



THE UNIVERSITY OF  
ALABAMA IN HUNTSVILLE

FALL ISSUE 2015

# TEACHING TOMORROW'S TEACHERS

The College of Education  
enjoys surging enrollment

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### ACADEMICS

Honors offers  
elite experience



### RESEARCH

Laser system  
awarded patent



### ALUMNI

Five receive  
alumni award



HIGHLIGHTS: A SOLAR-POWERED GOLF CART, STUDY ABROAD, AND CAMPUS SAFETY.



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# Features



## Up Front

UAH kicks off the 2015-2016 academic year with record-breaking enrollment numbers and a freshman class with the highest average ACT score in history.



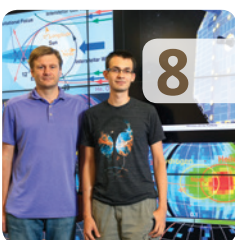
## FEATURE

UAH's College of Education celebrates a banner first year marked by significant growth and the continued success of its service and outreach unit, the Rise School.



## ACADEMICS

Engineering students design and build an award-winning mobile experimentation display station for local children's science center Sci-Quest.



## RESEARCH

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# PRODUCING RESULTS

## Hard work pays off in form of record enrollment for Fall 2015

THANKS TO AN ENHANCED RECRUITING EFFORT, THE EXPANSION OF ACADEMIC OFFERINGS, A NEW BLOCK TUITION PLAN THAT IS MORE FINANCIALLY ADVANTAGEOUS TO STUDENTS, AND AN ATTRACTIVE MERIT TUITION SCHOLARSHIP PLAN, UAH IS CELEBRATING ITS BEST YEAR EVER WHEN IT COMES TO ENROLLMENT.

Fall 2015 enrollment is 7,866, which is the largest in UAH's history and an increase of 518 students as compared to Fall 2014. It also marks the largest freshman class in history with 1,037 – a surge of 45% over last year. And just as noteworthy is the fact that this year's freshman class scored an average ACT score of 27.1, an unprecedented benchmark for the University.

"We've invested a lot of effort in getting to this point, so it's gratifying to know that our hard work is producing results," says Dr. Robert Altenkirch, president of UAH. "Enrollment growth is one of the priorities of the University's strategic plan, and while we knew it would take some time to put the pieces in place, we were confident that we would achieve the desired outcome. These enrollment numbers are evidence of planning and hard work."

Indeed, the factors contributing to the increase were not only several years in the making, but also resulted from a sustained collaborative effort by a variety of groups across campus:

- Faculty participated in Charger Preview and Discovery Day events on campus, interacting with prospective students and parents and providing facility and laboratory tours.

- The Financial Aid Office and the Bursar's Office continued their rollout of a block tuition structure that allows full-time students to pay a flat rate per

semester rather than paying by the credit hour. Transition to the structure began in 2014, and once complete, it will enable students to take up to 18 credit hours for the price of 12, resulting in an accelerated path to both graduation and employment.

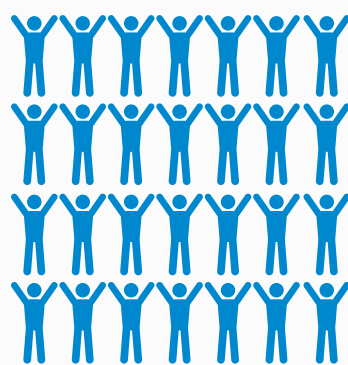
- The Provost's Office expanded the University's degree program offerings at the undergraduate and graduate levels. The last two years alone have seen the addition of bachelor's degrees in economics and computational analysis, aerospace engineering, secondary education, and kinesiology; master's degrees in education, cybersecurity, Earth system science, supply chain and logistics management, human resource management, and business analytics; and a master's degree and a doctoral

degree in space science. Undergraduate engineering degrees were also renamed to be discipline specific, the College of Education was formed, and the College of Liberal Arts was renamed the College of Arts, Humanities, and Social Sciences.

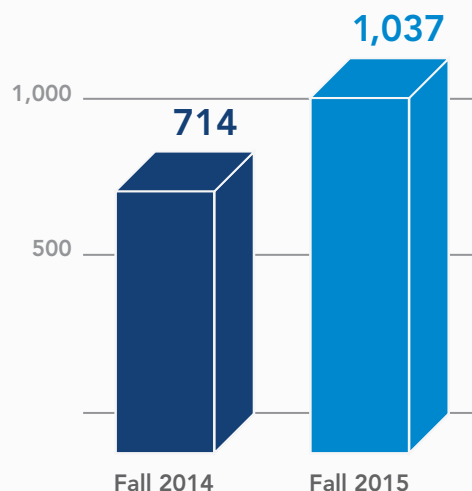
- The Department of Facilities and Operations remodeled existing buildings on campus and supervised the construction of new ones to accommodate the anticipated increase in students and to expand the resources available to them. These include the Roberts Recital Hall, the Nursing Building, the Charger Union, and the soon-to-be-opened Student Services Building.

"Everyone involved was instrumental in helping us reach this milestone," says Dr. Altenkirch. "No one office or department, acting on its own, could have made such an impact. But together, we have been able to transform the campus and the culture during the last few years, and set the University on a course for sustained growth. I am already looking forward to another strong year."

### Freshman Enrollment:



**45% INCREASE**







# UP AND AWAY

## UAH'S HONORS COLLEGE CELEBRATES A SUCCESSFUL FIRST YEAR

From his sunny, book-lined office in the heart of the Honors Community in Frank Franz Hall, Dr. William Wilkerson reflects back on his first year as dean of the new college. "I've really enjoyed it," he says. "It's grown so much from the program that it once was, and it's gratifying to be able to see many of the initiatives I envisioned come to fruition over the last few months."

Indeed, enrollment has grown significantly – more than 225 students make up this year's freshman cohort – and Honors class offerings have followed suit. "We've expanded our self-standing sections so that we now have enough courses for all of our Honors students to be able to take one and sometimes two per semester in addition to their non-Honors course load," he says.

Similar to the classes they would normally take, these Honors seminars are smaller and more enhanced, with a focus on reasoning and critical thinking. Students are required to take 24 credit hours over the course of their academic career, but most take more. The program then culminates in a capstone

course, for which students can choose to do either a thesis or a project.

"It's a great opportunity for the students to conduct independent research while at the same time benefiting from the individualized attention that their advisor can give them," he says. "And because the students are free to pursue their passion regardless of their major, the results are often interdisciplinary in scope. I've been so impressed."

To supplement their classroom learning, Honors students are encouraged to live in Frank Franz Hall, which is staffed by residence assistants who are themselves Honors students. "It adds another layer of support," says Dr. Wilkerson. But no matter where they live, they all have access to the residence hall's shared study space and dedicated computer lab, and can take part in the specialized academic and social programming that takes place there.

As he moves into his second year as dean, Dr. Wilkerson's ultimate goal is to grow the number of UAH's Honors students to 10% of the total undergraduate population – and he's already

working on several strategies to do so. These include widening the range of recruitment efforts, continuing the expansion of course offerings, increasing study-abroad opportunities, and further integrating the Honors Community's extracurricular programming with the students' classroom curriculum.

"We're not going to sacrifice the quality of the program to get to that number," he says. "But it's important to us to mature as a college." After all, a successful Honors College – and particularly one like UAH's, which offers unparalleled research opportunities to its undergraduates – can attract talent from all over the country.

For now, though, he's pleased to be embarking on an exciting new year that further solidifies the College's growing reputation as an academic leader both on campus and well beyond. "Based on how far we've already come," he says, "I can see UAH's Honors College more than holding its own among the small elites as we move into the future."



## TEACHING TOMORROW'S TEACHERS

The College of Education enjoys surge in enrollment thanks to expansion of programs and addition of Rise School



Alabama is one of many states coping with a growing teacher shortage, so the recent expansion of UAH's College of Education couldn't have come at a better time. What was once a single department within the College of Arts, Humanities, and Social Sciences now houses two academic departments of its own – Curriculum and Instruction, and Kinesiology – in addition to the Rise School, an outreach and service unit. “It's been an incredible first year,” says Dr. Beth Quick, dean of the College of Education. “We've seen a notable jump in enrollment, which tells us the demand is there.”

To continue to meet that demand, the College has been methodically increasing the number of degree programs it offers. Students in the Department of Curriculum and Instruction can earn a

bachelor of arts in elementary education or a bachelor of science in secondary education. “We will also have a bachelor of science in early childhood and early childhood special education in the spring,” says Dr. Quick, explaining that the latter will prepare students to work with all children, including those with developmental delays or disabilities, from birth to age eight.

Students in the Department of Kinesiology, meanwhile, can earn a bachelor of science in kinesiology with a concentration in either exercise science or physical education, both of which provide a strong foundation for students going into occupational therapy, physical therapy, or other health-related fields. “We've had enormous growth in that program especially,” she says, adding that construction is currently underway on an exercise

science lab that will give students a venue for practical experience. “Our goal was 10 to 15 students and we now have over 70.”

At the graduate level, the College's master of education actually pre-dates its establishment, and this December will see the graduation of its first cohort of students. Among those, some have chosen to specialize in autism spectrum disorders – another first, says Dr. Quick. “While there are other autism-focused programs in Alabama,” she explains, “UAH is the only one to offer a master of education in differentiated instruction with a concentration in autism.” That program will be joined this spring by a master of arts in teaching, which is geared toward students who have already earned a bachelor's degree but who want to pursue a career as an educator.

Of course more programs – and more



students – require more professors. So over the past few months, the College has added several new faculty members to ensure that all the new classes can be offered. These include Dr. Sarah Roller, Dr. Sandra Lampley, and Dr. Angela Williams, who will teach math, science, and elementary education, respectively, for the Department of Curriculum and Instruction; and Dr. Shannon Mathis and Dr. Jeremy Elliot, who will teach exercise science and physical education, respectively, for the Department of Kinesiology. “We’ve made a huge investment in human resources,” says Dr. Quick. “We’ve more than doubled in size over the last year in terms of faculty and staff.”

As for the aspiring educators they will be teaching, Dr. Quick is confident about their long-term success as graduates of the College of Education. “Even before we became a College, we have never had a problem with our students securing employment – they are heavily recruited and highly sought – so I don’t see that changing,” she says. “Moreover, as our capacity to offer more programs, more resources, and more opportunities continues to develop, so too will our ability to effectively address the growing need for teachers in our community, our region, and our nation.”



## PARTNERS IN SUCCESS

The UAH Rise School, an outreach and service unit of the College of Education, provides educational services to children with and without developmental delays or disabilities. “Each class has two teachers and all therapy is offered on-site,” says Dr. Quick. “There is a physical therapist, an occupational therapist, a speech-language therapist, and a music therapist.”

The result is an ideal learning environment not just for the school’s children, but also for the students in the College of Education. “We use it as a practicum site for those in our elementary and special education undergraduate programs,” says Dr. Quick. “And for those in our master’s program focusing on special

education, it’s a wonderful setting in which to research or gain experience with young learners.”

Like the College of Education, the Rise School has also experienced unprecedented growth over the past year, more than doubling its student population, adding after-school care, hiring several new staff members, and adding another classroom. And like the College, it is sure to expand further. Indeed, plans are already in place to relocate the school to the site of what is currently the University Place Elementary School, thereby adding another eight classrooms.

“Rise is truly a model inclusive early childhood program, and we are proud to be a partner to it,” says Dr. Quick.



# Student Skills on Display

Build a mobile experimentation display station. That was the challenge a team of students faced in UAH's Engineering Design – Product Realization course. And that's what Josh Piner, Brian McCoy, Brandon Ferguson, Sydney Steele, John Helms, Austin Avery, and Anh Hoang did, turning out an award-winning creation that now sees daily use at a local children's science center.

Taught over two semesters, the class starts with the planning, design, and analysis of a potential product, in this case a rolling cart requested by Sci-Quest and sponsored by Deborah Fraley of Women in Defense. It then culminates with the product's manufacture,

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“When you're doing a project for someone outside of UAH and not just a teacher,” says Piner, “you're really held to a higher responsibility for what you're doing.”

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Brian McCoy and Josh Piner stand next to the mobile experimentation display station they designed and built for Sci-Quest.

assembly, and presentation at a final design review with its sponsor.

“For the first semester, it was all in our heads and on paper,” says Josh Piner, who graduated this past spring with his bachelor's degree in mechanical engineering. “Then we used computer programs to do stress and strain analysis.”

Three interim design reviews helped the team further hone their plans for the product, whose specs were met with enthusiastic support from the display station's sponsor. That enabled construction to begin on schedule once the students returned to class after winter break.

“It went together as planned – to a point!” says senior mechanical engineering major Brian McCoy with a laugh. “There were a couple of times we were in the machine shop until midnight, and a part wouldn't fit or we'd have to make some on-the-floor call as to how it would fit.”

The students, of course, supplied the labor involved. But much of the hardware came from local businesses that were willing to donate free- or reduced-cost parts in return for logos on the final product. Those parts were then assembled and the subsequent display station

was put through a final battery of tests for safety, durability, and longevity.

The result, says Piner, was “very awesome.” Not only did it pass the final review with flying colors, but the display station also took first place in the 2015 Aluminum Extrusion Design Competition sponsored by the Aluminum Extruders Council and the ET Foundation. The students beat out nearly 60 teams from around the world and netting the students a \$3,000 cash prize.

Now it holds a place of pride at Sci-Quest, where McCoy says “it looks as good as the day we dropped it off.” But the students haven't been left empty-handed. Rather, they gained an appreciation of what it takes to get a product from concept to market. “When you're doing a project for someone outside of UAH and not just a teacher,” says Piner, “you're really held to a higher responsibility for what you're doing.”

And in the end, that's what the Engineering Design – Product Realization course is really about. That Sci-Quest was also able to benefit by receiving an award-winning display station was, for these students, simply all in a year's work.



# The Serious Business of Adventure

Allen Bailey isn't lacking in energy. He worked three jobs to pay his way through college and earn a bachelor's degree in marketing from UAH. But even he wasn't prepared for the breakneck pace of the two weeks he spent as part of the College of Business Administration's study-abroad trip to China this past summer.

"There was so much adrenaline flowing that I didn't get tired until I got back," says Bailey, who now works as a Marketing Scholar/Ambassador for Cintas Corporation in Mason, OH. "I mean, I'm adventurous, but I didn't know how excited I could get. It was by far the most thrilling, tiring time!"

As with last year's inaugural trip, this year's students were paired with their counterparts at Hohai University in Nanjing and tasked with researching and developing an international business plan for Yurun Group, which oversees Yurun Food and Central Emporium. To broaden their knowledge of the country's culture, language, and people, the students also spent some time visiting Shanghai and Beijing.

"It's a wonderful experience because it integrates dynamic classroom instruction, challenging cross-cultural teamwork, active cultural excursions, and fascinating social activities," says Dr. Yeqing Bao, an associate professor of marketing at UAH who serves as the trip's organizer and leader.

One excursion that wasn't on the agenda was the National Stadium in Beijing, also known as the Bird's Nest, China's main venue for the 2008 Summer Olympics. "The parents of two UAH students who were on the trip with us took us out to dinner and then surprised us with a visit there," says Bailey, adding that they also got to tour the National Aquatics Center, or Water Cube.

Far more than the places they visited, however, what stood out most to Bailey was the people he met during his stay. "The networking that we were able to do and the connections that we made were amazing," he says. In fact, they're already paying off. Bailey was invited to return to Hohai University to pursue a doctoral degree.

"That would be a big step because it's a four-year program, but I feel like that would be an amazing opportunity and journey," he says. "It would also look good on my resume – a young professional with a Ph.D. from China." And if anyone is up for the adventure, it's Bailey. "When you are willing to jump out on faith and take a chance of a lifetime," he says, "you reap the reward!"



Marketing major Allen Bailey, shown traversing the Great Wall, spent two weeks in China on a study-abroad trip.



Bailey and his fellow UAH students were tasked with researching and developing an international business plan for a Chinese company.

# An Intellectual Investment

UAH doctoral candidate was one of three students awarded a prestigious NASA Fellowship

Anthony DeStefano is used to parsing complex, highly technical information. As a Ph.D. candidate he spends his days at UAH's Center for Space Plasma and Aeronomic Research (CSPAR) writing code to calculate the trajectories of heavy atoms from the interstellar medium into the heliosphere. So it took him a minute to process the simple fact that he'd been selected to receive a 2015-2016 NASA Earth and Space Science Fellowship in astrophysics. "I was like, wait a minute!" says DeStefano with a laugh. "I was in shock."

The fellowship, which provides up to \$30,000 a year in funding, is one of the agency's most prestigious. Even more impressive is that DeStefano was actually one of three UAH students to receive an award for the upcoming academic year. Also selected were Yi-Yin "Ian" Chang, a Ph.D. candidate

in atmospheric science whose research focuses on multi-sensor satellite analysis of aerosols above clouds and their radiative impacts, and Vikalp Mishra, a Ph.D. candidate in civil and environmental engineering whose research focuses on soil moisture estimations using remote sensing and other applications in agricultural models.

As for DeStefano's research, it focuses on gaining a better understanding of the elements contained in the gas – or plasma – that is produced by the sun and that makes up the heliosphere, a magnetic bubble that comprises our solar system, solar wind, and the solar magnetic field. "The plasma is primarily made up of hydrogen, but I'm looking at the next most important elements – helium, oxygen, and nitrogen – or what's termed heavy atoms," he says. "I'm trying to understand the impact of these elements on the plasma distribution."

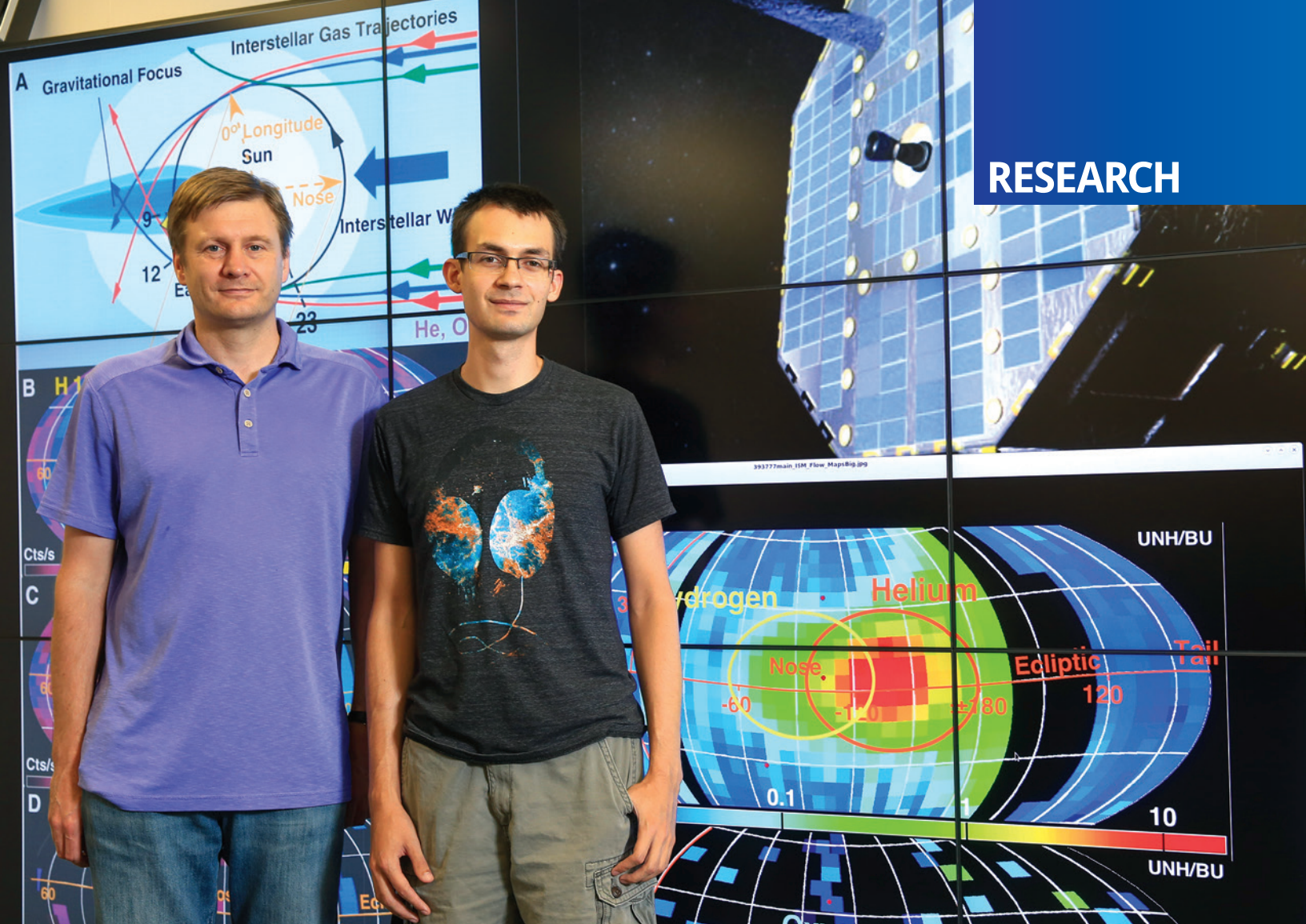
A native of Princeton, Minn., DeStefano first learned about UAH's space science program after earning his bachelor's degree in physics and math from St. Cloud State University in St. Cloud, Minn. "I graduated in the spring of 2012 and then did an REU internship at UAH in the summer," he says, referring to the university's Heliophysics

Research Experience for Undergraduates (REU) program, which invites 10 undergraduates from around the country to perform hands-on research with mentors specializing in heliophysics research.

"I worked on chaotic magnetic fields, so I did a lot of coding," says DeStefano, whose mentor on the project was Dr. Jacob Heerikhuisen, associate professor of space science and the assistant director of CSPAR. The experience proved to be serendipitous for the aspiring researcher, who at the time was still trying to determine the next step in his academic career. Shortly after completing the REU, DeStefano was accepted into UAH's graduate program in physics with Dr. Heerikhuisen serving as my advisor.

"While working on his master's degree, I wrote a code that would calculate the trajectories of heavy atoms from the interstellar medium into the heliosphere using a plasma that was outputted from a code simulated by CSPAR," he says. He later presented that work in a poster session at the American Geophysical Union's Fall Meeting in December 2014, one of the largest Earth and space science meetings in the world, and at the American Physical Society meeting this past spring.





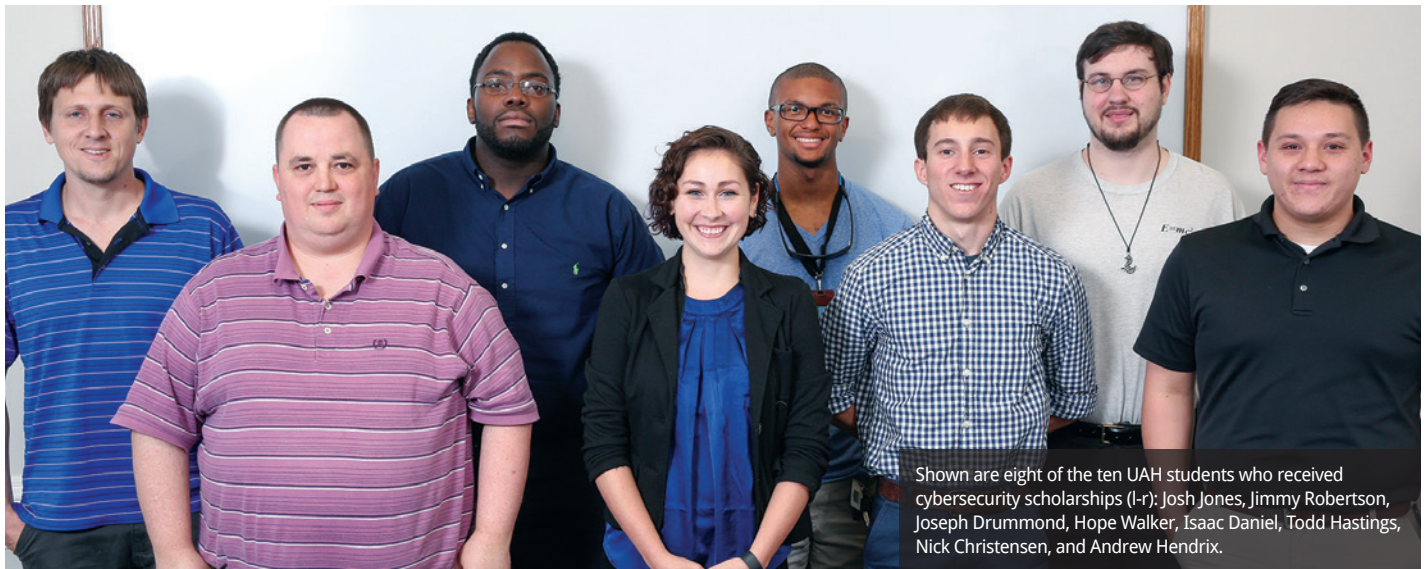
Dr. Jacob Heerikhuisen, associate professor of Space Science and the assistant director of CSPAR, and Anthony DeStefano, a graduate student and the recipient of a 2015-2016 NESSF award, are working toward a better understanding of the plasma distribution of the heliosphere.

Now, one year into building upon that foundation for his doctoral research, the fellowship couldn't have come at a better time. A no-brainer for NASA – “One of their goals is to extend their knowledge of the heliosphere and this project will extend it ever so slightly,” he says – it was a game-changer for DeStefano, who was on the brink of running out of funding when he received news of the award. Not only does it cover his tuition and living expenses, but it also ensures he won't have to take precious time and focus away from his research to teach

classes as a graduate assistant.

“If you get distracted and come back to it, you won't remember the last thing that you did,” says Dr. Heerikhuisen. “This fellowship will help him come to work and just think about research.” It also sets DeStefano up well for the future. One of Dr. Heerikhuisen's former students was also the recipient of an NESSF award; he now works at the Southwest Research Institute in San Antonio, Texas, with Dave McComas, a mission principal investigator for NASA's Interstellar Boundary Explorer (IBEX).

Whether or not DeStefano will end up following in his footsteps has yet to be determined. “I'd like to get a post-doc position, and after that, maybe pursue an academic position or go off into the private sector,” he says. “But I'm still trying to figure it out.” And these days, he has more pressing problems to solve anyway – like just when he'll be able to celebrate his big win. “I haven't had time because I'm taking two classes and teaching another one right now,” he says with a laugh. “But it's super exciting!”



Shown are eight of the ten UAH students who received cybersecurity scholarships (l-r): Josh Jones, Jimmy Robertson, Joseph Drummond, Hope Walker, Isaac Daniel, Todd Hastings, Nick Christensen, and Andrew Hendrix.

# CYBER CORPS

## Turning today's students into tomorrow's cybersecurity leaders

Ten UAH students were selected to receive full cybersecurity scholarships from a five-year, \$4.2 million National Science Foundation (NSF) funded scholarship program that's in its second year at the university. Included among them are the UAH program's first female awardee, Hope Walker, and its first doctoral awardee, Josh Jones. The students will matriculate at UAH as part of the NSF's Scholarship for Service Cyber Corps and then work for the government as cybersecurity experts.

"These scholarships will pay for full tuition, up to \$2,000 reimbursement for health care insurance, up to \$1,000 reimbursement for books related to classwork, up to \$3,000 for professional development travel, and stipends of \$20,000 for bachelor's degree students or \$32,000 for graduate students during the academic year," says Dr. Ray Vaughn,

UAH's vice president for research and economic development. "These students will serve the government –

### THE STUDENT RECIPIENTS AND THEIR DEGREE PROGRAMS ARE AS FOLLOWS:

- ▶ Ji Choi, cybersecurity
- ▶ Nick Christensen, modeling and simulation
- ▶ Isaac Daniel, computer engineering
- ▶ Joseph Drummond, cybersecurity
- ▶ Todd Hastings, information systems
- ▶ Andrew Hendrix, computer engineering
- ▶ Josh Jones, computer science
- ▶ Jimmy Robertson, cybersecurity
- ▶ Chase Sweeney, computer engineering
- ▶ Hope Walker, information systems/cybersecurity

federal, state, local, or tribal – upon completion of their degree. This is an excellent source of talent for the many Department of Defense and federal government organizations in the Huntsville community."

Scholarships are awarded for two academic years (four semesters) for undergraduates and master's degree students, and for three years (six semesters) for doctoral students. In return, the students are required to participate in a paid internship during the summer semester in a cybersecurity-related government position and fulfill a post-graduation scholarship obligation of one year of government service in a cybersecurity-related position for each year of scholarship.

Dr. Vaughn was the principal investigator for the NSF proposal awarded in 2014, along with co-principal investigators Dr. Sara Graves, a professor in the Computer Science Department and the director of UAH's Information Technology and Systems Center; Dr. Jatinder (Jeet) Gupta, the associate dean of UAH's College of Business Administration; and Dr. Seong-Moo (Sam) Yoo, an associate professor in the Electrical and Computer Engineering Department.



# Special Delivery

## Professor's laser-based space energy system generates a patent

A space-based system that relies on lasers to generate and deliver energy to spacecraft has won UAH professor Dr. Richard Fork a U.S. patent – and it could soon become a first-line defense against asteroids on a collision course with Earth. “I see this patent as a useful step in making efficient and effective power infrastructures available to the regions of space surrounding an asteroid or planet orbiting a star,” says Dr. Fork, who teaches electrical and computer engineering.

The system uses multiple spacecraft located in specific sets of Earth orbital paths. The spacecraft are always in positions that enable them to collect energy continuously from the sun in space and then deliver that energy upon request in a variety of forms as coherent light. It could also be configured to provide energy to other spacecraft or

for the application of the delivered energy to the maximally efficient redirection of an asteroid or related object that poses a threat to Earth.

“This method is designed to use optical phenomena – quantum optical phenomena, but very well proven and widely accepted optical quantum phenomena – to maximize the efficiency and precision of the processes,” says Dr. Fork. “Sunlight does, of course, distribute energy in space. However, energy in the form of sunlight cannot be directed, delivered, or concentrated nearly as precisely and efficiently, or at the peak energies that are maximally efficient for propulsive thrust, as can the coherent light generated by laser systems.”

The transmission range of the generating system extends from the surface of Earth to a distance that depends on the dimensions of the optical systems trans-

mitting and receiving the light.

“For example, the maximum distance for efficient delivery using receiving and transmitting apertures of one meter radius and light of one micron wavelength is roughly equal to the radius of Earth, or about 6 megameters,” says Dr. Fork. That transmission distance then increases quadratically with the radii of the transmitting and receiving apertures, which are assumed to be equal.

The end goal is a system able to deliver useful levels of power as coherent light anytime and anywhere. That could be good news for NASA, which has an interest in any application of the invention because the original concept was initiated during a time when it funded the work. “The underlying physical phenomena are non-trivial,” says Dr. Fork. “However, we believe we can clarify and evaluate a highly productive strategy we have in mind by exploring the basic phenomena here in our terrestrial laboratories at UAH given a year or so of adequate funding. I think that SpaceX and other companies might be interested in this patent, although that is speculation on my part at this time.”

The patented system is the product of years of research, and Dr. Fork credits his students' involvement in its development. “I happen to be the sole inventor listed on the patent,” he says. “However, interaction with a number of students – especially those doing computer modeling of the phenomena in my research group and my classes – has been important to clarifying the concepts, which are based primarily on optical quantum phenomena.”



Dr. Richard Fork

# A Bright Idea



A proposal from engineering majors Ivy Elrod and Zach Maresh to mount solar panels to a university-owned golf cart received support from the UAH Green Fund.

Green Fund Committee with their proposal, it was a natural fit. “We loved the idea, and within four months, we had a design, materials, and volunteers.”

The students, engineering majors Ivy Elrod and Zach Maresh, also collaborated with the Alabama Center for Sustainable Energy (ALCSE) on the design. The result? A photovoltaic film panel mounted to the cart’s roof, enabling it to collect solar energy and convert it into electrical energy.

Daniel Tait, ALCSE’s CEO, says he was more than happy to help when the opportunity presented itself. “Working with UAH students is easily the best part of my job!” he says. “They come up with crazy fun ideas like these and make them happen. It really encourages me that these students will be the ones leading Alabama to a sustainable energy future.”

Now the plan is to expand the initiative across campus. “We’re looking into installing solar panel conversion kits on other low-speed vehicles used by the university,” say Hix. “We hope to see small projects like these lead to large-scale renewable energy projects on campus in the future.”

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“Working with UAH students is easily the best part of my job! It really encourages me that these students will be the ones leading Alabama to a sustainable energy future.”

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- Daniel Tait, CEO of the Alabama Center for Sustainable Energy

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This spring, members of the Association of Energy Engineers (AEE) student chapter at UAH outfitted a university-owned golf cart with solar panels, effectively rendering it maintenance-free. But because the initiative served a second purpose – to raise awareness among the UAH community about sustainable energy – it was eligible for and received financial assistance from the UAH Green Fund.

“We created the Green Fund in 2013 to give students the financial resources to pursue environmental projects like this on campus,” says Haley Hix, UAH’s sustainability coordinator and director of the Chargers for Sustainability. So when the students approached the





Students, faculty members, and employees – including UAH police officers – have learned important life-saving skills thanks to First Aid, CPR, and AED training offered by OEHS.

# SAFETY FIRST

Dr. Robert Frederick gives more than just lip service to the expression “safety first.” The director of UAH’s Propulsion Research Center requires all new employees and students to take First Aid, CPR, and AED training through the university’s Office of Environmental Health and Safety (OEHS).

“We work in a laboratory with hazards such as high pressures, lasers, combustion, X-rays, and chemicals,” says Dr. Frederick. “So the training is valuable to us because it gives everyone an additional awareness of and appreciation for ensuring that we conduct ourselves in a safe manner and also watch out for the safety of others.”

And he’s not alone in his commitment. “All of our officers are required to complete the course every two years, and we have four AEDs in our patrol vehicles that are ready for use should the need arise,” says Captain Dianna Marshall

of the UAH Police Department, adding that a CPR-trained police officer can respond anywhere on campus in about 1 to 3 minutes.

Indeed, since the OEHS began offering the class in 2004, more than 1,000 UAH employees, faculty members, and students have been trained or recertified. And most of them can thank Bobby Dempsey, who was hired as UAH’s campus safety specialist in 2005, for those life-saving skills. The last ten years have also seen the installation of 75 AEDs, or automated external defibrillators, across campus.

“UAH is among the most prepared educational facility for medical emergencies in the Southeast and I would dare say the nation,” says Dempsey. “The university cares about the people who work, perform research, and are educated here. And this training not only helps people on campus but also

those at home and in the community.”

That’s something Dr. Frederick can attest to. Along with a UAH police officer, he was called upon to help a person exhibiting symptoms of a heart attack one evening after work. “The training helped us know exactly what to do,” he says. “Not that you’re going to run into a burning building, but you may be in the right place at the right time.”

The class is offered twice monthly at UAH’s Physical Plant Building and is open to anyone affiliated with the university. OEHS charges a small fee to cover course materials and certificates of completion, but it’s a price worth paying for the peace of mind that comes with knowing how to respond to a medical emergency. “Everyone is busy, but this is the very first step of our safety net,” says Dr. Frederick. “We have to put it on ourselves to make it a priority.”

# LEADING BY EXAMPLE

UAH SGA president gains insight with trip to nation's capital



Current SGA president Austin Finley was joined by previous SGA president Nandish Dayal at the leadership summit.

Forty-six students currently serve as the 2015-2016 representatives of UAH's Student Government Association (SGA). Twelve comprise the SGA's executive branch, with the remainder representing UAH's six academic colleges and the freshman, sophomore, junior, senior, and graduate student bodies, respectively.

At the organization's helm is senior aerospace engineering major and UAH Lancer Austin Finley, who previously served as a senator for the sophomore class and as the SGA's public relations coordinator. Finley kicked off his presidency this summer with a trip to Washington, D.C., where

he attended the Presidential Leadership Summit.

"The conference brought together all the student body presidents from across the country to have a conversation about issues facing college campuses today," says Finley, who was joined by then-outgoing SGA president, Nandish Dayal. "Mental health, financial aid, environmental sustainability, sexual assault prevention – every topic you could think of we addressed."

Hosted by the National Campus Leadership Council (NCLC), the three-day event included breakout sessions and workshops, a White House policy briefing and working lunch, and a workforce readiness panel discussion at the U.S. Chamber of Commerce.

"This was the biggest summit we've hosted, with more than 150 incoming and outgoing student body presidents joining us from 122 institutions," says Andy MacCracken, executive director of the NCLC. "The student leaders came together to collaborate on some incredibly vexing issues, and the whole community left with invaluable insights on how to move forward."

Dayal, who has since gradu-

ated with his bachelor of science in nursing, says it was also "a great opportunity" for Finley to gain a broader and more nuanced understanding of the issues he faces as SGA president. "At UAH, we usually focus on things at the regional or state level, but this gave Austin the chance to see them at the national level – and the chance to represent UAH at that level as well."

Indeed, both Finley and Dayal were able to share their experience with UAH's rollout of the "It's On Us" campaign, a White House-led initiative to reduce sexual assault on college campuses. "Some schools – big schools – have only just started the conversation, whereas we've been onboard since day one," says Finley. "So we were able to help lead that discussion and be on equal footing with these prestigious institutions."

They were also able to see just how effective student leaders can be, and the change they can bring about, when they have the opportunity to advocate collectively. "During the White House briefing, the experts who were moderating were listening to us and taking notes," says





Forty-six students were sworn in this past spring to serve as UAH's SGA representatives for the 2015-2016 academic year.



Austin Finley, SGA President

Dayal. "They also shared with us what they'd done after listening to us over this past year. To me, there was a feeling of acknowledgment."

Now, of course, the challenge is to take everything they learned in D.C. and put it into practice here at home. As president, that will primarily be Finley's responsibility, though he knows he can't do it alone. "My job," he says, "is to get the executive board and the committee members up to date on their areas, so that they can function without my telling them what they have to do."

That job will get tougher as the momentum of the conference wears off and the realities of juggling SGA responsibilities and a full course load

set in. But Finley isn't too concerned. "I am passionate about it, and I love putting time into it," he says. "I would do it without any kind of reward." He also believes it's important for him, and for every UAH student, to leave something behind.

"I want to change that mentality of people who just want to come and get their degree," he says. "What about your four-year college experience here?" And while he has yet to map out his own legacy fully as SGA president, he knows a big part of it will be redefining student life on campus. "Let's not be content where we are," he says. "UAH is already a great institution. Let's elevate it to an exceptional one."

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**"Let's not be content where we are," says Finley. "UAH is already a great institution. Let's elevate it to an exceptional one."**

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# 2015 ALUMNI OF ACHIEVEMENT AWARD

The UAH Alumni of Achievement Award was presented to five outstanding alumni at a ceremony held Thursday, August 6, in the Wilson Hall Auditorium on the UAH campus. 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.



## Dr. Curtis Bridgeman (’96 BA Philosophy)



A native of Scottsboro, Ala., Dr. Curtis Bridgeman’s original plan was to attend UAH and earn a business degree. But after taking just one philosophy class for the sole purpose of satisfying a general education requirement, he never looked back. “I absolutely loved it,” he says. “From that point on I took all the philosophy courses I could.”

While at UAH, Dr. Bridgeman was mentored by several professors whom he says “cared for me as a person and helped me through challenging times outside of class, too.” Among the most memorable were history professors Dr. Richard Gerberding and Dr. Ann Boucher, and philosophy professors Dr. Brian Martine and Dr. Andrew Cling. “Dr. Cling’s classes were the most challenging and delightful classes I have

had in 10 years of higher education,” he says. They also helped smooth the transition to his next step; after graduating from UAH, Dr. Bridgeman enrolled in Vanderbilt University, where he earned both his Ph.D. and his J.D. Today, he serves as professor of law and dean of the Willamette University College of Law.

As for being selected as a 2015 recipient of the UAH Alumni of Achievement award, he has nothing but praise for his alma mater. “I am very grateful to be recognized by UAH, which was so influential in my life,” he says. “I am also grateful for the scholarship support I received along the way, without which I would not have been able to be successful. UAH makes a real difference in the lives of its students.”



## Dr. Cynthia Cooke

('98 MS Nursing)



By the time her husband's military career brought Dr. Cynthia Cooke to Huntsville, she already had a bachelor's degree in nursing from the University of Texas at Arlington. So while here, she thought, why not make the most of it? "I'd heard many good things about the nurse practitioner program at UAH, so it was not a difficult decision on where to pursue my master's degree in nursing," she says.

Fast-forward three decades and Dr. Cooke still calls the Rocket City home. Only now she also holds a doctor of nursing practice degree from the University of Alabama at Birmingham and serves as a family nurse practitioner for Redstone Arsenal's Fox Army Health Center. "My UAH degree set me on a path to clinical expertise, health

policy advocacy, and mentoring others, as well as leadership roles in nurse practitioner organizations at the local, state, and national levels," she says. These include starting the Nurse Practitioner Alliance of Alabama and holding positions as the regional director, recording secretary, and the current president of the American Association of Nurse Practitioners (AANP).

Of being named a 2015 UAH Alumni of Achievement Award winner, Dr. Cooke says she is "greatly humbled and honored." She also hopes to continue to increase UAH's visibility as she travels nationally and internationally on behalf of the AANP. "I know who the graduates of UAH are," she says, "and the amazing work that has been accomplished by them."

## Daniel Dumbacher

('84 MA Administrative Science)



Daniel Dumbacher was a young professional hoping to move up in his career at NASA's Marshall Space Flight Center when he enrolled in UAH's administrative science (now MBA) program. It proved to be a wise choice. "Without the UAH classes and graduate degree, career advancement would not have been possible," he says, adding that he also met his wife in class with Dr. Daniel Sherman. "That's one of the more interesting memories!"

Dumbacher, who earned his bachelor's degree in mechanical engineering from Purdue University, would eventually go on to become the Deputy Associate Administrator, Exploration Systems Development Division, for the Human Exploration and Operations Mission Directorate at NASA Headquarters before transitioning to

academia. He now teaches engineering practice as a professor in the School of Aeronautics and Astronautics at Purdue University and is helping establish the Purdue Systems Collaboratory.

With such an illustrious career, the 2015 UAH Alumni of Achievement Award is by no means Dumbacher's first honor; he has also received the coveted Silver Snoopy Award, the NASA Distinguished Service Medal, and the Presidential Rank Award, among others. Nevertheless, he says, being recognized by his alma mater is "a great honor" of which he is very appreciative. "The 2015 UAH Alumni of Achievement Award is recognition for the tremendous NASA team and all the great people that I have had the honor to work with over the years," he says.

## Renée Ryan

('83 BS Business Administration, '08 BA Spanish)



A trip to Brazil would no doubt be memorable on its own, but for Renée Ryan, it ended up being the catalyst for a career change. After visiting the country in 2006 as a mission volunteer, she decided to return to UAH – where she'd earned an undergraduate degree in business administration in 1983 – for a bachelor of arts in Spanish. "I realized that I did not like being unable to communicate and really relate to the people in the communities where we traveled and worked," she says.

At the suggestion of her Spanish professor, Dr. Linda Maier, she also began volunteering with the Alabama Hispanic Association to improve her language skills and learn more about the culture. Soon after, she met fellow volunteer

Flora Santor, with whom she would go on to found Language that Works, a company specializing in language education and immersion experiences.

"Language that Works is a direct result of the education and experiences I gained from my second degree at UAH," says Ryan. "Without UAH, the professors, and the experiences resulting from my studies, I would not have this career." That she is now being recognized by UAH with a 2015 Alumni of Achievement Award – something she calls an "incredible honor" – is just icing on the cake. "Helping others to acquire a new language and providing them opportunities to improve their language skills through immersion experiences abroad," she says, "is simply a joy and reward in and of itself."

## Dr. Krista Walton

('00 BS Chemical and Materials Engineering)



Like many, Dr. Krista Walton was drawn to UAH by the plurality of research opportunities offered to students at the undergraduate level. And indeed, shortly after arriving to pursue her bachelor's degree in chemical and materials engineering, the Elgin, Ala., native was offered a position in Dr. Krishnan Chittur's lab studying protein crystal growth. "I will never forget how patient and encouraging Professor Chittur was," says Dr. Walton. "UAH provided me with a rich undergraduate experience that no doubt set me along the path to success as both a well-rounded adult and an accomplished engineer."

That research eventually led to a Ph.D. in chemical engineering from Vanderbilt University and a postdoctoral fellow at Northwestern University. Today, she

serves as an associate professor in the School of Chemical and Biomolecular Engineering at the Georgia Institute of Technology, in addition to holding the position of Marvin R. McClatchey and Ruth McClatchey Cline Faculty Fellow. In 2013, Dr. Walton also co-founded Inmondo Tech, a startup that focuses on commercializing metal-organic framework materials for a diverse array of markets.

Now, to the many accolades she has received over the years, Dr. Walton can add the 2015 UAH Alumni of Achievement Award. "It is such a great honor," she says of being recognized. "An award of this stature brings a new level of distinction and recognition to my career and is even more meaningful coming from the place that transformed me into an engineer more than 15 years ago."





## SOCIAL MEDIA

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

UAH developing architecture to build design-phase cybersecurity into systems <http://on.uah.edu/1J1AnCY>

UAH alum, Tracy L. Lamm, has been selected as the new chief operating officer @SpaceCenterHou! #GoChargers

Dr. Yu Lei receives Powe Junior Faculty Award <http://on.uah.edu/1PjZmFb>

Lots of geese on campus (so watch your step). <http://ift.tt/10TToL7>

Two students - and aspiring veterinarians - in UAH's pre-health program got valuable hands-on experience this summer as interns for the Greater Huntsville Humane Society. <http://on.uah.edu/1JfhTxX>

UAH Rowing Club benefits from heart, hard work of alumnus coach <http://on.uah.edu/1JfBxyl>



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## ATHLETICS

SEASON TICKETS NOW AVAILABLE

With 18 home games marking the Chargers' third year in the prestigious Western Collegiate Hockey Association, the time has never been better for fans of UAH's Division I ice hockey program to purchase season tickets. Choose between the standard 18-game package for \$199 or the \$99 FlexTix package, which gets you 10 tickets to use at any home UAH hockey game. Call 256-UAH-PUCK to purchase your tickets today, and get ready to cheer on the UAH Chargers to victory this season!

\*Want to help the program by joining the Blue Line Club? Learn more at [uahchargers.com](http://uahchargers.com).

# UAH GIVE BLUE

12.01.15

## DAY OF GIVING

### MARK YOUR CALENDAR!

UAH's 2nd Annual DAY OF GIVING will be held Tuesday, December 1.

Day of Giving is a 24-hour online fundraising initiative that invites friends, family, and alumni to make a one-time gift in support of the university. Last year, alumni and friends gave over \$7,000, with a majority of those donations made by credit card on our online giving site – and we hope to raise even more this year.

So mark your calendars and get ready to show your pride in the blue and white.

*Make your donation on Dec. 1! #UAHDayGiving*

### UAH PHONATHON: MAKING CONNECTIONS

UAH biannual phonathon, which last year raised over \$100,000, will run from October through December. During this period, current UAH students will be calling alumni and friends of the university to share updates and ask for your support. We hope you'll make your gift count with a credit card donation, which saves UAH money in printing and postage costs, but we welcome any form of payment.

We look forward to speaking with you!





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