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THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

FALL ISSUE 2017

DISCOVERING NEW PHARMACEUTICALS with Supercomputing and Biology



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ACADEMICS

New cultures and conflicts certificate



RESEARCH

Dr. Zank lands \$20M grant



ALUMNI

Four receive alumni award





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BEST VALUE COLLEGE IN ALABAMA

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- Dr. Jerome Baudry



DISCOVERING NEW PHARMACEUTICALS WITH SUPERCOMPUTING AND BIOLOGY

As UAH's new Pei-Ling Chan Eminent Scholar, **Dr. Jerome Baudry** has his sites set on the future of personalized medicine and pharmacy

Dr. Jerome Baudry is clear when he speaks of his goal as the Pei-Ling Chan Eminent Scholar in the Department of Biological Sciences at The University of Alabama in Huntsville (UAH).

"My goal," he says, "is to bring the power of computational biology to molecular discovery." He plans to apply this concept to the discovery of new drugs and the formulation of natural products, and to establish a firm fundamental biophysical description of protein:protein and protein:ligand interactions.

Dr. Baudry will conduct research in the field of genomics, proteomics,

and pharmacology, and his focus will be on developing and applying methods and protocols for computational drug discovery, both on small molecules and biologicals, through academic, national laboratory, and industrial collaborations.

"Personalized approaches that are tailored for an individual genome/proteome are of particular interest for the future of translational and personalized medicine and pharmacy, and are actively developed in my research," he says.

"We are excited that Dr. Baudry has accepted the position of Pei-Ling Chan Eminent Scholar in the Department of

Biological Sciences," says Dr. Sundar Christopher, dean of UAH's College of Science. "He brings a wealth of experience in both research and teaching, which will be invaluable to UAH and help diversify and enhance our initiatives in the Department of Biological Sciences."

Dr. Baudry will be involved in the Department's undergraduate and graduate programs, including its Biotechnology Science and Engineering doctoral program. He will also work closely with the HudsonAlpha Institute for Biotechnology, whose 150-acre campus is home to genomics technology and genomic investigators with

experience in large-scale projects such as the Human Genome Project, the Cancer Genome Atlas, and the Encyclopedia of DNA Elements Project (ENCODE).

He says UAH's biotechnology graduate program, the rich ecosystem of high-tech companies, and the interaction of fundamental and applied biological sciences with HudsonAlpha's genomics research are perfectly in phase with his research and educational goals.

"My research in drug discovery, natural products, and molecular biophysics is at the interface of computational biology, functional and structural genomics, proteomics, structural biology, and

computational sciences, and great emphasis is placed on collaborating with both academic and industrial colleagues, and in serving students through quality research opportunities."

Dr. Baudry received his Ph.D. in molecular biophysics with the highest honors from the University of Paris, UPMC/Sorbonne Universities, France. He subsequently joined the University of Illinois at Urbana-Champaign as a postdoctoral fellow. After his postdoctoral work, Dr. Baudry joined the pharmaceutical industry as a research scientist, and then returned to Illinois to accept a non-tenure track senior research scientist position.

In 2008, Dr. Baudry joined the

University of Tennessee, Knoxville, and the UT/Oak Ridge National Lab's Center for Molecular Biophysics as a tenure-track assistant professor, becoming a tenured associate professor in 2014.

The position of Pei-Ling Chan Eminent Scholar is endowed by philanthropists Tony and Kathy Chan and offers an unparalleled opportunity for joint research, educational projects, and collaborations with non-profit, government, and industrial partners. Tony Chan is a former physics faculty member at UAH and worked from 1970 to 1996. Kathy Chan has two degrees from UAH and received an Honorary Doctor of Humane Letters from UAH in 2008.

Graduate Program in Biotechnology Science and Engineering

UAH's interdisciplinary graduate program in Biotechnology Science and Engineering provides broad training in sciences and engineering as they relate to the handling and processing of macromolecules and living systems. Three areas of specialization are offered:

- ▶ **STRUCTURAL BIOLOGY**, which focuses on the molecular function of biological macromolecular systems through techniques such as spectroscopy, X-ray and neutron diffraction, NMR, or computational chemistry
- ▶ **BIOMOLECULAR SCIENCES**, which focuses on modern genetic analysis, gene expression, enzymology, drug discovery, bioinformatics, and genomics
- ▶ **BIOPROCESS ENGINEERING**, which focuses on the production and purification of proteins using genetic engineering techniques, drug delivery techniques, and biocatalysis

The curriculum is taught by faculty from the Departments of Biological Sciences, Chemistry, and Chemical Engineering and adjunct faculty from NASA Marshall Space Flight Center and the HudsonAlpha Institute for Biotechnology. In addition to completing and defending a research proposal and dissertation, students must also complete two laboratory rotations in selected faculty research laboratories and spend 10 weeks working with a mentor in a business or a research laboratory with specific relevance to biotechnology science and engineering.

Graduates of the program are expected to be able to make significant contributions to the field of biotechnology in academic, governmental, and business settings.



"Be a recognized leader in selected areas of education and research: Aerospace and Systems Engineering; **Biotechnology**; Cybersecurity and Big Data; Earth, Atmospheric, and Space Science; and Gaming and Entertainment Arts."

- UAH Strategic Plan

FISHING FOR A BRIGHT FUTURE

According to The Nature Conservancy, the Tennessee Valley River Basin is the single most biologically diverse river system for aquatic organisms in the U.S. So it's no surprise that Dr. Bruce Stallsmith, an associate professor in UAH's Department of Biological Sciences, spends a lot of time there.

"My research is on the ecology and conservation of the region's freshwater fishes, with a particular emphasis on cyprinid minnows, killifishes of the genus *Fundulus*, and percid darters," says Dr. Stallsmith, whose Stallsmith Lab is renowned for its aquatic ecology research. "And while the primary focus has been on their reproductive biology, I am also interested in the monogenoid-ean gill parasites that can impact their ability to reproduce."

His most recent foray to the basin was at the behest of Hallie Porter, development director of the Land Trust of North Alabama. "She asked if I would be interested in assessing Bethel Spring for rare species of freshwater fish, and of course I jumped at the chance," says Dr. Stallsmith, who recruited his wife to assist him with the project. They ended up documenting two species of freshwater fish endemic to spring water ecosystems: the flame chub (*Hemitremia flammea*) and the more unusual and vulnerable Tuscumbia darter (*Etheostoma tuscumbia*).



► Dr. Stallsmith visited Bethel Spring at the behest of the Land Trust of North Alabama to assess it for rare species of freshwater fish. (Credit: Land Trust of North Alabama)

"There are only 15 known populations of the Tuscumbia darter," says Dr. Stallsmith, who was responsible for identifying the most recent population several years earlier. "And this particular population is located the farthest east of all known ones." Now he's looking forward to enlisting his students to help him build upon this exciting discovery. "I would like to determine the size and stability of this population," he says. "Several populations of this species are in poor condition because of degraded habitat."

As for Porter, she's thrilled that Dr. Stallsmith's research will bring more attention to Bethel Spring and the unique and diverse aquatic life that

calls it home. "Most folks don't realize that Alabama, which has one of the richest river systems in North America, is ranked in the top five states in the nation for biodiversity," she says. "But it's also ranked number one on the list for species at risk for extinction."

Fortunately, springs like Bethel Spring quietly feed the state's river system and contribute to the incredibly diverse species that live within its boundaries. "It is only through community partnerships like that with Dr. Stallsmith that we are able to continue educating our community on the incredible, unique species that live in North Alabama and the urgent need to protect them and their shrinking habitat," says Porter.

A PROFESSIONAL TRIFECTA



"I feel very honored to have been recognized in this way for the two areas in my professional life that mean so much to me: practice and academic scholarship."

— Dr. Louise C. O'Keefe

This past year has been a banner one for Dr. Louise C. O'Keefe, an assistant professor in UAH's College of Nursing and the director of the university's Faculty and Staff Clinic. Not only was she nominated for the Alabama League for Nursing's Lamp-lighter Award for her exemplary contributions to the nursing profession and selected to participate in the National League for Nursing LEAD program, she was also named a 2017 Fellow of the American Association of Nurse Practitioners for outstanding contributions and demonstrated commitment to advancing the nurse practitioner role. "I feel very honored to have been recognized in this way for the two areas in my professional life that mean so much to me: practice and academic scholarship," she says.

Dr. O'Keefe's research interests include occupational and cardiovascular health, diabetes, and metabolic syndrome, and she has clinical expertise in ICU nursing, family practice, and employee health. She has also served as a principal investigator or co-investigator on numerous research projects, including "Cancer Survivorship in the Workplace," "Mobilizing Advanced Nursing Education for Rural and Underserved Populations," and the FITWAY colorectal cancer screening program.

In addition to giving public health presentations, Dr. O'Keefe has authored or co-authored a variety of research and scholarly articles. Among them are "Middle East respiratory syndrome coronavirus"

and "Benefits of on-site clinics," which both appeared in the peer-reviewed nursing journal *Workplace Health & Safety: Promoting Environments Conducive to Well-Being and Productivity*, and "Practical guidance on the recognition of uncontrolled asthma and its management," which was published in the *Journal of the American Association of Nurse Practitioners*.

Dr. O'Keefe's academic service activities include serving in leadership positions with the university's Communicable Disease Policy Committee, the Just Move It program, the SACSCOC Educational Programs Committee, the AED program, and the Emergency Management Operations Group, as well as with the College of Nursing's Space Life Science Committee, Faculty Organization, and Nursing Strategic Management Committee.

She is also the recipient of numerous honors and awards, including the 2014 American Association of Nurse Practitioners Nurse Practitioner State Award for Excellence and the 2015 and 2017 Golden Pen Award, which recognizes *Workplace Health & Safety* contributors for excellence in writing.

"Dr. O'Keefe is a wonderful faculty member. Her investment and dedication to UAH and the College of Nursing is evident in everything that she does," says Dr. Marsha Howell Adams, dean of the College of Nursing. "The College is extremely proud and congratulates her for these accomplishments."



A CURRICULUM IN KEEPING WITH THE TIMES

The College of Arts, Humanities, and Social Sciences adds two new programs

COMPARATIVE CULTURES AND CONFLICTS GRADUATE CERTIFICATE PROGRAM

The Department of History's new graduate certificate program in Comparative Cultures and Conflicts seeks to complement the university's focus on the science, technology, engineering, and math (STEM) fields with a program of study that offers working professionals a global, historical context for their careers.

"It provides both those in the science and technology fields and those in the humanities and social sciences with the historically grounded, contextual knowledge necessary to succeed in the global workplace," says Dr. Dylan Baun, an assistant professor of history.

The program's curriculum is flexible and blends online instruction and discussion with face-to-face meetings. Upon completion, participants will be better able to analyze contemporary global patterns to show how various regions and cultures develop over time; understand the historical causes and contexts of contemporary conflicts, both within and among states; discuss the historical context of U.S. relations and interactions with the world; compare the ways nations, groups, and individuals experience conflict; practice historical thinking as central to engaged citizenship and leadership; and communicate historical knowledge and interpretation coherently in writing and in oral presentations.

"Regardless of professional track, we welcome people who want a wider and longer historical context for their work," says Dr. Baun.

LATIN AMERICAN STUDIES MINOR

A new Latin American studies minor hopes to encourage a deeper understanding of the history, culture, politics, and literature of Latin Americans and U.S. Hispanics.

"We are committed to keeping pace with demographic and educational developments in our region and the nation," says Dr. Linda Maier, a professor of Spanish. "The presence of this program is a sign of welcome to a campus that embraces diversity."

The interdisciplinary program comprises courses offered by the departments of History, World Languages and Cultures, Sociology, Political Science, Atmospheric Science, and Art, Art History, and Design. Participants can choose from two tracks:

- ▶ A basic track for those not completing a B.A. in Spanish.
- ▶ An advanced track for those simultaneously working on a B.A. in Spanish.

"Students will gain skills that are valuable to employers in a variety of fields, such as the ability to speak another language, cultural competency, and an understanding of diverse societies," says Dr. Nicole Pacino, an assistant professor of History. "Whether they are majoring in business, nursing, engineering, or the arts, humanities, and social sciences, a Latin American Studies minor will prove a valuable part of their UAH education."

MAKING A SPLASH

A new underwater treadmill is making waves in diabetes research

Dr. Ryan T. Conners, an assistant professor of kinesiology in the College of Education, is using an underwater treadmill to study health-related fitness in adults diagnosed with type 2 diabetes. "This unique piece of equipment allows for ground-breaking research to be conducted at UAH," he says. "And working with a state-of-the-art unit like this will help better prepare our exercise science students for success in the occupational field of rehabilitation upon graduation."

Acquired last spring by the Department of Kinesiology, the HydroTrack 1103 is a self-contained aquatic training unit with a small floor plan designed for the implementation of safe and effective exercise programs. "The partial support supplied by the buoyant effect of water creates a more comfortable and realistic unloading of body weight than that provided by typical harness unweighting systems," says Dr. Conners, adding that individuals can either walk barefoot or wear commercially available water shoes.

Other features include an 18-inch-wide, slip-resistant belt to allow for multiple types of gait patterns; a double ground fault circuit interrupter protection system; full hand rails on both sides and in the front of the unit for added safety; and a large Plexiglas® door and viewing window for monitoring and analysis.

"We are also able to precisely control the walking speed, water depth, and water temperature of the treadmill – a trio of variables that can markedly influence aerobic and strength-training responses," says Dr. Conners. In doing so, a variety of exercise programs can be created, beginning with a low-intensity one for individuals who have special exercise considerations and moving all the way up to high-intensity ones for athletes who are trying to gain an advantage in sports performance.

The result is often a reduction in musculoskeletal loading and overuse injuries common to land-based treadmills, an enhancement of cardiovascular function due to the hydrostatic pressure of water, and an increase in leg strength caused by overcoming water resistance and turbulence. "It serves as an effective alternative to land-based walking programs in adults who display mobility and balance problems and lower-limb joint and muscle weakness," he says.

Now he and Dr. Shannon Mathis, also an assistant professor of kinesiology, are taking this underwater-training research one step further. The pair have partnered to begin exploring its effects on the physical function, fall risk, and mobility of adults with lower-leg amputations, and recently received a \$25,000 grant from the American Academy of Orthotists and Prosthetists to help fund the study. "Many researchers have realized that the benefits of performing aquatic training can be useful for populations other than athletes," he says.



▶ Dr. Conners is using the HydroTrack 1103 to study health-related fitness in adults diagnosed with type 2 diabetes.

A REPUTATION FOR EXCELLENCE

UAH's Department of Atmospheric Science is designated a Center of Academic Excellence

The National Geospatial-Intelligence Agency (NGA) and the U.S. Geological Survey have named UAH's Department of Atmospheric Science a Center of Academic Excellence (CAE) in geospatial sciences.

"This designation recognizes the high quality of our curriculum and our research in geographic information systems and remote sensing," says Dr. Larry Carey, chair of the department. "It also reflects on our commitment to using state-of-the-art geographic information systems methods to address important problems in the Earth system sciences."

Dr. Rob Griffin, an assistant professor in UAH's Earth System Science program, led the yearlong application process with the NGA. "This is recognition for our whole program, Earth system science and atmospheric science, both graduate and undergraduate," he says. "It's something our faculty and research enterprise can use because it brings attention to our program, will help us recruit and retain new students, and is something we can leverage on research funding proposals."

Being selected as a CAE means that the Department's undergraduate and graduate programs in Earth system science meet standards set by NGA, and that UAH's academic program gives students the knowledge and skill set they need to become active members of the geospatial sciences field.

"That's definitely something I will brag about in the future," says Melanie Phillips Laverdiere, who earned her bachelor's and master's degree in Earth system science from UAH and now serves on the Population Distribution and Dynamics Team at Oak Ridge National Laboratory. "We work with NGA and a lot of our products go to them, so the next time I talk to them I will be sure to mention this."

Part of the U.S. Department of Defense, the NGA provides geospatial information and support for military and intelligence projects around the world. It also assists in humanitarian and disaster relief efforts in the U.S. and abroad, an area closely aligned with work done by UAH students and faculty affiliated with NASA's SERVIR and DEVELOP programs.



▲ Dr. Rob Griffin, assistant professor in the Department of Atmospheric Science.



▲ The Department uses state-of-the-art GIS methods.

A partnership comprising nine universities in Alabama, including UAH, has been awarded a \$20 million, five-year grant by the National Science Foundation's Established Program to Stimulate Competitive Research (EPSCoR). The grant will fund the development of new predictive plasma-surface interaction technologies for the nation's aerospace, manufacturing, energy, environmental, and agricultural sectors. Dr. Gary Zank, director of UAH's Center for Space Plasma and Aeronomic Research and chair of the university's Department of Space Science, serves as the project's principal investigator.

"Ray Vaughn and his team in UAH's Office of the Vice President for Research and Economic Development were outstanding in providing all of the help and resources that we needed to pull the proposal together, and Alabama EPSCoR – led by Dr. Christopher Lawson – went out of their way to provide us with both assistance and expertise," says Dr. Zank, a member of the National Academy of Sciences and the 2017 recipient of the International Space Science Institute's Johannes Geiss Fellowship. "I view it as a real state-wide, team effort, as it's not something that could have been done by one person at all. All the co-principal investigators and the institutional leads were outstanding."

Along with UAH, the partnership includes The University of Alabama (lead: Dr. R. Branam), the University of Alabama at Birmingham (lead: Dr. Y. Vohra), Auburn University (lead: Dr. E. Thomas), Tuskegee University (lead: Dr. V. Rangari), the University of South Alabama (lead: Dr. E. Spencer), Alabama A&M University

IT TAKES A VILLAGE

A \$20M grant brings together nine universities across the state to develop new predictive plasma-surface interaction technologies

(leads: Dr. R. Mentreddy and Dr. E. Ceibert), Alabama State University (lead: Dr. K. Vig), and Oakwood University (lead: Dr. A. Volkov), with additional assistance from CFD Research Corporation (lead: Dr. V. Kolobov), a computational fluid dynamics software company located in Cummings Research Park.

Entitled "Connecting the Plasma Universe to Plasma Technology in Alabama: The Science and Technology of Low-Temperature Plasma" (CPU2AL), the project seeks to understand, predict, and control the transfer of power from electromagnetic fields to electrons, ions, atoms, molecules and surfaces, and chemical reactions in plasma and on surfaces. In keeping with EPSCoR requirements, it will also work toward improving Alabama's academic research

infrastructure in the areas of science and engineering and contribute to the state's existing science and technology plan.

"The broader impact of CPU2AL is that it will advance theory and models scaled from space to laboratory low-temperature plasmas and apply them to new plasma technologies and industrial low-temperature plasma systems that map directly to the Alabama EPSCoR Science & Technology Roadmap and Alabama's overall economic development," says Dr. Zank. "Ultimately, the hope is that the partnership will transform the state's low-temperature plasma research capabilities, expand its workforce capabilities in low-temperature plasma science and technology, and grow student numbers and diversity in plasma science."



FIRED UP AND READY TO GO

DISASTER-RESILIENCE GRANT FUNDS RESEARCH ON THE SPREAD OF WILDLAND-URBAN INTERFACE FIRES CAUSED BY FIREBRANDS

The U.S. Department of Commerce's National Institute of Standards and Technology (NIST) recently awarded a \$563,276 grant to Dr. Babak Shotorban, an associate professor in UAH's Department of Mechanical and Aerospace Engineering, for his proposal entitled "Development of Methodology for Determination of Ignition Propensity by Firebrands in Wildland-Urban Interface."

His was one of only 12 disaster resilience research projects selected from over 170 to receive up to three years of funding through NIST's Disaster Resilience Research Grants Program, which seeks to strengthen the ability of communities to prepare for anticipated hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions.

"Many wildfires take place every year all around the world where wildland meets developed areas, resulting in great losses," explains Dr. Shotorban. Indeed, according to *Insurance Journal*,

wildfires accounted for \$13.7 billion in total economic losses and \$7.9 billion in insured losses in the United States from 2002 through 2011. A common mechanism for the spread of these fires is the creation of secondary fires – known as spot fires – caused by flying firebrands, or embers, that land at a distance from the primary fire.

"Our objective with this project is to advance knowledge of what determines the ignition of a spot where flying firebrands land," says Dr. Shotorban, who will direct the project while working with a team at UAH to conduct sophisticated computational simulations and another team, led by Dr. David Blunck in the Department of Mechanical, Industrial, and Manufacturing Engineering at Oregon State University, to conduct the project's advanced laboratory experiments.

"Our efforts were driven by several of our current and former mechanical engineering Ph.D. students whose research was funded by the U.S. Department of

Agriculture, the U.S. Forest Service, and the National Science Foundation," says Dr. Shankar Mahalingam, dean of the College of Engineering and a co-principal investigator on the project. "We have made advancements in several areas including flame merging between multiple leaves and multiple shrubs, modeling of moisture release from live fuels, and transport of firebrands in a turbulent atmosphere. Dr. Shotorban's contributions in advancing the state of knowledge of the discipline in these areas have been exceptional."

Dr. Shotorban has published several journal articles on wildfires, including two earlier this year: "A computational study of the interactions of three adjacent burning shrubs subjected to wind," which appeared in *Fire Safety Journal*, and "Physics-based modeling of live wildland fuel ignition experiments in the Forced Ignition and Flame Spread Test apparatus," which appeared in *Combustion Science and Technology*.

TO SERVE AND PROTECT

CCRE staff members in the SCADA Laboratory: standing (l-r): Rishabh Das, Sharon Johnson, Jesse Hairston, and Kim Galkowski; seated (l-r): SueAnne Griffith, Thiago Alves, and Dr. Tommy Morris.

UAH's Center for Cybersecurity Research and Education (CCRE) is aptly named, given its two primary missions.

First, it seeks to research and develop cutting-edge protections for cyber-physical systems, with a particular focus on supervisory control and data acquisition (SCADA) systems. These systems are critical to a functioning society, as they are the backbones that run operations for everything from power plants to hospital elevators to hydroelectric dams.

"We've had a tremendous amount of success with grants and contracts in this area," says Dr. Tommy Morris, who serves both as center director and as an associate professor in UAH's Department of Electrical and Computer Engineering. In 2017 alone, the Center worked on two projects related to SCADA cybersecurity for the National Security Agency that required the addition of new staff members and Ph.D. students to the CCRE team; one was for the U.S. Army Aviation Missile Research Development and Engineering Center and the other was for Entergy Corporation in Jackson, MS.

Second, the CCRE seeks to educate and develop the growing workforce needed to create, maintain, and improve SCADA systems. To this end, the Center has become one of the largest

UAH IS A NATIONAL CENTER OF ACADEMIC EXCELLENCE IN INFORMATION ASSURANCE EDUCATION, A NATIONAL CENTER OF ACADEMIC EXCELLENCE IN CYBER DEFENSE, AND A NATIONAL CENTER OF ACADEMIC EXCELLENCE IN CYBER DEFENSE RESEARCH.

participants in the U.S. Army Reserve's Private Public Partnership in the country, awarding 21 reservist students with scholarships to pursue cybersecurity degrees over the past two years. "The Army is trying to build a cadre of cyber-trained reservists, and we're helping do that for them," says Dr. Morris.

The center is also in year four of a five-year, \$4.2 million National Science Foundation CyberCorps®: Scholarship for Service (SFS) program, which provides full-time cybersecurity students with tuition, fees, books, and a stipend in return for a commitment to work for the government after graduation. "We graduated and placed 10 students into government service from this program last school year, and we currently have 22 students on SFS scholarships at the moment – including 9 new scholarship recipients who started this fall," says Dr. Morris. "It's a really great program."

For Dr. Morris, however, the best is still on the horizon. He is in the process of establishing a Bachelor of Science degree program in cybersecurity, which he hopes will begin enrolling students in the fall of 2018. "It's the thing that excites me most," says Dr. Morris, "because it's going to have an impact for a long, long time."

CAMPUS



◀ Nursing major Janki Patel used her SAGA to spend 11 days in Munich, Germany, where she explored "the similarities and differences between the American and German lifestyles."

FAR AND AWAY

A NEW GRANT FROM THE HONORS COLLEGE IS HELPING UAH STUDENTS "GET OUT OF THEIR COMFORT ZONE"

This past summer, UAH's Honors College introduced the Study Abroad Grant for Airfare (SAGA) program, which provides Honors students with financial assistance to pursue approved study-abroad opportunities. Thus far, 15 students have been awarded funding through the program, enabling them to travel to destinations such as Ireland, Costa Rica, New Zealand, India, Germany, and Ecuador.

"We were very surprised and pleased that we sent 15 in the program's first year," says Dr. William Wilkerson, dean of the Honors College. "We hope to eventually be sending 20 to 30 Honors Students abroad each year."

To identify study-abroad opportunities that will complement the Honors curriculum, the Honors College is working closely with UAH's Office of Study Abroad. An affiliate of the university's

Office of International Services, the Office of Study Abroad facilitates faculty-led study-abroad courses as well as summer, semester, or academic-year study-abroad programs in 24 sites in Africa, Asia, Australia, and Europe.

Students interested in applying for a grant are encouraged to do so in the fall for study abroad in the spring and in the spring for study abroad in the summer and fall. The application should include a brief summary of their selected study-abroad program, a recommendation from one faculty member who knows them well, and a 500-word essay that addresses the expected impact that studying abroad will have on their academic and professional careers. Those who receive funding are required to provide a weekly update of their experiences on the Honors SAGA blog while abroad.



Chemical engineering major John Mark Morris used his SAGA to travel to the South Island of New Zealand, where he took courses at the University of Otago.



Nursing major Kirstin Bertrand used her SAGA to visit Germany, Prague, and the Czech Republic.

SHOWING THE WAY

Preparing tomorrow's leaders to be "world citizens"

Delois Smith, UAH's vice president for diversity, was honored with the 2017 Educational Leadership Award from the Huntsville Progressive Alumni Chapter of the Alabama A&M University Alumni Association. The annual award recognizes outstanding leaders in the Huntsville-Madison County community who have made and are continuing to make outstanding contributions in their respective professions and to the community.

"I was very humbled and overwhelmed with the recognition and the nature of the award for educational leadership in my community for diversity and inclusion concerns and initiatives," says Smith. "It is very validating and rewarding to be recognized for the work you do and to know that it is making a difference."

In a congratulatory letter from the organization's president, Verlindsey B. Stewart cited Smith's "outstanding contributions in diversity leadership and tireless service to the community." Over the past year, that has included a series of quarterly campus and community forums on race relations sponsored by UAH's Office of Diversity and Multicultural Affairs (ODMA) and a campus-climate survey to assess the needs of the university as they relate to diversity and inclusion. "This feedback will be used for strategic planning and continued growth and change," says Smith, noting that the survey had almost 1,000 respondents.

Smith was initially appointed by the UAH president as vice president for diversity and chief diversity officer in 2009 to develop what would eventually become the ODMA. The position's

purview comprises community outreach and service, and campus training and teaching on diversity, affirmative action, Title IX, and Equal Employment Opportunity issues. She also works with and serves on many university and community leadership boards and committees, and is involved in direct diversity leadership and service to Huntsville and Madison County.

"We often think diversity is only about race, but it is culture, ethnicity, age, gender, individuals with disabilities, sexual orientation, equity, and many other underrepresented and underserved individuals and populations," says Smith, who is a licensed professional counselor, a nationally certified counselor, a board certified clinical psychotherapist, and a qualified intercultural administrator. "We must always be mindful of these distinctions within realms where we interact. We must show civility in the community, respect for all people, patience with others and in all things, understanding of those who are different, and an openness and willingness to learn from and about those who are different."

And given that researchers predict the U.S. will be a majority-minority nation by 2044, that need for understanding and inclusion is even more pressing than ever. "Those who come to us, and those we actively recruit to join us, will come from this changing demographic," she says. "We must continue to prepare for, reflect, and actively engage this demographic shift. How remiss we would be as a university if we prepared our graduates to be tomorrow's leaders, but did not prepare them to be world citizens."



"It is very validating and rewarding to be recognized for the work you do and to know that it is making a difference."

- Delois Smith

CAMPUS

UAH's College of Business recently introduced a new extracurricular club to celebrate the diverse cultures of the university's students and encourage cultural exchange.

"Cultural Connections is an effort to assist international students in transitioning to UAH and a new country, and to increase opportunities for all students to have fun while learning about global business and culture from each other," says the club's advisor,

events sponsored by the College that will give them the opportunity to interact socially, whether it's enjoying a lively discussion over potluck dinner to an off-campus excursion to the U.S. Space & Rocket Center. "We also want them to take the lead and come up with their own ideas," says Dr. Orman, adding that once they get to know each other, the students will be able to rely on each other outside of the context of the club.

Dr. Orman has personally experienced the sense of disconnectedness that can result from being far from home in a different culture. "Back in 2002, I was a brand-new international student, with the same sense of excitement at being in the U.S. combined with the culture shock that most international students experience," she says. "Adjusting to and learning about a completely different culture is one of the most incredible experiences you can have, but it can be terrifying and often lonely until you settle in and make friends."

In her case, a classmate took all the international students under his wing and was their guide to American history and culture. Now she hopes UAH's American students will do the same. "I think many of them would love the opportunity to introduce our international students to American sports, culture, and traditions while learning about their countries and cultures in turn," she says. "This club can provide a platform to do so, with a little help from the College."

CULTURAL CONNECTIONS

HELPING
TO MAKE
THOSE
FAR FROM
HOME FEEL
AT HOME

Dr. Wafa Orman, who serves as the College's associate dean for undergraduate programs.

The club will comprise both international and American students at UAH and provide a platform for interaction and a supportive place for international students who are far from home to network through social activities. "Language and cultural barriers, unfamiliar food, and the inability to shop for and cook familiar food without a car all are common issues that can be addressed with a strong network of support and friendship," she says. "The goal is for the club to provide a platform for these networks to form and flourish."

In addition to regular meetings, club members will be invited to participate in





THE BIG IMPACT OF A TINY HOUSE

Hands-on project teaches students about energy efficiency

Construction is underway on the "Tiny House," a hands-on learning project initiated by UAH's student-run Green Club that incorporates sustainable construction methods to showcase modern building and energy management practices. "Not everyone gets a chance to be a part of a technical project, so we invited students of all backgrounds and majors to participate," says Abby Hendrie, a junior civil engineering major who serves as the club's vice president.

Club members and volunteers began by erecting the 8x12-foot domicile's exterior, complete with siding and solar panels, before moving on to its heating, ventilation, and air conditioning system. Later this fall, the focus will turn to the home's interior and its insulation, which will be forged from salvaged materials in keeping with the project's

emphasis on sustainability. "We're taking empty bottles that would have been thrown away – or recycled, hopefully – and we're re-purposing them by adding non-biodegradable trash like wrappers, old markers, and plastic bags to the inside," Hendrie says.

After the bottles are spray-foamed in, the team will then enlist the help of another student-run organization, the UAH chapter of the Association of Energy Engineers (AEE), to gather and research outcome data about the efficacy of the sustainable construction methods used. "The AEE will assess which insulation is better: fully packed, lightly packed, empty bottles, or our generic insulation control," says Hendrie. "They will also do an analysis of the energy usage and the overall efficiency of the Tiny House project, as well as suggest ways to make it better."

▲ Jeremy Floyd, Tyler Truitt, Sarah Haidar, Abby Hendrie, Ankur Shah, Dr. Bill Carswell, and Jordan Manchebo (l-r) are helping construct the Tiny House.

The Tiny House project is being funded by donors from the surrounding community, to include Summit Information Solutions Inc., Cintel Inc., Energy Huntsville, and Alabama State Sen. Bill Holtzclaw. "We are very grateful to all our sponsors for making the tiny home possible," says Green Club advisor Dr. Bill Carswell, a principal research scientist in the Charger Energy Laboratory and the Reliability & Failure Analysis Laboratory at UAH's Research Institute. "Not only is this a great learning opportunity for the students, but it will also be a great teaching tool for the entire Huntsville community."

Learn more about UAH's efforts to advance resilient, regenerative, and sustainable policies and practices by visiting uah.edu/sustainability.

2017 ALUMNI OF ACHIEVEMENT



The UAH Alumni of Achievement Award was presented to four outstanding alumni at a ceremony held Tuesday, Aug. 1, in the Student Services Building 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.

"Through the Alumni of Achievement Awards," says Senior Director of Alumni Relations Mallie Hale, "we are able to not only honor our alumni for their professional and personal achievements, but also to show the impact a UAH degree can make on the community and the world, and the value of hard work and perseverance, and to inspire current and future alumni to aspire to excellence."



John W. Harrison

('71, History, BA)



"At the age of 69, I am ever more grateful for the opportunity in my life to attend UAH as a student, teach there as a faculty member, and serve for 20 years on the Alumni Board," says John W. Harrison, a Huntsville attorney who has practiced law for 40 years. He opened the city's first racially integrated law firm along with a law partner, James Smith, a fellow UAH alumnus and former student body president.

Harrison currently serves as president of the East Huntsville Madison County

Civic Association and has previously served as president of the Huntsville Madison County Bar Association, president of the North Alabama Chapter of the Muscular Dystrophy Association, president of the UAH Alumni Association, and president of the Small Business Committee of the Chamber of Commerce of Huntsville/Madison County. He has also been involved with civic organizations like the Huntsville-Madison County Botanical Garden Society and the Huntsville-Madison County Art League. "These activities have made life immensely richer and more satisfying," he says.

Harrison received the Huntsville Foundation Scholarship to attend UAH, where he says the History, English, and Political Science faculty "demanded reflective thought, critical analysis, and high levels

of writing and composition skills." His extracurricular activities, meanwhile, taught him "critical skills in management, law, politics, and community affairs." These included being president and vice president of the Student Government Association, chairman and founder of UAH's first Symposium and Lecture Series, chairman of the University Judicial Code Committee, president of the History Club, and chairman and founder of The In, UAH's first coffee and sandwich shop. Post-graduation, he served as an assistant professor at UAH, teaching in the School of Administrative Science's graduate program.

"I am deeply honored by, and appreciative of, this recognition by the Alumni Association," says Harrison of being a UAH Alumni of Achievement Awardee.

John H. Honeycutt Jr.

('90, Mechanical Engineering, BS)



As the program manager of NASA's Space Launch System (SLS) Program at Marshall Space Flight Center, John Honeycutt oversees an annual budget of \$2.15 billion and a nationwide workforce of more than 4,200 civil servants and contractors tasked with designing, building, testing, and flying what will be the most powerful rocket ever built.

"I'm in charge of all facets of the program," says Honeycutt, who lives in Huntsville with his wife, Terri, and

their son. "I couldn't do that without an incredibly talented team. It's a challenging job, but it's also an exciting time to be part of what I believe will be NASA's greatest adventures yet."

Honeycutt joined NASA in 1999, serving in leading roles in propulsion design, systems integration, and test planning. During the space shuttle Columbia accident investigation, he was the NASA lead for the External Tank Working Group Interface Team and subsequently led the redesign effort, an experience that would catapult him into jobs as deputy and then manager of the external tank project for the final shuttle missions. Most recently, he served as deputy manager of the SLS stages office, SLS deputy chief engineer, and SLS deputy program manager before being appointed to the top rocket job.

"There's nothing like managing the design, manufacturing, and operation of space hardware to introduce even the smartest person to the concept of lifelong learning," he says. "So I've had the chance to continue the education that began at UAH." He also credits UAH professors Dr. Donald Wallace and Dr. John Gilbert with helping to get him where he needed to be. "At the time, I was young and perhaps not as focused as I could have been," he says. "They knew how to reach me."

In addition to being a UAH Alumni of Achievement Awardee, Honeycutt has also received a NASA Exceptional Achievement Medal, a Space Flight Awareness Award, a Center Director's Commendation, a Silver Snoopy Award, and a NASA Exceptional Service Medal.

ALUMNI

Dr. Everett K. Roper

('09, Industrial and Systems Engineering, Ph.D.; '08, Industrial and Systems Engineering, MS; '97, Computer Science, MS; '93, Electrical Engineering, BS)



A decision he made in high school to attend UAH and stay close to family "turned out to be a wise one," says Dr. Everett K. Roper, an assistant product manager/launcher and test set principal engineer at the U.S. Army Aviation and Missile Research Development and Engineering Center – Joint Attack Munition Systems Project Office at Redstone Arsenal.

He ended up going on to earn three

more degrees from UAH after initially graduating with a bachelor's degree in electrical engineering and joining the workforce. "What started out as part-time evening coursework in pursuit of a master's degree soon turned into a full-time graduate teaching assistantship and subsequently a Ph.D. in engineering management," says Dr. Roper. "Additionally, my co-op experience tied me directly with local industry and facilitated simultaneous on-the-job experience."

Not surprisingly, those long hours at UAH made a lasting impression. "My fondest memories were the late nights studying in the engineering building in the computer lab," he says.

Before serving in his present position, Dr. Roper taught computer information systems and engineering as an assistant

professor at Oakwood University. "I was fortunate to be able to pass on my knowledge while sharpening my technical expertise," he says. "From this experience, I was able to mentor many young adults and made lasting friendships along the way."

Dr. Roper, who also holds an Executive MBA from the University of North Alabama, is married to Dr. Kem Roper, a fellow UAH alumna and a former faculty member in the Department of English. Dr. Kem Roper graduated from UAH with a master's degree in English and went on to pursue a doctorate in rhetoric and composition from the University of Louisville. She is currently an assistant professor at Oakwood University. The Ropers reside in Toney with their two daughters, Eryn and Edyn.

Sheldon A. Wolitski

('96, Business Administration, BS)



It's hard to top Sheldon Wolitski's senior year as a member of the 1995-96 Chargers ice hockey team that went undefeated and brought home UAH's first national championship. "Every time I think about it, I get goose bumps," he says. "Seeing the crowds at the games and everybody flying the UAH flag was just awesome. The whole community came together."

Soon after graduating and returning to his home in Raleigh, NC, however, Wolitski achieved another impressive milestone related to his time at UAH – founding The Select Group, which unites top companies with highly skilled candidates for managed services and contingent staffing and provides specialized IT services.

"The faculty on the business and marketing side really opened up my eyes to entrepreneurship," says Wolitski, citing Dr. Jim Simpson and Dr. Brent Wren as inspirations. "I really got to understand the value of opening and running your own business." It also helped to have UAH alumnus Shane Prestigard in his corner. "Shane took me under his wing and talked to me about the industry

I am in," he says. "He helped to get me a job and he put in a good word for me so that I could get a job."

Now the company Wolitski founded and runs as CEO has brought him full circle, back to the university and city where it had its first glimmers of genesis. "We just opened up an office in Huntsville about four months ago," he says. "I am excited to be able to come back and to give back to the community."

Indeed, he's already made a \$500,000, five-year contribution to UAH athletics. "I've got a heart full of gratitude for the opportunity that UAH and the whole community gave me," Wolitski says of the generous gift. "I really feel I wouldn't be where I am today if it wasn't for the four years I spent there."

A HOLIDAY SPECTACULAR

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VBC, MARK C. SMITH CONCERT HALL // \$10 GEN. ADMISSION

TO PURCHASE TICKETS ONLINE GO TO **UAH.EDU/PEACE**



ATHLETICS

The UAH hockey program embarks on its fifth season in the Western Collegiate Hockey Association in the 2017-18 campaign, which includes a total of 14 home games for the Chargers at the Von Braun Center. Season tickets to see all the action comes at a cost of \$192, while UAH also offers its FlexTix package that comes with 10 tickets to use at any home UAH hockey game for just \$99. Call 256-UAH-PUCK to purchase your tickets today!

*Want to benefit the program by joining the Blue Line Club? Learn more at uahchargers.com or call 256-UAH-PUCK.



SOCIAL MEDIA

"The students, faculty and staff came out to watch the eclipse on Monday, August 21, 2017. Prominence was at 1:29 CST. <http://on.uah.edu/2x2fg7z>

"By doing training such as GenCyber, we are opening the door to STEM for students who are deaf and hard-of-hearing who otherwise may not have this experience or opportunity." <http://on.uah.edu/2wHfem7>

All UAH grads are automatically free members of @UAHAlumni. No dues & your alumni card can get you benefits & perks! <http://on.uah.edu/2vq1ewY>

@UAHArt interns at @hudsonalpha use their web communications training to produce video & print assets used across the Institute! <http://on.uah.edu/2vq7ULJ>



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Photo of the Week: Important to note! The traffic pattern is changing around North Campus Residence Hall, Morton Hall, and Frank Franz Residence Hall. The traffic islands are being removed and lanes will switch to two-way traffic. #POTW <http://on.uah.edu/2x2afMy>

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UAH's fall Week of Welcome took place August 12-19. The popular event comprises programs and activities designed to welcome new and returning students to campus.





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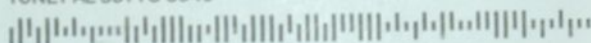
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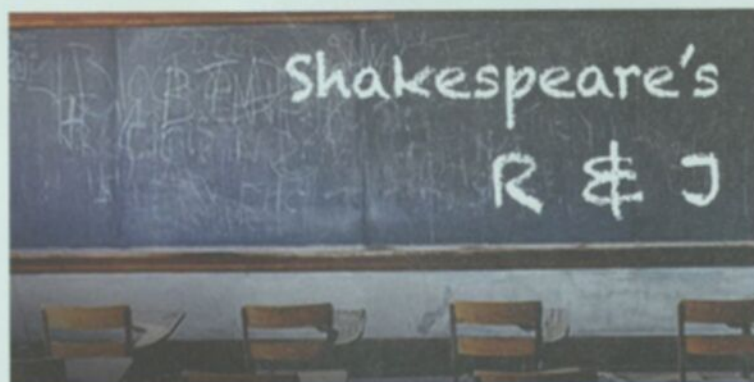
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UAH THEATRE PRODUCTIONS

Our classic and contemporary plays, operas, and musicals have earned UAH Theatre a reputation as the go-to destination for high-quality productions here in North Alabama. The spring season promises to be no different! We hope you'll join us for the following:



FEB. 21 - 24, 28 - MAR. 3 7:30 PM

FEB. 25 & MAR. 4 2:30 PM

WILSON THEATRE



NEIGHBORHOOD 3
REQUISITION OF DOOM

APRIL 4 - 7, 11 - 14 7:30 PM

APRIL 8 & 15 2:30 PM

WILSON THEATRE


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