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Ogden College of Science & Engineering Newsletter (Fall 2013)

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Ogden College of Science & Engineering

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College/Department News

Student projects on display at WKU Engineering Expo

From robots, wobblers and a radio-controlled helicopter to a concrete canoe, steel bridge and a rocket, the 2012-13 projects of WKU engineering students were on display Wednesday (May 8). During Engineering Expo Day, "every project that's been completed or worked on for the whole semester can be demonstrated or displayed or explained," said Dr. Julie Ellis, head of the [Department of Engineering](#). [\(full story\)](#)

SkyTeach students, faculty, staff attend annual UTeach conference



Students, faculty and staff in WKU's [SKyTeach program](#) presented five research posters, one program promotional poster and conducted two panel discussions recently at the [2013 UTeach Institute's National Conference](#) in Austin, Texas. [\(full story\)](#)

WKU storm chasers document EF-4 tornado, other severe weather events

The May 2013 summer term was the fourth year that Dr. Josh Durkee's *Field Methods in Weather Analysis and Forecasting* class set out across the Great Plains, forecasting and verifying a wide variety of severe weather. As with previous years, the WKU group accomplished much success in their mission. [\(full story\)](#)



WKU biology graduate completes internship at national park



As a high school senior, Sara Wigginton knew she wanted to major in biology in college and pursue a career in ecology or conduct research in graduate school. "I just really enjoyed all the sustainability and ecology sections that we worked on," she said of her

biology course at Bethlehem High School in Nelson County. “I knew that I wanted to be a biology major for a long time and I guess ecology was just the next logical step for me to take.” [\(full story\)](#)

Biology faculty member sharing expertise for TV productions

WKU biology faculty member [Dr. Steve Huskey](#) is preparing to use his research and expertise for more TV productions. “I will serve as the bite expert,” said Dr. Huskey, an associate professor in WKU’s [Department of Biology](#) who is a functional morphologist and studies the feeding mechanisms and feeding habits of fish. “The crew wanted a laboratory setting for bite testing. We will be using my labs and Dr. Chris Byrne’s materials testing equipment in the [Department of Engineering](#), dental moldings from an already bitten surfboard, specialized microscopes, and real shark teeth. Essentially we’ll be utilizing technology and teeth to assess shark bite damage.” [\(full story\)](#)

WKU geoscience student interns at GIS international conference

A WKU geoscience graduate student was selected for a scholarship to participate in the 34th Annual Environmental Systems Research Institute (Esri) International User Conference in San Diego this year. This marks the 12th year in a row that a student from the [Department of Geography and Geology](#) has been awarded the scholarship. [\(full story\)](#)

Indego’s co-inventor says WKU engineering prepared him well for career

A co-inventor of the [Indego](#), a lightweight wearable robot, credits WKU’s [Department of Engineering](#) with providing the hands-on, real world training to develop cutting edge technologies. Dr. Ryan Farris, a 2007 [mechanical engineering](#) graduate, is Engineering Manager for the Human Motion and Control unit at Cleveland-based [Parker Hannifin Corp.](#) Farris earned his Ph.D at Vanderbilt University where he worked with another graduate student and a faculty member to develop the powered exoskeleton now called the Indego. [\(full story\)](#)

Astronomer discuss possibility of life on other planets



Dr. Richard Gelderman grew up on a dairy farm outside Union, W.Va., and shot for the stars in his career as a scientist. The Western Kentucky University professor of physics and astronomy and the director of the Hardin Planetarium received his bachelor’s degree from Virginia Tech before heading to grad school at the University of Virginia, where he received his master’s and doctorate degrees in astronomy. Before starting his job at WKU in 1996, he worked for NASA’s Goddard Space Flight Center in Greenbelt, Md. Here’s what he had to say about the potential for life elsewhere in the universe, a hot topic in the world of science. [\(full story\)](#)

Geography professor moonlights as Hot Rods announcer

It’s not commonplace for childhood aspirations to come to fruition. For Stuart Foster, it’s a different story. Foster, a WKU geography professor and state climatologist for Kentucky, grew up with baseball, playing until he was 20 years old. His love of the game spawned an interest in taking his talents from the diamond to the press box as an announcer. Raised just 75 miles south of Cincinnati, Foster became enthralled with Reds baseball in the late 1960s. He was a teenager during the organization’s Big Red Machine days, when the Reds captured two World Series titles. [\(full story\)](#)



Biology Student accepted into Ph.D. Program at Yale University

Jordan Olberding (left), an Honors thesis student in the laboratory of Dr. Ajay Srivastava (right) was accepted into the Ph. D. program in the Biological and Biomedical Sciences at Yale University. She is starting the program this Fall.

Hardin Planetarium's Science, Curiosity, Investigation (SCI) day camps



Young scientists have a great new place to be during their fall and spring breaks. In March 2013 the first ever Science, Curiosity, Investigation (SCI) camp was held at Hardin Planetarium, with fifteen grade 3 – 6 students. From 8am to noon each morning of their spring break, participants engaged in fun, interactive investigations to stimulate curiosity and encourage cooperative discovery and problem solving.



The spring 2013 activities related to the theme "Back To The Moon," with exploration of our Moon and the history and future of manned space travel. We concluded with the campers designs for what might be done to develop the Moon, such mining ventures or a sprawling lunar theme park. A week-long day camp was also held in July 2013, with the theme "Alien Hunters." Those students investigated the foundations for life and worked out what is

important for life to arise somewhere other than Earth. The final project involved selecting an actual star in our galaxy to host an imaginary planet and determining the constraints on the kinds of life that might thrive under the resulting conditions.

From October 7 to 11, 2013, Hardin Planetarium will host a SCI Camp with the theme: "**Leonardo DaVinci.**" The \$120 registration fee includes materials to allow campers to construct and take home models of Leonardo da Vinci's helicopter, glider, and trebuchet siege engine. They will also investigate da Vinci's codes, symbols, and understanding of perspective and geometry. Space is limited to twenty campers on a first come, first served basis, with online registration at wku.edu/hardinplanetarium.



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International

WKU team visits Belize to develop research collaborations, educational programs

At the end of May, a group of faculty from WKU's Department of Geography and Geology and Honors College, in association with the Office of International Programs, visited Belize for a marathon week of meetings with several entities within the country to initiate multiple projects that will provide student and faculty teaching, research and engagement opportunities, as well as develop collaborations and capacity building within the region in the areas of climate change, water resources, karst geoscience, environmental education and sustainability. [\(full story\)](#)

WKU faculty member leading research expedition in Peru



The American Climber Science Program — Peru expedition to the Ishinca valley over the past 12 days was very productive. Ten people comprised the first cohort of the 2013 Cordillera Blanca expeditions and they represented numerous universities and institutions. ([full story](#))

Geography and Geology Professor has article published in the *International Journal of Climatology*

Partnering with many of the planet's most recognized and important researchers in the climate impact field, Dr Rezaul Mahmood, as lead author, [Land cover changes and their biogeophysical effects on climate](#), has synthesized some of the most critical research issues facing our planet in the coming years. It is this type of high visibility, meaningful research coming out of local initiatives like the Kentucky Mesonet, the Kentucky Climate Center, and our various climate groups that speak to the level of impact WKU scientists are having on understanding our changing planet.

Awards/Recognition

3 WKU students honored by Goldwater scholarship program

WKU continues to lead other Kentucky universities in the prestigious [Barry M. Goldwater Scholarship and Excellence in Education Program](#), a premier award for undergraduates pursuing careers in science, mathematics or engineering. **Hillary Asberry**, a junior chemistry major from Lancaster, and **David Brown**, WKU sophomore and [Gatton Academy of Mathematics and Science in Kentucky](#) student from Central City, were selected as recipients for this highly competitive award. **Samuel Saarinen**, also a member of the Gatton Academy from Shelbyville, received an Honorable Mention in the national competition. Universities may nominate up to four candidates and conduct internal competitions prior to the final submissions. ([full story](#))

7 WKU students awarded Gilman International Scholarships

Seven WKU students have been awarded funding through the U.S. Department of State [Benjamin A. Gilman International Scholarship Program](#) to participate in study abroad programs around the globe in Summer and Fall 2013. ([full story](#))

WKU biology student honored at microbiology conference

[WKU biology](#) graduate student **Amanda Seaton** of Hartford received an outstanding poster award recently at the [113th General Meeting of the American Society for Microbiology](#) in Denver. ([full story](#))

WKU engineering's steel bridge team competes in national event

WKU civil engineering students competed in the [National Student Steel Bridge Competition](#) May 31-June 1 at the University of Washington. The WKU steel bridge placed fourth in the nation for stiffness, fifth for display, 25th for structural efficiency and 37th overall. The display category refers to the appearance of the bridge, proportion, elegance and finish while structural efficiency is a measure of the cost of the structure. ([full story](#))

WKU selects 16 students as new Spirit Masters for 2013-14

Spirit Masters are the official ambassadors of WKU, work with the administration, alumni and community to provide a warm reception for guests and welcome every opportunity to promote WKU and exemplify the University's motto, "The Spirit Makes the Master." [\(full story\)](#)

WKU student finalist for Truman Scholarship

For the second straight year, a WKU student has been selected as a finalist for the Harry S. Truman Scholarship, one of the most prestigious opportunities for undergraduates who plan to pursue a career in public service. **Sarah Schrader**, a rising senior from Bowling Green and graduate of the Carol Martin Gatton Academy of Mathematics and Science in Kentucky, was selected as a finalist while completing her Capstone Year in China through the Chinese Flagship Program. The scholarship, which is open to juniors, recognizes service and leadership and provides funding for graduate education. [\(full story\)](#)

2 WKU meteorology majors receive national scholarships

Ryan Difani of Pocahontas, Ark., and **James Austin Boys** of Greeneville, Tenn., both seniors in the WKU Meteorology Program, recently received multiple national scholarships to support their education. [\(full story\)](#)

Spirit of WKU, other awards presented at opening convocation

WKU President Gary Ransdell presented the annual Spirit of WKU, diversity and sustainability awards Friday morning (Aug. 23) at the opening convocation at Van Meter Hall. [\(full story\)](#)

WKU agriculture graduate honored as Local Food Hero

Clay Turner of Logan County, a 2006 WKU graduate with a degree in agriculture, was one of the three vegetable producers in the state who have been honored as Local Food Heroes by the Kentucky Department of Agriculture and the City of Louisville. [\(full story\)](#)

Research/Grants

WKU engineering facility testing reins for horse industry



A testing session for horse safety reins is one example of the value of WKU's Engineering-Manufacturing-Commercialization Center, EMCC manager Ron Rizzo says. "The EMCC was created to provide services like this to the community and to industry," Rizzo said. "Working on creation of the standard is a significant accomplishment for us to be a part of." [\(full story\)](#)

17 WKU students awarded Lifetime Experience Grants for 2012-13

The Office of Scholar Development (OSD) has awarded 17 WKU students a total of \$38,450 in Lifetime Experience Grants in the 2012-13 academic year. The Lifetime Experience (LTE) Grant program was made possible with funding from the WKU Sisterhood, John and Jacque Hughes Jarve, the Office of Scholar Development, the Honors College at WKU and the Office of International Programs. [\(full story\)](#)

3 WKU geoscience students make presentations at oil & gas meeting

Three geoscience graduate students from WKU's Department of Geography and Geology gave presentations on June 19 related to their thesis research under the direction of Dr. Michael May, Professor of Geology. [\(full story\)](#)

WKU presents research at international conference in Hawaii

Students, faculty and staff in [WKU's GSKyTeach program](#), [Psychology Department](#) and [School of Teacher Education](#) presented a research poster and four research papers at the 2013 Education and Math and Engineering Technology Conference hosted by Hawaii University International Conferences in Honolulu June 10-12.

WKU professor, students work with CDC scientists on parasitic worm project

Dr. Cheryl Davis, a University Distinguished Professor in WKU's [Department of Biology](#), and eight WKU students have collaborated with a team of scientists from the [Centers for Disease Control and Prevention](#) (CDC), led by Dr. Dana Woodhall, to conduct a survey of soil-transmitted helminth (parasitic worm) infection in Kentucky. [\(full story\)](#)

ICSET opens fourth laboratory



WKU's [Institute for Combustion Science & Environmental Technology](#) (ICSET) held a ribbon cutting ceremony for its fourth laboratory, the Thermophysical Properties of Materials Laboratory, on Monday (Aug. 5) at the [Center for Research & Development](#). WKU President Gary Ransdell and Dr. Wei-Ping Pan, ICSET's founder and first director, were among the speakers. [\(full story\)](#)