UAH MAGAZINE

THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

FALL ISSUE 2013

WORKFORCE DEVELOPMENT

Economic growth brings jobs to UAH graduates

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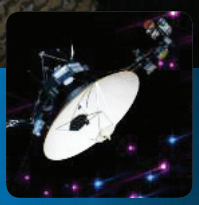
RESEARCH

Surprise data get closer look



GROWTH

College of Nursing set to expand

AVIATION

Veteran leads rotorcraft center at UAH

ALUMNI: ACHIEVEMENT WINNERS OUTREACH: FROM TEACHING COMES LEARNING

Week of Welcome

FALL 2013

New and returning UAH students celebrated the start of the fall semester with Week of Welcome, held August 16 – 24.

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THERE'S NO PLACE LIKE HOME FOR CURSE CTO AND ALUMNUS MICHAEL COMPERDA

Not many software engineers would turn down a full-time position with one of the largest gaming media and technology companies in the world, but that's exactly what Michael Comperda did when he was offered a job with Curse Inc.

At the time the company was located in San Francisco, which for Comperda was a deal breaker. "I didn't want to relocate," says The University of Alabama in Huntsville (UAH) alumnus. "I just love the Huntsville area and I knew I needed to be here, so I came on staff as a consultant."

Less than a year later, however, Curse CEO and founder Hubert Thieblot had another offer. Would Comperda head up Curse's engineering department? Only this time, instead of having to move to San Francisco, the engineering department would come to Huntsville.

It made sense, after all; Comperda was already here, and the Rocket City offered some significant advantages over San Francisco. "The cost of living is much lower, we could hire a first-class staff of engineers, and salaries are more in the realm of a start-up company," he says.

So in April of 2008, Curse's engineering department relocated to Cummings Research Park, along with three staffers from San Francisco. "They researched the area, we flew them out, and they liked what they saw," he says of the transplants. "They could actually buy a home and have more of a traditional lifestyle here."

The remaining five staff members, meanwhile, were hired from the local community, including two of Comperda's fellow UAH alumni: Chip Paul, database platform team manager, and Ryan Muzzey, the community platform team manager.

"We grew slowly because we were very much in start-up mode at the time, trying to build things from scratch," Comperda says of those first four years. Their success, nevertheless, was immediate, and with none of the concerns that the San Francisco office was facing at the time, like skyrocketing rent and the poaching of staff by competitors.

That prompted Thieblot to once again look to a possible move east. Not only would that mitigate the problems the company was dealing with in San Francisco, but it would also re-integrate Curse's engineering staff with its product, marketing, support, video, and wiki teams.

There was just one question. "I knew Huntsville had good engineers," says Comperda, "but would there be good graphic design people here, people who are good at social media and marketing?"

The answer, it turned out, was yes. Once Curse's corporate headquarters officially relocated to downtown's BB&T Building in early 2013 and the hiring began, Comperda says he was "blown away with the talent we got."

To date, Curse has hired more than 20 locals, of which 8 are UAH graduates;

CURSE

REACHING 30 MILLION PEOPLE AND DELIVERING NEARLY 1 BILLION PAGE VIEWS EVERY MONTH

it's now the largest independent gaming media company, reaching over 30 million people and delivering nearly 1 billion page views every month.

"We've had an easy time finding people in Huntsville who know and understand our business," he says, adding that with Curse here – and the word about Huntsville out to the gaming community – perhaps similar companies will take a closer look at the many benefits the city offers.

Mayor Tommy Battle certainly hopes so. Curse is "a perfect fit for the Huntsville community" because of its depth of talent in cyber technologies and computer programming, he says. "These jobs are attractive to young professionals, and they add another important dimension to the Huntsville workforce and quality of life."

Of course, whether or not they would have made it to the Huntsville area without Comperda's help is debatable; his insistence on staying in the Rocket City was integral to Curse's relocation here. But unlike many hometown boosters, Comperda was not born and raised here.

"I came here for Space Academy in the eighth grade, and my dad took me on a tour of UAH," says the Stafford, Va., native of his first visit to Huntsville. "It didn't look like your typical college – it looked like a business park – and that was something that was very interesting."

Comperda, after all, already knew what he was going to do after college – start his own company. "I had read that Huntsville was one of the best places to start a business, and I was just thinking about being in the right place to be successful after getting my degree," he says.

So despite being offered a scholarship to the University of Hawaii, UAH was the only school he applied to. "Going anywhere else would have been counterproductive to what I wanted to achieve," says Comperda, who got his degree in Management Information Sciences from the College of Business Administration in 2002.

And while today he's the Chief Technology Officer of Curse rather than the owner, he says he's still fulfilled his professional ambitions. "Curse has been a tremendous entrepreneurial outlet, and our founder has always made me feel like this is my company too."

As he points out, he not only built the engineering department here from the ground up but he also helped make Huntsville Curse's corporate headquarters – all without ever leaving his beloved Rocket City.

"In the last fifteen years," says Comperda, "I've really fallen in love with Huntsville. I can't imagine a better place to operate our business."

David R. Arterburn

Aviation veteran hired to lead rotorcraft center

David R. Arterburn has been named director of the Rotorcraft Systems Engineering and Simulation Center (RSESC) at The University of Alabama in Huntsville (UAH).

Arterburn has 30 years of experience in management and engineering roles in Army Aviation. He has experience in over 50 different fixed and rotary wing aircraft and over 2,000 total flight hours.

"Dave has an excellent background in Army aviation and brings significant technical skills and experience to the position," said Dr. Ray Vaughn, VP for Research. "We are delighted to have him join the UAH team."

"I am excited to rejoin UAH as part of the Rotorcraft Systems Engineering and Simulation Center," said Arterburn, who had worked in the university's Systems Management and Production (SMAP) Center from June 2004 to May 2008. "I look forward to working with Dr. Vaughn, the directors of the other UAH research centers, the UAH faculty, and the current RSESC team to grow the rotorcraft center at UAH in support of the students and faculty at UAH, Redstone Arsenal, and other government agencies involved in rotorcraft development and the vertical lift industry."

Arterburn currently is the Chief of the Technical Management Division within the Armed Scout Helicopter Project Office at Redstone Arsenal. Arterburn had also served as Chief Engineer of the Kiowa Warrior Cockpit and Sensor Upgrade Program. In that role, he was selected in early 2013 as a nominee for the Management/Technical Award as a Department of the Army Civilian of the Year.

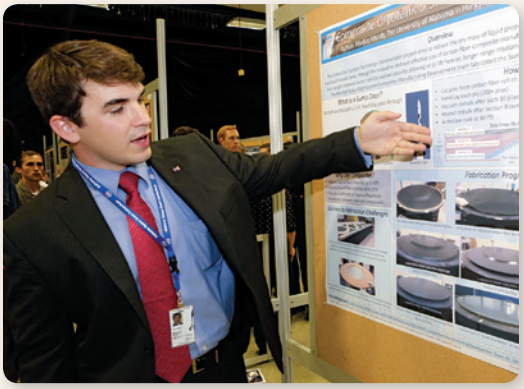
He received his Master of Science in Aerospace Engineering from the University of Maryland at College Park in 1992, after having earned his Bachelor of Science at the United States Military Academy in 1984. He is also a graduate of the US Naval Test Pilot School and has worked on joint Army/NASA flight projects involving experimental research programs.

Student Markus Murdy explains why UAH is his University at home

"College is all about finding opportunities. This is why I chose UAH. My hometown of Janesville, Wis., is over 11 hours away by car, so this is definitely my University at home. I have a picture of myself watching in awe of the CNC Mill that is in the student machine shop, the Engineering Design and Prototyping Facility. Well, two years later, I can run this machine. When people ask why a Yankee would come to Huntsville, I point them to the shop. Another huge opportunity at UAH has been the Space Hardware Club."

"I was able to jump right into work as a freshman, learning from upper division undergraduate, graduate, and Ph.D. students about how to transform my classroom learning into real world answers to problems. I kept opening doors to the many different projects and conferences that my participation in SHC has given me the keys to. It has been incredible. The SHC has opened doors through which I have been able to intern at NASA, recently voted the coolest place to work by college graduates!"

"Another door that SHC has opened is my great relationship with the fantastic people at the Alabama Space Grant Consortium. Their support of the club, and of my internship this summer, continues to make dreams come true."



Markus Murdy explains a poster he made following a summer internship at Marshall Space Flight Center.

Voyager 1 yields surprises, but not necessarily answers

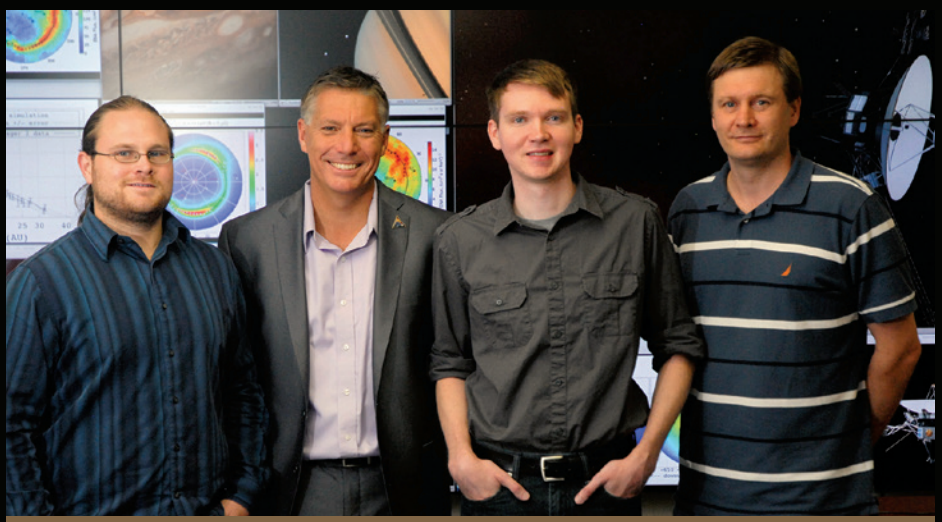
Eric Zirnstein, a UAH physics graduate student and NASA Earth and Space Science Fellow in Heliophysics, and May UAH doctoral graduate Brian Fayock, who now does data analysis for NASA, are exploring surprising data from Voyager 1's crossing of the heliopause into the interstellar medium of our galaxy.

To wit, the scientists are trying to figure out why a dramatic shift in the magnetic field that had been modeled and was expected after the craft left the dominant influence of the sun's heliosphere did not occur, even though the plasma density surrounding the craft changed as expected.

Imagine a bubble of gas underwater – the surface between the gas bubble and the water corresponds to the heliopause. The heliopause separates regions of different gases. In the case of the Voyager 1 crossing, the heliopause separates material created by the sun from material that surrounds the stars throughout the galaxy. Because the sun is moving through the interstellar medium, it creates a bow wave as well. Outside the heliosphere, there is a 40-fold increase in plasma density.

Recently, NASA announced that measurements of the effects on Voyager 1 of a March 2012 coronal mass ejection indicated that it had ventured beyond the heliopause, to begin its venture out into interstellar space. At the heliopause, the influence of the solar wind is no longer great enough to push back the gas and plasma created by other stars. When Voyager 1 will be completely beyond the influence of the sun is unknown.

Based on work by Doyle T. Hall in 1992, Dr. Fayock has created a model that describes how light is reflected by neutral hydrogen atoms coming from the interstellar medium and drifting through the heliosphere. Neutral particles from space travel through the electrons and ions in the solar boundary and swap electrons with the plasma inside the boundary to generate another highly energized hydrogen atom called an energetic neutral atom (ENA).



From left, UAH doctoral graduate and NASA analyst Dr. Brian Fayock, CSPAR Director Dr. Gary Zank, UAH graduate student Eric Zirnstein and Dr. Jacob Heerikhuisen, assistant professor of space science and assistant director of CSPAR.

"The impact of the work Brian is doing is significant," said Dr. Gary Zank, heliophysics professor and director of the Center for Space Plasma and Aeronomic Research. "He has developed the only model in perhaps 15 years that attempts to analyze what data Voyager is returning."

As for Zirnstein, to understand his work better you first need to think of Voyager 1 as more like a mole than a hawk, best at sensing only its immediate surroundings. It's the IBEX satellite that's the hawk, mapping the whole of space from its Earth orbit based on energetic neutral particles that stream into it from outer space. IBEX data indicate that there exists in space a very narrow ENA ribbon two or three times the brightness of anything else that may help us diagnose the structure of the heliosphere.

"My research definitely depends on where Voyager is and the measurements it's taking, if it did cross the heliopause, which the Voyager team released recently," said Zirnstein. "If it did, then we did expect that the magnetic field would change direction, because according to our simulations, for us to simulate the IBEX ribbon, we have had to assume a quite specific direction and strength of the magnetic field."

Zirnstein's work sheds a great deal of light on the IBEX measurements, said Dr. Zank. "Tying together the IBEX global view with the extremely microscopic view of Voyager is very important. What is the magnetic field doing? Why did it not change direction, as we expected? Eric has the most sophisticated model to address energetic neutral atoms and the ability to use them to probe the physics of the very local interstellar medium and its magnetic field."

Grants foster cross-college research among UAH faculty

Twenty-one tenure-track faculty members at The University of Alabama in Huntsville (UAH) have each been awarded $5,000 grants to create interdisciplinary, cross-college research initiatives on campus.

The grants are from the UAH Office of the Vice President for Research's (OVPR) Cross-College Faculty Research (CCFR) program. New Vice President for Research Dr. Ray Vaughn started the CCFR initiative shortly after his arrival on campus.

"I believe in faculty investment programs and this is one of several that we will announce," Dr. Vaughn said.

"I see this as a vehicle to increase the cooperation and positive relationships among faculty in our various colleges. This program will likely lead to some very good proposals that would not otherwise have existed."

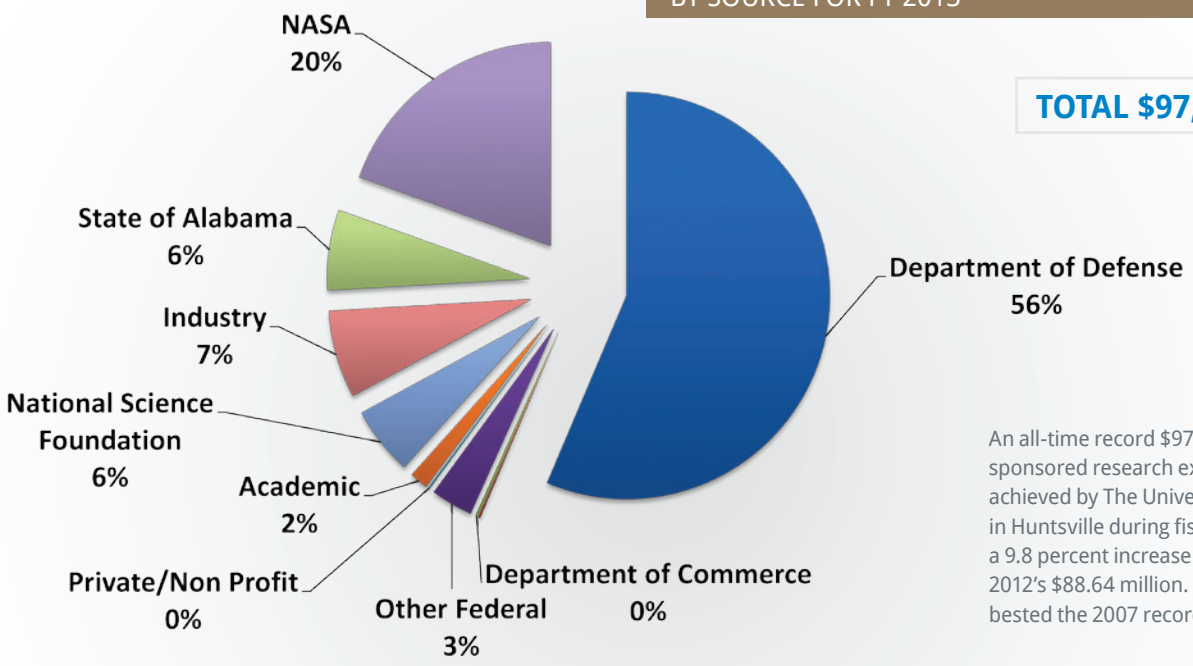
The grants are intended to facilitate interdisciplinary interaction among faculty members from more than one college around a common theme to generate more competitive proposals that result from interdisciplinary approaches to problem solving. Collaborative teams must be composed of faculty from more than one college and will meet on a regular basis, share research ideas, and submit one or more proposals to an external funding agency within the first 12 months of the award.

"At UAH, I increased the amount of support that I offer and I expect to achieve a very good return on our investment. We have extremely hard-working faculty here who have some innovative ideas that I'm quite sure can be crafted into competitive proposals," said Dr. Vaughn.

CCFR grants are good for one year, with a maximum of two years of funding available for each endeavor. Consideration of continued funding for the second year is contingent on the success of the research group during the first year as outlined in a progress report to the OVPR.

"If this program is successful," Dr. Vaughn said, "I will be increasing it over the next few years and investing more toward its goals."

SPONSORED PROGRAMS EXPENDITURES
BY SOURCE FOR FY 2013



TOTAL $97,367,180

An all-time record $97.36 million in sponsored research expenditures was achieved by The University of Alabama in Huntsville during fiscal year 2013, a 9.8 percent increase over fiscal year 2012's $88.64 million. Fiscal year 2013 bested the 2007 record of $97 million.

Networking pays off for von Braun Propulsion Scholar

John Bennewitz, a von Braun Propulsion Scholar at the UAH Propulsion Research Center who works with advisor Dr. Robert Frederick, was a visiting lecturer at Space-X's facility in Hawthorne, Calif., on Friday, September 27. Bennewitz shared his efforts in applying band-limited white noise to neutralize combustion instabilities with employees of the firm, which designs, manufactures, and launches advanced rockets and spacecraft.

He was offered the opportunity by Space-X after presenting two papers at the American Institute of Aeronautics and Astronautics 49th Joint Propulsion Conference July 14-17 in San Jose, Calif., on the experimental instability suppression work.

"For me it was very interesting," Bennewitz said, "because now I can tell people it really is worth it to go to these conferences to network with professionals in the industry and get opportunities, such as presenting my research at Space-X."

Combustion instabilities are a wave of bad news for rocket designers. They can occur due to a feedback between unsteady heat release, acoustic fluctuations, and incoming propellant flow perturbations.

"What can happen is, when you have rough combustion with these instabilities excited at certain frequencies, the oscillations can get so large with amplitudes so great that it destroys the engine," Bennewitz said.

Prior efforts to control combustion instabilities have focused largely on designing the engine baffles and injectors to smooth propulsion flows at critical

UAH graduate student John Bennewitz guest lecturers to Space-X employees on Friday, Sept. 27.

points. Recently, researchers tested a Fast-Response Actuating Valve to deliver propellant to the engine's combustion chamber modulated at certain frequencies to nullify instabilities. They found that approach worked in a set of narrow, targeted frequency ranges.

That research intrigued Bennewitz, who proposed using a piezoelectric speaker located upstream of the combustion chamber, housed at the base of the oxidizer post of an injector, to broadcast white noise frequencies targeted to negate the instabilities. He theorized that a broader approach would be more effective.

"With a speaker, the band-limited white noise being generated is basically a package of frequencies," he said.

Bennewitz designed a model liquid rocket engine combustor and fabricated it with the help of senior aerospace student Jake Cranford. By experimenting with a gaseous methane/gaseous oxygen fuel mixture, the two found a productive sweet spot, which suppressed a 2400 Hz instability by applying band limited white

> "... now I can tell people it really is worth it to go to these conferences to network with professionals in the industry."

noise between 500 Hz and 1,000 Hz.

"When these combustion instabilities get excited, they do so at a specific frequency," he said. "Essentially, we are sweeping right now from 0 Hz to 2500 Hz. We sent it 500 frequencies at a time, beginning with 0 Hz all the way up to 2500 Hz, in increments of 100 Hz and then back down again."

Cranford, who was responsible for some design changes to the test stand, said getting such experience has been valuable. "As an undergraduate, I've been working with John and he's been very forthcoming with the science," Cranford said. Next up for the pair is testing narrower frequency bands to identify the most effective ranges for instability suppression. They are now applying 150 Hz ranges to isolate the best frequencies more precisely.

Cranford is working on another part of the project, a system that will sense pressure oscillations and be able to offset them with a signal from the speaker through a band pass filter and time delay, working in similar fashion to anti-knock sensors in cars.

"The hope is that if we can get the filter up and working," Bennewitz said, "then Jake can be the primary author of a conference paper about it."

Breathing New Life into the Nursing Building

When the Nursing Building was first erected on the campus of UAH in 1976, it was a state-of-the-art edifice with a contemporary look and enviable banks of floor-to-ceiling windows.

And some four decades later, its distinctive exterior still holds up. But its interior, says Dr. C. Fay Raines, Dean of the College of Nursing, falls further behind in meeting the needs of the university's nursing faculty and students with every passing year.

"Enrollment was expected to be 250 students when the building was constructed," says Dean Raines. "And now we're up to 1,079! So we're out of space at this point."

As for the space they do have, she continues, it is woefully outdated. "When they moved in nearly 40 years ago, wiring for computers wasn't an issue," she says. "Updated classrooms? A lab with simulation models for clinical experience? Those weren't even in the picture!"

Now, however, they're de rigueur. Not to mention the modifications legally mandated under the Americans with Disabilities Act of 1990, adds Dean Raines. "That's one of the major problems of the current building."

A few years ago, the issue reached a tipping point. "We had to start turning away qualified students," says Dean Raines, "and a major part of the reason why was the lack of instructional space."

The administration took a hard look at the College's needs, factoring in student demand and the growing demand for healthcare nationwide. Ultimately, they decided on a carefully planned growth trajectory that would increase the enrollment goal to 1307 by the fall of 2019.

In conjunction with that, a plan was put in place not only to renovate the existing Nursing Building but also to enlarge it. "It's being done in two phases," says Dean Raines. "The construction of the addition is anticipated to be completed in June of 2014, and the renovation of the existing building will be completed six to eight months after that."

The expansion will provide additional classrooms, student gathering spaces, faculty offices, and a 250-seat auditorium. It will also house the College of Nursing's Learning Resource Center, known as Charger Hospital, which is currently located in Wilson Hall.

The renovation, meanwhile, will ensure ADA compliance of the building,

create several new seminar rooms and faculty offices, update the building's mechanical system, and allow for the reconfiguration of the fourth floor into offices and meeting space.

It will also create a more visible, welcoming main entrance. "One of the problems with the existing building is that it's an odd shape," says Dean Raines. "The main entrance is on one side, but the parking lot is at the back. But now the entrance will be clearly marked and will open onto the greenway."

That's all part of the master plan, says Mike Finnegan, UAH's Associate Vice President of Facilities and Operations. "The overall design of the proposed building was based on complementing the original design of the Nursing Building and reinforcing the greenway."

And as for how the $17 million project will be funded? Finnegan says the money will come from a variety of sources, including revenue bonds, designated state appropriations, and gifts – which is fitting given that the students who use the building will ultimately end up giving back to the very people who funded it.

"About 85% of our graduates remain in the north Alabama area, so they're a huge portion of our healthcare workforce," says Dean Raines. "That makes this a good investment for the community and the state."

CHARGER HOSPITAL

Where UAH's nursing students save 'lives'

Stan isn't your average hospital patient. For one thing, he never leaves. For another, he seems to have no end of medical issues. But that's exactly why UAH's College of Nursing admitted him to Charger Hospital.

UAH nursing students Toni Greer and Katelyn Pockman practice procedures on Stan.

Stan is a high-fidelity simulator used for training nursing students. Costing upwards of $100,000, the adult male mannequin can display physiologically accurate symptoms and be treated as an actual patient would in a hospital setting. He can also provide real-time feedback via computers located in the simulation lab's control room.

"With simulators, we can supplement the students' clinical time by having them come here and do procedures with 'patients' like Stan," says Greer Eleazer, Director of Charger Hospital. "It's a safe learning environment for the students so that, in the event an error is made, it can be a positive experience for them rather than a potential issue in a healthcare facility."

Stan is, in fact, one of six high-fidelity simulators used by Charger Hospital. In addition to another adult male simulator, there is a newborn simulator, a pediatric simulator, and two birthing simulators named Noelle, who routinely give birth in the hospital's Labor and Delivery Suite.

But soon those high-fidelity simulators – and their 30 low-fidelity counterparts – will be moving from their current location on the third floor of Wilson Hall to a much more spacious one in the new Nursing Building addition.

"Our projected move-in date is the summer of 2014, so we'll be ready to go for the first day of classes," says Eleazer. "We're excited because here we could only work with the square footage we had. But in the new building, we can correct the things that didn't work out as well."

For example, a more efficient layout of the hospital's units as opposed to the cramped ad hoc one of present. "All five will be next to each other along one long hallway," she says of the planned arrangement. "That way we can run them all at the same time while walking up and down and looking into every room."

As for whether any new high-fidelity simulators will be joining Stan for a stay at Charger Hospital, Eleazer is hopeful. "We're always looking for something else we can add," she says. And now that they'll have more space, it just might happen."

FROM TEACHING COMES LEARNING

"It made us have a deeper understanding of the material because you don't truly understand something until you explain it to an eighth grader!"

IT'S NOT OFTEN YOU GET TO TALK TO AN ASTRONAUT HERE ON EARTH. BUT TO TALK TO THEM 240 MILES ABOVE THE EARTH? THAT'S RARE INDEED.

Yet that's exactly what 120 local eighth graders did this past March, thanks to an outreach project undertaken by the Space Hardware Club at The University of Alabama in Huntsville (UAH). Using the club's amateur radio, the students were able to uplink to the International Space Station (ISS) during a pass over Huntsville and ask astronaut Tom Marshburn questions like "Is it fun to be an astronaut?" and "What do you miss most about the Earth?"

The endeavor was actually part of a nationwide program known as Amateur Radio on the International Space Station (ARISS), which is designed to engender student interest in the fields of science, technology, engineering, and math. The Space Hardware Club applied and was accepted to the ARISS program in the summer of 2012 and shortly thereafter learned they'd been selected for an uplink sometime in the spring of 2013.

"We created a rough plan during the fall semester and then, when we came back after Christmas, we put it in motion," says Markus Murdy, vice president of the club and a junior in aerospace engineering. "We knew we wanted to get started on building a relationship with the schools we'd be working with."

They ended up selecting three – Discovery Middle School, Liberty Middle School, and Ed White Middle School – which the club's 15-member ARISS team visited a total of 16 times. Their goal was to engage the students in activities that would teach them about both amateur radio use and the ISS in preparation for the uplink.

"We had the classrooms do activities that mimic space station chores, including a loading and unloading challenge using a full-scale model spacecraft, and we did physiological training with a pedaling machine," says Murdy, a native of Janesville, Wisconsin. "We also asked them to submit their questions for an ISS astronaut, and

then we chose two from each class along with some backup questions."

And just prior to the big day, the team members held a dress rehearsal with the help of an engineer recruited from nearby NASA Marshall Space Flight Center to act as a mock astronaut. After "uplinking" to him via amateur radio, they used orbital mechanics

simulation software to chart the fake pass in real time.

"It was just a practice, but half the students didn't realize it!" says ARISS team leader Mark Becnel, an aerospace engineering master's student who hails from Mandeville, Louisiana "We made it feel like it was actually real so that they could relax the day-of." The

day-of ended up being March 21, 2013, with the ISS pass over Huntsville scheduled from 10:47 a.m. to 10:58 a.m.

"That morning, all of the classes came to our Space Communications Lab in the Engineering Building, which was our ground station for the uplink," says Murdy. "Then we had each of the students whose question was selected ask the astronaut him- or herself."

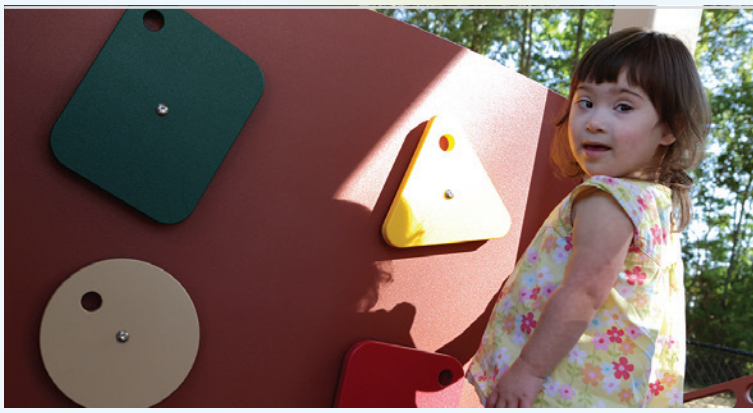
In the end, they were able to fit in 16 space-related questions – not to mention spend a few hours on campus, getting a feel for UAH and what it may one day be like to be an engineering undergraduate or graduate student here.

But as much as the middle schoolers got from the project, Murdy continues, the UAH students may have gotten just as much. "It made us have a deeper understanding of the material because you don't truly understand something until you explain it to an eighth grader!"

And while the ARISS team members are down here on Earth as opposed to more than 200 miles above it, they actually have a lot in common with the space station's astronauts. Like them, these aspiring aerospace engineers are inspiring a whole new generation's interest in space exploration.

UAH and Rise School

Planting the Seeds of Shared Resources



Classes didn't just start for UAH this fall; they also started for the Rise School of Huntsville, a nonprofit preschool that uses a balanced, multidisciplinary approach to teach children both with and without developmental disabilities.

The school, which was previously located at Trinity United Methodist Church, now sits on the UAH campus. It was founded by the Lee family, after their son Jonathan was turned down by local preschools because of his intellectual and physical disabilities.

"For our family, the school represents redemption," says Jerry Lee, adding that the new location on the UAH campus will "further facilitate the collaboration between higher education and preschool education to maximize new learning strategies."

Like Lee, UAH President Dr. Robert A. Altenkirch is also optimistic about the partnership and what it will mean for RISE students and for the university's own going forward.

"We're excited about the unique experiential learning opportunities that Rise will offer our nursing and education students," he says, "and we're also honored to support Rise's effort to provide high-quality early childhood education in an integrated environment."

Rise is currently enrolling both special needs students and their typically developing peers, who will be taught together in an integrated environment that includes physical, occupational, speech, and music therapies.

"These services cultivate the greatest potential for learning, and the culture of the school empowers the children to learn life skills not measured by any diagnostic tool, such as manners, respect, sharing, and following directions," says Rise Director Caroline Bradford.

And who knows? Perhaps one day these Rise students will return to UAH for the start of classes once again, only this time as undergraduates.

Alumni of Achievement

Meet the 2013 Honorees

Chanda Davis. Phil Williams, Ray Cronise, and Pat McCay

Chanda Davis (BS Biology '97)

A great mentor and the gift of education are keys that have unlocked many doors for Chanda W. Davis (BS Biology '97). The UAH and Huntsville City Schools teacher has been honored with numerous city, state, and national excellence in teaching awards. Recently Davis added another accolade to her impressive list of accomplishments: the 2013 UAH Alumni of Achievement Award.

Under the tutelage and guidance of her aunt, Dora Jackson, Davis learned to love learning. As a young girl, Davis called Philadelphia's foster care system home, before she came to live with Jackson in Huntsville.

"I give special thanks to the woman who poured her life into me," Davis said. "Aunt Dora is a university professor and a life-long educator. She taught me how to be confident, to read and write, and she pushed me in the field of mathematics when the subject was so unreachable from many of my other teachers. It took one person, for me, to be here today and I think teaching for me is such a blessing because it is a ministry … I'm able to hopefully do for others what Aunt Dora did for me," Davis said.

She has fond memories of her time at UAH, especially biology classes taught by Dr. Adriel Johnson. Davis shares her love of learning and teaching expertise by mentoring high school and college students. She is the recipient of more than $100,000 in grants for science research projects in the classroom.

Today, the UAH alumna is dedicated to giving her students the opportunity "Aunt Dora" gave her — a chance to explore the world through learning.

Pat McCay (BS BA '81)

The journey to map Pat McCay's future as a business woman began years before she arrived on the UAH campus. In high school, she opted to take science and mathematics rather than home economics. "I knew that I already knew how to cook and sew, thanks to my mother. So science and mathematics were the only viable options for me. This choice certainly paid off because it better prepared me for college."

McCay was a student over the traditional age when she enrolled full-time at UAH. She was 28 years old, married and the mother of a two-year old daughter. "I chose UAH rather than a junior college, because I wanted the best possible education I could get."

Today, McCay wears "three hats" with ease at the Consulting Group, Inc. She serves as president, chief executive officer and owner of the Huntsville-based company that provides personalized software consulting services to a national market. Additionally, she is co-owner and partner of TriTech Solutions, LLC, a national software consulting service for Oracle/PeopleSoft clients, specializing in product upgrades.

In August, McCay was one of four recipients honored with a UAH Alumni of Achievement Award. She served as UAH Alumni Association President from 2003 to 2004, secretary 2002, and on the board for three years. Two years ago, McCay was awarded the FBI director's "Community Leadership Award," for her work in human trafficking awareness. She currently chairs the Huntsville/Madison County Human Trafficking Task Force.

"My previous work in the business world, coupled with my educational

experiences and UAH business degree gave me a great foundation from which to launch my professional career," McCay noted. "Without my training and experience gained at UAH, I would never have been able to jump from administrative to professional. I owe a lot to the fine professors at UAH who helped prepare me for the 'real world' of business and marketing."

Ray Cronise (BS Chemistry '88)

Ray Cronise excelled in advanced placement chemistry and organic chemistry classes in high school. "I was always fascinated with how things worked, but the wonder turned into an obsession with Cosmos by famed astronomer, Carl Sagan," Cronise said.

The leaders of the UAH Students for the Exploration and Development of Space were invited to have lunch with Sagan. "I was able to thank him after lunch. I treasured that time together."

An innovator, entrepreneur and scientist, Cronise was recently awarded a 2013 UAH Alumni of Achievement Award.

"I was really lost before college, as I didn't have anyone in my family to lean on for advice, so in some sense it was completely fortuitous I lived in Huntsville. There is no doubt that my educational experience was invaluable," he said.

"Having a school large enough to have access to research funds and small enough that I could take advantage of it was exceptional.

"Without the help of UAH faculty and staff, I would have never flown for the first time in 1987 on NASA's KC-135 weightless aircraft, and likely not have started the company that opened up commercial weightless flights to the public," he said. "Nearly 20 years to the date of my first flight, I took my entire family on our custom Boeing 727, and at only eight years-old my son became the youngest person to experience weightlessness."

"Without the help of UAH faculty and staff, I would have never flown for the first time in 1987 on NASA's KC-135 weightless aircraft, and likely not have started the company that opened up commercial weightless flights to the public," said Ray Cronise.

Cronise is the owner of Disruptive Excellence, co-founder of Zero Gravity (Zero-G), and a highly respected NASA material scientist, where he worked on microgravity material science payloads for the Space Shuttle and Spacelab missions.

During his career, Cronise received four patents for his inventions, published numerous peer reviewed articles, and has given many technical presentations. His work has been featured on ABC World News, Nightline, The Dr. Oz Show, The View, and Wired Magazine.

Phil Williams (BA FLIT '83)

Hard work on the family farm in rural "Grassy" (Arab), Ala., shaped the future work ethic of UAH alumnus Phil Williams.

After graduating from UAH in 1983 with a Foreign Language International Trade degree, Williams helped start many successful small businesses, including 3D Research Corporation and Soldier 1 Corporation. In 2007, he co-founded Synapse Wireless, a Huntsville-based company that has earned many patents for its novel wireless sensor network applications.

In 2009, Williams won a special election to represent House District 6 (Monrovia) in Madison County. He serves as the Chairman of the Technology and Research Committee; the Vice-Chairman for Education Policy in the House of Representatives; and the Chair of the Speakers Task Force for Jobs Creation.

A "true champion" for education and UAH in the Alabama Legislature, Williams was recently awarded a 2013 UAH Alumni of Achievement Award.

His efforts helped secure a $1 million line item in the current budget for the university as well as numerous grants. In addition, he has been instrumental in promoting legislation beneficial to UAH and other research universities across the state.

His volunteer activities include serving as Director of the Alabama Archives Board for Alabama History; pro bono mentoring to small businesses in the Huntsville area; serving as a board member of Huntsville Heritage Foundation; and participating in the Madison County/Huntsville Leadership Program.

Williams has been an avid guitar player for many years. As a matter fact, he and his wife Lisa (BS Chemistry '85), a UAH alumna, met playing guitar; he was her teacher.

Phil and Lisa Williams are the parents of a 12-year-old son, Tyler. The family lives in Monrovia.

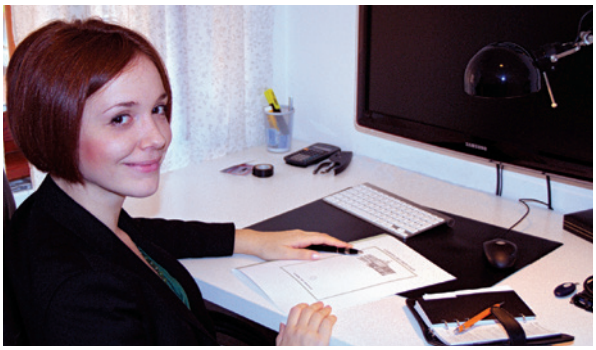
UAH alumna Marta Grande elected to the Italian Parliament

Marta Grande (BA FLIT '09) at 25 is one of the youngest MPs (Members of Parliament) to be elected to the Italian Chamber of Deputies in Rome.

The University of Alabama in Huntsville (UAH) alumna was elected last spring to represent Beppe Grillo's Five-Star Movement (M5S). Grillo, a comedian started the social movement, not a political party in 2009, just about the time Grande graduated from UAH.

She arrived in Huntsville in the fall of 2006, and enrolled as an undergraduate in the university's Foreign Languages and International Trade (FLIT) program in January 2007.

"I have always had a strong interest in politics," Grande said. "While at UAH I attended several political science classes and afterwards I enrolled in two graduate (master's) degree programs focusing on systems of government and political behavior. Studying at UAH was a truly informative and interesting experience. I learned much about the American culture as well as many others. The university was such a multicultural campus and was a big boost for integration and learning. I very much enjoyed Dr. Linda Maier's (associate professor of FLIT) Spanish classes."



"...this Parliament is probably the youngest and most gender-equal in the history of Italy..."

"In early March, I received news that a Marta Grande had been elected to the Italian Parliament and was later surprised to confirm that this was the same Marta Grande who had been my advisee in the FLIT program and graduated from UAH in summer 2009," said Dr. Maier. "As a native speaker of Italian and a quick learner, Marta was able to expedite her course of study in Spanish, another Romance language. By taking a routinely heavy course load, she was able to condense into two and one-half years what is normally done in four. Clearly, Marta both learns fast and works hard at whatever she sets her mind to. Her political achievement does The University of Alabama in Huntsville proud."

Once back in Italy, Marta tried to put into practice what she had been studying. "I felt I needed some hands-on experience and decided to align myself with local politics and activism, which eventually led me to the Parliament," she said.

Marta was drawn to Grillo's M5S, because he "acted as a catalyst for something that is very new on the Italian political scene and abroad: spontaneous aggregation of citizens who share one simple and yet revolutionary idea, that politicians should represent only the people and their interests, and act as a voice for the people," Grande explained. "In short, these are our ideologies and we are trying to act accordingly ... considering the commitment and duty of our office before the honor it bestows, and taking collective interest, rather than particular ones, as our guiding star. Not exactly the simplest of tasks for newbies on the political scene, especially in our highly corrupted system, yet this is our battle."

While Grande is still enjoying being one of the newly elected politicians, she discovered she is not the youngest as reported in worldwide news media outlets.

"Indeed, I am only the youngest deputy (elected member of the Chamber of Deputies) of the M5S party," Grande pointed out. "As we look at the whole Parliament, Enzo Lattuca, of the Democratic party, born one year after me, owns the record for being the youngest deputy. That being said, this Parliament is probably the youngest and most gender-equal in the history of Italy, which may hopefully result in a new approach towards several particular issues ... gender equality for instance, that so far hasn't really been dealt with very fruitfully. Therefore, I would say that, youngest deputies apart, this Parliament has a very good potential to positively affect the country."

Soon after she was elected to the Chamber of Deputies, Grande's name surfaced as a possible candidate for Parliamentary Speaker. She would have been the youngest to ever hold the office.

"My name appeared in some newspapers as a possible candidate for that post while the Parliament was trying to reach an agreement, but I was never offered such a position officially," she said.

For now Grande is concentrating on her duties as a deputy in the lower house of Parliament and committee assignments. "I hope my contributions aid the progress of my country, and I especially would like to work on unemployment, gender-equality, and sustainable tourism. I am, however, a member of the Foreign Affairs Committee and will be mostly working on international relations."

Additionally, she is working on completing her thesis for a second master's degree in International Relations. Grande keeps in touch with friends in the United States and hopes to visit soon.

ALL ALUMNI BECOME MEMBERS OF THE UAH ALUMNI ASSOCIATION

Since October 1st, the UAH Alumni Association no longer requires dues for membership. All alumni are now members by virtue of their graduation from UAH. Those who attended UAH but did not graduate may also join the association by opting in on the association's website. These changes promise to enhance the unity and spirit among Charger alumni. All alumni are invited to get involved and help propel the alumni association into the future with enthusiasm. *CHARGE ON!*

Let us know how you would like to be involved at **tiny.cc/AlumniOpportunities**.

WE ARE ONE!
WE ARE CHARGERS!

Social Media

Changes are afoot on the UAH campus, including the establishment of an Honors College. Find out more here: **http://on.uah.edu/1bnfcil**

UAH is flipping traditional teaching and adding a dash of technology! Find out more here: **http://on.uah.edu/1fS4tdl**

Fans and followers - including President Altenkirch! - say goodbye to UAH's ChargerSat-1 as it readies for space launch. Read more here: **http://on.uah.edu/17waaMa**

How do you say "aerospace engineering" in French? Ask UAH junior Taylor Presley! **http://bit.ly/1eBs8TK**

High 5 Fridays start today! Are you wearing your Charger blue? If so, be on the lookout for the High 5 Friday Crew and their bag of swag! **http://on.uah.edu/1f4R0hE**

You can read more about what's going on around campus by visiting **uah.edu/news** or by following us on social media: **facebook.com/UAHuntsville** and **@UAHuntsville.**

Athletics

MEN'S SOCCER
Hired reigning Gulf South Conference (GSC) Coach of the Year Matt Watts as he looks to build back a once strong program. The team is currently 2-1-1.

WOMEN'S SOCCER
Aiming to build upon a 10-win season from last year that saw the program capture its first-ever win at the GSC Tournament.

MEN'S CROSS COUNTRY
Won their third-consecutive Gulf South Conference Championship on Oct. 26, while Head Coach David Cain was named GSC Coach of the Year for the fifth time in his illustrious career at UAH.

WOMEN'S CROSS COUNTRY
Won their fifth Gulf South Conference in program history on Oct. 26 as Vicky Winslow earned top individual honors at the meet.

MEN'S BASKETBALL
After making their third-straight Sweet 16 appearance last season, reigning Region Coach of the Year Lennie Acuff looks to take his prestigious program back to the Elite Eight with a strong recruiting class.

WOMEN'S BASKETBALL
Won their first-ever GSC Championship last season, and with the returning GSC Player of the Year back for her senior season, the team will be expected to repeat once again.

HOCKEY
Hired Mike Corbett from a powerful Air Force program to take over the tradition of the Hockey Capital of the South.

VOLLEYBALL
Hired GSC Coach of the Decade Keith Giboney to take a proud program back to prestige, as the team has already performed above expectations.

ATHLETICS

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2013-14 HOCKEY

11/15/2013	St. Cloud State	7 pm
11/16/2013	St. Cloud State	7 pm
12/13/2013	Minnesota State	7 pm
12/14/2013	Minnesota State	7 pm
1/3/2014	Bowling Green	7 pm
1/4/2014	Bowling Green	7 pm
1/17/2014	Alaska Anchorage	7 pm
1/18/2014	Alaska Anchorage	7 pm
2/21/2014	Lake Superior State	7 pm

2013-14 MEN'S BASKETBALL

11/9/2013	Fort Valley State	2 pm
11/10/2013	Stillman	4 pm
11/14/2013	Alabama A&M	7 pm
11/20/2013	Trevecca Nazarene	7 pm
11/23/2013	Tennessee Temple	5 pm
12/2/2013	Tennessee Wesleyan	7 pm
12/14/2013	West Alabama	5 pm
12/19/2013	Christian Brothers	7:30 pm
12/21/2013	Delta State	5 pm
1/11/2014	West Georgia	5 pm
1/18/2014	Lee	5 pm
2/6/2014	West Florida	7:30 pm
2/8/2014	Valdosta State	5 pm
2/13/2014	Shorter	7:30 pm
2/27/2014	Union	7:30 pm
3/1/2014	North Alabama	7 pm

2013-14 WOMEN'S BASKETBALL

11/12/2013	Hiwassee	5:30 pm
11/16/2013	Montevallo	1:30 pm
11/20/2013	Trevecca Nazarene	5:30 pm
11/23/2013	Tennessee Temple	3 pm
11/26/2013	Troy	7 pm
12/3/2013	Judson	5:30 pm
12/14/2013	West Alabama	3 pm
12/19/2013	Christian Brothers	5:30 pm
12/21/2013	Delta State	3 pm
1/4/2014	West Florida	2 pm
1/6/2014	Valdosta State	5 pm
1/9/2014	Shorter	5 pm
1/11/2014	West Georgia	3 pm
1/18/2014	Lee	3 pm
1/23/2014	Union	6 pm
1/25/2014	North Alabama	1 pm
1/30/2014	Christian Brothers	5 pm
2/1/2014	Delta State	2 pm
2/6/2014	West Florida	5:30 pm
2/8/2014	Valdosta State	3 pm
2/13/2014	Shorter	5:30 pm
2/15/2014	West Georgia	1 pm
2/18/2014	West Alabama	5:30 pm
2/22/2014	Lee	4 pm
2/27/2014	Union	5:30 pm
3/1/2014	North Alabama	5 pm

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Rated very competitive according to Barron's Profile of American Colleges

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— National Science Foundation

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.

Federally financed business and management research earns ranking of 13th in the United States.
— National Science Foundation

TOP 4%

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- US News & World Report