biology, biosystems engineering, landscape architecture, architecture and liberal arts. With the completion of the new teaching surface at the pond, the arboretum continues to serve as an outdoor classroom for grade school outreach events including Arboretum Days, AU

Explore, Y.E.S. camps, and much more. The arboretum is also an asset available for master gardeners, other universities, weddings, picnics, or just a quiet moment.

The collection focus is currently shifting to include the numerous herbaceous species of grasses and wildflowers that inhabit the state. One can see several native species of the familiar phlox and violets, as well as 10 taxa of Alabama's eight species of unusual carnivorous pitcher plants.

Photos Courtesy of Patrick Thompson.



Other Collections

The remaining collections consist of invertebrates, fish, reptiles and amphibians, birds, and mammals. They are comprised of thousands of specimens including skins, skulls, full skeletons, eggs, nests, fluid-preserved specimens, and frozen tissues. The collections mainly represent the species of the state of Alabama; however, they also include specimens from other parts of the United States, Central and South America, Europe, and many other countries.

In some cases, the collections contain the first, or only, documentation of a species in the state, and may represent some of the most poorly sampled areas today.

The collections serve a number of important functions including research, education, outreach and career development. While the primary focus of the collections is research both in and outside of the university, they are also used to teach students about the local biotic diversity and the ecology of local species. The collections are visited by grade school groups, and some live collections are used in educational outreach to schools and public groups. Undergraduate and graduate students assist in the procurement and preparation of specimens, and participate in research within the college and in cooperation with other schools/colleges and departments. Students are given the opportunity to be trained in the proper techniques of collecting, preserving and cataloging research collections.

Current research projects associated with the collections include: effects of urbanization and forest restoration on native amphibians and reptiles; field surveys of small-dam impacts on sensitive mussels and crayfish; identification of shell material from cultural sites in central Alabama (in cooperation with Native

American collections); population genetics; behavioral studies; and many more.

Photo Courtesy of M.H. Sabaj.





For more information about the Auburn University Natural History Learning Center and Museum, visit www.auburn.edu|cosam|collections.

Spirit of Auburn Credit Card Benefits Scholarships



The Spirit of Auburn credit card is available to alumni. students and friends of the university. Our partner, Bank of America, gives the university a percentage of the amount of consumer purchases made on the Spirit of Auburn card, which funds the new Spirit of Auburn Scholarship program. The credit card program will fund 500 new scholarships for fall 2007 incoming freshmen. You can do your part by using the card for your normal, everyday charges...at the gas pump, the grocery store...anywhere. Every time you use the card, it helps provide an AUsome Auburn educational experience to students who have worked so hard to earn this opportunity. And your efforts will be rewarded too. You'll enjoy redeeming all the points you earn for cash back or travel. To apply for the card, call 1-866-438-6262 and mention priority code FAA3DD.

Alumni Upilates...

COSAM's 2006 Distinguished Alumnus Award winner, Harry Knowles '51 Physics with Dean Schneller. Knowles was further recognized in 2007 with Auburn University's top honor, a Lifetime Achievement Award presented by the Alumni Association.



Charlotte Harrell '47
Laboratory Technology and
Mrs. Aurelia Henson '47
Physics together at the 2007
Society of Women in Sciences
and Mathematics luncheon.

McMeans family
(3 AU alum generations)
Christmas 2006.
Seated: Royce McMeans '43.
Left to Right: Marie McPhillips '95,
Lisa McMeans D'Antonio '91,
Warren McPhillips '71,
Susan McMeans McPhillips '71,
Shane McMeans '92,
Didi Cooper McMeans '93,
Tim McMeans '70.



Professor of Surgery David C. Naftel, '71 has been appointed to the Cardiovascular Surgical Research Chair in the UAB Division of Cardiovascular and Thoracic Surgery.

UAB's "Synopsis" reports that The University of Alabama System Board of Trustees resolution cited Dr. Naftel's national reputation in outcomes research related to cardiothoracic transplantation, noting, "Dr. Naftel is highly respected by his colleagues and has continued to utilize his skills in biostatistical research to assist in the provision of quality patient care as well as to promote outstanding research and education."

Dr. Naftel's son Carter is currently studying business at Auburn.



In Memoriam

Remembering Regan Robinson Young 02 & Donald E. Davis



COSAM alum and University of South Alabama medical student, **Regan Robinson Young** `02 died of cancer in January at the age of 26. Young was a member of COSAM's 1998 Summer Bridge Class. Associate Provost for Diversity and Multicultural Affairs Overtoun Jenda remembers: Regan Robinson Young was a kind, intelligent, hardworking, dignified young lady. She was always willing to assist and help where needed, and was always a great joy to work with, he said. She encouraged other African-American students to study and work hard to fulfill their dreams. Regan was an excellent role model and ultimately a great recruiter and peer-mentor for the Minority Drop-In Center, Summer Bridge, and College of Sciences and Mathematics. She was a brilliant woman who was on her way to achieve great things. She will be missed but never forgotten.

Regan's friend and medical school mentor, COSAM graduate TaShawna Thomas Stokes '01, says that Regan was a great friend, and still finds it hard to believe that she is gone. "Regan was always positive and uplifting, says Stokes. She knew her dreams and attained them. She was a wonderful friend to many and an inspiration to others. Even in her illness she demonstrated exceptional courage, faith and endurance. I was her mentor in medical school, but honestly I am the one who reaped all the benefits. I am a much better person for having known her."

The following is an excerpt from a story by Penelope McClenny, which ran in the January 20, 2007 edition of the *Mobile Press-Register*.

Regan Robinson Young, a University of South Alabama medical student who chose to continue her medical studies despite receiving a diagnosis of advanced cancer, died Thursday, just months short of graduation. She was 26.

"She had the option of taking a leave to go and do something fun or whatever she wanted to do with her life, but she chose medical school," Hattie Myles, assistant dean of student affairs and a close friend of Young's, said Friday. "Her verbatim statement was, 'I'm doing what I want to do."

Young, who grew up in Mobile, had just begun her second year of medical school in August 2003 when abdominal pain and other symptoms sent her to a doctor. After several exams, she was diagnosed with advanced-stage colon cancer and told she had only a short time to live.

After taking one semester off, Young resumed her studies the following fall. She was so dedicated to school and the medical profession that some didn't know about her illness, a fellow student said Friday. "She was very real to all of us," student Sarah Styers said. "I told people about her, and they had worked with her and they had no idea she was sick."

Even as her cancer progressed, Young kept pushing forward, Myles said. During her hospitalizations, she always had the book she used to study for her state medical board exams in her room, Myles said.

She also married in October, "which is one of the things she wanted out of life," Myles said, adding, "She was a Christian young lady and had just unending faith."

Over the last several months, before being hospitalized for the final time, Young interviewed for residency positions in family medicine, according to Chenita Landry, a fellow medical student and friend. Young, who hoped to take board exams next month, would have begun her residency after graduating in May.

Young is survived by her husband, Kendall Young, parents Reginald and Cheryl Robinson, a brother and two sisters.

Never in my life have I seen such courage. Even when she was sick - she never gave up. She had an impact on so many and is an example for us all.

- Bell Rogers,

Summer Bridge Program Advocate

♦ Donald E. Davis of Auburn passed away February 21 at the age of 91. A memorial service was held at Auburn United Methodist Church on February 24.

Davis was named Outstanding Teacher at Auburn in 1954. He was an Alumni Professor from 1968-1974, and was named



the Auburn University Distinguished Graduate Lecturer in 1977.

A distinguished professor of ecology at Auburn, Davis led the efforts to establish the arboretum in 1963. He first proposed the idea of an arboretum during a School of Agriculture seminar in 1959. In recognition of his 35 years of dedicated service to the university, the garden was named the Donald E. Davis Arboretum of Auburn University at a rededication ceremony in May 1982.

In 2004, Davis was on hand to dedicate the Founders' Oak Historical Marker during the annual Arbor Day Celebration. His devotion to the arboretum and enthusiasm for nature continued over the years through constant support and frequent visits to the arboretum.

"Few people have the local name recognition that was accorded Dr. Davis, said COSAM Dean Stewart Schneller. He was consistently warmly received by all when he visited the arboretum. To have his name associated with COSAM and its arboretum is truly a lasting honor."

ROGER HUDGINS '75

SURGEON TREATS SYMBOL OF HOPE

- Timothy Meeks

In the modern media age, stories of the triumph of human spirit often captivate audiences. When children are involved, it appears the connection can even become personal. In October of 1987 in the west Texas oil town of Midland, while playing in her backyard, 18-month-old Jessica McClure fell into an abandoned well. Rescue crews that raced to the scene were followed closely by a host of media outlets. By sundown, baby Jessica had become America's baby. Viewers were glued to the news as the dramatic rescue unfolded over the next 72 hours. When the tireless efforts of literally hundreds of workers, miners and townspeople resulted in Jessica's freedom from the well, a nation collectively exhaled and wiped away tears of joy. For a few moments, Jessica McClure had become everyone's neighbor, daughter or little sister. Almost twenty years later, the plight of another infant would become a unifying symbol for Americans caught in the midst of a divisive war.

Atlanta neurosurgeon, Roger Hudgins, Auburn '75, has been at Children's Healthcare for 18 years. Pediatrics is Hudgins' calling. The resiliency of children and personal interaction with families reinforces the decision he made shortly after medical school to pursue this field. Babies that I operated on in the first days of life now send me prom pictures and talk of college choices, says Hudgins. He, of all people, understands the power of a smile from a child on the road to wellness. But even Roger Hudgins was surprised at the impact of the smile of Noor Al Zahra Baby Noor.

Noor's story or at least the point where many Americans picked up her story began in December of 2005 in the impoverished Baghdad neighborhood of Abu-Graib. On a late night patrol, members of Georgia Army National Guard's 48th brigade discovered an infant clearly suffering from paralysis of the legs and what appeared to be a

tumor on her back. In that moment, the clash of culture, ideology and language gave way to a human connection this child needed help. Noor's grandmother, Soad, was imploring the soldiers to give the infant a chance at life to take her with them. Noor was suffering from spina bifida, and left untreated, her prognosis was grim.

A flurry of activity that literally engaged hundreds of people followed that December night. On the ground, medical intervention in Iraq led to active fax lines, blackberry alerts and an array of globe-crossing communications. A confluence of medical professionals, political leaders and church volunteers banded together to bring Baby Noor to Atlanta, Georgia's Children's Healthcare. By the time she arrived at Hartsfield Jackson Airport, Noor's story had traveled the airwaves and internet lines. Noor was accompanied by her grandmother and father to America, but was greeted by a city and region that welcomed the family as their own. Stuffed animals, quilted blankets and scores of handwritten notes flooded the hospital with the simple address: Baby Noor.

Roger Hudgins was the perfect candidate to perform this challenging surgery. Typically, infants suffering from spina bifida are operated on in the first days after birth. However, Noor was now over three months old and presented with an atypical albeit one that Hudgins was optimistic operation about its outcome. In the operating room, Hudgins' focus remained on the task at hand. Media outlets and countless people were awaiting the results of his but nothing could distract him surgical acumen from Noor's condition and the need for immediate surgical intervention. The post operation evaluation was cautiously optimistic but Hudgins also found himself looking for that telltale sign of recovery. Although it had been absent in the days before surgery, Hudgins was gratified to see it return: a smile.

That smile accompanied Noor during her recovery and stay in Atlanta. Host families assisted Noor's relatives with follow-up medical appointments, but were also able to offer a healthy dose of Atlanta excursions to enrich Noor's recovery. Trips to The Varsity, Atlanta Aquarium and World of Coke provided Noor with a glimpse of these unique traditions—and provided Atlantans a tiny glimpse of the child whose story they had come to know personally. Noor's impending return to Iraq left many involved in her story with very mixed emotions. They would certainly miss her smile and engaging spirit, but realized that their intervention had limits. Even with the world-class medical care she received, in June 2006 Baby Noor left her adopted home in America and returned to Iraq with an uncertain future.

In retrospect, Roger Hudgins looks back at the media flurry and the connection so many felt to this tiny, ill infant. Christmas was approaching, the news in Iraq at that point had been pretty grim and I think people were just looking for something hopeful, says Hudgins. I can't say enough about the care and compassion surrounding this event from the moment the Georgia 48th troops found her and cared for her to her time in Atlanta and the host families and their commitment. If people were looking for something

What will Hudgins remember about the Baby Noor experience? It won't be the press conferences, interview requests or even a segment on ABC's Good Morning America. What I will remember is the ability to put her on my lap and bounce her up and down ... and to see that big grin return. says Hudgins. After all, that's one of the reasons Roger Hudgins is a pediatric neurosurgeon.

hopeful, well, I think that was it.

Baby Noor Today

BAGHDAD, IRAQ Since her return, Baby Noor and her family have encountered challenges that confront all Iraqi citizens. The celebrity created by her trip to the United States and her ongoing medical treatment place additional strains on her health and family. Atlanta Journal-Constitution reporter Moni Basu has followed Baby Noor's story and the latest information can be found at www.AJC.com.



Above: Neurosurgeon Roger Hudgins in the Operating Room with Baby Noor. Courtesy Childen's Healthcare of Atlanta.

"What I will remember is the ability to put her on my lap and bounce her up and down ... and to see that big grin return."

Leadership Council 2006



Pictured are members, guests and friends of COSAM's Leadership Council:

First Row: Rosemary Greaves, Cathy Tucker Rice, Rita Patton, Lani Kaiser, Hank Hartsfield, Andy Morris, Chuck Savrda, Herb Martin, Jim Baird.

Second Row: Marie Wooten, Scott Harvey, Vince Ortiz, Roger Cox, David Hagan, Paul DePriest, Jim Ott.

Third Row: Clay Harper, Ray Arnold, Dan Philen, Harold Zallen, Dent Williams, Barry Wilson, Charles Taylor.

Fourth Row: Ralph Jordan, Art Merkle, Dean Schneller, Joe Perez, Chris Rodger, Earl Hartsfield, Mike Bangham, Mike Forster.

JORDAN NAMED AUBURN ALUMNI ASSOCIATION PRESIDENT

AUBURN - The Auburn Alumni Association recently elected Ralph Jordan Jr. '70 of Norris, Tenn., son of the late Auburn Tigers football and basketball coach Ralph "Shug" Jordan, as its president for the next two years. Jordan's term runs through October 2008.

In the coming months, Jordan plans to further "cooperation and collaboration" between the association and the Auburn University administration, as well as build on the association's existing programs and services, he said.

"The Auburn Alumni Association is the interface between the university and its alumni," Jordan said. "Our role should be to focus the attention of the national alumni on this institution in a positive way. We have to make sure that they are plugged in to help Auburn be all that she can be."

Jordan recently retired as an environmental scientist for the Tennessee Valley Authority, and majored in zoology and entomology at Auburn. He is a life member of the Auburn Alumni Association and has served on the organization's board since 2001, most recently as vice president. Jordan also serves on the AU College of Sciences and Mathematics Leadership Council and AU's National Campaign Committee.

Contributed by Amanda Thomas, Office of Alumni Affairs.

