Fall 2014

UAH Magazine, Fall 2014

University of Alabama in Huntsville

THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

FALL ISSUE 2014

GAME ON

UAH debuts gaming and entertainment arts program

INSIDE:

HIGHLIGHTS: NEW WEBSITE, CAMPUS CONSTRUCTION, & THE UAH STEEL DRUM BAND!

**GO.
LEARN.
BE.**

EXCITING CHANGES FOR FUTURE CHARGERS!

The Office of Admissions wants you to know about some exciting changes at UAH that will benefit you as a future Charger! We've made these changes in support of the university's commitment to helping you complete your degree in four years and make the most of your college experience:

- **AP scores in more subjects will be accepted.** AP credit award criteria have been revised so that UAH accepts more scores for admitted students beginning Fall 2014! Visit **uah.edu/admissions/AP_IB** for details.
- **The credit hour limit for Merit Tuition Scholarships will increase.** UAH has increased the credit hour limit from 16 to 18 hours per semester for its Merit Tuition Scholarship! Learn more about our scholarships at **uah.edu/scholarships**.
- **Block tuition will replace per-credit-hour tuition.** UAH is in the process of transitioning to a block tuition structure, which will allow full-time students to pay a flat rate per semester for 12 to 18 credit hours instead of paying by the credit hour. Learn more about UAH's transition to block tuition at **on.uah.edu/1ePp9SN** and view its impact for 2014-15 in the tuition table at **uah.edu/bursar/tuition**.
- **Summer semester classes will be available at the fall semester rate for first-time, full-time freshmen.** UAH has created a Freshman Summer School Incentive Program, which will enable all first-time, full-time admitted students who enter in the fall to take classes the preceding summer and include them with the fall semester when computing tuition for the summer and fall. This may result in a tuition refund in the fall. Learn more about this summer program by contacting the Office of Admissions. If you are a UAH Merit Tuition Scholarship recipient, you may use a portion of your academic year scholarship for these summer courses. For more information, please visit **uah.edu/finaid** or call 256.824.6650.

Please contact your Admissions Counselor in the Admissions Office with questions about how these changes will positively impact your future at UAH. Call **256.824.2773** or email **uahadmissions@uah.edu**.

THE UNIVERSITY OF
ALABAMA IN HUNTSVILLE

CONTENTS

Features

Game On

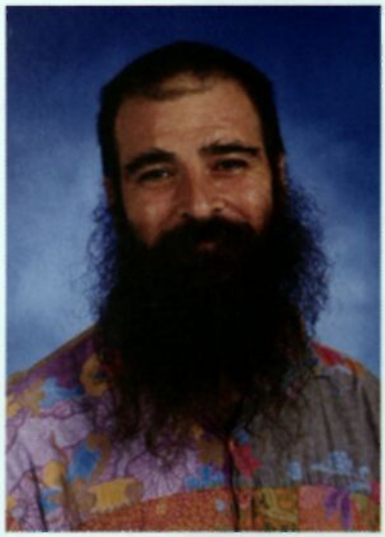
An example of crowd animation and rendering developed by Dr. Chao Peng for a massive-interaction strategy game.

Growing demand for game designers and developers a catalyst for new program of study

Don't let the name fool you – gaming is serious business that brings in billions of dollars each year. It's also a rapidly growing sector of the workforce, with demand for game designers and developers on the rise. That trend comes as no surprise to The University of Alabama in Huntsville (UAH). Gaming and entertainment arts were highlighted as one of five major focus areas in the university's 2013-2020 strategic plan, *Expanding Horizons*. And this fall, a brand-new cross-disciplinary minor in the field was added to the curriculum.

"Locally, it's a unique thing that we're offering and it stands out for students seeking fulfillment of their current educational needs," says computer science professor and coordinator Dr. Tim Newman. He notes that the program also aims to prepare students for a range of professional endeavors after graduation.

The required courses are primarily offered by the Departments of Computer Science and Art & Art History. Some, like Drawing and



Vinny Argentina (Art & Art History) and Dr. Chao Peng (Computer Science) joined the faculty this fall.

ON THE COVER:
A demonstration of modeling, rigging, animation, lighting, and rendering by Vinny Argentina.

Introduction to Computer Graphics, already exist. But others, like Scripting for Game Development and 3D Animation, are recent additions and will be taught by new faculty members Dr. Chao Peng (Computer Science) and Vinny Argentina (Art & Art History).

Each brings his own distinctive skill set to the classroom. Dr. Peng, who holds a Ph.D. in computer science, is a specialist in game design and development, GPU-accelerated algorithms for data-intensive visualization, and character animation. Argentina, who holds an M.F.A. in dramatic media, is a 3D computer graphics generalist with a background in audio and video production, motion capture, interactive programming, and photography.

Over the course of their careers, however, both have learned that the key to success in the field is working together. "Communication and collaboration are critically important in game development," says Argentina, who previously served as an Environment and Technical Artist for Electronic Arts Inc., best known for its Madden NFL game. "Artists, designers, and programmers are individual inputs to a common end goal, and strong work is required from all three to have a great end product."

Dr. Peng, whose resumé includes a stint at DreamWorks Animation, agrees. "Students need to understand that games not only involve engineers, but also artists who bring art assets," he says. "And the words used by programmers are not the same as the ones used by artists, so they will need to build up their collaboration skills."

Together the pair will be working to give students a fundamental understanding of game design and development. That starts with a set of core courses in both Art and Computer Science that will introduce the basics of the field. But after that, the students will be able to choose which aspect they want to focus on – art or programming.

"Students may come in saying they're interested in computer games, and as they progress, some may find they're most interested in, say, character creation and modeling while others may find they really like writing programs that animate character activity," says Dr. Newman. "Our goal is to allow a variety of specialties, giving our students the leeway to proceed the way that's best suited to their interests."

Some may even find they don't want to go into the industry at all – and that's fine too. "They may get to the end and decide they don't want to spend their whole career in gaming," he continues. "But what is cool about what we're teaching is that they don't have to. There are many other things they can do because the skills are transferrable."

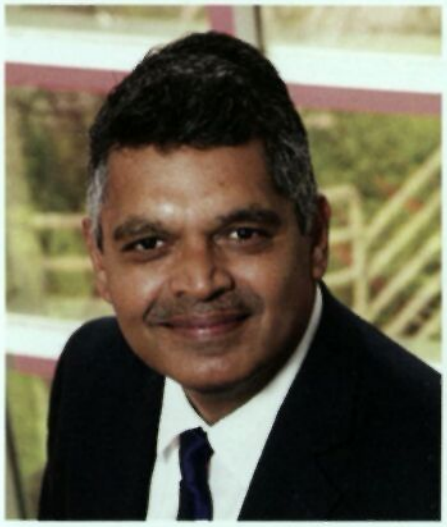
And not just the technical skills, points out Argentina. "Problem solving, understanding how to work with complex software, communication and collaboration skills, and teamwork will translate well into a variety of fields," he says.

But for those who do plan to become professional game designers or developers, he says, "I hope they create great work that gets them industry and popular recognition, and that that ultimately leads to program growth and the ability to help students further specialize into industry roles."

Both departments are, in fact, counting on it. Plans are already in place to grow the minor into a major, to better meet the needs of future students and the job market they will face when they graduate. "Within a few years," says Dr. Lillian Joyce, Chair of the Department of Art & Art History, "we could have our first graduates of the degree program."

Turning Over A New Leaf

Trio of dean appointments usher in fall semester



Dr. Sundar Christopher
Dean, College of Science

Dr. Marsha Adams
Dean, College of Nursing

Dr. William Wilkerson
Dean, Honors College

Three new deans took office across the UAH campus this fall: Dr. Marsha Adams (College of Nursing), Dr. Sundar Christopher (College of Science), and Dr. William Wilkerson (Honors College).

Dr. Adams earned a B.S.N., M.S.N., and Ph.D. in nursing education administration from the University of Alabama at Birmingham School of Nursing. She also earned a post-doctoral certificate in Rural Case Management from the University of Alabama Capstone College of Nursing.

"I look forward to the exciting opportunities to build collaborative partnerships and networks with the UAH community," says Dr. Adams. "I am ready to begin working with the faculty and staff to expand the nursing programs in a direction that prepares strong knowledgeable graduates who can excel and have an impact on the healthcare delivery system."

Dr. Christopher earned a B.E. in engineering from P.S.G. College of Technology in India, an M.S. in meteorology from the South Dakota School of Mines and Technology, an M.A. in industrial/organizational psychology from UAH, and a Ph.D. in atmospheric science from Colorado State University.

"I am excited to be appointed as dean of the College of Science," says Dr. Christopher, who previously served as Chair of UAH's Department of Atmospheric Science. "I look forward to serving in this leadership role and working with our excellent faculty and students at UAH. I am committed to providing an integrated research and education experience for our students as well as building vibrant relationships with industry partners."

Dr. Wilkerson earned a B.A. in humanities from Willamette University and a Ph.D. in philosophy from Purdue University.

"The new Honors College will offer a unique and transformative educational opportunity for the students, as well as a chance to raise the profile of UAH as a whole," says Dr. Wilkerson, who previously served as Chair of the Department of Philosophy. "UAH has been a home to me for 16 years, and I know that this community can accomplish great things when we work together. I am excited for this new challenge."

DISTANCE LEARNING

Study-abroad trip to China a first for UAH

Study-abroad trips used to be the domain of backpacking summer students interested in exploring Old World ruins. But nowadays they mean business, says Dr. Yeqing Bao, Associate Dean of Undergraduate and International Programs in UAH's College of Business Administration.

"If we want to increase our students' competitiveness in the global environment, we need to offer international-related curriculum," says Dr. Bao. "I thought given the importance of the Asian market to the U.S., we ought to have more exposure."

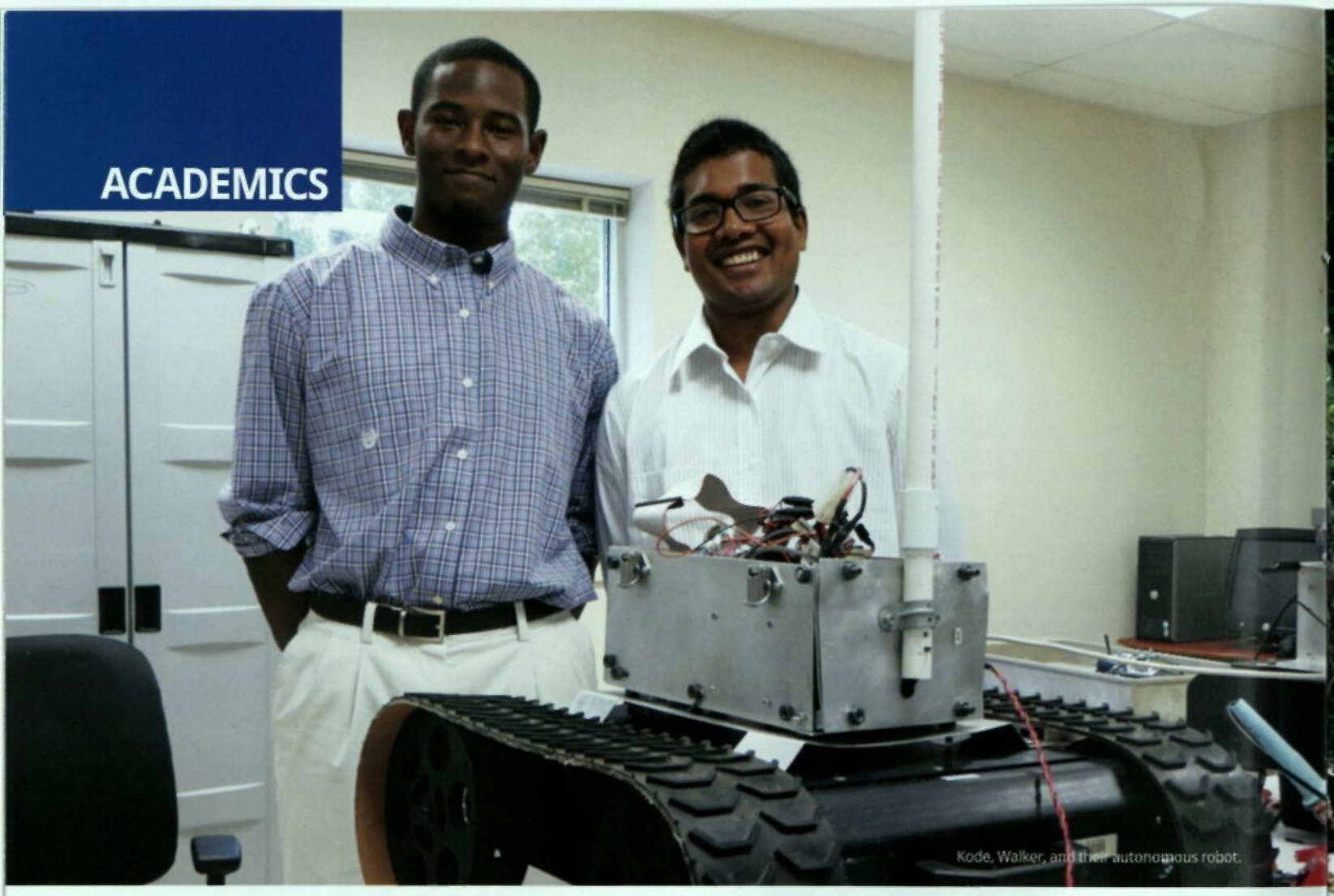
So this summer, 11 business majors took part in UAH's first study-abroad trip to China. There, they spent two weeks traveling between Nanjing, Beijing, Suzhou, and Shanghai, with the ultimate goal of preparing an international business plan for Nanjing-based Yurun Group.

To facilitate cross-cultural communication, Dr. Bao also paired the UAH students with an equal number of their peers at Hohai University. But even with the added help, he says, the American students were still "struck by the vast difference between what we're used to here versus there."

A perfect example? The emphasis on hot tea over coffee. "Our students are used to drinking coffee, but tea is big there. So by the second or third day, they were asking to stop at Starbucks," he laughs. Other differences ranged from how business cards are exchanged (more formally) to the way meals are eaten (family style).

But despite the culture shock, he says, the students "formed great friendships and gained a deeper knowledge of solving the tasks." They also picked up another essential skill – one that Dr. Bao suggests may just make the difference between success and failure as an American businessperson in Asia.

"I told the students that, by the end of the trip, everyone should be able to use chopsticks to pick up a peanut – and everyone passed," he says with real pride. "People will understand if you say you can't use chopsticks, but the distance is lessened when you can say that you are able to use them well!"



Kode, Walker, and their autonomous robot.

THOUGHT PROCESSES

The building is on fire, but the firefighters are unsure about what's fueling it or how hazardous the situation is. They place a robot at the entrance and program in a rudimentary set of directions using a building map.

The robot starts into the building but discovers a discrepancy between the mapped coordinates and the actual layout. Game over? Not if two UAH students, Sai susheel praneeth Kode and Tevon Walker, have anything to say.

Under the invaluable guidance of Dr. Farbod Fahimi, assistant professor in the Department of Mechanical and Aerospace Engineering, the pair is developing a robot that can detect – and act on – anomalies between what the operator has told it is the path to its destination and the conditions it finds.

The autonomous robot, as they call it, would ultimately be able to relay that information to the operations base via an electronic "neural network" and adjust to complete its mission. But currently, that goal is still on the research horizon.

"Right now, we can give it the inputs and it executes it, but it doesn't know how accurate it is," says Walker, an undergraduate majoring in computer engineering. "When we add the autonomous learning control, it will allow it to automatically adjust for errors."

The robot is equipped with an onboard computer, a solid-state drive, and an Inertial Measurement Unit navigation sensor. The sensor can detect its heading, pitch and roll, GPS position, velocity, and acceleration rate.

"We program the paths into it using an Ethernet cord," says Kode, a graduate student majoring mechanical engineering. "Once we set it down, the GPS figures out its position and the computer and the learning algorithm execute the path."

A neural network would then delink the cause-and-effect relationship between the operator's exact coordinates and the robot, in essence untethering it to work within certain parameters to learn how to move on its own while still remaining under the operator's control.

That could open new worlds when it comes to accessibility for operators and allow the robot to do its task even when faced with unforeseen obstacles, the students say. And once perfected, the autonomous robot could move out of the laboratory and into the hands of rescuers like those firefighters on the front line.

Digging Up the Past

This summer, history students at UAH took part in the first-ever historic archaeology field school. A combination of classroom learning and practical experience, the course focused on an archaeological site located on nearby Redstone Arsenal.

"This site is on land that was originally part of a vast plantation that operated from around 1818 until the Army bought the land in 1942," says Benjamin J. Hoksbergen, the Arsenal's archaeologist and cultural resource manager. "It was first discovered in 1997 as part of the initial effort to survey all Arsenal lands for archaeological sites."

After the survey turned up a stone well on the site, it was considered potentially eligible for listing on the National Register of Historic Places. And that, he says, "is where the field school came in."

Guiding the students through the process was UAH lecturer Jeannine Windham, a cultural resource specialist with 15 years of experience in the field. Her first task was to spend a week's worth of classes laying out the many steps involved in fieldwork. Then it was time to head out into the field.

"Within a week or two in any small class, you can tell where people's strengths and weaknesses are and you can guide them toward things they're better at or interested in," she says. So while some students stayed at the site, others decamped to the makeshift archaeology lab on the UAH campus.

But no matter what their assignment, all of the students played a role in recovering the site's artifacts, which included nails, handmade bricks, ceramics, and pieces of a hearth. And all contributed to the course's final project, an archaeology report that will help Hoksbergen determine whether the site is worthy of preservation.

That's important, because the site and its environs are in a "desirable location for future Army development," says Hoksbergen. "What the students are doing is assisting me with the management of archaeological resources so that federal resources can be focused on preserving only those sites that can really contribute to our knowledge of the past."

It just so happens that the students also picked up some valuable lessons along the way, starting with teamwork. "The students learned that they had to be dependable and they had to pay attention," says Windham. "And that's something that is missing from a lot of college classes."

So, too, is the opportunity to gain hands-on experience, which the field school offered in spades. "It's a treasure hunt in a lot of ways – you're in the middle of the woods, you get dirty," she says. "It's a fun way to explore the past, and it gives you an appreciation of the history that's not in the books."

And to Windham, that's the real appeal of archaeology. "It speaks to people who don't make the census records," she says, adding that the site the students worked on is a perfect case in point. "Nobody 'important' was living there," she says, "but that's why the research potential in it is interesting."

That's also why she hopes to offer the field school again next summer. After all, there's so much still to discover. "There are tons of people who watch archaeology programs on the Discovery Channel," she says. "But they really don't know what's right under their feet, that there's archaeology right here."

RESEARCH

Sunny Skies & Blue Waters

Probing the solar wind on a super-fast computer

A scalable computer code developed at UAH landed scientists at the university's Department of Space Science and Center for Space Plasma and Aeronomic Research in the driver's seat for a chance to run complex equations on the blisteringly fast Cray Blue Waters supercomputer. The result? Notable advances in understanding solar wind and the heliosphere thanks to "one of the fastest supercomputers in the world," says UAH space science professor Dr. Nikolai Pogorelov of the Blue Waters system, which is supported by the National Science Foundation (NSF) and the University of Illinois.

▸ POWER STRUGGLE

In the competitive world of supercomputing, the UAH scientists are like calculations hot rodders, vying for computer power to test-drive equations they've built to provide them with scientific answers. At the same time, running these complex calculations helps tune up the machine they are using, as ways to make it run more efficiently are discovered.

"We benefit a lot from the supercomputers made by Cray, but in a lot of cases our feedback helps Cray to make a better supercomputer," says Dr. Pogorelov, who worked closely with co-principal investigators and UAH colleagues Dr. Jacob Heerikhuisen and Dr. Sergey Borovikov.

The key to achieving both results, he continues, is the code used to run the program. "If you want to do a very high resolution simulation taking advantage of a supercomputer's parallel capabilities and architecture, you must substantially rewrite your code."

Using the supercomputer depends on acceptance by the NSF's Petascale Computing Resource Allocations program and is based on both the science being explored and efficiency shown in using the supercomputer's resources. But with limited supercomputing capacity available nationally, competition is fierce.

▸ CODING FOR ANSWERS

The researchers were probing two scientific questions, both involving the interaction of the solar wind with the local interstellar medium. The first focused on the Voyager 1 spacecraft and its penetration of interstellar space; the second examined the flow of the long "heliotail" contrail left by the sun.

Such solutions "take a lot of computational power," says Dr. Pogorelov. "The idea is that we can perform small-scale simulations of instabilities and magnetic reconnection locally, while simultaneously doing a good job in the resolution of global features of the solar wind's interaction with the interstellar medium."

To that end, the UAH researchers wrote 150,000 lines of a heliospheric modeling code they call the Multi-Scale Fluid-Kinetic Simulation Suite (MS-FLUKSS) in C++ and Fortran for their experiments. Once added to the Chombo framework – publicly available software developed by the team's long-time collaborators at Lawrence Berkeley National Laboratory – the result was 650,000 total lines of code utilizing 160,000 computing cores.

▸ FUTURE SUPERCOMPUTING

As the project moves forward, the researchers will be assisted by UAH doctoral candidate Matthew Bedford, one of a handful of doctoral students awarded a 2014-2015 Blue Waters Graduate Fellowship. He will receive a stipend of $38,000, a tuition allowance of up to $12,000, and an allocation of up to 50,000 node hours on the Blue Waters system.

Although he's used Blue Waters for the past year as part of Dr. Pogorelov's team, Bedford says the fellowship provides him with an allocation of his own to model the interaction of the solar wind with the local interstellar medium using a new multi-ion model of the solar wind.

"It is small by comparison – 50,000 node hours, or enough to use the entire machine for a little over two hours," Bedford says. "However, it is enough time to write, debug, and test code as much as I need and still run a few high-resolution, publication-quality simulations requiring thousands of nodes without spending my team's allocation."

As for whether it will be enough time for the researchers to find the answers they are looking for, that remains to be seen. But for Bedford, it's not always about the destination. "As far as science has come, there are still plenty of questions that haven't even been asked, let alone answered," he says. "It's good to be part of a team asking those questions."

RESEARCH

Dr. Nikolai Pogorelov

"UAH's goal was, and always has been, to see the fruits of our research be available for public consumption at the earliest possible time."

– Kannan Grant

A "Smart" Solution

UAH and AdhereTech have been awarded a second U.S. patent for the smart pill bottle that was invented at the university and is being commercialized by the company. AdhereTech's Generation 1 bottle is currently in use, and an improved, smaller, and less-expensive Generation 2 bottle will be released in 2015.

AdhereTech's smart pill bottle is designed to automatically determine if patients have taken their medication. Data are sent wirelessly from the bottles to AdhereTech servers, where they are analyzed in real-time. If a dose is missed, AdhereTech reminds the patient via automated phone call or text message – as well as on-bottle lights and chimes.

If the system notices prolonged non-adherence, it can also solicit feedback from a patient via text or phone call, asking why the dose was missed. Patient responses can either be stored or routed to live case managers for immediate intervention.

The new patent involves the bottle's adherence notification and transmission system, and further secures the intellectual property of the product, according to inventor Dr. Emil Jovanov, associate professor in UAH's Electrical and Computer Engineering Department. Joining Jovanov as inventors named in the patent are Josh Stein, CEO of AdhereTech; John Langhauser, the company's CTO; and Michael Morena, its COO.

"This recently granted patent allows AdhereTech to continue developing innovative solutions to improve the health and well-being of patients, especially within the area of medication adherence," Stein says. "In fact, we have more demand for our product than we can accommodate at the moment, so we are scaling up."

To wit, the product is currently in a pilot study with Walter Reed National Military Medical Center. And this summer, AdhereTech will begin working with a top-five pharmaceutical company, a top-15 pharmaceutical firm, a top-10 pill bottle manufacturer, and a leading research university to be used with medications designed to treat cancer, HIV, and strokes.

That's good news to UAH, which licensed its rights to the technology to AdhereTech. "UAH's goal was, and always has been, to see the fruits of our research be available for public consumption at the earliest possible time," says Kannan Grant, director of the university's Office of Technology Commercialization.

Hacking Away at Vulnerabilities

When it comes to hacking, high-profile targets like online banking sites tend to garner more attention than quotidian ones like the industrial systems that control elevators, HVAC systems, and water treatment plants. But that's exactly why they are so vulnerable to takeover, as Dr. Ray Vaughn knows all too well.

Dr. Vaughn joined UAH as vice president for research after serving as the associate vice president for research at Mississippi State University, where he and a research assistant helped nab one such miscreant.

"In 2009, my graduate student and I identified a hacker who went by the pseudonym of 'Ghost Exodus' and had posted evidence on public websites of his exploits in penetrating and manipulating a supervisory control and data acquisition system located within a hospital in the Dallas, Texas, area," Dr. Vaughn says.

Ultimately, the pair identified the first industrial control systems (ICS) hacker convicted and jailed in the United States. He is currently serving seven years in a federal prison for implanting malicious code and manipulating a control system to operate a heating and air conditioning system within a hospital.

People don't often think of control systems as computer systems, but they are. "They have different network protocols and they are often very small with limited computational capability," says Dr. Vaughn, "but they can also be manipulated through malicious attack and they are subject to denial of service attacks, reply attacks, protocol mutation attacks, and others."

These systems control critical infrastructure like power grids, water systems, gas pipelines, dams, and other applications that the nation depends upon. An attack against them can affect large populations, or worse, can cause a loss of confidence in the utility or government's ability to operate safely.

"Since 2007, I have demonstrated both significant and exploitable vulnerabilities and also strategies that are plausible, affordable, and reasonable to prevent or mitigate such attacks," says Dr. Vaughn. And to help further that research on campus, UAH has acquired a highly specialized ICS laboratory, which it hopes to partner with industry.

"I believe we have a special obligation here at UAH due to our high concentration of Department of Defense and government work," he says. "I think this research is an excellent area to work in and will help UAH move more into weapons system vulnerability analysis, medical device security, and automotive system security."

Hitting the Right Notes

UAH students make up the popular band, which forms anew each semester.

There's something about the tintinnabulation of a steel drum that transports the listener to the sun-soaked islands of the Caribbean. And there's no doubt that magical quality has contributed to the recent rise in popularity of steel drum bands at college campuses across the U.S.

"There's just no sound like it," says Deborah Loach, a music instructor and the director of the steel drum band at UAH.

Each semester, the band forms anew with students who opt to take the once-weekly, half-credit chamber ensemble class for steel drums. Some are returning players familiar with how the drums are played; others are first-timers lured by the instrument's unique appeal.

"It's helpful if you have a musical background, but you don't have to have a background in percussion," says Loach. "There is a learning curve but I take them through that at the beginning of the semester. And once you catch on to the pattern, you've got it."

Of course, not all students in the band can play at the same time. "There's only six actual stations for the drums," she says. So to accommodate the entire class, other instruments like congas and break drums can be added on.

Then it's time to start learning songs in preparation for the two performances the class requires. Last year that included an outdoor concert for local charity Manna House as part of UAH's music outreach program MusicBridge. "People came up and said they were from the islands and that we reminded them of home," she says.

Indeed, their repertoire includes many traditional Caribbean tunes, in addition to several contemporary pop songs and American jazz standards like "St. Thomas." But the biggest crowd-pleaser may come as no surprise. "We get asked to play 'Margaritaville' all the time," laughs Loach.

Not that the band's members mind. "My students say it's one of the most fun ensembles to play in at UAH," she says. And that tells Loach that, even though the steel band trend sweeping college campuses seems to have come out of nowhere, it's not going anywhere anytime soon.

"People just like hearing it too much for it not to stay," she says.

Hear the UAH Steel Drum Band play!
Visit **http://on.uah.edu/1xB2brQ** *and* **http://on.uah.edu/1AzYAi5**.

Did you know...?

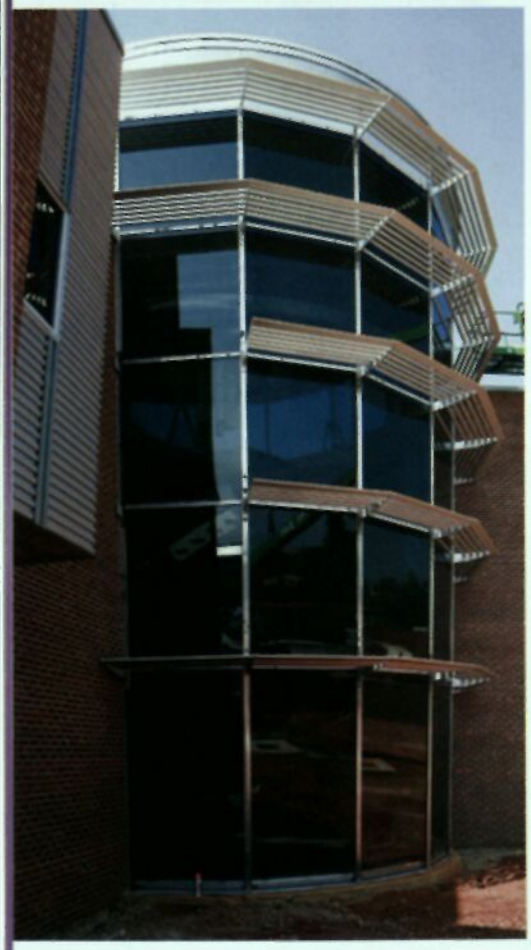
This fall, the UAH website underwent a major overhaul. Our goal? To create an online destination that would better meet the needs of our most important user – you! And we're happy to report that the end result is a huge success.

The site is cleaner, sleeker, and easier to navigate, with new menu bars, a more interactive homepage, and improved social media integration. It also features a responsive web design, meaning it can adapt to any screen size from mobile phones to desktops!

Of course, we know that seeing is believing. So if you haven't already done so, we encourage you to visit today and check out all of the amazing features we've added. And if you like what you see, let us know! We'd love to hear what you think about UAH's newly renovated online home.

www.uah.edu

GROWTH SPURT



SWIRLL provides researchers with a new high-tech home for studying severe weather.

CAMPUS CONSTRUCTION ON THE RISE

It's not just horizons that are expanding at UAH. It's the campus itself! Over the past few months, construction was completed on the university's brand-new Severe Weather Institute – Radar and Lightning Laboratories (SWIRLL), a 45,000 square-foot addition to the Nursing Building, and the long-overdue renovation of Roberts Recital Hall.

SWIRLL

SWIRLL, a $7 million grant-funded structure, will facilitate severe weather research by UAH's Department of Atmospheric Science and Earth System Science Center, the National Weather Service forecasting office, the NASA Earth Science research team, and the Office of the Alabama State Climatologist.

"The unique part of the building is its conical-shaped lobby, which includes an interactive globe for viewing weather events," says Larrell Hughes, UAH's campus architect. "That, along with the stairwell that spirals up with it, presented some design challenges, but we were able to overcome them."

NURSING BUILDING

With an addition nearing the size of its existing building, the College of Nursing now offers its students larger classrooms, more gathering spaces, and a new state-of-the-art home for Charger Hospital, the College's simulation lab. That, too, posed its share of challenges, says Hughes, "due to the labs and the tornado shelter that was incorporated into the space."

Now that it's complete, however, construction is about to begin anew on the renovation of the existing building, which will include an update of the mechanical system, the expansion of faculty offices, and a brand-new entrance onto the university's greenway. "That will wrap up in March or April, with transition into the building taking place over the summer," says Hughes.

Top left: The new student services building, which will open in the spring of 2016, will give the campus a new "front door."

Top right: The recital hall's renovation took place on a tight schedule and was completed over the summer.

ROBERTS RECITAL HALL

Long a cultural gathering place for the city's arts lovers, Roberts Recital Hall is one of the most-used spaces on campus. So its renovation "was on a very restricted timeframe because of planned programming," says Hughes. But with "exceptional scheduling," the work was completed in time for the kick-off of the Constellation Concert Series on August 28.

"It's tremendously better from an acoustic standpoint, as well as functionally and aesthetically," says Hughes of the renovation. "It also enables the university to accommodate professional performers from the community, enhancing our arts offerings and performing an important outreach function."

FUTURE IMPROVEMENTS

Much like this past summer, the fall looks to be a busy one when it comes to construction on the UAH campus. The biggest project by far will be a new student services building that will also house the administrative offices and replace the current Madison Hall, slated for demolition in mid-November.

"The new building will include a welcome center and house all student services and administrative offices," says Hughes. "And once it opens in the spring of 2016, the university will have a much-needed 'front door' to the campus."

Finishing touches were added to the entrance of the Nursing Building addition before it opened for classes in August.

2014 Alumni of Achievement Award

Dr. Daniel M. Schumacher

('90 MS Eng., '05 Ph.D. Eng./Systems Eng.)

Dr. Daniel M. Schumacher's fascination with the STEM fields began at a young age. "It was clear by middle school that I was math and science oriented," he says. And as the current director of the Science and Technology Office at NASA's Marshall Space Flight Center in Huntsville, he remains passionate about them to this day.

"Most of my career, until my latest job, has been on the engineering and development side of things," says Dr. Schumacher. "Now I am fortunate to manage science and technology activities where there is a high reward for thinking outside of the box."

This fall, Dr. Schumacher was one of three alumni awarded the 2014 Alumni of Achievement Award. The highest honor bestowed by the UAH Alumni Association, the award recognizes graduates who have distinguished themselves professionally and personally and who exemplify the high standards of UAH.

"It is truly an honor to be recognized by an institution that Dr. Wernher von Braun played such a crucial role in helping to start," says Dr. Schumacher. "It brings my career accomplishments full circle with the industry I have been lucky enough to work in and the institution that supports it."

Dr. Schumacher began his professional career in 1989 at Wright-Patterson Air Force Base, where he supported the F-16 project. He says he had no idea what to expect when the U.S. Air Force selected UAH for him to embark on his graduate studies, but he ended up being pleasantly surprised.

"Our instructors were not just academic-focused," he says. "They were practicing leaders in their own right and presented coursework with real-world challenges, not just textbook problems." As a result, many of the program's graduates went on to occupy leadership positions around the country.

And the same is true of Dr. Schumacher himself. He says the skills and experience he gained "resulted in a five- to ten-year head start" with his first job. "I am convinced that all of these things have allowed me to progress faster in my career than if I had not attended UAH."

Dr. Schumacher remains a strong supporter of the university, promoting UAH's Earth and space science activities through NASA's numerous outreach endeavors and public speaking engagements. He is also a member and donor of the UAH Alumni Association and UAH athletics.

Stephanie Hyatt

('96 BA English, '07 MA English)

Words on a page. Just words on a page. Stephanie Hyatt still recalls those calming words offered by Dr. Julie Early while she was a frustrated graduate English student at UAH. They are the same ones she now offers to her own students, as the lead high school English teacher with the Huntsville City School System.

Teaching was a calling that Hyatt came to somewhat later in life. After earning her undergraduate degree, she says she was "at a bit of a loss" as to her future. So she applied to the Master's program at UAH, taking courses in both English and education while working as a freelance writer for a magazine publisher.

That job eventually led to a full-time position in marketing and public relations at Intergraph, where Hyatt spent a decade before deciding to leave. "I felt an inexplicable but undeniably palpable draw back to education," she says. "I can honestly say that I have never regretted the decision."

Hyatt was recently awarded the 2014 Alumni of Achievement Award, though she says she was "a little shocked" by her selection. "UAH has an incredible list of distinguished alumni, and I'm honored to be counted among them," she says. "I'm excited to think of myself as representing not just UAH's phenomenal liberal arts program but also all of the many educators who have studied at the university."

As a teacher, she has already received numerous honors, awards, and grants. She also works extensively with the National Math and Science Initiative and A+ College Ready, and has published several projects with McGraw-Hill.

It's a stellar resume, and one that Hyatt attributes in part to her education at UAH. "I had exceptional teachers, most notably Drs. Laurel Bollinger, Julie Early, and Daniel Schenker in the English Department," says Hyatt. "They stand out in my mind as providing models of the kind of teacher I wanted to be."

And the university still plays an important role in her life today. "I continually work with graduating high school seniors who consider attending UAH," Hyatt says. She also attends alumni activities and fundraisers with her fellow alumni – husband Jeff Hyatt, brother Darren Ferree, and sister-in-law Melissa Stinson – when her busy schedule permits.

2014 Alumni of Achievement Award

Mark Crosswhite

('84 BA History)

Mark Crosswhite's interest in history was piqued while attending UAH, and in 1984, he graduated magna cum laude with a bachelor's degree in the field. That liberal arts education provided the strong foundation he needed to earn a law degree from The University of Alabama.

"Many lawyers actually have undergraduate degrees in history or political science, so my decision isn't unusual at all," says Crosswhite. "Students of history are exposed to legal concepts throughout their coursework."

In his own case, he recalls taking a class entitled "British Constitutional History" from Dr. Carolyn White (professor emerita) while at UAH. "The development of the law is so intertwined with history," he says. "They are inseparable."

Today, Crosswhite serves as president and CEO of Alabama Power Company, which provides electricity to more than 1.4 million customers in the southern two-thirds of the state.

It's an important job, but he credits his UAH degree in history with enabling him to maintain a "broad perspective" as CEO. "It helps me communicate to different audiences and consider the 'big picture' as we incorporate strategy and direction at Alabama Power," he says.

While a student at UAH, Crosswhite was a recipient of the Frances C. Roberts Scholarship and the William Penn Nichols Memorial Scholarship. He also accrued a number of honors, receiving the History Department Award of Merit and being inducted into the Phi Alpha Theta History Honor Society.

And this fall he added another to the list, becoming one of just three alumni to receive the 2014 UAH Alumni of Achievement Award. "It is very exciting to be recognized by my fellow alumni for this award," he says. "There are so many UAH alumni who have distinguished themselves. It is an honor to be counted among them."

As for his alma mater, Crosswhite predicts tremendous growth in the coming years. "There is huge demand for people with science, technology, engineering, and math educations," he says. "Given UAH's strength in these fields, I expect to see UAH continue to flourish over the next decade."

Social Media

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

Pres. Altenkirch & @TommyBattle join UAH & the Energy Huntsville Initiative to develop new energy technologies
https://twitter.com/UAHuntsville/status/496671999574278145

Successful Prometheus rocket launch prompts UAH celebration
http://on.uah.edu/1mhZ876

Music a complement to any field of study
http://on.uah.edu/X453T3

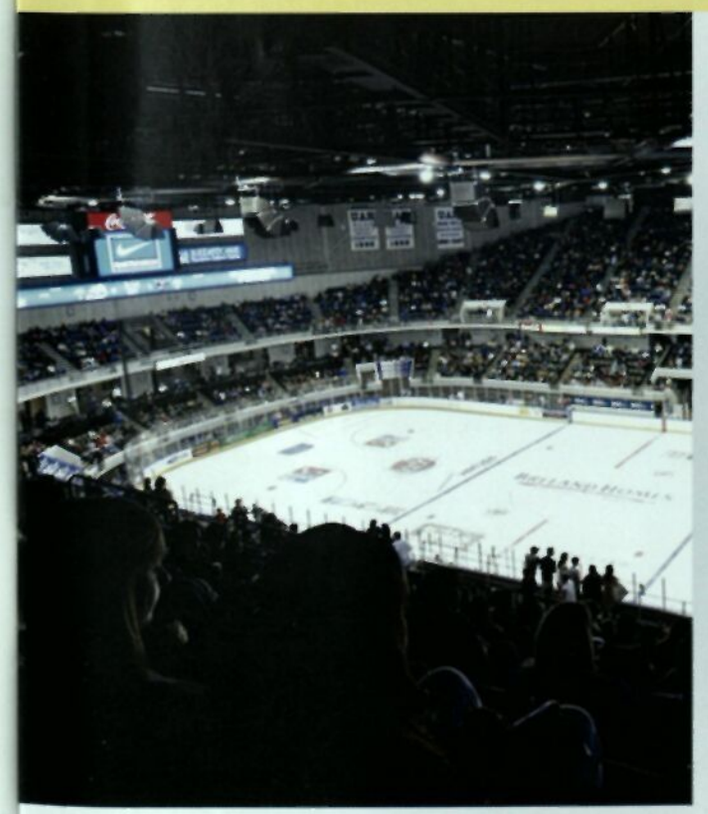
Students from UAH carried out research work together with CATHALAC in Panama
http://bit.ly/1nUgAiT

UAH debuts new and improved campus life app
http://on.uah.edu/1pGLVEa

"Street View" of UAH campus now available
http://on.uah.edu/1peqRWt

facebook.com/UAHuntsville

@UAHuntsville



Athletics

SEASON TICKETS NOW AVAILABLE

With 16 home games marking the Charger's second year in the prestigious Western Collegiate Hockey Association, the time has never been better for fans of UAH's NCAA Division I ice hockey team to purchase season tickets! Choose between the standard 16-game package for $192 or the $99 FlexTix package, which gets you 10 tickets to use throughout the season. It's up to you to decide which games you want to see! Just don't wait. The Charger's home-opener takes place Friday, Oct. 18, at the Von Braun Center. So call **256-UAH-PUCK** today to purchase your tickets – and watch the Chargers ice the competition this season!

* Want to be a part of the Blue Line Club? Learn more at **www.uahchargers.com**!

THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

CONNECTIONS

This October UAH will kick off its phonathon campaign, with current students calling alumni and friends to encourage participation and support. The effort will build on last year's campaign, during which over $100,000 was pledged and given.

"We were so grateful for the support we received this past year – and overwhelmed by the generosity of our donors!" says Jennifer Brost, Director of Annual Giving & Research. "We're hopeful that this campaign, which will run from October through December and March through May, will be even more successful."

Fundraising is, of course, a primary goal. But it's not the only one. "Our students are not just calling to ask for money," she says. "They are also taking the opportunity to connect with alumni and share news and information from across the Charger Nation."

As for those who can give, Brost encourages them to save time, paper, and postage by using their credit card. "It's a great way to maximize your donation in a safe and secure way," she says. But no matter how – or how much – you choose to give, she adds, your gift is "an invaluable investment in the bright futures of the graduates yet to come."

For more information about UAH's fall phonathon, or for questions, contact Jennifer Brost at **jennifer.brost@uah.edu** *or* 256-824-6853.

THE RST SOCIETY

The RST Society was named to honor Patrick W. Richardson, Charles E. Shaver, Sr., and Tom Goodman Thrasher, three individuals who had the vision to promote a university to support our high technology community, The University of Alabama in Huntsville. This legacy society honors those who share the vision by supporting UAH through a planned gift. To learn more about the RST Society and how to become a member, please contact Brenda Walker, Assistant Vice President for Development, at **bkw0009@uah.edu** or 256-824-6971.

Students enjoyed UAH's on-campus programming over the summer

THE UNIVERSITY OF
ALABAMA IN HUNTSVILLE

301 Sparkman Drive
Huntsville, Alabama 35899

www.uah.edu

Nonprofit Org.
U.S. Postage
PAID
Huntsville, AL
35899
Permit No. 283

FALL EVENTS AT UAH

OCTOBER

13-18 – Homecoming
15-19 – Fall Musical: ***How to Succeed in Business Without Really Trying*** (Chan Aud.)
19 – Constellation Concert Series: Toot and Twang (Roberts Recital Hall)
22-26 – Fall Musical: ***How to Succeed in Business Without Really Trying*** (Chan Aud.)
24 – Admissions Open House
24 – Friday Night Flicks: ***Guardians of the Galaxy*** (CU Theater)
31 – Friday Night Flicks: ***Zombieland*** (CU Theater)

NOVEMBER

1 – Girls in Science & Engineering Day (Shelby Center)
2 – Constellation Concert Series: Watters-Felts Project (Roberts Recital Hall)
7 – Friday Night Flicks: ***Sex Tape*** (CU Theater)
12 – Magician Michael Kent (CU Theater)
12-16 – UAH Theatre presents ***Picasso at the Lapin Agile*** (Wilson Theatre)
14 – Friday Night Flicks: ***The Prestige*** (CU Theater)
15 – Arcade Games (2nd floor, CU)
19 – Laugh Your ACE Off: Comedian Dustin Ybarra (CU Theater)
19-23 – UAH Theatre presents ***Picasso at the Lapin Agile*** (Wilson Theatre)
21 – CU Sounds ft. Levi Stephens (CU Lobby)
21 – Friday Night Flicks: ***Space Jam*** (CU Theater)
22 – Admissions Open House

facebook.com/UAHuntsville @UAHuntsville