Glimpses of Joy

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

Leaving Taiwan: Jin-Dih Shih talks about his career path

Dr. Lloyd Nix: 2010 Distinguished COSAM Alumni

Auburn Scholarship Campaign

Life After Football: Meet former COSAM student athletes

Journey Features:
Robicheaux’s physics students study anti-matter

COSAM researchers awarded $3 million and a new lab

Professorships awarded to COSAM faculty

COSAM researcher studies solar energy

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 assures 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.

Journey/Spectrum is published by the Auburn University College of Sciences and Mathematics. Issues are printed annually and are distributed to alumni and friends of COSAM.

Inquiries, suggestions and news items concerning Journey/Spectrum should be directed to:
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Journey/Spectrum is paid for by alumni and friends of the College of Sciences and Mathematics.

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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Associate Dean for Academic Affairs
Larry Witt

Associate Dean for Research
Chris Rodger

Associate Dean for Diversity and Multicultural Affairs
Velma Ecton Richardson ’62

Director of Outreach
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Director of Development
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A MESSAGE
From the President
Jay Gogue ’69, ’71

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 those 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 956 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 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/core_genoutcomes.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 reaccredidation 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 witl@auburn.edu. I would love to catch up on what is going on in your life these days.

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 Narcissos-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
Associate Dean for Diversity

Lawrence C. Wit
Associate Dean for Academic Affairs
**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:**
Lineea Paysier, Dana Woods, Audra Brawley, Emily Allen, LaDaria Hartley, Lindsay Harris, Betsy Davis, Mishawna Carlisle

**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**

**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.
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 Kalkilhat, 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 Kalkilhat while its facilities are renovated.

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.
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 and smell through my mouth and taste the stench and smell. I let the diminutive man with the mental handicaps 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 yell at me in Bengali. I look at one of the male patients sitting on a bench who gives me a toothless smile and twists 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.

College of Sciences & Mathematics
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 Steffenpohl (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 Mazmaz). 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 COR and Marzen received a Campus Technology Innovation award for their six-month study of heavy minerals in Lake Manzala, a Nile Delta coastal lagoon. Uddin also hosted Shams Shaheen, Ph.D., a visiting scientist from Suez Canal University in Egypt, and 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 in the Black Warrior and Cahaba basins of Alabama and Mississippi. Additionally, he received a grant from Vulcan Materials through the National Center for Asphalt Technology.

Jeff 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.
Biology

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 effects of the Deepwater Horizon oil spill on marine invertebrates in the water column. Halanych is also collaborating on an NSF grant with the universities of New Hampshire and Tendal, Thailand 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 Fluorescent Cell Analysis.”

This research facilitates the search for new antibiotic compounds from natural environments. Assistant Professor Les Goertzen, Associate Professor Jon Armbruster, and Professors Craig Geyer and Jack Fennellma received an NSF grant to improve the detection and identification of marine oil droplets, by a state-of-the-art FlowCAM, funded by a Major Research Instrumentation-RAPID-Response Grant from NSF to Mark Liles, LSU, and Professor Ken Halanych and JBK Jacobson from Auburn University.

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

“Collection of plankton data from freshly sampled water is one way to understand the natural assembly because the organisms are living prey,” 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 MESSIE-Gulf Research Initiative will fund mesoscale studies of the effects of oil on microparticle interactions with 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 Maco oil over the entire Gulf. Auburn graduate students will help collect water samples, run the FlowCAM and, along with undergraduate researchers, will conduct molecular analysis. Results from this study will establish standard data about oil spill recovery in the gulf, allowing oil company workers and scientists to better manage future spills.

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.

David Weese, (Outstanding GTA); Michael Wilson (Outstanding Undergraduate Teaching Assistant). Following students were recognized for their departmental achievements: Jason (Kevin) Fielman, assistant professor at the Department of Biological Sciences. Graduate student Maria Mazzillo-Mays won Best Platform Presentation in Systematic and Evolutionary Biology at the Southeast Regional Meeting in Salt Lake City, Utah. Jessica Stephens received a research award from the Graduate School and Shanna Hanes received a Sigma Xi Grant-in-Aid. The following students were recognized for their departmental achievements: Ivey Ellis (Outstanding GTA); Robert Haney (Outstanding Undergraduate Teaching Assistant).
Rodger will also promote and develop and contract records for the college.

Proposal development, and maintain grant a $9 million National Science Foundation among the six principal investigators for the University of Reading, England. At Rodger holds bachelor’s and master’s teaching, research and outreach, the 2006 Scharnagel Professorship for 25 years. Recipient of a wide range of for the college he has served for over Professor for Research in Mathematical.

Chris Rodger, the C. Harry Knowles Teaching Assistants.

Dimensions Reduction in Regression,” is in the amount of $49,997 and is in complex models may also account for electromagnetic, chemical 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 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 differential equations, and study poromechanical models analytically, and develop and rigorously analyze finite element-based methods for approximating solutions of coupled, multi-scale phenomena.

Professor Amnon Meir is the PI for a three-year, $175,777 NSF grant titled “Studies in Poromechanics and Electro-Poromechanics” 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, Theodore, Montgomery, Talladega, Hanceville, Danville, 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 2005 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 investigation 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-school-aged students, 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, 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, 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!
Leaving Taiwan

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.

“Shih 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.”

Leaving Taiwan

Cosam Names 2010

Distinguished Alumnus

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.

COSAM Names 2010

Distinguished Alumnus

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

The oldest granddaughter, Caroline Slupe, enrolled at Auburn this fall.
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

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.”

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
Lee County Medical Society Establishes Scholarship

George Folkerts—the name is synonymous with conservation biology and natural history at Auburn University. During his 38 years as a professor, he staked 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 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.

-J. Ralph Jordan ’70
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 a specialization in sports medicine at East Alabama Orthopedics and Sports Medicine in Opelika, Alabama.

"I went into orthopedics because I was always interested in it, as a football player, if I got hurt, I always went to see the orthopedic surgeon," Lyle said. "I treated 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 field."
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 Academic” 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.

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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.

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.