



THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

SUMMER ISSUE 2013

DIRECTION & GROWTH

President outlines
University strategic plan

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joins UAH



GROWTH

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FUTURE

Recital hall
soon to be
renovated



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Class of 2013
celebrated UAH
commencement
on May 4, 2013



UAH 2013 Spring Commencement degrees conferred **630** bachelor's, **194** master's, **24** PhD's

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Dr. Ray Vaughn

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Charger Union

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Strategic Plan

Expected to provide direction and growth for UAH campus

The University of Alabama in Huntsville has unveiled a strategic plan for the campus that will provide direction and growth for the University through 2020.

President Robert Altenkirch has led the campus on a year-long process to establish a new strategic plan that will create clear, concise goals, priorities, and objectives, in addition to building tactics to allow the university to reach the lofty expectations necessary for the campus to continue progress long into the future.

Altenkirch pointed out that the University has made great strides over the years through capable leadership and as a result of the hard work of faculty, staff, and students. The university's response is the result of the community's high expectations, Altenkirch said.

"Huntsville was described by Forbes magazine as one of the top 10 smartest cities in the world. This community is a nationally renowned center for brainpower," Altenkirch said. "The University of



Alabama in Huntsville has long assumed a critical role in the intellectual development of our community, and this plan will ensure that we continue to provide leadership to sustain and expand high levels of achievement in education and research, particularly in those areas crucial to our economy.”

UAH is already cited as one of the top universities in the nation by several organizations. *U.S. News & World Report* consistently ranks UAH among Tier 1 national universities, and the Carnegie Foundation for the Advancement of Teaching also lists the university among the top public research universities in the nation. UAH has four research programs in the top 10 in the nation and 14 in the top 20, according to the latest rankings from the National Science Foundation. UAH is one of only two public universities in Alabama rated very competitive by Barron’s Profiles of American Colleges.

A new mission statement was created as a result of this process, along with a vision, core values, a number of goals and strategic priorities.

Mission statement

The University of Alabama in Huntsville is a research-intensive, internationally recognized technological university serving Alabama and beyond. Our mission is to explore, discover, create, and communicate knowledge, while educating individuals in leadership, innovation, critical thinking, and civic responsibility and inspiring a passion for learning.

Goals

- Be recognized internationally as an institution to which government, industry, and academic leaders turn for opinions on societal issues, especially those involving technology
- Strengthen and maintain a financial, physical, and personnel infrastructure that supports continuous quality enhancement and the pursuit of excellence in research and education
- Ensure an environment where curiosity, discovery, innovation, and entrepreneurship are valued
- Produce graduates that are able to address problems through the integration of knowledge across various disciplines

“This community is a nationally renowned center for brainpower.”

— UAH President Robert Altenkirch

- Foster an environment of community service and engagement and global experience and understanding
- Be unique in opportunities to explore and experience the relationships among technology, culture, and the arts

Strategic priorities

- Recruit and retain an outstanding and diverse student body of broad interests, and of sufficient size to ensure a rewarding campus life experience
- Recruit, develop, and retain an outstanding and diverse faculty and staff
- Broaden and expand the research portfolio
- Engage more fully our stakeholders: Alumni, the Huntsville community, elected officials and global partners
- Be a recognized leader in selected areas of education and research: Aerospace and Systems Engineering; Biotechnology; Cybersecurity and Big Data; Earth, Atmospheric, and Space Science; and Gaming and Entertainment Arts

The planning process was made up of a Planning Steering Committee of approximately 30 members. This group drafted plan elements through strategic objectives. At that point, a number of focused task forces, each consisting of 10 or 12 members, were established around strategic objectives. The task forces were charged with reviewing the draft work of the Planning Steering Committee and drafting tactics, which when executed would result in strategic objectives being met. Their recommendations were returned to the Planning Steering Committee.

A chronology of the process and plan can be viewed at:

<http://www.uah.edu/president/strategic-planning>

Ray Vaughn

“I think this is a good time to join the leadership team and participate in that growth – particularly in its research productivity.”

– UAH VP for Research Dr. Ray Vaughn

New VP for research says broader base is his goal

"My job is to first understand the UAH strengths and capabilities, its faculty talent and the existing relationships in order to support them and promote growth," said new University of Alabama in Huntsville (UAH) Vice President for Research Dr. Rayford "Ray" Vaughn. "In addition, I will work to foster new relationships and help to create opportunities that are good matches for our strengths and talent. There is no magic to this process – it involves listening to the faculty, relationship building, administrative support and a willingness to step out in new directions."

Dr. Vaughn said he and his wife, Dianne, are excited by the opportunity to be a part of the UAH leadership team and the University of Alabama System.

"I'm really looking forward to working with my peers at other universities, the faculty and staff at UAH, the Huntsville community, and to the overall professional challenge that this position offers," said Dr. Vaughn. He said he looks forward to once again working with UAH President Dr. Robert Altenkirch, whom he calls "a true visionary and a leader who can grow UAH in many ways." The two last worked together at Mississippi State University (MSU), where Altenkirch

served as Dean of the College of Engineering and then as Vice President for Research. Prior to taking the UAH position, Dr. Vaughn served as MSU Associate Vice President for Research.

"I think this is a good time to join the leadership team and participate in that growth – particularly in its research productivity," Dr. Vaughn said. "I am also attracted by the Huntsville community itself. Being a retired military officer, I'm aware that Redstone Arsenal offers many facilities that will be open to me and to my family. Huntsville is a vibrant, growing community and one that my wife and I look forward to being a part of."

UAH has a strong research faculty and other strengths that have been built over many years with the help of partnering sponsors such as Marshall Space Flight Center and the Department of Defense (DoD), Dr. Vaughn said. The University's location is a real plus, he said, because being situated in Cummings Research Park places UAH very close to industrial organizations conducting research, as well as a large number of NASA and DoD research opportunities.

UAH has a strong reliance on defense funding, which is over 50 percent of the total research portfolio, and Dr. Vaughn thinks that while the University should be proud of that achievement and its working relationships, it should also seek to broaden its research base.

"It does tell me that there is plenty of room for growth in other areas," he said. "I think broadening the UAH research base is very consistent with the President's vision for growing the University. I would like to encourage more National Science Foundation (NSF) participation, as well as other federal agencies. I really like the availability of NSF programs and the multiple-year funding that comes with those grants."

An increase in research activity often has very important university affects that include increases in graduate student enrollment and increased stipends paid to students, Dr. Vaughn said. "It becomes a good recruiting tool for faculty and students, provides multiple-year funding, and allows equipment purchases and increases in publications."

Student growth and research activity are very much related and mutually supportive, Dr. Vaughn believes.

"Graduate student growth is obviously an enhancement to research activity, since graduate degrees are research-oriented degrees," he said. "As the graduate student base increases, more research activity is possible on the part of the faculty who guide these students."

Undergraduates benefit from research activity, too. "I strongly encourage undergraduate research opportunities and have found that this often leads to a student's decision to pursue graduate studies after achieving their bachelor's degree," Dr. Vaughn said.

"Honors programs are another source of undergraduate research activity and I would hope to interact with those programs at UAH. Finally, I believe undergraduates benefit from teaching by research-active faculty, in that more current material is often made available from current research findings."

It is important to make research-active faculty aware of federal, DoD, and other grant opportunities, Dr. Vaughn said. "I will be finding ways to do that at UAH," he said. "I am a real believer in interdisciplinary research, and I think that such research teams enhance our ability to win grants, so I will be promoting this approach. It is also important to mentor new faculty in the pursuit of grants, and that is something that I will work to encourage."

You can read more, including a Q&A with Dr. Vaughn, by visiting uah.edu/news.

Scientists look for genetic fingerprints of invasive plants

University of Alabama in Huntsville (UAH) Assistant Biology Professor Dr. Leland Cseke and HudsonAlpha Institute for Biotechnology Researcher Dr. Jian Han have joined forces to identify invasive plant species that are sneaking into the United States because they look just like desirable crops or ornamentals.

"It really is plant forensics," Dr. Cseke said. "What we're trying to identify is, who's your daddy?"

Using a machine developed at the institute, Dr. Cseke's research team at UAH is developing molecular methods akin to plant forensics or DNA fingerprinting to identify harmful invasive plant species that are poseurs. The machine is made by iCubate, a company that was spun off from work done at the institute by Dr. Han.

The project started by examining cogongrass. "It's a really bad weed because

it spreads rapidly, and it is basically taking over the Southeast U.S.," said Dr. Cseke. "It's this horribly invasive weed that probably will wind up being worse than kudzu at some time in the future."

Dr. Han and Dr. Cseke have teamed up with the help of two U.S. Dept. of Agriculture (USDA) grants awarded to Dr. Cseke.

Under the designation Rapid Automated Barcode Observation System, USDA provided two grants to use the iCubate to do polymerase chain reaction assays to identify DNA sequences that can determine if the plant is ornamental, cogongrass, or an ornamental that has reverted to cogongrass.

The iCubate speeds processes by automating many laboratory functions of polymerase chain reaction assays into a single, closed cassette. Dr. Cseke gathers plant material from around the country and processes



UAH biology professor Dr. Leland Cseke, left, explains to Dr. Jian Han the differences between red grass, which he is holding, and cogongrass, in the foreground.

it to elucidate the DNA sequence differences that he then uses to design the iCubate assays.

Cogongrass (*Imperata Cylindrica*) is of interest because it is vigorous, it secretes materials into the surrounding ground that kill other plants in a process called allelopathy, and it can infiltrate forests. Once a forest infested with cogongrass is set ablaze, through natural or other means, the grass burns with much greater intensity than native plants. Thus, it can kill entire forests and clear the land for its own benefit.

And cogongrass is a wolf in sheep's clothing because it has an "evil" counterpart that is easily dismissed by its appearance as a harmless ornamental.

"One of the really bad things about cogongrass is that it has an ornamental counterpart called Japanese blood grass or Red Baron grass. This seemingly

harmless ornamental can spontaneously revert to a form that looks and behaves exactly the same as cogongrass," Dr. Cseke said.

One way invasive plants hit U.S. shores is in the vents and filters of cargo ships. Seeds are released in the U.S. during cleaning.

Cogongrass first came into the United States near Mobile and at other Southern ports in the early 1900s, Dr. Cseke said. Red grass was produced by many Southern nurseries, and when stressed it can revert to cogongrass.

Though cogongrass started the research, the iCubate can be used to identify other exotic invasive plants, like giant hogweed (*Heracleum Mantegazzianum*) and invasive "wild" sugarcane (*Saccharum Spontaneum*), which looks like agricultural sugarcane but doesn't produce abundant sugar and has the potential to hybridize with desirable sugarcane plants.

New rotary valve may go to Mars and beyond

Who says everything space-related is expensive? For just \$5,000, a University of Alabama in Huntsville (UAH) team led by Dr. James Blackmon has developed, prototyped, and tested a rotary valve that could help us get manned space flights to Mars one day.

The valve was developed and tested using money from the Space Act Agreement initiatives for development, engineering, and testing of design concepts. The \$5,000 allowed former UAH graduate students David Eddleman and Chris Morton to work on design and testing in conjunction with James Richard of the Engineering Directorate at Marshall Space Flight Center (MSFC). Eddleman is now an MSFC employee. MSFC testing facilities were used to test and prove the valve's operation, as well as facilities at UAH.

Dr. Blackmon, a Principal Research Engineer at the

University's Propulsion Research Center, figures that to travel to places like Mars and beyond we will first have to decide what kind of fuel delivery system we will use to feed the rocket engines, and then we will have to determine how we're going to rebuild or maintain that system during long stays in space. That is where the new valve comes in.

"There are two primary propellant feed systems, a pressurized system and a turbo pump system," he said. The pressurized system uses tank pressure to deliver fuel. "These are fine as long as the system uses less than 300 psi pressure." The turbo pump system uses an exhaust gas generator to power the pump. "That works up to 3,000 psi, and the higher pressure gives you higher performance."

A third system known as sequential pumping lies between those two and may be best suited for



Dr. James Blackmon in his office with plastic models of the rotary valve made with a 3-D printer and a stainless steel version.

long-distance travel. In that configuration, three fuel tanks are pressurized in sequential rotation from a main tank. As the first tank is about to be expended, valves switch from it to the second tank, and then subsequently to the third tank, then back to the first tank, and so forth. Tanks that are not being used to fire the engine are being recharged in rotation from the main tank.

"This system gives you both high pressure and fail operational ability," Dr. Blackmon says. "Rocket systems are typically designed so they can sustain one failure and be safe, but to have fail-safe operational ability is great because you don't have to lose your mission. It is very cheap, very reliable and it gives you the same delivered payload as a turbo pump."

The sequential system has a three to one advantage because of its lower weight, lower cost, and greater

reliability, but its drawback is the valves. "You have these plunger valves slamming open or slamming closed, or ball valves clunking full open and clunking full closed."

The new rotary valve uses a mechanism operated by two redundant motors to turn a shaft and slide a configured recess to a port, opening that port for either fuel delivery or recharge.

One valve can control filling and emptying of all three rotational fuel tanks in the sequential system, and it can replace multiple older style valves with a device that is lower weight, lower cost, and more reliable.

"You can use a Crescent wrench and take it apart," said Dr. Blackmon. "It uses simple tools to fix it, and you can do it in space. If you're going to Mars and an astronaut had to fix it, you could fix it easily with a valve repair kit without having to remove the valve. You just block it off and fix it."

Charger Union set to transform student life

With a budget of \$25 million, the new Charger Union will feature some of the most current trends in student centers that money can buy – special exterior siding that will allow for the projection of outdoor movies, both a regular and an e-gaming lounge, interactive video displays, large light-filled atriums and lounge spaces, and a glass-enclosed pedestrian bridge lit from above with blue horseshoe lighting.

But according to Dean of Students Dr. Regina Hyatt, the real money is being spent on something that simply can't be quantified. "It's an investment in the future of the student experience at UAH," said Dr. Hyatt. "And my expectation is that it will transform campus life here."

The initial concept came at the behest of the Student Government Association (SGA), who approached the administration several years ago to ask for a new center. In exchange, the SGA agreed to increase student fees to help fund the building, with the University providing the

remainder from its construction reserve.

That was followed by site visits to student centers throughout the southeast by both student and staff members of the Charger Union Planning Committee to get ideas. "We looked at buildings constructed in the past couple of years to see from a design perspective what the latest things were in student centers," said Dr. Hyatt.

Requests for bids from architects and choosing the final design added another few months to the process. But ultimately, Birmingham-based architecture firm TurnerBatson and St. Louis-based architects Mackey Mitchell – and their 'Bridge Design' – were selected.

Since the groundbreaking during the fall 2012 Week of Welcome, construction has continued apace.

The focus of the Planning Committee, meanwhile, has shifted to include the development of a mission statement and values for the new building, writing policies and procedures, and decision-

making around University branding efforts for the new building.

Once the building is completed by late fall of this year, many of the organizations currently lodged at the University Center will move in, including the SGA, Association for Campus Entertainment, Student Life, the bookstore, and the Charger Times newspaper.

New space will also be provided in the Union for registered student organizations, Fraternity & Sorority Life, veterans, and graduate students in the form of meeting rooms, offices, pods, and storage lockers. And then there are the eagerly anticipated additions to the University's on-campus dining options – World of Wings and Dunkin' Donuts.

And while the Charger Union's grand opening is slated for the spring 2014 Week of Welcome, Dr. Hyatt said the exact nature of the celebration has yet to be decided. One thing is for sure, student life at UAH is about to get a whole lot more exciting.



Artist renderings provided by TurnerBatson/Mackey Mitchell

New greenway shortens distance across campus

In the beginning, the University of Alabama in Huntsville (UAH) comprised just two buildings – Morton Hall and the Research Institute. Separated by a mile and an entire subdivision of houses, “we have been connecting them ever since,” said Campus Architect Larrell Hughes.

But that goal is now one step closer to realization with the completion of phase I of the UAH Greenway. And two later phases will extend the greenway first to Salmon Library and then to Roberts Hall and the UC parking lot, finally connecting the university’s original two buildings.

“Once completed it will be the shortest point between any two locations on campus, so I think it will be heavily used,” said Hughes. But that won’t be the only benefit, he continued. It will also reduce vehicular traffic on campus, long a goal of the University’s Master Planning Committee.

And less traffic, in turn, will mean a greater reliance on bikes. To encourage that, said Michael Finnegan, Associate Vice President of Facilities and Operations, the Student Government Association is spearheading a Borrow-a-Bike program.

“It’s a great idea. Housing is helping out too, by taking bikes that have been abandoned around campus and fixing them up for students to borrow and ride,” he said. And there are other advantages. “The greenway will also help our students who have mobility challenges.”

Hughes initially sketched out the design for the first phase of the greenway three years ago. A multi-year effort was then launched to secure funding, which eventually came in the form of a Federal Transit Administration grant that required a 20 percent match from the University.

“That covered two projects, the intermodal parking deck and phase I of the greenway,” said Hughes, who added that funding for the construction of phases II and III would now need to come from elsewhere. “The economy has slowed some of that with regard to funding,” he said, “but we’re still meeting all of the goals of the Master Plan.”

Indeed, the final phase of the greenway is expected to be completed within the next 18 months. And that seems like a short wait, given the decades it’s taken to bring the two sides of campus together using a more traditional, pedestrian-friendly approach.

“It’s a pretty natural state for traffic to be at the perimeters of a school with pedestrians at the core,” said Hughes. “By having a greenway, we will not only achieve that, but we will also give students a nice experience as they travel between classes.”



You can help name the greenway by participating in UAH’s online contest! Tweet your suggestion(s) with the hashtag #UAHGreenway. The winner will be chosen during the fall Week of Welcome!

MEMORIAL GARDEN



Memorial Garden rendering provided by Bostick Landscape Architects

Celebrating life, not loss

For the UAH community, the events that happened on February 12, 2010, will never be forgotten. But that’s not how the three beloved individuals who were lost that day are being remembered, said Dr. Leland Cseke, Assistant Professor of Biology.

Instead, the lives and contributions of Dr. Gopi Podila, Dr. Maria Davis, and Dr. Adriel Johnson are being honored with a specially designed memorial garden located on UAH’s new greenway.

“We didn’t want a memorial garden to turn into a cemetery plot,” said Dr. Cseke. “We wanted it to be something uplifting.”

To that end, the garden is marked by plantings that represent the passions and interests of each of the three, all carefully selected by landscape architect Chad Bostick with assistance from Harvey Cotten and the Huntsville Botanical Garden.

“Adriel was very involved in the Boy Scouts, for example, so they found an iris with the Boy Scout colors,” said Dr. Cseke. Dr. Davis, who was a breast cancer survivor, will be commemorated with the Susan G. Komen “Invincible Spirit” hydrangea, while daisies, a symbol of faithful love, will pay tribute to Dr. Podila’s reputation as a dependable family man.

For Dr. Cseke, who initially conceived of the garden, the process has been “therapeutic.” And now that it is over, he has been able to find some measure of closure. “I was very close to Gopi; he was a little bit like a dad to me,” he said. “So it means a lot to see this memorial garden completed and to see others enjoy what it represents.”

Bright future for historic Roberts Recital Hall

“This renovation... will finally bring Roberts Recital Hall into the modern era.”

- Dr. David Ragsdale



It's universally accepted that Wernher von Braun's vision and influence were integral to the founding of The University of Alabama in Huntsville (UAH). But what is less well known is that Dr. von Braun didn't just want the University to be a bastion of research and engineering. He also wanted it to be a center of cultural enrichment, where students could engage in both science and the arts.

“Education,” he said in a 1961 speech, “must prevent people from becoming robots, and young people must acquire the moral and spiritual values adequate to decide wisely the uses which should be made of new knowledge with their minds not fashioned to function as computers, but with heart and soul.”

It would be nearly ten more years, however, before the first edifice dedicated

to the liberal arts – the UAH Humanities Building – was erected on campus. In 1969, local architecture firm Jones, Crow, Mann, and Associates drew up plans for the structure, and in 1971, construction was completed.

Yet from the beginning, the building was plagued by setbacks and problems. “The original architect’s building plan of a six-story ‘A’ side and two-story ‘B’ side came in at 66 percent over the estimates, so there were cuts that had to be made,” said Professor Emeritus Dr. Royce Boyer, who created the University’s Department of Music in 1966. “Two floors were eliminated from the ‘A’ side to reduce costs, and the music ‘B’ side lost almost all the special sound separation and acoustical treatments.”

“Moreover,” he continued, “construction changed to concrete blocks, and hardware and other aspects were cheapened in quality.” The building’s nearly 3,000-square-foot recital hall was also practically unusable thanks to a leaky roof and humidity so bad that the Department’s first Steinway was effectively ruined.

Another aspect left wanting was the lighting. “I’ve told many friends that it would have been very effective for an Episcopal Choral Evening Song Service!” he said. “The recital hall had only the lights you see now mounted up in the ceiling. Four of the banks were adjusted to focus toward the stage with spot

bulbs instead, the rest floods.”

Yet despite this, the hall was used year-round, becoming something of a cultural gathering place for the city’s arts lovers. Performers over the years included flutists Jean Pierre Rampal and Michael De Bost, the Heath Brothers jazz quartet, the Fine Arts String quartet, Michiko Otaki and the Warsaw Wood Wind Quintet, the Haydn Baryton Trio, the Boston Camerata, the Ames Piano Quartet, the Anderson String Quartet, the Berlin Philharmonic Quartet, the Baltimore Early Music Consort, and several Van Cliburn piano winners, including silver medalist Yakov Kazman’s Huntsville debut.

In fact, so important did the recital hall become to the community at large that in 1987 then-President John C. Wright submitted a proposal to rename the Humanities Building after distinguished faculty member Dr. Frances Roberts. The resolution was passed unanimously, and on May 14, 1988, a formal dedication ceremony was held.

Since then, however, Roberts Recital Hall has received very little in the way of improvements. “The recital hall remains antiquated in its appearance, lighting, and especially, its acoustics,” said Dr. Boyer. A major overhaul, in other words, was overdue.

Enter current chair of the Department of Music, Dr. David Ragsdale. In 2011, he enlisted a panel of acoustic specialists to perform an

TAKE A SEAT



exhaustive acoustic calibration of the interior space so that precise plans for a major renovation could be drawn up.

Their recommendation, in turn, was to perform a battery of acoustic and aesthetic upgrades to every hard surface, including the following:

- Installation of a massive orchestra shell identical to the shell used by the Huntsville Symphony Orchestra in the Mark C. Smith Concert Hall at the VBC
- Installation of an extensive cloud ceiling system throughout the recital hall,
- Acoustic panels to enhance sound reverberation and absorption

The panel also advised making technology upgrades in sound and light with the installation of professional stage

lighting and professional sound design, recording, and post-production equipment.

A second, later phase will then address the aesthetic renovations of the lobby and backstage/greenroom space, capping off the venue's transformation into a state-of-the-art concert hall.

"This renovation, with its vast improvements to sound, lighting, and overall aesthetics, will finally bring Roberts Recital Hall into the modern era," said Dr. Ragsdale. "And perhaps even more so than it has been in the past, the hall will be a central gathering place for the performing arts on campus and in the community."

As with any project of this scope, however, funding is a major concern. Current esti-

mates suggest the renovation will cost close to \$300,000. But bids cannot be accepted nor a contractor secured until at least half of that amount has been raised.

Fortunately it's a dilemma that may be resolved sooner rather than later thanks to the recent launch of a mini-campaign to raise funds. Brenda Walker, UAH's Assistant Vice President for Development, said the drive will offer both large and small sponsorship opportunities to prospective donors.

"As part of this campaign, we are also inviting our friends and supporters to 'Take a Seat,'" said Walker. "Donors who contribute \$1000 or more will be able to select a seat in the renovated hall bearing an engraved

metal plate with the name of their choice."

And given that Roberts Recital Hall has already long nurtured the culture of music here in Huntsville, she continued, "it's an investment that is sure to benefit countless student recitalists, professional performers and attentive listeners at hundreds of performances each year for many years to come."

Which speaks directly to Dr. von Braun's entreaty for a University that would allow students to engage their brains, their hearts, and their souls. "For close to fifty years, Roberts Recital Hall has brought both heart and soul to the university," said Dr. Boyer. "This renovation ensures it will continue to do so for at least fifty more."

Lori Mann Bruce

Named first woman to lead MSU Graduate School

"I grew up in the countryside on a farm, so from an early age, I learned to be resourceful, creative, and hard working — all attributes of a successful engineer."

An appreciation for hard work at an early age, and a love of engineering, science, and technology, assured the successful academic career of University of Alabama in Huntsville (UAH) alumna Lori Mann Bruce ('91 BSE, '96 PhD).

Bruce has been appointed Associate Vice President and Dean of the Graduate School at Mississippi State University (MSU). She is a William L. Giles Distinguished Professor, MSU's highest faculty rank, and will be the first woman to lead the University's Graduate School.

A native of Flintville, Tennessee, Bruce attended Lincoln County High School.

Bruce began visiting prospective colleges while in high school. "UAH had – and still has – a wonderful reputation for engineering education. The campus visit impressed me greatly. I remember touring an optics lab and seeing engineers conducting research on holography. The dark lab and glowing green lasers had me hooked. I just knew that I had to study engineering at UAH."

As an undergraduate student, Bruce was active in the Cooperative Education Program. She was placed at the U.S. Army Strategic Defense Command (now the Strategic Defense Missile Command). Bruce was named Co-op student of the year when she was a senior.

She recalls all her professors at UAH as great teachers, but said she could identify a few if hard-pressed to name a favorite. "A few that really

stand out in my memory from my undergraduate studies are Merle Roach, Mustafa Abushagur, John Gilbert, Luke Schutzenhofer, Alexander Pouliarikas, Constantine Katsinis, and Pete Romine. And, of course, my doctoral advisor, Reza Adhami, will always have a very special place in my heart."

While Bruce remembers her great college experience at the University, her fondest memory is meeting her husband, J.W. Bruce II ('91 BSE), at UAH.

"We met when we were both students in Dr. Pouliarikas's course on Signals and Systems," she said. "We fell in love with each other while studying mathematical convolution and Fourier transforms - nerdy but true!"

"And, I'm not going to tell where, but if folks look closely as they walk around campus, they might just find 'J.W. + Lori,' written into the concrete of a sidewalk," she said.

Since graduating with a doctorate in electrical and computer engineering from UAH, Bruce has served as a faculty member in electrical and computer engineering, first at the University of Nevada and then at MSU.

As a faculty member, her research has been focused on advanced digital signal processing methodologies for exploitation of high-dimensional datasets, with particular emphasis on hyperspectral remote sensing.

She has served as the principal



investigator or co-investigator on more than 20 funded research grants and contracts, totaling approximately \$20 million from federal agencies.

As a faculty member, she has taught 45 sections of 17 different engineering courses and successfully advised, as major professor or thesis/dissertation committee member, 75 PhD and master's students. Bruce's research has resulted in over 130 publications.

For the past five years, Bruce has served as the Associate Dean for Research and Graduate Studies in the Bagley College of Engineering at MSU.

"In the new position, I will be responsible for providing leadership of all graduate programs (135 masters, specialists, and doctoral programs) within the University," she explained.

"My experiences at UAH definitely prepared me for a career in engineering, education, and administration," Bruce noted. "The three most important skills and attributes I gained from my education at UAH are critical thinking, systems engineering, and a love of life-long learning."

Outside of work, Bruce says she is proudest of "being a wife to my brilliant and supportive husband, Dr. J.W. Bruce II, and a mother to my loving seven-year-old son, Walker."

She was awarded the Distinguished Engineering Alumni Award by the UAH College of Engineering in May 2005.



Daco Smalley Auffenorde ('83 BA Sociology, '88 MAS Business) believes that "every story is a love story."

"Love isn't just about a man and a woman, it can also be about those we love. Aside from basic food and shelter, universally it is love that bonds the human race. Stories detail human emotion about life, so to me that makes every story a love story," Auffenorde said.

Fascinated with thrillers and spy movies, the UAH alumna recently published her debut novel *The Libra Affair* (Crimson Romance ePublisher). "The idea for *Libra* spawned one Saturday morning over coffee and a newspaper," she explained. "The hot topic of the day was Iran, nuclear war, China, trade imbalance, and espionage. As my husband and I were chatting, it occurred to me that I ought to write a thriller that combined all of these issues. Almost immediately the plot came together and I spent the next couple of months writing the actual story."

She met her husband, Michael ('83 BA English), while both were undergraduate students at UAH. The two continued on to law school and have been business partners at their Huntsville firm, Auffenorde & Auffenorde, P.C., for several years.

"When I finished law school, I focused on building a practice, and I never seemed to have the time to write. My law

Daco Smalley Auffenorde

Alumna scores big with *The Libra Affair*

"Love isn't just about a man and a woman, it can also be about those we love... Stories detail human emotion about life, so to me that makes every story a love story."

professor, Brad Bishop, once said to our class, 'Law is a jealous mistress, you've got to court her or lose her,'"

Auffenorde noted.

After Auffenorde and her husband became parents, she cut back on her hours at the law office. "Being home with little ones gave me the opportunity to think about writing again with the intention of one day getting published. Many manuscripts later, *The Libra Affair* was accepted for publication."

She firmly believes both degrees from UAH prepared her for the rigors of law school. Auffenorde entered the University the summer after high school graduation, and "jumped majors quite a bit" until deciding to study liberal arts.

Auffenorde's father, Dr. Larry L. Smalley, was a researcher and professor of physics at UAH for more than 30 years. He is responsible for her unusual first name.

"It sounds French, but is scientifically based in a physics equation: The derivative (D) of acceleration (A) at the speed of light in centimeters per second (C) is equal to zero (0), where C is the same as in $E = mc^2$," she explained. "My father had a sense of humor; there is no change in acceleration at the speed of light, the speed of light is the fastest rate of speed we know of, now at least, so he named me the speed of light."

While attending UAH, Auffenorde worked as a student assistant in several

different departments to help with college expenses. She fondly remembers many of her professors including Dr. Chips Rosher and Dr. Meryl Hodges (Sociology professors); Dr. Milton Harris (Chemistry); and Dr. Benjamin Graves, UAH's first president (1969-1978), who taught the final course in her master's degree program. "I acknowledge Dr. Rosher by name in *Libra* for envisioning my future as a writer."

Earlier this year, Auffenorde was a guest on Neil deGrasse Tyson's syndicated StarTalk radio show. The StarTalk episode focused on Tyson delving into the meaning of her first name, and promoting *Libra*. The program has already aired on nationwide affiliate radio stations and will upload to the StarTalk website, and be available for podcast downloads, including iTunes.

She will also be introduced at an upcoming International Thriller Writers Conference in New York as one of their newest debut authors. Additionally, one of her more recent articles has been accepted for publication by The Florida Writers Association for the publication *The Florida Writer*, entitled "ePublishers and Agents: Do I Go It Alone?"

While *The Libra Affair* is a standalone novel, Auffenorde will publish the sequel, *The Scorpion Affair* in the near future. She advises aspiring authors to just keep writing.

Alabama Women's Hall of Fame inducts Frances Roberts

Frances C. Roberts, whose "pioneering spirit" and leadership helped to establish The University of Alabama in Huntsville (UAH) as one of the top research institutions in the nation, was inducted into the Alabama Women's Hall of Fame on March 7 at Judson College (Marion, Alabama). UAH hosted a reception in Roberts' honor on March 14 at the Louis Salmon Library Art Gallery.

"I am delighted for Dr. Roberts to have this richly deserved honor. Her contributions to Huntsville's history have benefited thousands of people who may not recognize her name today. Inclusion in the Hall of Fame is a fitting tribute to a true pioneer among professional women in the state of Alabama," said Dr. Johanna Shields, professor emerita of history at UAH.

Dr. Roberts, who taught history when the University of Alabama Extension Center began operation in



Roberts devoted 30 years of dedicated service to UAH and 18 years to the Alabama Public School System.

January 1950, was the University's first full-time faculty member. She established the History Department and later served as Chairperson. Roberts also served as Director and Founder of the University's Academic Advisement and Information Center.

On May 14, 1988, she was honored with the dedication of Roberts Hall on the UAH campus. Roberts devoted 30 years of dedicated service to UAH and 18 years to the Alabama Public School System.

The Alabama Women's Hall of Fame was founded in 1970.



SAVE THE DATE

UAH Alumni Association Annual Meeting

**Time:
5:30 - 7:30pm**

**Date:
Thursday, August 22**

**Location:
Shelby Center Courtyard**

(In case of rain, event will be moved into the Shelby Center Lobby)

Help your UAH Alumni Association welcome in another exciting year as alumni and students converge on the UAH campus for food and fun.

The event will include socializing and networking as well as a program to conduct Alumni Association Annual Meeting business - Alumni Association members will be invited to vote on the

2013-2014 slate of Alumni Association officers and new board members. Alumni Association Scholarship recipients for the 2013-2014 academic year will also be recognized. We will also announce the 2013 UAH Alumni of Achievement honors.

Attire is business to business casual. Families welcome. RSVP by August 19 to <http://tiny.cc/2013AlumniAnnualMtgRSVP>

Club's first Model UN conference a success

Mayflower Garcia never thought she'd rise to the position of general in the Confederate Army, let alone survive several assassination attempts. But that's exactly what she did while portraying Louis Fairgood, a Civil-War-era free black man, at the Model United Nations at Emory I (MUNE I) crisis conference.

Garcia is, in reality, a junior majoring in Aerospace Engineering at The University of Alabama in Huntsville (UAH). She's also the treasurer of the University's Political Science Club, which sponsored a seven-person team to attend the April 4-7 conference held at Emory University.

"The first day we were shocked," said Ghada Almahdi, a senior majoring in Political Science and Communications who handles the Club's public relations. "We'd just driven four hours and right away there was a meeting, then dinner, then another meeting at 10 at night!"

Making things even more challenging was the nature of the MUNE I conference. Instead of representing a country, participants represented individuals, some actual and some fictional, using background information provided at the beginning. Crisis staff members then created "crises" for the participants to address using personal and committee directives, communiqüs, and press releases.

Fortunately, the students had some, albeit limited, experience with the approach. "We'd had classes here where we'd done simulations and represented figures," said Kathy Lange, a senior majoring in political science who serves as the Club's secretary. They also received ample support from the conference hosts and its participants.

As the conference kicked off, each of the students were assigned to one of six crisis committees: the Old South (Georgia, 1863), the Partition (India, 1947), the Yugoslavian Cabinet (1991), the European Debt Crisis (Present Day), SPECTRE (James Bond and the Cold War-era), and Operation Condor (Latin America, 1975).

And with each passing session, the students gained much-needed confidence. "By the second day, when we understood how everything operated, the time just flew by," said Stephanie Perry, a senior majoring in Political Science. "It was really fun."

They also learned how to use diplomacy, and at times sneaky political maneuvering to accomplish their goals. But as heated as the sessions sometimes got given the nature of the debates, the participants treated each other with respect throughout.

Lange said a big part of that was due to the camaraderie that was

encouraged among the participants. "We could socialize with committee members and form even stronger connections," she said. "And the organizers also had social activities for the delegates to participate in, so it wasn't just all about committees."

All too quickly the final day of the conference arrived. "We had a last session to wrap up loose ends," said Lange, whose committee was given an update on the debt crisis legislation they passed.

For some, the resolution was bleak. One character, for example, was assassinated. For others, it was much brighter. "In the future, I got a new role and became old money!" said Garcia.

Yet regardless of the outcome of their respective crises, the students were happy with their performance – and the positive feedback they received. The team even managed to impress MUNE I's Secretary-General herself, Kathryn Cyr.

"UAH came into MUNE I not sure what to expect but ready to do some serious work. By the time they left, they truly learned how Model UN functions and had become much better delegates," said Cyr, an Emory sophomore. "They were intense, focused, and determined to use MUNE as an educational experience, and it certainly paid off. The growth and improvement was absolutely amazing."



Political Science club members (l-r): Jimmy Wacenske, Kathy Lange, faculty advisor Dr. Anne Marie Choup, Ghada Almahdi, Ashley Cain, and Mayflower Garcia

Social Media

Check out our most popular social media stories from the last few months.



You can read more about what's going on around campus by visiting uah.edu/news.

We are sure you have seen the "unicycle guy" riding around on campus. We thought it would be great to share his story. <http://bit.ly/17Irq0a>

A robot dancing Gangnam Style? Believe it! UAH students Roslyn Brown, Heather Helton, and A.C. Thomas made it happen as part of their software engineering class. See the video here: <http://bit.ly/ZRSfjZ>

Admitted students day was a great success. Here are some pictures to enjoy.
<http://on.fb.me/YAOqxG>

The 2012-2013 Student Leaders Awards Ceremony was held at the University Center on Tuesday night. Read more here: <http://bit.ly/Yyb58q>

Whether you prefer to thriftshop or run this world, this Greek Week video has you covered! <http://youtube/35AKOVi6hps>

Participate in the
“Where’s Charger Blue?”
contest every Wednesday on
the UAH Facebook page. He’s
always hiding somewhere
around campus - you just
have to guess where!

Athletics

Highlights from the past season

Men's Basketball

GSC Regular Season Champions and Sweet 16 appearance

Women's Basketball

GSC Tournament Champions

Men's Hockey

Joined prestigious WCHA (conference)

Women's Track

PBC Champions, National Qualifiers in five events

Men's Track

PBC Champions

Men's Cross Country

GSC Champions

Softball

GSC Regular Season Champions and South Region 2 Champions

Baseball

Gulf South Conference Player of the Year and finished runner-up in GSC

Men's Tennis

NCAA Regional appearance and first tournament win in program history





2013-14 UAH HOCKEY



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UAH among Tier 1 national universities

- U.S. News & World Report

UAH's federally funded research and development in aeronautical and astronautical engineering ranks ninth in the United States.

UAH is among the nation's top public research universities being classified as a "**very high activity**" institution by The Carnegie Foundation for the Advancement of Teaching.

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according to
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American Colleges

UAH has four research programs that are ranked in the top 10 in the nation, according to the National Science Foundation.



TOPS IN
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UAH students earn the highest starting salary upon graduation.

- *Online College Database 2013*