

Auburn University *Journey* College of Sciences and Mathematics

GLIMPSES OF JOY

COSAM student Nicholls Nelson describes his time volunteering with the Missionaries of Charity.



COLLEGE OF SCIENCES
AND MATHEMATICS



COSAM Was Here...

Biological Sciences Professor Kenneth Halanych's team of students at BASE 3A Deception Island searching for marine invertebrates.



AUBURN
UNIVERSITY

COLLEGE OF SCIENCES
AND MATHEMATICS

AUBURN UNIVERSITY IS AN EQUAL OPPORTUNITY EDUCATIONAL INSTITUTION / EMPLOYER.

This concept was inspired by the American Association for the Advancement of Science. COSAM shares the AAAS vision to advance science to support a healthy and prosperous world.



A MESSAGE

From the Interim Dean

Charles E. Savrda

With the tragic passing of Dean Marie Wooten on November 5, 2010, the COSAM family lost a promising leader, gifted scientist, and esteemed colleague and friend. Not long after, I accepted the challenge made by Provost Mary Ellen Mazey to serve as Interim Dean, pending the completion of a renewed leadership search. My decision to take on this task was not made without trepidation; I had no illusions that I could easily “fill the shoes” of Marie Wooten or former Dean Stew Schneller, and I had concerns about a hiatus from my duties as Chair of Geology and Geography. Nonetheless, I quickly realized that the temporary duties as Dean of the college would be facilitated by a great supporting cast: exceptionally capable Associate Deans and Department Chairs, including newly appointed Associate Dean for Research and Graduate Studies, Chris Rodger, and Interim Chair of Geology and Geography, Mark Steltenpohl; an outstanding faculty with dynamic and diverse instructional, research, and outreach programs; and a college staff of unsung dedication and drive. To all of these groups, I owe a great debt of gratitude for their assistance, patience, and hard work through COSAM’s continuing leadership transition.

The search for COSAM’s next Dean is progressing. If all goes as planned, on-campus interviews of top candidates will be completed during this spring semester, and a new Dean will be in office by August 2011, just in time to celebrate the 25th Anniversary of the College. Although programs in the sciences and mathematics have been around and excelling at Auburn University for far more than this last quarter of a century, this milestone provides cause to celebrate COSAM’s growth and accomplishments, and to focus on strategic plans to advance our teaching, research and outreach missions in the future. Celebratory events, including a birthday party for COSAM students and a series of special lectures, are being planned for fall 2011 to mark the occasion.

Where will the next 25 years take the College of Sciences and Mathematics? While the continued economic downturn may slow the process, I am confident that the aforementioned supporting cast will provide future leadership with the tools and sharpened vision needed to expand the prestige of the College. Making our journey easier will be, collectively, one of the top student bodies on campus and the dedication and support of COSAM alumni and friends. Indeed, I envy whoever is so fortunate to be named as the next Dean of the College; for me, it has been an *honor* to serve the COSAM family.

Thank you all for your past and forthcoming collaboration. And, of course, War Eagle!

Charles E. (Chuck) Savrda
Interim Dean and Professor

Journey Features:**On The Cover:**

COSAM Student Nicholls Nelson shares his experience in India	8
Leaving Taiwan: Jin-Dih Shih talks about his career path	18
Dr. Lloyd Nix: 2010 Distinguished COSAM Alumni	19
Auburn Scholarship Campaign	20
Life After Football: Meet former COSAM student athletes	23

Spectrum Features

Robicheaux's physics students study anti-matter	36
COSAM researchers awarded \$3 million and a new lab	38
Professorships awarded to COSAM faculty	40
COSAM researcher studies solar energy	41

Departments:*Journey*

Dean's Message	1
President's Message	3
Associate Dean for Academic Affairs' Message	4
Associate Dean for Diversity's Message	5
COSAM Leaders	6
Dean's Medalists	6
COSAM Highlights	7
Department Updates	12
Outreach Updates	17
Development Highlights	22
In Memoriam	26
Alumni Updates	28
Leadership Council Spotlight	28

Spectrum

Associate Dean for Research's Message	30
RESEARCH UPDATES:	
Paul Cobine, Biological Sciences	31
Christopher Easley, Chemistry	32
Jim Saunders, Geology	33
Krystyna Kuperberg, Mathematics	34
Mike Fogle, Physics	35
Dean's Research Award Recipients	40

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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The Auburn University College of Sciences and Mathematics is committed to providing opportunities of inclusion for its faculty, staff and students. For more information on the Auburn University College of Sciences and Mathematics, visit www.auburn.edu/cosam.

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**A MESSAGE**

From the President

Jay Gogue

To the Auburn Family,

The last five months have been nothing short of extraordinary, as most if not all of us followed our football team as it captured its second national championship and seventh conference title, not to forget a third Heisman Trophy. Congratulations to Coach Gene Chizik and the Auburn Tigers for going the distance to remain undefeated in front of a world audience.

Working with students and watching some become champions in sports and others champions of academics – including our two 2010 Rhodes Finalists and record-breaking 130-plus merit scholars in this year's freshman class – are perhaps the most rewarding part of a university president's job. In the last few years, Susie and I have met thousands of Auburn students, and we're constantly amazed at the caliber of young men and women across our campus.

Within the College of Sciences and Mathematics, incoming freshmen are also winners, boasting an average 3.93 high school GPA, the highest in the university, and an average ACT score of 27.8. The university average for incoming freshmen was 26.9.

COSAM welcomed 1,061 freshmen onto campus this fall, a 36 percent increase from last fall. The total undergraduate enrollment is 3,058, an increase of seven percent. Graduate school members totaled 345, an increase of seven percent, to round out a total enrollment of 3,403 in the college.

Highly motivated and ambitious. Global in perspective. Oriented toward serving others. Eager to have their views challenged.

We could go on with the many more positive characteristics we routinely observe in today's Auburn student. Suffice it to say, we're impressed, and we're confident you would be as well.

Many of these same students are eager to share that their Auburn experience is made possible through scholarships, fellowships and other forms of financial support. They don't hesitate to tell us what they value the most, and they recognize that many of their opportunities are made possible through the generosity of the Auburn Family.

Some value the chance to learn from faculty who are not only leaders in their respective disciplines but who also truly care about helping students succeed. Others value small classrooms and the regular interaction with professors and other students whose class sizes encourage. And for others, it's the opportunity to take advantage of a growing number of international study or research programs.

Again, the list could go on and on, but it's clear that students wish to express their gratitude for the chance to experience Auburn to its fullest. They understand that many of our alumni and other donors are helping them realize their futures.

Even as financial needs of today's students are higher, the assistance we receive from the state has been cut by the largest amount in history. Faculty, staff and members of the Board of Trustees have worked together to keep costs down wherever and whenever possible. At the same time, we've worked to maintain and strengthen Auburn's academic quality, remain in the Top 100 Best Values in Colleges as rated by Kiplinger's Finance Letter, and are increasing the breadth and depth of research to improve quality of life and economic vitality. That's our commitment to our Auburn Family.

War Eagle!

Jay Gogue '69,'71
President



A MESSAGE

From the Associate Dean for Academic Affairs

Larry Wit

We are finally off and running fully engaged in spring semester. The national championship, with its accompanying winter weather in the Southeast, made an already late start for the semester even a bit later. As always, the beginning of spring semester marks the time for me to catch up with all of you.

It seems like every year I report that COSAM had a bumper crop of entering freshmen. This year was no exception as 936 freshmen joined our ranks. For the first time, this has pushed our undergraduate enrollment beyond 3,000. Our 3,058 undergraduates and our 345 graduate students have resulted in a total enrollment of 3,403 students. Just think; in the fall of 2000, we only had 1,702 undergraduates and 241 graduate students. Once again the quality was outstanding in the freshman class. In addition to high average ACT scores and high school GPAs, 40 of our freshmen were some sort of National Merit/National Achievement/National Hispanic designee! Our growth and the growth of the university in general have presented their own set of challenges in offering sufficient courses and student services to meet the demand. In the end, our department chairs have stepped up and met this challenge. Also, I must commend our outstanding team of academic advisors in the COSAM office; they are second to none.

Those of you who graduated from Auburn within in the past 20 years likely remember the Core Curriculum, a template of courses ensuring all Auburn students were exposed to a broad general education. Over the past year or so, the core curriculum has been reviewed and changed somewhat to allow more flexibility and to encourage a wider choice of acceptable core courses. Also, we have instituted 11 student learning objectives (SLOs) which have accompanied the implementation of the new core. These learning objectives are statements such as: 1) *Students will be able to read analytically and critically.* 2) *Students will be able to apply simple mathematical methods to the solution of real-world problems.* 3) *Students will be able to critique and construct an argument effectively.* There are 11 of these objectives; if you are interested in seeing all of them, they can be viewed at: http://www.auburn.edu/academic/provost/undergrad_studies/ccoc_genedoutcomes.html

As you can see, the SLOs are outcome based and can be assessed. All of this is to assure that we are actually doing what we claim to be doing. Hopefully, those of you who have already profited from your Auburn education would concur that we are doing it well. The quickly approaching SACS reaccreditation visit in 2013 has spurred a great deal of this onward.

It seems that I always end my article with a plea for scholarships; I do so again this year. Never has the need been greater than it is right now. Our revenue simply is not keeping up with the challenge we have to bring talented students to COSAM. The pride we have for our football national championship team did not come without sacrifice and the investment of considerable resources. Having the quality and pride in our COSAM students requires no less. We are counting on you. Every bit helps!

If you are ever in the area, please drop by. If not, just send me an email at witlawr@auburn.edu. I would love to catch up on what is going on in your life these days.

Lawrence C. Wit

Lawrence C. Wit
Associate Dean for Academic Affairs



A MESSAGE

From the Associate Dean for Diversity

Velma B. Richardson

As I sit by my window enjoying a rare snowy day in January, I am reminded that the regenerative capacity of the earth remains constant in the midst of tumultuous changes. All truly is well. I am jarred abruptly from my reverie by the joyous squeals coming from neighboring youngsters who embrace this newly discovered wonderland and begin improvising ways to navigate the unfamiliar medium called snow. Unbridled energy, enthusiasm and inquisitiveness mark their every action and affirm the notion that life's journey continues.

It is inspiring to interact on a daily basis with students in the sciences and mathematics who model many of the attributes exhibited by these young "investigators." Our students are dedicated to achieving individual life goals, generous in terms of commitment to service and enthusiastic about engaging in the Auburn experience. Consequently, a record number of minority students participate in campus- and community-based organizations, serve in campus leadership positions and compete for campus-wide offices. Jessica N. Williams, a May 2010 honor graduate, exemplifies many of the attributes exhibited by these students. Williams amassed an exemplary record of academic achievement, conducted award-winning research, demonstrated outstanding leadership as an officer in Alpha Epsilon Delta Honor Society and served as a peer mentor in our office. A

firm adherent to the precepts embodied in the Auburn Creed, she continues to mentor her Auburn mentee while enrolled in medical school.

In June, we staged the 14th annual Summer Bridge Program which successfully launched another group of pre-freshmen into the collegiate arena. Of the 21 program participants, only eight were males. Thus, we continue to struggle with the problem of decreasing male participation. The students, all from Alabama and Georgia, quickly adjusted to a living and learning community lifestyle that included attending enrichment courses in chemistry and mathematics, acquiring time management, fiscal literacy, study and social networking skills, exploring career options, engaging in service learning with the Boys' and Girls' Club of Lee County and participating in cohort bonding activities. An academically competitive, fun-loving and supportive group, the students were a joy to serve. We are happy to report that all of the participants returned for fall enrollment. Thus, Summer Bridge continues to serve as a highly predictive recruiting tool!

Bianca Evans, a highly talented and youthful program coordinator, joined our staff in May. This is the second year we have experienced a reduction in staff, but we continue to enhance student access, retention and graduation by capitalizing on our partnership with the College of Education. This collaboration allows

us to gain access to a cadre of highly trained and capable counseling interns. Two graduate students, Kimberly Mills and Tomeka McGhee, interned in our office this year. Thus, we continue to assist students in coping with the unique academic and social challenges that often impede minority student retention and success in a majority university setting.

COSAM has amassed an admirable record of promoting diversity and inclusiveness as core values. Recent enrollment data shows the hard work and determination of our staff are paying off as COSAM continues to enjoy the highest percentage of minority enrollment among all colleges at Auburn. Minority students constituted 16.3 percent of fall 2010 undergraduate enrollment in COSAM compared to 12.9 percent for the university. This legacy of inclusiveness extends from the transformative journey of Samuel Pettijohn '67, and finds expression in the lives of current and former students like Michael Narcissee-Cousar '11, Jessica Williams '10, and JaRyce Nabors '09 who embrace Auburn and love it!

With sincere thanks for all you do to support COSAM,

Velma B. Richardson

Velma B. Richardson
Associate Dean for Diversity

2010-2011 COSAM Leaders

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

Back row from left:

Mike Narcisse-Cousar, Matt Bassett, A.J. Burandt, Stephen Stuart, Matt Ragan, Aaron Owens, Alex McFarland, Cole Sterling

Seated from left:

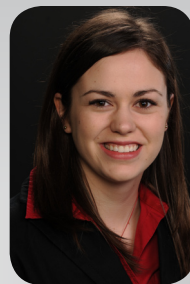
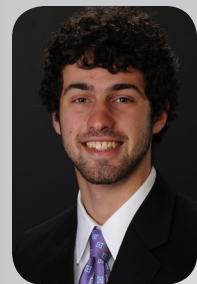
Linnea Pepper, Dana Woods, Audra Brawley, Emily Allen, LaDaria Hartley, Lindsay Harris, Betsy Davis, Mishawna Carlisle



COSAM LEADERS 2010-2011

2010 Dean's Medalists

The Dean's Medalists are outstanding graduating seniors in each department.



Top row from left: Michael A. Alcorn (Biological Sciences), Jordan D. Anderson (Biomedical Sciences), Jeannette N. Dooley (Mathematics & Statistics)



Middle row from left: Patrick A. Gartland (Physics), Melissa D. Joseph (Biological Sciences), Joshua R. Lively (Geology & Geography)



Bottom row from left: Katharine J. Murphree (Biomedical Sciences), Justin B. Neisler (Biological Sciences), Jonah Z. Vilseck (Chemistry & Biochemistry)

COSAM HIGHLIGHTS



Lorraine Wolf

Professor Named Director of Undergraduate Research

Provost Mary Ellen Mazey named Lorraine Wolf the director of undergraduate research, effective spring semester 2011. Wolf will facilitate research and other scholarly experiences for undergraduates and will serve as an advocate for the use of undergraduate research, scholarship and creative activities across all academic disciplines. In addition, she will support faculty development efforts in mentoring student scholarship. In the position, she will be responsible for organizing and administering the undergraduate research and creative scholarship forum and for overseeing the undergraduate competitive research fellowship program. "Dr. Wolf brings to the position strong leadership in mentoring undergraduate students in research," Auburn University Provost Mary Ellen Mazey said. "As a professor at Auburn, she has worked to expose her students to a variety of research opportunities and shows a great desire to help the university become a leader in promoting student engagement through research experiences."

Wolf joined the Auburn faculty in 1993 and is currently a professor in the Department of Geology and Geography in the College of Sciences and Mathematics.

"In my 17 years of service on Auburn's faculty, some of my most rewarding and enjoyable experiences have stemmed from research collaborations with undergraduate students," Wolf said. "As director of undergraduate research, I hope to expand opportunities for all qualified students who seek an independent research experience with Auburn faculty."

Wolf said she would like to see growth in Auburn's involvement in national initiatives focused on enhancing learning through undergraduate research in science, technology, engineering and math disciplines.

"I would like to increase Auburn's involvement in these initiatives and expand on them by stimulating research opportunities across all disciplines," she said. "As a full-fledged and successful research institution, Auburn is well positioned to offer a coordinated program that will allow undergraduates in all disciplines to participate in a meaningful research experience."

A coordinated undergraduate research program will offer a clearinghouse for students to find information about research opportunities on Auburn's campus. "The program will make it easier for both students and faculty to partner with one another, thus increasing both the visibility and involvement of students in the program," Wolf said.

AED Awards Scholarship



Jessica Williams, Biomedical Sciences '10, is the recipient of one of Alpha Epsilon Delta's (AED) highest honors, the Virgil Tweedie Scholarship. Williams is currently a student at Emory School of Medicine and was prominently featured in a recent nationally televised Auburn University commercial. AED is the national health professional honor society.

Glimpses of Joy

Story and photos by Nicholls Nelson



Nicholls (Cole) Nelson, a native of Munford, Ala., is a senior in biomedical sciences and a presidential scholar. In the summer of 2010, he traveled to India and volunteered with Missionaries of Charity, an organization founded by Mother Teresa. This is his story.

“Closer....closer....I have secret.”

I shift along the blue bench as the man with no arms in his blue shirt and only one leg in his blue pants motions with a dark, scarred stub from his mouth to my ear.

“Closer,” he says, and I lean in until my chin nearly touches the coarse, stained cloth of his top. Close enough to feel the acrid vapors of antiseptic filling my nostrils. Close enough to brush the sharp grey stubble of his cheek against mine. Close enough for him to make his practical joke possible as he sticks the point of his right nub into my ear and begins to laugh raucously. I just received a wet-willy from a man with no fingers, using instead the flesh-covered tip of his humerus. This man, who can no longer walk, but is reduced to scooting around Kalighat, India on a piece of plywood with wheels propelled by his remaining leg, is unable to feed himself or raise a cup of chai to his lips, but can still use what he has to make a joke.

This is not unusual for Nirmal Hriday’s “Home for the Destitute and Dying” in Kolkata. In a house where all residents have reached the title of “destitute” or “dying,” there are glimpses of normalcy, undertones to the general atmosphere of men and women seeking a peaceful place to die, or just shelter from the slum necropolis of Kolkata.

How to describe Kolkata, Mother Teresa’s organization, or even India? Travelers know what only other travelers can understand. Regardless of your prowess as a wordsmith or photographer, the experience, emotions, senses and feelings from a moment can never fully be conveyed. How do I describe the simple happiness I gather from my bed – three old couch cushions on a piece of plywood - not having bedbugs to someone who has never woken up covered head to toe with red dots? The absurdity that is India, as Lonely Planet aptly describes it, “promises to jostle your entire being.” More than two months traveling in India and Sri Lanka has preceded my arrival in Kolkata, but the poverty present is on a scale that I have yet to experience. The small oddities become the norm, so yesterday when I was walking down the stairs of a building after meeting with the supervisors of Calcutta Rescue (non-governmental agency that runs mobile clinics throughout the slums) and I looked through the front doorway of a third floor apartment and my stare was met through a metal gate by a goat wearing a party hat and horns adorned with bright tinsel...well I was not that surprised. Although, walking through the slums built of any available scraps of wood, cloth or metal as dirty children run through the smoke-fog from burning trash greeting you loudly with “Ha-looow” and sometimes “chaco-lot?” blasts the western view of poverty out of the malarial, feces-stenched water that often floods these shanty towns.

I have been here for one week now, and have yet to write as I find it difficult to express appropriately. At 7 a.m. I arrive at the Motherhouse to eat breakfast with other volunteers of the Missionaries of Charity. A simple meal of bananas, bread and tea sustains us as we walk to our respective volunteerships. For me, it is a 30-minute walk through the heart of Kolkata and into the slums where we come to Prem Dan, currently housing the staff and patients from Kalighat while its facilities are renovated. I help a pleasant Sikh named Binder finish bathing patients: a brisk, cold, exposing process. This is not a slow, warm sponge bath, but a quick, cold bath on a hard bench. We carry the patients by their armpits and legs; using stretchers and wheelchairs are cumbersome in the close quarters, and few are to be found anyway.

This is where the full extent of years of poverty, and the complement of its harsh realities, is realized. Malnutrition can be seen in their protruding ribs and wasted muscles. One man’s knee, the joint itself, was twice as wide as the flesh of his thigh, not because his knee was large, but because his thigh was so small. Massaging the non-



Have you seen pictures of Auschwitz? Come to a slum and it will not be just a history lesson. Scars are remnants of abuse and hard work; amputations and infections, the lack of available medical care.

-Nicholls Nelson



Three men in Calcutta scoop water from the street to do their morning wash.





elastic skin, I felt like I was holding a wrist, not a muscle made to hold a man high and power his body forward. Have you seen pictures of Auschwitz? Come to a slum and it will not be just a history lesson. Scars are remnants of abuse and hard work; amputations and infections, the lack of available medical care.

Next, we give the patients tea. As they drink, if they can drink, we begin the massive amount of laundry. Four basins are set up, filled with water, and the volunteers sit and begin to wash. Gloves are pointless as they rip while washing, so you dip your bare hands and arms into the basin which eventually becomes a vat of human waste soup, soaking into your skin a smell which the cold shower at Hotel Maria is unable to completely expunge. Donations of washing machines and dryers have been turned down by Missionaries of Charity in the past: volunteers don't need repairs, though they do sometimes break. We talk and laugh, the volunteers, while doing laundry, though I try to keep my mouth closed when people wring, pass or dip the clothes and sheets....brown droplets splash everywhere.

I tell myself not to think about it, to block out the training I had drilled into my head this past summer about body-substance isolation and protocols for a health care setting. I decide whether to breathe through my nose and smell the stench or breath through my mouth and taste the stench. I let the diminutive man with the mental handicap and two growths the size of grapefruit hanging from his neck like ripe thyroid fruit ready to pick, put his hands on my face and smile as he ties a bracelet made from twine around my wrist. I try to sit with the men and talk to them, though they know little English and I know less Bengali.

Women and men are kept separate, and I rarely have interactions with the women patients. The female volunteers have an easier time bridging the language barrier. The women want you to sit with them, hold their hands, caress their heads

and sing them songs. Most of the men patients want you to go away so they can go to sleep. In some cases the patients suffer from a state of delirium.

Roopa, a woman small in stature but big in her smile, was the highlight of my first two days in Kalighat and is still one of the few women patients with whom I have had prolonged contact. She came to me, smiling widely, and talking in understandable English. She pointed to the side of her head where her right ear once hung, but is now flat and scarred. "Infection," she said and then pointed to her bandaged foot. "Toes only two....infection....better now." She took my hand and the hand of another volunteer as she said, "You Paul will be my son, and you my daughter (in India, when I tell people my name is Cole, they often pronounce it Paul, even if they write it correctly), and we will live in U.S. ...what is A-U-B-U-R-N?" she asked as she looks at my shirt, spelling out my university's name.

Roopa sings and dances on one foot, smiling and talking, and the Mashis tell me she is crazy, though I don't believe it until she has a mood swing the next day and begins to hit me in the chest and yell at me in Bengali. I look at one of the male patients sitting on a bench who gives me a toothless smile and twirls his finger around his ear in the universal sign for crazy, then says, "Woman mental." Even smiling Roopa, is there under the qualifier of "destitute."

A French journalist visiting Kolkata to write an article about Missionaries of Charity recently interviewed me, as well as several other volunteers, about our experiences with the organization. I told her what I now write, that you can not compare Missionaries of Charity and its houses with Western hospitals or other programs in "developed" countries. In the past, Mother Teresa has received criticism about its standard of care to those it serves, and I do not agree with or condone all of its practices, but the care and quality of life that the sisters, mashis and volunteers provide is better



than the care that those patients can get anywhere else - none. Patients have consistent meals, a bed, cleaner clothes than they came in with, and the smile of volunteers who care for, talk to, and hope that they have made a positive difference in the patient's life, even if they do not show it.

Volunteers flock readily to the Motherhouse to eat breakfast and go out into the community. Everyone is here for a different reason, though few for any sort of recognition. Two of my friends who just left entrusted me with several thousand rupees and directions to donate them to Missionaries of Charity, but not to tell the sisters who it was from. All recognition truly goes to the sisters and mashis, though they don't want it either. At the end of the day, I take an auto rickshaw with other volunteers back to Sudder Street where we live, dancing to the disco lights and singing with the Hindi music in the small cramped cab. We go to dinner or to the bar for a beer to unwind. If we want to take the day to travel, we get on a bus in the morning and go to one of the attractions around Kolkata. We are visitors.....the sisters of Missionaries of Charity live this life, day in and day out, and I give them every bit of respect I can, though as I said, they don't ask for it.

Geology & Geography

Effects of Oil Spill on Gulf Ecosystems

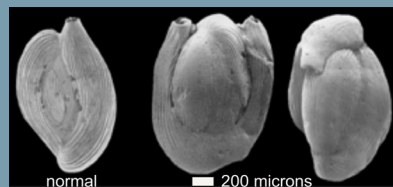
Two Geology and Geography faculty, Ming-Kuo Lee and Ronald Lewis, are helping to assess deleterious effects on the aquatic and coastal ecosystems of the Gulf of Mexico caused by the Deepwater Horizon oil spill in 2010. Lee's research team includes students Mike Natter and Jeff Keevan. Sediments and pore waters recovered from contaminated coastal wetlands are being analyzed for trace metals, organic matter, and microbial communities. Their research aims to determine whether the influx of oil might promote microbial growth and the release/biotransformation of toxic metals such as arsenic and mercury, and if the microbes can digest the lighter oil compounds quickly, within months, while the heavier fractions persist longer in these wetland environments. Their work is funded by the NSF Rapid Program and BP.

Lewis is focusing on the effects of the spill further offshore as a member of an ongoing NOAA-funded survey of microfauna across the Gulf. With funding from BP, and the assistance of students Isabel Leon y Leon and Matt Manley, they are studying the distribution and growth forms of benthic foraminifera and developmental abnormalities such as altered chambers and apertures.

Sediment samples were collected in fall 2010 from mid-shelf to upper-slope depths to map the extent of oil and dispersants that settled in deep water. Sites will be re-sampled in fall 2011 to establish rates of recovery of the benthic communities. Ocean oil spills are a common environmental problem worldwide, so their results will benefit many other affected regions.

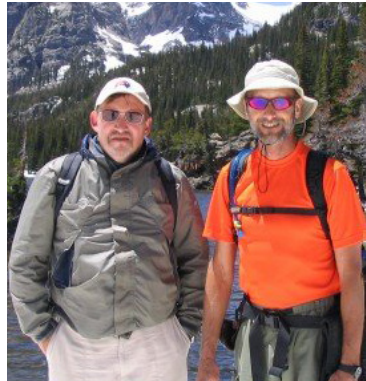


Jeff Keevan (left) and Mike Natter.



Examples of normal (left) and two malformed foraminifera tests (right).

DEPARTMENT HIGHLIGHTS



Interim Dean, Charles Savrda (left) and Interim Department Chairman, Mark Steltenpohl (right).

Emergency measures following the untimely passing of Dean Wooten last November required temporary changes in Geology and Geography administration. Our Chair, **Charles Savrda** (left), was appointed interim dean of COSAM, while **Mark Steltenpohl** (right) was appointed as his interim replacement.

Unrelated to these temporary appointments, **Lorraine Wolf** was named director of undergraduate research for Auburn. She will hold a joint appointment with Geology and Geography and with the Office of the Provost. As director, she will facilitate research and other scholarly experiences for undergraduates across all academic disciplines. Wolf will continue teaching geophysics courses and conducting research related to earthquake hazards.

She recently received a new grant for work in the Pacific Northwest.

Another transition within our department was the resignation of **Josh Inwood**, who left to join the faculty at the University of Tennessee at Knoxville. Visiting Assistant Professor **Jamie Gillen** was hired to teach Inwood's courses.

Professor **David King** and collaborators will present a slate of five papers at the Lunar and Planetary Science Conference in March 2011, which includes CT scans of drill core, the first radiometric age date for Wetumpka impact crater, and the first gravity model of the crater. Graduate student Chad Harrold completed his thesis on Mars geology (co-supervised by Luke Marzen). King also continued his work in petroleum exploration in central Belize.

Ming-Kuo Lee was appointed the first recipient of the Robert B. Cook Endowed Professorship. The Professorship honors Cook for his 35 years of leadership and service to Auburn University in the areas of economic geology and minerals resources.

Associate Professor **Luke Marzen** has been working closely with the Colleges of Business and Engineering on an Economic Development Administration funded project designed to improve recovery efforts following tropical storms on the Gulf Coast. Chetan Sankar from the COB and Marzen received a Campus Technology Innovator award this past summer in Boston, Massachusetts.

Auburn Alumni Professor **Mark Steltenpohl** and master's students Jonny Prouty and John Hawkins continued their geologic mapping in the Caledonian Mountains of Arctic Scandinavia and in the southern Appalachians. Together with **Marzen** and master's student Nick Nuno, research continues on producing vector GIS geologic maps and comparing petrofabrics and physical test results on industrial stone from Alabama (funded by a grant from Vulcan Materials through the National Center for Asphalt Technology).

Associate Professor **Ashraf Uddin** and Professor **Bill Hames** made significant progress in collecting, analyzing and presenting new data on their 3-year ~\$300,000 grant from the Tectonics Program of NSF to study Pennsylvanian orogenic sediments deposited in the Black Warrior and Cahaba basins of Alabama and Mississippi. Uddin also hosted Shams Shaheen, Ph.D., a visiting scientist from Suez Canal University in Egypt, and presented a paper at the southeastern section of the Geological Society of America on their six-month study of heavy minerals in Lake Manzala, a Nile Delta coastal lagoon.

Assistant Professor **Haibo Zou** used uranium-thorium disequilibrium and uranium-lead isotopes to study magma residence times in dangerous volcanoes worldwide and to investigate magma generation and transportation beneath mantle plumes. He published six peer-reviewed articles in 2010.

DEPARTMENT HIGHLIGHTS

Physics

Park Named Marguerite Scharnagle Professor

In the Fall of 2010, Associate Professor Minseo Park was named a Marguerite Scharnagle Professor.

Park received his Ph.D. in Materials Science and Engineering with a minor in Solid State Science from North Carolina State University in 1998. He came to Auburn as an assistant professor in 2003 and was promoted to associate professor with tenure in 2008.

In the classroom, Park has embraced the challenge of teaching introductory physics courses and implements unique, inquiry-based learning techniques. At the undergraduate level, Park calls on his musical talent to instruct physics majors in the physics of music. Students are even required to build and play their own instruments.

At the graduate level, Park has produced four Ph.D. graduates who have transitioned smoothly into the job market.

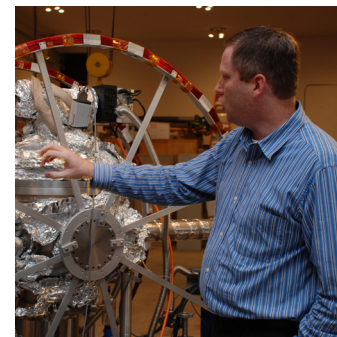
Park's research efforts are multi-faceted and include collaborations with industry, engineering departments, and physics departments. His research is funded by the National Science Foundation, the Department of Defense, and the U. S. Department of Agriculture.

In addition to publishing in refereed journals, he has submitted patent applications. Park's group has built some of the highest performance Schottky barrier diodes in the world wherein they have shown record breakdown voltages and other characteristics demonstrating great promise for commercialization.

In outreach, Park is the departmental coordinator for the Regional Science Olympiad and is one of our most effective tour guides and recruiters. Externally, he has served as the president of the Alabama Chapter of the Korean-American Scientists and Engineers Association.



Joe Perez
Department Head



Allen Landers at work in the Auburn University Leach Science Center.

Allen Landers Named Howard Carr Outreach Professor

Associate Professor **Allen Landers** has been named the new Howard Carr Outreach Professor in the Physics Department. He is the third faculty member to be so honored succeeding Jean-Marie Wersinger and Marllin Simon.

Landers received his Ph.D. in Physics from Kansas State University in 1999. He came to Auburn as an assistant professor in 2003 and was granted tenure and promoted to associate professor in 2008. Landers is an experimental atomic physicist who does experiments here in his laboratory in the Leach Science Center and at the National Light Source at the University of California, Berkeley.

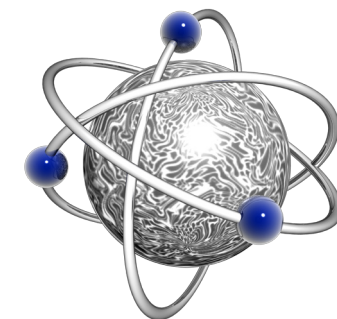
As the Howard Carr Outreach Professor, Landers will establish the Auburn University Summer Science Institute. It will be a week-long summer camp that will provide the very best high school students from within the Auburn region and throughout the state of Alabama with a unique educational experience that would be otherwise unavailable to them through their normal high school courses. The program will run for five course days. Each day will be similar to an intense day of college, but focused on wild and exciting science and math from each of the COSAM departments. In physics, this might include material on Feynman-style quantum electrodynamics or special relativity. Experiments might include nuclear decay, electron scattering from crystals or measurement of the electron's mass-to-charge ratio.

Marllin Simon Retires

December 31, 2010 marked the end of an era for Auburn University's Physics Department. Associate Professor **Marllin Simon** officially retired. Of course, those who know Simon will not be surprised to know that he is still teaching and undertaking a new investigation into the issues involved in science education for boys.

Simon came to Auburn in 1972, i.e., 38 years ago, after getting his Ph.D. in Physics from the University of Missouri. In addition to teaching physics to thousands of students, he is responsible for a list of outreach programs to K-12 teachers and students including: Alabama Science in Motion; the Alabama Math, Science and Technology Initiative; the 4-H LEGO Project; and the NASA Global Climate Change Education Project.

We wish him, his wife Mary and his family much happiness in this next phase of their lives.



Biological Sciences

Oil Spill Impacts On Gulf Marine Plankton

Associate Professor Anthony Moss and Assistant Professor Mark Liles were awarded a research grant from the Alabama Experiment Station to examine the effects of marine perturbations from the Deepwater Horizon Oil Spill on the distribution of microbes in Mobile Bay. They will collaborate with recent Biological Sciences graduate Larissa Parsley, assistant professor at the University of Mobile, to examine microbial dynamics in Mobile Bay. Microbes will be analyzed by cutting-edge molecular techniques, and suspended microbes and oil droplets, by a state-of-the-art FlowCAM, funded by a Major Research Instrumentation-RAPID-Response Grant from NSF to Moss, and co-PIs Liles, Alumni Professor Ken Halanych and DBS Joint Appointee Alan Wilson.

Moss used the FlowCAM to analyze open-water microplankton while on board the NOAA R/V Pisces, during a November 2010 cruise from Pascagoula, Mississippi to Tampa, Florida. While he collected and filtered seawater at the collection site, the microcomputer-controlled FlowCAM generated microbial population statistics.

"Collection of plankton data from freshly sampled water is the best way to understand the natural assemblage because the organisms are very fragile," Moss said. "The FlowCAM greatly speeds our ability to analyze marine and aquatic samples, and provides a unique, high-quality means to compare samples."

The FlowCAM will also be used in several studies on the Gulf recovery over the remainder of 2011.

Another grant to Moss from the MES-C Gulf Research Initiative will fund mesocosm studies of the effects of oil on microplankton, with fellow scientists at the Dauphin Island Sea Laboratory. The FlowCAM will be used to analyze changes in marine microbial populations in response to, and during recovery from, controlled application of BP Macondo oil throughout the year. Auburn graduate students will help collect water samples, run the FlowCAM and, along with undergraduate researchers, will conduct molecular analyses. Results from this study will establish standard data about oil spill recovery in the plankton, allowing oil company workers and scientists to better manage future spills.



Moss collects Gulf seawater from a Niskin bottle rosette, a deepwater collection device dropped overboard and recovered on board ship.

DEPARTMENT HIGHLIGHTS



Jack Feminella
Department Chairman

Biological Sciences faculty responded quickly to the BP Deepwater Horizon oil spill in the Gulf of Mexico by acquiring several RAPID-response grants from NSF and other sources. Associate Professor **Anthony Moss**, Assistant Professor **Mark Liles**, Alumni Professor **Kenneth Halanych**, and **Alan Wilson**, (assistant professor and joint appointee from Fisheries) were funded to study the fate and effects of oil droplets on marine invertebrates in the water column. Halanych is also collaborating on an NSF grant with the universities of New Hampshire and Texas-San Antonio to understand the biodiversity and genetics of benthic (bottom-dwelling) animals in the Gulf. **Liles** received an NIH Phase-I SBIR grant with the Lucigen Corporation, titled "Random Shear Shuttle BAC Libraries for Antimicrobial Discovery from Soil Metagenomes." This research facilitates the search for new antibiotic compounds from natural environments. Assistant Professor **Les Goertzen**, Associate Professor **Jon Armbruster**, and Professors **Craig Guyer** and **Jack Feminella** received an NSF grant to improve the Auburn University Natural History Museum. The project is tied to the new Biodiversity Learning Center, which will be constructed between Rouse and M. White Smith Hall, to house the department's growing biological collections. **Armbruster** was also awarded the NSF grant "Collaborative Planetary Biodiversity Initiative: All Cypriniformes Species," an extension of his 2003 "All Catfish Species Inventory," research to increase taxonomic and phylogenetic knowledge of the world's freshwater fishes. **Halanych** and Associate Professor **Scott Santos** received the NSF grant, "Collaborative Research: WormNet II: Assembling the Annelid Tree of Life," which seeks to unravel the evolutionary history of the world's segmented worms. Professor **James Barbaree** and **Joseph (Kirby) Farrington**, Ph.D., (recently deceased) were awarded an FAA grant to study how different microorganisms survive in airline cabin air and on frequently touched surfaces.

In November, COSAM dedicated the **Molette Biology Laboratory for Environmental and Climate Change Studies** within Rouse Life Sciences, directed by **Halanych**, **Santos** and Assistant Professor **Kevin Fielman**. The state-of-the-art facility enables faculty and students to expand their scientific research within freshwater and marine systems in the context of global climate change, and also provides a basis for cutting-edge interdisciplinary research. Biological Sciences was among the first departments on campus to take part in the new faculty Joint Appointments Initiative, part of the President's Strategic Plan for increasing collaborations across the university. Assistant Professors **Wilson** and **Stephen (Ash) Bullard**, both from the Department of Fisheries and Allied Aquacultures, joined the department as courtesy appointees.

Professor **Geoff Hill** was recognized for his body of research, winning the 2010 Creative Research and Scholarship Award from the Office of the Vice President for Research. Professor **Robert Boyd** was named Learning Community Coordinator of the Year by the Learning Community Activities Board. Associate Professor **Sharon Roberts** and Professor **Ray Henry** were among those Auburn faculty recognized for the first endowed Presidential Professorships: Roberts was named the Ralph "Shug" Jordan Professor of Writing, and Henry became the first William P. Molette Professor of Biological Sciences. Graduate student **Amy Skibiell** was an inaugural recipient of the Dr. Mary Ellen Mazey Annual Graduate Fellowship for Women in Science. **Kevin Kocot** won Best Platform Presentation in Systematic and Evolutionary Biology and **Maria Mazzillo-Mays** won honorable mention for the Adrian Wenner Strong Inference Award at the Society of Integrative and Comparative Biology Meeting in Salt Lake City, Utah. **Jessica Stephens** received a research award from the Graduate School and **Shanna Hanes** won a Sigma Xi research grant-in-aid. The following students were recognized for their departmental achievements: **Ivey Ellis** (Outstanding GTA); **David Weese** (Margaret McNeal Arant Award for Outstanding Graduate Student); **Susan Balenger** (Kenneth Otis Award); and **Brianna Dailey** (Outstanding Undergraduate Teaching Assistant).

DEPARTMENT HIGHLIGHTS



Vincent Ortiz
Department Chairman

Two long-serving members of the faculty, Professors **W. C. Neely** and **Robert Donnelly**, retired after 44 and 31 years, respectively, of dedicated teaching, research and service.

Konrad Patkowski, a postdoctoral fellow at the University of Delaware, accepted a position as assistant professor and will begin teaching in spring 2011. Patkowski is a physical chemist who specializes in the theory of intermolecular forces and electronic structure of molecules.

Veselin Ruychev, Ph.D., was hired as the department's new laboratory manager for organic undergraduate courses.

Two new instructors, **Howard McLean**, Ph.D., and **Ashley Curtiss**, Ph.D., joined the department and will teach introductory courses in general chemistry.

Assistant Professor **Wei Zhan** received an NSF CAREER Award for his research proposal titled "Molecular Photovoltaics – A Lipid-Based Approach." The five-year award is the third granted to the Department of Chemistry and Biochemistry since 2006. Associate Professors **Holly Ellis** and **Susanne Striegler** are previous recipients.

Assistant Professor **Anne Gorden** was the recipient of the 2010 Delta Gamma Foundation Faculty Award. The award recognizes the ability to challenge, support and stimulate undergraduate students. She addressed several hundred collegians and alumnae at the Delta Gamma Convention's Foundation Banquet in Denver, Colo.

John Gorden was designated Professor of the Year by the Honors College.

For his service to the American Chemical Society, Assistant Professor **Orlando Acevedo** received a Chemluminary Award, which recognizes outstanding contributions at the local and regional level.

Professor **Stewart Schneller**, former dean of COSAM, was a coauthor of the article "2'-O Methylation of the Viral mRNA cap Evades Host Restriction by IFIT Family Members," which was published in the highly prestigious journal *Nature*.

HaloSource Inc., the clean water and antimicrobial technology company with origins based on a revolutionary biocidal technology developed at Auburn University, completed an initial public offering on London's AIM stock exchange. The company raised approximately \$80 million before expenses, \$50 million of which was put toward the company's business expansion efforts and \$30 million for select selling shareholders. HaloSource was formed in 1997 by microbiologist Jeff Williams in collaboration with Auburn Professor Emeritus **S. D. Worley**. Worley developed the core biocidal technology that Seattle-based HaloSource has commercialized.

Department Chairman **Vincent Ortiz** has accepted a five-year term on the Editorial Board of the *International Journal of Quantum Chemistry*.

The National Organization for the Professional Advancement of Black Chemists and Chemical Engineers announced that its 2011 Southeast Regional Meeting will be held at Auburn.

A collaborative agreement negotiated with the Department of Chemistry of the Metropolitan Autonomous University of Mexico in Iztapalapa, Mexico City, Mexico, was approved by the presidents of both institutions and will provide for the exchange of students and faculty.

Michael Meadows, Ph.D., the director of the Nuclear Magnetic Resonance Laboratory, has also taken charge of the department's Powder X-Ray Diffractometry Laboratory.



Michael Meadows (L) and Eduardus Duin with the dissected NMR magnet.

Chemistry & Biochemistry

Unique Learning Tool for Chemists

The Department of Chemistry and Biochemistry, which houses a full complement of instruments crucial to the pursuit of chemical research, is well equipped with modern nuclear magnetic resonance spectrometers (NMRs). An NMR is a high-tech magnet and associated electronics that allows researchers to identify numerous qualities about specific molecules such as composition, movement and three-dimensional structure. Inside the NMR magnet is a superconducting coil of wire, in a bath of liquid nitrogen. A liquid nitrogen bath is separated from the liquid helium bath by a vacuum and a thermal radiation shield.

The magnetic strength of an NMR is the key component to producing effective, high-quality, accurate research results. As a comparison, the Earth's magnetic field is measured at 30 microTesla to 60 microtesla. The outdated NMR in the chemistry department that was dissected had a field strength, when it was in use, of 5.87 Tesla or almost 150,000 times stronger than Earth's magnetic field. The highest NMR magnet field strength commercially available today is almost four times higher. As a result, Michael Meadows, Ph.D., director, NMR Lab, and Eduardus Duin, associate professor in the Department of Chemistry, joined together to dissect the outdated NMR magnet and utilize it as a learning tool. The actual cutting of the NMR was done by Patrick Stringer, shop manager in the Department of Physics.

"This is very exciting," Meadows said. "Most people have never seen the inside of an NMR magnet. Having this at Auburn University will give our students a practical understanding of what's going on inside as they use our machines."

Although chemists regularly utilize NMRs, rarely does anyone have an opportunity to get an inside look at the inner makeup of this specialized equipment. In fact, estimates indicate that there are only around 10 dissected NMR magnets in the world. Auburn University was able to dissect the instrument with the aid of a Breeden grant. For more information or to see the dissected NMR, contact Meadows at mdm0013@auburn.edu.

Mathematics & Statistics

Rodger Named Associate Dean for Research

Chris Rodger, the C. Harry Knowles Professor for Research in Mathematical Instruction, was named Associate Dean for Research and Graduate Studies for the college he has served for over 25 years. Recipient of a wide range of awards and accolades, including the 2006 Scharnagel Professorship for teaching, research and outreach, the 2008 Auburn University Outreach Award and the Hall Medal by the Institute of Combinatorics and its Applications, Rodger holds bachelor's and master's degrees from the University of Sydney, Australia and a doctorate from the University of Reading, England. At Auburn, Rodger has received numerous grants for his outreach work and was among the six principal investigators for a \$9 million National Science Foundation grant for "Team Math."

As associate dean, Rodger will lead continued efforts to assist faculty on grant and contract opportunities, proposal development, and maintain grant and contract records for the college. Rodger will also promote and develop multidisciplinary research initiatives across Auburn's campus.

Rodger, in collaboration with Distinguished Professor Curt Lindner, also published the second edition of their book "Design Theory."

DEPARTMENT HIGHLIGHTS



Michel Smith
Department Chairman

Mathematics & Statistics is in the beginning phase of creating a Statistical Consulting Center for Auburn researchers and external researchers.

Several research grants are in progress in the department. Professor **Wenxian Shen** is the PI for a three-year NSF grant in the amount of \$203,183. Shen is studying the dynamical aspects in nonautonomous and random differential equations arising from a variety of physical and biological problems. In particular, he is looking into (1) spectral theory for nonautonomous and random linear dispersal evolution equations on bounded domains and its applications to evolution of dispersals in ecology and biology; (2) spatial spread and

front propagation dynamics in unbounded inhomogeneous and random media arising from phase transition, nerve propagation and population genetics. The research will provide deeper insight into the understanding of the effects of the inhomogeneity of the underlying media on the dynamics of many biological and physical models.

Professor **Yanzhao Cao** continues his NSF-funded research for his grant (Numerical Solutions of Time-Dependent Stochastic Partial Differential Equations), which is a two-part project. The first part includes theoretical analysis where Cao will work to create fast and highly accurate numerical algorithms to solve stochastic partial differential equations, as well as conduct error analysis on both the new algorithms he constructs as well as existing algorithms. Secondly, Cao's findings will contribute to an NSF-supported project performed by an interdisciplinary team whose goal is to create numerical simulations of ground-water flow in karst aquifers.

Professor **Amnon Meir** is the PI for a three-year, \$175,777 NSF grant titled "Studies in Poromechanics and Electro-Poromechanics." His research explores mathematical problems arising from poromechanical models. These types of equations are mathematically challenging and computationally demanding because they require the simultaneous solution of the equations of elasticity and those of fluid mechanics. More complex models may also account for electromagnetic, chemical or thermal effects, in which case Maxwell's equations, equations describing chemical reactions, or an energy equation, must also be solved simultaneously. Meir and his team of students will study poromechanical models analytically, and develop and rigorously analyze finite element-based methods for approximating solutions of various model problems in poromechanics. The research will advance the underlying mathematical theory and the science of computer simulation of large-scale, complex, coupled, multi-scale phenomena.

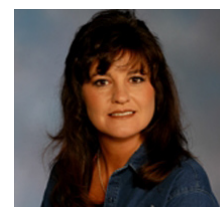
Associate Professor **Peng Zeng** is also the PI for a three-year NSF-funded grant. The grant, "Collaborative Research: Integral Transform Methods for Sufficient Dimension Reduction in Regression," is in the amount of \$49,997 and is in collaboration with Yu Zhu, Ph.D., at Purdue University. Their work aims to develop theory and methods for sufficient dimension reduction in regression analysis involving a large number of predictor variables. Others from the department who are performing grant-funded research include: collaborators Associate Provost for Diversity and Multicultural Affairs, **Overton Jenda**, and Professor **Peter Johnson** who have an NSF Research Experience for Undergraduate grant, which brings undergraduate students to campus in the summer to work on mathematics problems and explore new research; and Professor **Mark Carpenter**, who has an FAA grant.

Professor **Yonsheng Han** recently published his book, "Harmonic Analysis on Spaces of Homogeneous Type."

Two graduate students in the department were awarded a 2010-2011 Dean's Research Award. The winners were: **Mary Clair Thompson**, who is pursuing a Ph.D. in mathematics under the guidance of Professor **Tin-Yau Tam**; and **Aijun Zhang**, a doctoral student who is working with Professor **Wenxian Shen**. **Julie Rogers** has been selected for the 2011 COSAM Dean's Teaching Award for Graduate Teaching Assistants.

A MESSAGE

From the Director of Outreach Mary Lou Ewald



Mary Lou Ewald
Director of Outreach

In outreach, we continuously strive to improve existing programs and create new programs for specific target audiences. This year we were fortunate to receive \$358,000 from the Alabama Technology Network to expand our BEST (Boosting Engineering, Science and Technology) Middle

and High School Robotics Program in Alabama's 22 highest unemployment counties. The response has been overwhelming! Dozens of schools from rural communities have joined the program—schools that otherwise would likely never have been exposed to BEST. Because of the program's outstanding reputation and success, two community colleges in the state are starting "hubs" (competition sites) this fall: *Central Alabama BEST* at Central Alabama Community College in Talladega; and *Northwest Alabama BEST* at Northwest Shoals Community College in Muscle Shoals. This fall, **approximately 170 schools and over 4,000 students** will participate in the eight BEST hubs across Alabama: Mobile, Dothan, Auburn, Birmingham, Talladega, Hanceville, Decatur and Muscle Shoals. It has been so rewarding to watch the program spread across the state and Southeast since COSAM started the very first BEST program in the South in 2001 in partnership with the Samuel Ginn College of Engineering.

As for new programs in 2010, we created two that address specific needs in our community. Science Investigations is a new lab-based course that provides a meaningful, hands-on science lab experience for home-schooled students in grades 6-12. The program meets once a month and teaches students the process of scientific experimentation and methods of presenting their findings through written reports and verbal communication. Thirty-seven students from across the state participated this year.

For our elementary-aged community, we created a new comprehensive summer science-enrichment program called Science Matters that targets students in second through fifth grades. The program takes a multidisciplinary approach to teaching science by integrating art, language arts, technology, math and project-based learning. *Science Matters* was such a success in summer 2010 that we are expanding its reach to include students in first through sixth grades in summer 2011. Read more about it in this year's outreach focus story.

For more information on these, and other, programs offered by COSAM outreach, visit our website at www.auburn.edu/cosam/outreach, or email us at COSAM_outreach@auburn.edu. We'd love to hear from you and hope to see you at a program this year!

In summer 2010, COSAM launched an unprecedented interdisciplinary program called Science Matters, which offered seven weeks of science enrichment for some 280 school children.

"COSAM's outreach department brainstormed on how we could take some of our smaller programs like GUTS (Getting Under the Surface), which is once a month, and create a program that is more thematic and comprehensive based on weaving language arts, technology and art projects into science concepts," said Mary Lou Ewald, director of COSAM Outreach. "We knew we had to be careful how we marketed it because parents didn't want something too rigid, yet parents also don't want their children playing mindless games all summer. We had to find a happy medium."

Ewald filled all programs within one month of sending flyers home with local elementary school children.

She also collaborated with Associate Professor Charles Eick, of the College of Education, to create a learning environment for rising second- through fifth-grade students, as well as provide a platform for elementary education and masters of education students to observe and participate in curriculum delivery.

"The thing we liked most about Science Matters is the real emphasis on science learning. Typically there's an emphasis on the fun things and not the nature of the curriculum. This is the first concerted effort to create something year after year and build upon the interest of learning science," Eick said.

Students from the College of Education benefited from the strong, on-the-ground mentorship with the junior high science teachers hired for the program. Education majors would shadow the master instructors and toward the end of the week, take a more active role in teaching.

"Having these master teachers bridge the gap between content knowledge and the application of teaching kids is ideal because they understand how to teach, but also have the content knowledge for what they are teaching," Eick said, adding that the program designed for outreach education in sciences ends up a recruiting tool for science teachers as well.

The program offered seven independent weeks of themes including: Earth and Worms, NASA Design Squad, Rocket Challenge, Art in Science, BizWorld, Soda Pop Science and Furry Friends. Field trips included Starbase at Maxwell Air Force Base in Montgomery, Alabama, Jule Collins Smith Museum of Art in Auburn, and the Auburn University Forest Ecology Preserve, to name a few. Eighty-six percent of parents said their child's interest in science grew as a result of the program, and 94 percent said they would recommend the program to other parents.

Ewald and Eick hope to expand the program through a grant funded by the National Science Foundation.

"We'd like to expand the on-campus program to the Boys and Girls Clubs and lower-economic school districts in our area, maybe incorporate some after-school programming," Eick said. He and Ewald are currently writing a grant proposal for up to \$250,000 over a two-year period and plans are already under way for summer 2011.

"There's no other academic program like this on campus, or in this region, for this age group. We're thrilled at the immediate success of Science Matters and are expanding the impact in summer 2011 by offering programs for 400 students in first through sixth grades," Ewald said.

BY: CHRISTY KYSER TRUITT

SCIENCE MATTERS

Leaving Taiwan

BY: CHRISTY KYSER TRUITT



論理

Fate directed the journey of Jin-Dih Shih from Taiwan to Auburn University in 1966. The son of a Chinese Air Force officer, Shih was familiar with the university due to his father's time at Air University at Maxwell Air Force Base in Montgomery, Alabama. Shih obtained his undergraduate degree in Taiwan, but economic and political conditions were unfavorable to advanced degrees.

"I went to U.S. Information Services, which is a place for cultural exchange of information. In looking at a list of universities, Auburn was at the top due to alphabetical listing. Because I had heard of Auburn, I decided to go there, especially when I learned of a graduate teaching position," said Shih, adding he did not Americanize his name upon arrival because he always thought he would return to his homeland.

Growing up in Taiwan, Shih explains that students were taught information by their instructors.

"You don't learn to think for yourself in Taiwan. My first class at Auburn, the professor walked in, put four lines on the blackboard and dismissed class. I was like, 'Where are the notes? Where are the books?' I had come to Auburn to learn," Shih said. "The professor said, 'Just think.' It completely changed the way my mind worked. I learned to think logically. It changed my life."

After obtaining his master's degree in mathematics in 1968, Shih taught in Talladega, Alabama, having brought over his wife, Wendy, from Taiwan.

"She always knew she would be an American so she got an American name," laughed Shih.

The economic climate was not conducive for employment in Taiwan so Shih remained in America.

"Back in the mid-'70s, it was easier to obtain an immigration visa if you had a higher education degree. If

I went back home, I might have to return as a refugee. Plus, it was so easy to work here. Americans just don't realize the wonderful opportunities this country provides."

Providing for his growing family prompted Shih to take the first exam for the actuarial program in the insurance industry. He passed with flying colors and soon employers began calling.

"Someone asked me what I thought about becoming an actuary. I said, 'Does it associate to mortuary?' I had never heard of actuary. But the insurance companies needed someone with logical thinking and mathematical analysis skills. I was one of the few in the industry with a math degree at the time," Shih said.

Shih references an old Chinese proverb to describe his early years in the insurance industry – *When there's no tiger on the mountain, the monkey is the king*. He says he was very lucky to get into the field early. Fate carried him west to California, over 10 years after he first stepped off the plane in America. The couple spent the next two decades raising a son and daughter while Shih gathered information and projected outcomes.

"You see, my job was to take lots of information, decipher it and then come to a logical conclusion. Luckily, I was right more times than I was wrong. I owe this way of thinking to that first class at Auburn University," Shih said.

Retired since 2005, Shih now analyzes his golf game at least three times a week just outside of Los Angeles, California. He also volunteers with elementary school children through the Actuarial Foundation Project where he inspires third- through fifth-graders to find fun in math.

"I put a problem on the board and tell them the sooner they figure it out, the sooner they can go to the playground. I try to teach them logic at this age because their mind is still pure. How can math be intimidating?" asked Shih, adding that Auburn is one of the few universities to foster this skill. "It's important for me to give back because of this reason."

COSAM Names 2010 Distinguished Alumnus



Dr. Lloyd Nix accepts the Distinguished Alumni award from Auburn University Provost Mary Ellen Mazey.

Dr. Lloyd Nix was named the 2010 COSAM Distinguished Alumnus. The award is given to a candidate who has achieved significant stature in their chosen field, and who demonstrates a history of commitment to Auburn University and COSAM.

Dr. C. Lloyd Nix graduated from Auburn University in 1959 with a degree in pre-dentistry. While at Auburn, he was the quarterback of Auburn's 1957 national championship football team. His wife, Sandra (Sandy) Ross Nix, graduated from Auburn University in 1960 with a degree in elementary

education. While at Auburn, she was a member of Delta Zeta sorority, president of Panhellenic (which was selected as the number one Panhellenic in the nation), elected Miss Homecoming 1959 and listed in Who's Who.

Lloyd and Sandy married after graduation, and they moved to Birmingham, where he attended dental school, and Sandy taught first grade at Cahaba Heights Elementary. After Lloyd's graduation, they lived in Amarillo, Texas while he served in the U.S. Air Force.

Fortunately for the city of Decatur, Alabama, Interstate 65 was still a work in progress. While traveling down Highway 31, Sandy suggested a brief stop at the Decatur Chamber of Commerce. Conversations that day led to the connection with a local dental practice that Lloyd would lead until his retirement, almost 35 years later, in 1999.

Lloyd's involvement in the civic, religious and cultural life of Decatur and the state of Alabama includes serving as former president of the Morgan County Dental Association, former chairman of the Council on Ministries of Central United Methodist Church and board member for the Alabama Institute Foundation for the Deaf and Blind. Sandy has served as secretary of the Morgan County Auburn Alumni Club, treasurer of Decatur Junior Service League and treasurer of Trowlers Garden Club. She is a past member of Cotillion Club and Decatur General Hospital Foundation. They are both members of central United Methodist Church where Sandy taught Sunday School and was a member on the Council on Ministries.

Lloyd is a former president of the Auburn Football Letterman's Club, the Auburn Alumni Association and the Morgan County Auburn Club. He served as chairman of the Auburn Research Advisory Board and member of the Auburn University Foundation. His tireless commitment and love for Auburn is evidenced also through his service on the Auburn University National Campaign Committee; he served as co-chair for the North Alabama regional campaign. In 2008, Lloyd was awarded a Lifetime Achievement Award by the Auburn University Alumni Association.

Lloyd and Sandy have two daughters, Denise Slupe and Natalie Adams, both Auburn University graduates who live in Birmingham, and six granddaughters. The oldest granddaughter, Caroline Slupe, enrolled at Auburn this fall.

Auburn Scholarship Campaign

HELPING OTHERS ACHIEVE THEIR GOALS

Auburn University and COSAM have a long tradition of academic excellence anchored by a dynamic student body. However, tuition and fees are obstacles for many promising students, despite the university's best efforts to contain costs. Scholarships, provided to hard-working and deserving individuals, can ensure that opportunities to excel at the university are passed on to the next generation of the Auburn Family.

The Auburn Scholarship Campaign is a new initiative dedicated to increasing funds to support current students and competing for future scholars who will enhance the intellectual capability on the Auburn campus. This unique opportunity will offer an increased return on donor investments while providing considerably larger scholarships to named recipients.

The campaign is dedicated to providing Auburn's brightest students with additional scholarship funds. Earnings from the endowed scholarships can be paired with current Spirit of Auburn and other academic scholarships, ranging from \$2,500 to more than full tuition annually. As a result, the student receives a more attractive and competitive scholarship award. In addition, the entire amount is awarded in the donor's name. For more information, please contact the COSAM Office of Development at 334.844.2931.



Why people give and how it makes them feel is quite different amongst different donors. When we see the high technology our world is competing in, it is even more important that you help enhance education and help prepare young men and women to meet the challenges. As the cost of education continues to rise, financial assistance becomes more important. It is difficult to describe the feelings you receive when you observe a young person pursuing his or her dreams due to your financial generosity. There are so many ways to participate: through outright gifts, various trusts that ensure you and your spouse receive quarterly compensation until death, insurance policies, wills, etc. Actually, if you want to help, there is a way designed for you.

Many of these ways to participate can positively impact your income now through the avoidance of capital gains tax on appreciated securities. Recruiting outstanding students and faculty is mandatory in today's competitive environment, and that cannot occur without sufficient financial funds.

I have always admired people who share and enable others to achieve their goals. I was fortunate to have the GI Bill from WWII and Korea which afforded me the financial necessities to achieve my educational goals. My involvement with COSAM has illustrated numerous ways to participate in ways to give back.

I worked for a company who stressed the importance of continuous education. It soon became apparent that it felt good to know your help truly enabled others to achieve their goals. It gave you a feeling of accomplishment knowing you had the ability to help those not as fortunate or financially capable. Philanthropy has both tangible and intangible rewards among which some are humanitarian, some are financial and others are personal. Working with a development officer will identify the best plan for you and your family.

-Ed and Diane Wampold



We both attended Auburn and actually met there. We enjoyed our time as students and wanted to make the Auburn experience available to students in the future. We have been giving donations to both COSAM and the College of Business over the years. This year we decided to endow a scholarship in each college so that opportunities would be available for worthy students for many years to come. We are thankful for our time at Auburn and how it has impacted our lives. We hope this scholarship will have a positive impact on a young person's life and help them to achieve their goals.

-David and Roberta Byrum



Dr. Michelle W. Reed, a radiologist at East Alabama Medical Center, recently established a scholarship endowment in the College of Sciences and Mathematics in memory of her parents.

"My education at Auburn prepared me well for medical school course work and helped me to move smoothly into my career in radiology," she said. "My husband John and I share the goal of helping to educate our future health care professionals and basic scientists. I am very proud that Auburn is my university."

Lee County Medical Society Establishes Scholarship



Dr. Steven Presley presents a check to Larry Wit, associate dean of academic affairs, to establish the Lee County Medical Society Scholarship.

A new scholarship has been established in COSAM that will benefit future generations of promising pre-medical students. The 134-member Lee County Medical Society, the local chapter of the American Medical Association (AMA), has provided \$12,500 to endow a scholarship for a Lee County, Alabama, student. Steven Presley, '90, secretary-treasurer of the local AMA chapter, says they want to reward motivated and deserving students and hope to enhance their relationship with the Auburn-Opelika medical community.

"They will head off to any number of excellent medical schools, and it's our hope they will consider returning home to practice. The scholarship is one way we can connect them to their roots and the Auburn experience," Presley said.

The society's generous gift fully endowed the scholarship, which will be awarded each year beginning this fall. However, the Lee County Medical Society will continue to build the endowment with the hope of providing additional scholarships.

Celebrating the life, passion and mission of a great naturalist, teacher and friend ...

The Dr. George W. Folkerts Memorial Scholarship in the College of Sciences and Mathematics



George Folkerts—the name is synonymous with conservation biology and natural history at Auburn University. During his 38 years as a professor, he stamped indelibly a love for nature, conservation and all things beautiful in the minds of his students. His remarkable ability to generate excitement in learning and his passion for conservation were unsurpassed. One of the most popular professors on campus, he made learning fun and interactive, and his enthusiasm sparked a love of the natural world and a

conservation ethic his students continue to carry.

An effort is currently underway to honor Folkerts with the establishment of a scholarship that will be awarded to students in zoology and botany with special interests in conservation, ecology, evolution and biodiversity. During the Auburn Scholarship Campaign, a unique opportunity exists to pair new endowments with current Spirit of Auburn Scholarships. As a result, the students will receive a more attractive and competitive scholarship award, while the entire scholarship is awarded in Folkerts' name.

More information is available on the Folkerts Memorial Scholarship and other opportunities to support COSAM through the Office of Development at 334-844-1449.

I thought I was going to be a herpetologist but it turned out that I was interested in everything in nature. I have managed to keep working over the years as a result of two factors, the discovery of the wonders in nature and seeing the light of understanding in the eyes of students.

-George W. Folkerts (1938-2007)

During my years at Auburn, I was fortunate to have many great professors. Among the best of these was George W. Folkerts. The scope and depth of his knowledge regarding all things zoological and botanical was incredible, but more impressive was his passion for teaching. I feel blessed that I knew George as both a mentor and a friend. The times we spent together doing fieldwork were especially memorable and I will cherish these memories always.

-J. Ralph Jordan '70

LIFE AFTER FOOTBALL

By Candis Hacker Birchfield



COSAM STUDENT ATHLETES EXCEL

As a tribute to Auburn's 2010 Football National Championship, take a look at some COSAM graduates who managed to balance the rigors of football with the demands of the classroom.

Win Lyle

Some may remember his field goal against Alabama in the 1987 Iron Bowl that put Auburn ahead for a final score of 10 to 0. Others will call to mind his field goal in 1989 against the Florida Gators that set Auburn up for a win of 10 to 7 and put the Tigers in the driver's seat for their third-straight SEC Championship. Auburn's starting field goal kicker from 1987 to 1989, Dr. Win Lyle '89, was well-known for his accomplishments on the football field as Auburn held the SEC title all three years and carried three Iron Bowl victories along the way.

What's not widely known is during his time as an athlete, Lyle was also excelling in the classroom. A pre-medicine psychology major, Lyle maintained an excellent grade point average so that he could attend medical

school if a career in professional football didn't pan out. And so, after graduation, Lyle attended training camp with the Phoenix Cardinals, followed by some time playing for the Birmingham Fire in the World League before heading to The Chicago Medical School in Chicago, Illinois.

"I thought COSAM did a real good job preparing me for the next level in medical school. I went in Chicago and was in school with a lot of people from around the country, including some that had been in Ivy League schools. Because of the background I had at Auburn, I was prepared to compete with anyone else no matter where they were from. I thought Auburn gave me a good foundation," Lyle said. "I was able to succeed in medical school, finish high up in the class, and get one of the more difficult residencies, orthopedic surgery. I have nothing but praise for Auburn as far as the education I got and

the preparation that COSAM gave me."

Lyle says his experience as an Auburn University athlete also contributed to his success in medical school.

"As a student athlete at Auburn, I didn't have any time to waste. Football got me studying ahead of time and I stayed current with my classes rather than cramming at the end. That strategy came in handy once I got to medical school," Lyle said. "I felt I gained a lot of experience learning things on the field about hard work, perseverance and team work. And Coach Dye worked us really, really hard. Even as a kicker, we had to do the same stuff everyone else had to do in the off season. I felt like if I can make it through Coach Dye's workouts then I can make it through anything. Even today, I can encounter difficulties and the experience of the past helps me get through them."

After finishing medical school, Lyle



completed his residency in orthopedic surgery in Dayton, Ohio, followed by a sports medicine fellowship in Columbus, Georgia. Currently, he is an orthopedic surgeon with an emphasis in sports medicine at East Alabama Orthopedics and Sports Medicine in Opelika, Alabama.

“I went into orthopedics because I was always interested in it, and as a football player, if I got hurt, I always went to see the orthopedic surgeon,” Lyle said. “I treat every age group from young kids to people that are 100 years old. It is very rewarding and I really enjoy the sports medicine aspect of it. With sports medicine, I can still continue to be involved in sports, even though I am not playing. I enjoy the challenge of getting young athletes back to 100 percent and on the playing field.”

Bryan Northcutt



Bryan Northcutt, Mathematics '96, was a walk-on player for Auburn from 1991 to 1995.

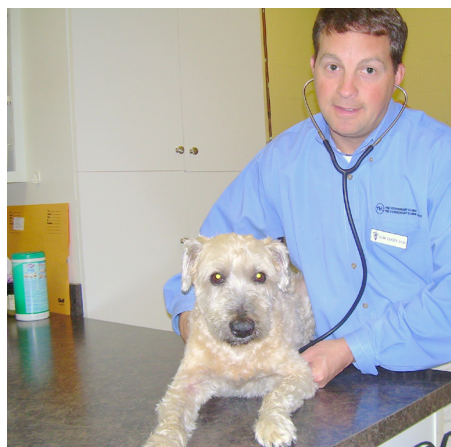
“In seventh grade, I realized I could kick a football, and that was my ticket to playing for Auburn. I grew up an Auburn fan, and like any kid, I dreamed of playing for Auburn. In 1994, I competed for the starting job with Matt Hawkins and ended up the backup. Then, in 1995 I was the holder so I got to travel and play with the team,” Northcutt said.

Northcutt stayed at Auburn after graduation and earned his master's degree in education. He then accepted a teaching position at Opelika High School where for 10 years he taught ninth through 12th grade and coached football, baseball and golf. Three and a half years ago, Northcutt left his career in education to operate his own business, Beacon Insulation.

Today, Northcutt recalls his years as a

student athlete at Auburn as formative in terms of how he approaches life.

“As a football player, you end up sacrificing a lot in terms of a social life. I replaced my social life with football. But football was not too stressful when it came to academics because we had consistency in our schedule. So I knew when it would be a busy day, and I planned accordingly. Football forced me to have a schedule that accounted for academics. For a regular student, when you have a lot of free time and don't know what to do with it, it's easy to let the freedom take over. I had to adjust and schedule academic work and make sure I had time for it. Football almost pushes you to be a disciplined student,” Northcutt said. “Then, when I went into teaching and coaching, I kept the same discipline. Now I am just used to working a whole bunch and don't know any different.”



Sean Carder

Dr. Sean Carder, Zoology '93, was a walk-on wide receiver for Auburn who earned the chance to play.

“The experience of playing football for Auburn is something you never forget. We had the highest of highs and the lowest of lows, and I made a lot of great friends. And sports, particularly football, are a passion. It involves a lot of hard work and a lot of hard days but it all paid off,” Carder said. “I was a walk on when I came to Auburn and those guys have to go through some orientation, get involved with the team, and take your licks. Having been through something like that and earning the chance to play is something to be proud of. Coaches are looking to play the guys on scholarship

so every year it was like starting over through hard work and showing up every day. Getting to play - you can't beat that. Being on the field and making a catch every now and then, you can't beat it.”

Carder was a part of the Auburn football team from 1989 to 1993, so he played for both Pat Dye and Terry Bowden.

“In '92 we had a tough losing season, and then, the last game against Alabama is when Coach Dye announced he wasn't coming back again. He was a player's coach and cared about the players and was kind of a father figure away from home, and I vividly remember him coming into the room and telling us he was leaving. It was bitter. I think we were so emotionally drained after that, the Alabama game was a very difficult game to play,” recalled Carder. “Then, in '93, we went undefeated. I think it's a tribute to the guys on our team. You get a lot of individuals, not the absolute best talent according to everyone else in the nation, but we had a group of seniors that came together and gelled very well and we went undefeated. We had the lowest of lows to highest of highs. It was a lot of fun.”

Throughout the highs and lows of the football field, Carder not only managed to receive his bachelor's degree, he also started veterinary school at Auburn during his senior year as a football player.

“It was definitely a little bit crazy,” Carder said. “I had school all morning, practice in the afternoon and study when I was done. But I think athletics in general teaches you responsibility, how to handle yourself in adversity and how to handle different challenges. There are so many descriptions you could use for what you learn: character, dedication and learning to follow through with something. Like when Coach Dye told us he was leaving, that's one of those situations called ‘adversity’ and that's something you will face throughout your life.”

After completing veterinary school, Carder went to work at The Veterinary Clinic in Marietta, Georgia. The historic clinic was established by Auburn School of Veterinary Medicine graduate Dr. John T. Riddle. When the clinic opened, Riddle was the only veterinarian in Cobb County, Georgia, and was one of only a handful of veterinarians in North Georgia. Carder bought the practice in 1997 and also operates two additional clinics and two emergency clinics with the assistance of two partial owners.

Throughout the years as Carder has built his career, he has relied on the lessons he learned on the field, playing football for Auburn University as a COSAM student.

“Life is not always going to be laid out perfectly for you no matter what you are doing,” Carder said. “How you handle yourself in tough situations says a lot about you, and that's what athletics is all about. It teaches you all those important character builders.”

Jackson Timmerman

Recent COSAM graduate Jackson Timmerman, Physics '10, is reaping the rewards of playing football for Auburn while balancing a strenuous academic schedule in COSAM as he navigates his way through the medical physics program at the University of Pennsylvania.

“Auburn is one of those schools that stresses academics, and I was given access to all the academic resources I could possibly want,” Timmerman said. “The professors at Auburn were helpful too. While you didn't receive any special favors for being an athlete, you weren't treated as an outcast either.”

Timmerman was a walk-on player for the Tigers from 2006 to 2008, and was in charge of flipping the sideline charts for then-offensive coordinator, Tony Franklin.

“I was a center and right guard. Playing for Coach Tuberville was fun, and playing for Auburn was a lifelong dream for me. My grandfather, mom and dad all went to Auburn. I also have five aunts and uncles, a cousin, and a younger sister who graduated from Auburn,” Timmerman said.

Although Timmerman has biological family that attended Auburn, he is also attuned to the concept of the Auburn Family.

“As I learned to balance the demands of two stressful things such as physics and football, you not only have to rely on yourself, you have to have a strong support cast. You can still feel like an individual student with as many faculty members helping you as you can find, even though Auburn is a big campus. I think the term Auburn Family is exemplified by that. Auburn is what you make of it. If you want a family, you've got a family. If you want to try and do it on your own, you can do that too,” Timmerman said.

Timmerman can name a host of COSAM faculty members he considers to be a part of his Auburn Family including, Mathematics Professor John Holms, Emeritus Chemistry Professor T. R. Webb, Chemistry Professor Holly Ellis, and Physics Professors Stuart Loch, J-M Wersinger, Eugene Oks, Junichiro Fukai, and Physics Department Head, Joe Perez.

Timmerman also maintains contact with his student advisor, Beverley Childress.

“I met my girlfriend of five-and-a-half years in Mrs. Childress's pre-health class my freshman year. And Mrs. Childress was always a big help. The pre-health class taught me a lot, and she always answered questions about classes and was there for me personally. If I was really stressed out or needed anything, she was there for me,” Timmerman said.

Timmerman, who is active in the Philadelphia Auburn Club, plans to maintain the lessons he learned from football and

COSAM, as well as his connection to the Auburn Family as he works to complete his advanced education and start a career.

“I have a contract with Southeast Alabama Medical Center in Dothan to come back and work after graduation. I will probably be a medical physicist and radiation safety officer, but I will specialize in therapeutic radiation oncology. I will essentially monitor the facilities use for treatment as well as the treatment planning and design for cancer treatment using radiation,” said Timmerman, adding “I miss Auburn as much as I miss football. Auburn's a special place and it always will be. As soon as I graduate, football season tickets will be my first purchase.”

Lloyd Nix

Dr. Lloyd Nix, Pre-Dentistry '59, was Auburn's starting quarterback on the 1957 National Championship football team. During his time at Auburn, Nix was also on the baseball team and was named All-SEC first baseman on the 1958 SEC Championship team and was undefeated as the starting pitcher on the 1959 baseball team. Striking a perfect balance between his athletic and academic pursuits while at Auburn was the key to his success both on the field and in the classroom.

“The lessons I really learned at Auburn playing football and baseball were about patience and time management,” Nix said. “I had to take a lot of labs and I could only take the lab courses during slower athletic periods in the winter and some summers. By managing my time, being patient, and taking the courses only when I could, I was able to succeed.”

In addition to lessons about patience and time management, Nix believes the education he received at Auburn prepared him well for dental school at the University of Alabama School of Dentistry.

“We had more Auburn students in my freshman dental school class than any other school and we were all prepared,” Nix said. “COSAM is still the best for medical and dental school preparation, and Auburn is a leader in terms of acceptance rates to medical and dental school.”

Today, Nix and his wife, Sandy, Education, '60, continue to support Auburn in a myriad of ways. In recognition of Nix's consistent dedication to Auburn University, COSAM named him the 2010 Distinguished Alumnus. For more information about Nix, see page 19.

Mike Helms

Dr. Mike Helms, Pre-Dentistry '65, played football for Coach Shug Jordan from 1962 to 1964.

“Coach Jordan was a mild-mannered gentleman unless he was mad. And Coach Jordan was a delegator. Each position coach had their assignments and the position coach did more coaching than anybody. And some players played offense and defense back in those days,” recalled Helms. “I played end. Back then we didn't have receivers, H backs, and all that kind of stuff.”

According to Helms, the most radical change in football, however, is in the speed and size of the players.

“One of the largest players on our team was 240 lbs. and now it is 340 lbs,” Helms said. “And everything is very businesslike today. Even when I played, football was fun but it was still a lot of work, which is why you give scholarships. You earn your way through school on the football field and playing can be tough, like in the summer when it's 110 degrees outside and you are having two-a-days. That part of football is not as fun. But I think nowadays, there's a lot more pressure on the players.”

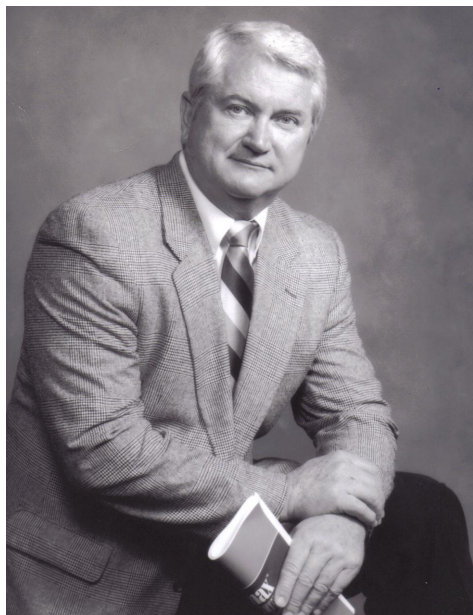
What hasn't changed from the time Helms played for Auburn is the need as a student athlete to strike a balance between the demands of the classroom and the practice field.

“That was difficult because of the classes and labs required for the science curriculum I was in,” explained Helms. “Sometimes the coaches wanted you at practice but professors wanted you at lab, so that made it kind of tough. I managed, but I started in 1960 and graduated in 1965, so it took me a little longer.”

Upon graduation from Auburn, Helms attended the University of Alabama School of Dentistry. After dental school, he spent three years in the Navy followed by a long career as a dentist in Columbus, Georgia, from 1973 to 2010. After he retired, Helms began a new career at Columbus Technical College teaching students how to be dental hygienists. Throughout his life, Helms has utilized the many lessons he learned playing football for Auburn.

“Practice prepares you for the tough moments when you will succeed. Be ready, anticipate the next play or the next opportunity. In the practice of football and the practice of dentistry, each day requires you to look for improvement in your techniques. Practice does not make perfect instantly. Striving for excellence is always a part of your best effort,” Helms said. “Teamwork is essential to all of life's goals. There is a team and each player has a responsibility for each play. Each team member contributes to the function of the whole, whether it is a dental team or a football team. Sometimes your best effort comes when you help make others do their best. Life and football are both games. Give it your best.”

IN MEMORIAM



A Father's Hands

The late Dr. Edmund C. Dyas IV, Pre-Medicine '61, was known to have large hands. Their size attributed to many successes – football, medicine, even parenting. At his memorial service on Jan. 27, 2011, daughter Laurie Dyas Chunn described a childhood game she and her siblings played with their father.

“He would lie on his back on the floor, and we’d step into those enormous hands. He’d ask, ‘Do you have your balance?’ Once we did, he would raise us above his chest, throw us into the air and catch us again with those hands. Throughout our lives, our dad was always there to catch us if we fell,” said Chunn.

In college, the COSAM alum excelled with both hands and feet on the football field. As a three-year letterman from 1958 to 1960, Dyas was a standout linebacker, fullback and field-goal kicker who set an NCAA record for most field goals in one season. He finished fourth in the 1960 Heisman Trophy voting and was selected captain of the 1960 Scholastic All-American team. Dyas concluded his football career as Auburn’s sixth all-time leading rusher with 1,298 yards and was selected the SEC’s most outstanding back. As a senior, Dyas received the Cliff Hare Award, presented to the most outstanding student athlete and the Bill Streit Award for the football player with the highest grade point average over four years.

Dyas turned down opportunities to play in the National Football League and instead chose medical school, specializing in orthopedic medicine. He opened a practice in Mobile where he and wife Diane raised two daughters and two sons. His partner, Dr. Robert McGinley, also spoke of Dyas’ hands at the memorial, referencing their unparalleled ability to heal others. “In a very direct way, he would just reach right in and fix what was wrong,” said McGinley.

McGinley described how those same hands helped the less fortunate. “Folks from all walks of life would come see Ed. Those who couldn’t afford it would often leave the office with their balance marked zero and a \$100 bill in their pocket.”

In 1994, Dyas received the Walter Gilbert Award, a recognition given to an Auburn varsity athlete distinguished by more than 20 years of superior performance in a chosen field. Dyas was inducted into the College Football Hall of Fame in 2009 and also received the 2006 Auburn University Alumni Association Lifetime Achievement Award. In his acceptance speech, the retired surgeon gestured toward his family and wife of then 40 years and said, “This is my lifetime achievement.” After years of finding balance among athletics, academics, family and friends, the devout Catholic succumbed to cancer on Jan. 23, 2011, and allowed his Father’s hands to catch him. He was 71 years old. - Christy Kyser Truitt



A Civic Leader

Gary White Gross, 65, of Athens died Thursday evening, March 17, 2011, at his home surrounded by his family after a long, courageous battle with pancreatic cancer.

He was a much-loved physician who leaves behind a host of beloved patients and friends.

Gary was born Aug. 4, 1945. He was a 1963 graduate of Athens High School, a 1966 graduate of Auburn University, and a 1970 graduate of the University of Alabama Medical School. He completed his internship at St. Vincent’s Hospital in Birmingham in 1971. He returned to Athens and was a general practitioner from July 1971 to July 1972 at which time he entered a three-year obstetrics and gynecology residency program at Tulane University/Charity Hospital in New Orleans. He returned to Athens and opened his specialized practice in July 1975. He was the first doctor in the Tennessee Valley to allow fathers in the delivery room. He closed his medical practice in January 2010 due to his health.

Gary was passionate about his country. He served in the National Guard. In 1990 he was commissioned to serve in the Middle East during Desert Storm. He served with the 251st Evacuation Hospital. He completed his service as a lieutenant colonel.

Gary was passionate about whatever he was involved in whether it was flying, bike riding, skiing, golf or cheering on his beloved Auburn Tigers. He was known for his devotion to his patients, his loyalty to family and friends, his unwavering integrity, and his strength and perseverance.

Gary was a faithful Christian. His last selfless act was donating his body to medical research.

-News-Courier with edits by COSAM

IN MEMORIAM

Marie Wooten: A Friend, Colleague, Mentor, Spouse



The Women’s Resource Center recently hosted its fifth annual Women’s Leadership Conference, where the 2011 Special Women of Distinction Award for Leadership and Inspiration was presented in memory and honor of Marie Wright Wooten, dean of COSAM in 2010. Michael Wooten accepted the award on behalf of his wife, and Wooten’s family members and co-workers recalled her commitment to leadership, teaching and service. Donna L. Sollie, assistant provost for women’s initiatives, made the following closing remarks:

Today’s Women of Distinction Awards presentation has been a special one. We have recognized outstanding students, staff, faculty members, and alumnae, and their contributions to the Auburn community are very much appreciated.

Today is also a poignant occasion for us, as we honor Marie Wooten.

As we all know, the news in these last few days has been filled with stories about our beloved Toomer’s Corner live oaks.

Quercus virginiana—that’s how Marie might have referred to them, our beloved Toomer’s Corner live oaks.

Quercus virginiana, genus and species in the language of taxonomy -- the language which scientists, such as Marie, have used, striving to bring order to a world that sometimes seems so bereft of order.

If those immobile oaks are a symbol of values we hold dear, then Marie was the vigorous embodiment of those ideals. Like the oak, Marie represented strength and courage and integrity. But in her humanity, she represented that which we celebrate in a leader - her openness, her vision, her inspiration. And while oaks are honored for their steadfastness, we saw in Marie energy and vitality, a passionate striving that transformed people and institutions.

In ancient Greece, the olive tree was sacred to Athena, the goddess of wisdom. The fruit from the legendary “Grove of Academe” provided sustenance, its leaves offered shelter and shade, while its burned wood gave off life-saving warmth.

Like Athena, Marie planted great forests - the ideas she cultivated, the students she guided and nurtured. Those woodlands will continue to grow and flower and be continuously regenerated.

What a comforting image it is for any of us who teach, to hope that we will one day sit beneath the shadows of those oaks we have planted. And we think that Marie smiles upon the young women leaders who are gathered here, and indeed, on all here whose lives have been so enriched by Marie. May each of you, like Marie Wooten, have roots that are deep, branches that reach wide, and a core and an essence that remain resilient and enduring.

Marie Wooten Obituary:

Marie Wright Wooten was born Aug. 13, 1957, in Paris, Tennessee, and passed away tragically Nov. 5, 2010. She was dean and professor of COSAM. Marie is preceded in death by her parents, James Roy Wright and Lucrecia Reyes Wright. She is survived by her husband, Michael C. Wooten, and cousin Joe Reyes. Michael is a professor in the Department of Biological Sciences and was Marie’s devoted husband of 31 years and her soul mate for 34 years.

Marie grew up in the “Land Between the Lakes” in northwestern Tennessee where she developed a strong interest in nature and science. Her childhood heroines were Eleanor Roosevelt, Madame Curie and Amelia Earhart, which formed the basis for her later passion in advancing opportunities for women in science, technology, engineering and mathematics. Marie was educated in Memphis and Denton, Texas, where she received a B.S. in Microbiology at the University of Memphis in 1979 and a Ph.D. in Molecular Biology at Texas Woman’s University in 1983. Marie honed her research skills as a post-doctoral associate at the Cold Spring Harbor Laboratory in New York, prior to her becoming a COSAM faculty member in the Department of Biological Sciences at Auburn in 1987. She served as acting head of the Department of Zoology and Wildlife from 1995-1997, and later became associate dean for research in COSAM in 2000, a position she held until becoming dean of COSAM in 2010. Despite her strong commitment to administration at Auburn, Marie was an outstanding leader, role model, and mentor in research, teaching and service. In particular, Marie lived for her research and for her students. She embodied the ideal that to be successful students “should be lifelong learners and individuals who make a difference.” Among her many hobbies, Marie was an avid runner, being particularly proud at completing the “Sprint Triathlon” where she finished first in her age group.

ALUMNI UPDATES



Dr. P. Read Montague Jr. Leads Brain Imaging Research Program at Virginia Tech Carilion Research Institute

The director of the Virginia Tech Carilion Research Institute announced the naming of Dr. P. Read Montague Jr., Pre-med Mathematics '83, as head of the human brain imaging research program. Montague will be a senior professor and lead programs in human neuroimaging and the new field of computational psychiatry along with an appointment as professor of physics with an affiliation with the School of Biomedical Engineering and Science at Virginia Tech.

In a statement released by Virginia Polytechnic Institute and State University, Montague expressed his enthusiasm for the research. "I am excited about the opportunities offered by the Virginia Tech Carilion Research Institute and collaborations with the university, Carilion and the community," Montague said. "My ambition is that the Roanoke Brain Study be the brain equivalent of the Framingham heart study – the 60-year-long study that has given us so much information about lifestyle, medication and heart health."

COSAM Alumnus Honored with North Carolina Award



In 2010, COSAM alumnus F. Ivy Carroll received The North Carolina Award. The award, the state's highest honor, was presented by Gov. Beverly Perdue in the areas of Fine Arts, Literature, Public Service and Science. Carroll, soon to celebrate 50 years as a research scientist at Research Triangle Institute, has dedicated his career to undoing the damage created by the specter of addiction. Carroll has made novel and significant contributions to scientific research, studying the biochemical mechanisms of cocaine and developing pharmacotherapies that have led to the treatment of devastating conditions such as Parkinson's disease.

Dean's Leadership Council Member Spotlight



Dr. Wilson (far left) with his team in the Dean's Scholarship Golf Classic.

Dr. Barry Wilson, Pre-medical Sciences '63, is a Montgomery, Alabama, resident and OB-GYN who attended medical school at the University of Alabama Birmingham.

"The pre-medical sciences program in COSAM is outstanding. COSAM prepares its students for medical and dental school better than any other school in the state," Wilson said. "I know a few people on various medical school admissions committees and they are very complimentary of Auburn and COSAM and how we prepare students for medical and dental school."

It is Wilson's belief in the superiority and excellence of a COSAM education that prompted him to give back to the college. For the last 11 years, Wilson has been a member of the COSAM Dean's Leadership Council.

"I thought the accomplishments of the College of Sciences and Mathematics, and the thoroughness of the education students receive was very appealing and needed to be supported, so I joined the Leadership Council," Wilson said. "I also support the college financially. I support the dean's golf tournament every year, which raises money for scholarships, and I give money each year directly to the Randolph County High School Scholarship I established."

The scholarship is funded by Wilson and provides a COSAM education to a student from his alma mater, Randolph County High School. The student must have outstanding credentials and pursue a degree in COSAM with a concentration in pre-medicine. After graduation, the scholarship also provides funding for medical school.

"COSAM is responsible for choosing the recipient," explained Wilson. "Students who can't afford to get an undergraduate education in premedical sciences and go to medical school need to be supported. It's a very worthy cause to send as many students to medical school as we can."

For more information on the Randolph County High School Scholarship, the Dean's Scholarship Golf Classic, or on how you can fund a scholarship, contact the COSAM Office of Development at 334.844.2931.