The construction of the new science building, Ogden College Hall, is on time and on budget according to Ogden College Dean, Dr. Cheryl Stevens. The last concrete slab was poured Friday, October 28, and according to the construction company that is a milestone to celebrate. Construction workers did just that with a party as the month of November began.

The first of November also brought the beginning of stonework. All sinkholes have been addressed. Purified water lines, hot and cold water, the acid waste line, the sprinkler main, vacuum and gas lines have been installed on the ground floor. The walnut and bald cypress trees that were removed from the site to make room for the building were placed in storage. These will be used for construction of the social stairs outside of the auditorium in the building. For daily photos visit http://www.wku.edu/webcams/.
Dr. Talia McKinney Collins is a Senior Research Chemist in the Printing and Packaging Business Group at Michelman. She has over 18 years of experience working with coatings on various substrates. Talia focuses on research and development of new and innovative functional water-based coatings which provide enhancements such as barrier, heat seal, print receptivity, release, and other value-added properties to serve Michelman’s customers. Talia helped develop and implement new dispersion techniques which enabled Michelman to disperse novel materials. Talia has authored three provisional patents during her career at Michelman.

Talia previously worked at International Paper (IP) with specialty and converting papers such as pressure sensitive release liners, wallboard tape, and security papers. She also provided papermaking process solutions support to North American and international paper mills for IP. Talia received her PhD in Inorganic Chemistry from Purdue University and her BS in Chemistry / Math from Western Kentucky University.

Dr. Collins is a generous benefactor to the Augenstein Alumni Center building project, and she serves on the Ogden College Advisory Council at WKU. She lives in Cincinnati with husband Patrick and twin girls, age 12.

**WKU Research Foundation launches new website**

The WKU Research Foundation has launched a new website at [WKURF.org](http://WKURF.org). The website serves as a cross-campus research showcase dedicated to the advancement of research initiatives and the publication of information about reasearch and scholarly project outcomes and their impact.

“The Board of Directors of the WKU Research Foundation is so excited to have the opportunity to spearhead a project of this scope,” said Dr. Cheryl Stevens, President of the WKU Research Foundation. “Not only does it introduce some of our incredible research faculty and students, but it also tells our story to prospective students, faculty and collaborators. It has the potential to be truly impactful.”

Through a collaborative partnership with the WKU Office of Public Affairs, the website integrates with WKU Research News and provides additional content including research spotlights, student spotlights, WKU Research Foundation project updates and more. Students, faculty, community members and businesses can visit the website not only to find information related to research and outcomes, but also to learn about opportunities to get involved.
Stemshot Rocketry Competition

Rockets flew through Western Kentucky University’s Center for Research & Development on Saturday, October 15. Fifty plastic cups were arranged in the shape of a square 70 feet from a PVC rocket launcher, and the goal for students firing rockets made of paper and cardboard was to knock down as many of the cups as they could.

Rico Tyler, a WKU SKyTeach master teacher, said, “The purpose of the competition is really to create a situation where students, back at their school, can experiment with the challenge. You can’t read how to do an experiment out of a book. You have to actually practice it. That involves having some kind of challenge that’s interesting. That makes you want to learn those skills.”

Eleven teams from three school districts participated. Terry Shelley, a science teacher at Albany Elementary School in Clinton County, worked with six teams of fourth-graders, including the Diamond Dawgs, the team that, at 26, knocked over the most pins and won the competition. Shelley stated the competition serves to teach his students about force and energy, motion and transfer of energy.

Andrew Garrett, a sixth-grade Austin Tracy Elementary School student, whose team, Fire Away, knocked down one cup on each of its first two launches, said the competition provides a fun way to learn about science and engineering. Andrew had been preparing for the competition since Monday, by practicing in the Austin Tracy gym every day after school, testing and modifying rockets.

Story by Jackson French of Bowling Green Daily News. Follow him on Twitter @Jackson_French or visit bgdailynews.com.

Ogden Outreach Mission

The outreach mission for WKU’s Ogden College of Science and Engineering is to provide high quality science, technology, engineering and mathematics (STEM) activities and events to regional school districts and the community which promote a greater understanding and appreciation of STEM.

Check out the Ogden Outreach webpage! Visit www.wku.edu/ogden and click on Ogden Outreach.

Upcoming Events

February 25, 2017
Middle School LEGO Robotics Competition

February - MATHCOUNTS

March 31, 2017
Kentucky Geography Bee

March - GRREC/SKyTeach/WKU Bridge Building Competition
WKU’s Department of Agriculture hosted 23 students at the ASSET (Agriculture Students Striving for Effective Tomorrows) Conference June 12-16, 2016. The five-day conference is designed for students who have completed their junior year of high school and are interested in attending college and studying agriculture. The conference focused on activities that consist of leadership, communication and social development; making the most of a college experience; and created awareness of the opportunities within the agriculture industry. Activities included visiting Diamond C Produce, touring the WKU Farm, learning problem-solving skills at the WKU Challenge Course, and participating in labs which covered topics including animal science, beekeeping, floral design, and electricity.

Around 200 participants from around the nation attended the first WKU Agriculture Industrial Hemp Conference and Field Day this past July. Individuals from Colorado, North Carolina, Washington D.C., Tennessee and Kentucky attended the event. Dr. Todd Willian presented past and current research efforts at WKU. In addition, Leah Black and Dr. Tom Keene from the University of Kentucky and Dr. Eric Walker from the University of Tennessee presented seminars during the conference.

Dr. Paul Woosley and graduate student Brett Maxwell led field plot tours of current research being conducted at WKU which included hemp cultivar, nitrogen and phosphorus fertility, and weed control studies. In addition to seminars and field plot tours, a round-table discussion was held on the future of industrial hemp in Kentucky and the U.S.

The event brought together industrial hemp producers, processors, researchers, and policy makers to share information and technologies as well as network and collaborate on future efforts to expand the industry. The conference also showcased WKU Agriculture’s efforts in industrial hemp research. WKU Agriculture will continue to conduct research in this field in order to better understand and describe the potential of industrial hemp’s role in Kentucky’s agriculture industry.

Snell Hall Lithographs

The Department of Agriculture has them, exclusively! These are $50, unframed. Shipping and handling charge is $5. Make checks to: WKU Dept. of Agriculture and mail to Dr. Linda Brown, WKU Dept. of Agriculture, 1906 College Heights Blvd, Bowling Green, KY 42101. Include your email address and we will acknowledge receipt of your order via email.
WKU’s Habitat for Humanity campus chapter sent a volunteer group to Henderson during Fall Break on October 6-8. The group assisted the local Habitat for Humanity affiliate with various projects. The group cleared a lot and began the foundation for a new home as well as assisting at the Habitat ReStore location in Henderson. At ReStore, gently used merchandise is sold to the public with funding assisting the Habitat affiliate in that area.

The Habitat for Humanity program works to build houses and hope in communities. Students learn a great deal about building, issues of substandard housing, working and living within a community, and cultural differences. Most of all, the students learn about themselves as a result of the program.

Participants in the trip included Bryan Reaka, AMS Department faculty member, and students Adam Byrd, Behzad Montazeri, Ron Avey, Zyad Al-Dhahian, Reza Khanlou, and Aida Pourshirazi.

Emily Brannick, Construction Management major, completed an internship with Lithko Contracting over the summer. Emily had this to say about her internship experience, “What I enjoyed most at Lithko was the opportunity to get out and see types of work that I had never seen before. Seeing the scale of work that Lithko performs gave me a much better perspective. Seeing the day-to-day activities and planning that go into a project; many of these experiences you can’t gain from a classroom. With my internship being split into half time in the office and half time in the field, I was able to see work similar to what I worked on in the office during the preconstruction side.”

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Grants and Publications

Shahnaz Aly – Publication - *ATEA-American Technical Education Association Journal*, Issue: Spring/Summer 2016, Title: Bridging the Gap Between the Classroom & Real-World Through Capstone Projects

Greg Arbuckle – Grant – RCAP Microstructuring in Difficult to cut Glass Using the Micro-milling Process

Brent Askins – Grant – Perkins Field Base – This project is designed to help prepare Career and Technical Education teachers who come to the classroom directly from business and industry without any preparation for teaching.


John Khouryieh received funding from KY NSF EPSCoR for his applied research project. The project is titled “Microencapsulation of Omega-3 Polyunsaturated Fatty Acids using Protein-Polysaccharide Complexes.”

John Khouryieh – Grant – USDA NIFA Institute of Family, Youth and Community, Division of Community and Education, Non Land Grant Colleges of Agriculture (NLGCA) Program, “Building Capacity of Food Science Cluster at Western Kentucky University to Control Pathogens on Fresh Produce at Kentucky Farmers’ Markets”


Mahtab Orooji – Publication - “Integrated environmental sustainability and resilience assessment model for coastal flood hazards.” This is her first accepted journal publication with the new affiliation as an Assistant Professor at WKU.

Dr. Noah Ashley Receives NIH Grant

Congratulations to Dr. Noah Ashley whose NIH grant application is being funded to research the effects of inflammation due to sleep loss. The project is titled “Sympathetic Regulation of Inflammation from Sleep Fragmentation.” The project will investigate how the sympathetic nervous system reacts to sleep loss and inflammation because it may lead to a variety of health issues including cardiovascular and metabolic disease.

“This grant will allow me to pursue a new line of research that involves mechanistic and biomedical approaches to studying costs of sleep loss,” Ashley said. “In addition, I will be able to involve more undergraduate students in my lab to participate in hypothesis-driven research in the fields of endocrinology, immunology, and the neurosciences.”

News and Notes

The Memorandum of Agreement between WKU Biology, Ogden College, and the University of Nairobi has been approved by all parties. Drs. Nancy Rice and Craig Cobane, pictured below, visited Nairobi with the Partners in Caring: Medicine in Kenya program last May. We look forward to more good news coming down the pike as WKU partners with the University of Nairobi in some exciting ways!

Dr. Steve Huskey, above, has received a NSF grant to study chameleon communication, behavior, and functional morphology. The grant helps support graduate student Sam Tegge. Dr. Huskey’s other graduate student, Nate Zbasnik, received a Grad Studies grant to examine feeding competition between an endemic scorpionfish and introduced lionfish. Ruth Hughes, a Gatton Academy student Dr. Huskey mentors, received a Gatton grant (FUSE pending) to continue their study of how stingrays stab their spines into threats.

Congratulations to Dr. Shivendra Sahi for his newly awarded NSF grant. The project is titled “RUI: Functional characterization of gold responsive genes and development of plant based system for efficient synthesis of gold nano-particles.” The award began on September 1 and ends August 31, 2019.

Above: Biology Student Ambassadors Bottom row, left to right: Jacob Lee, Sayo Aromiwura, Elizabeth Lawrence, Nick Wheeler Top row, left to right: Morgan Cash, Storm Dutton, Kaitlyn Wathen

Below: Bio Ambassadors Jacob Lee and Nick Wheeler represent their department with pride at the Discover WKU Owensboro event.
Two new faces have joined the WKU Department of Chemistry faculty this year. The department welcomed this fall Dr. Lawrence Hill and Dr. David Wolfgang.

Dr. Lawrence Hill, above left, joins the Department of Chemistry as an Assistant Professor following a postdoctoral fellowship with the Department of Energy at the National Energy Technology Laboratory in Pittsburgh, PA. Dr. Hill earned a B.S. from Southeastern Louisiana University, and a Ph.D. in organic chemistry from the University of Arizona.

Dr. David Wolfgang, above right, is the Department of Chemistry’s newest instructor. Dr. Wolfgang brings with him 14 years of teaching experience at Xavier University of Louisiana, Carthage College, Canisius College and most recently at Christopher Newport University. His previous research interests include cellulase enzymes, and the HSP90 cochaperone p23 in mice fibroblasts.

WKU’s Global Medical Brigade, pictured below, traveled to Nicaragua August 1-9 to bring access to doctors and healthcare to in-need communities. For every one volunteer, an additional 55 patients were given access to healthcare. Hilltoppers changing the world!

On September 23, 2016, Chemistry students, faculty, staff, and friends gathered to enjoy an unseasonably warm picnic at a local Bowling Green park. At the picnic Mr. Ka Wai (Gary) Kwong, shown below with his advisor, Dr. Rui Zhang, and Department Chair Dr. Stuart Burris, was recognized as the 2016 McNally Award winner. The award is given annually to the department’s outstanding graduate student.

Gary’s success has been both as an outstanding teaching assistant and as a prolific researcher, having published six papers in peer-reviewed journals in his time at WKU. Originally from Hong Kong, Gary plans to pursue his doctoral degree at the conclusion of his MS, which he will receive in May, 2017.
Civil engineering students competed in the 2016 National Student Steel Bridge Competition May 27-28 at Brigham Young University in Provo, Utah. This is the fourth consecutive trip to nationals.

WKU finished 1st in the nation for the best looking bridge, which was an amazing red curved arch truss bridge (pictured above). WKU was the only school at the national competition to utilize curved steel members in the bridge to form a large arch. In addition, WKU won the Student Choice award. The winner of this award is chosen by the students who attend the competition.

Steel bridge team advisor Dr. Shane Palmquist stated, “This year the students wanted to design and fabricate a beautiful and stunning red curved arch steel truss bridge. With patience and dedication, mission accomplished! This is the first time the team has built a curved arch bridge.”

The Concrete Canoe Team (pictured below) finished 4th at the National Concrete Canoe Competition in Tyler, TX. The 4th place finish is the highest ever for the team. The competition consists of a wide range of parts including a technical paper, oral presentation, engineering design and research, and of course athleticism in paddling the canoe dubbed “Bar-B-Qrete.”

Participants of the team were: Kayla Frye, David Miller, Taylor Bowling, Jared Claiborne, Sean McCarty, Jonathan Turner, Trey Baston, Elizabeth Cardwell, Mohammed Alajmi, Tyler Baker, Zach Thorpe, Caitlin Brown, Megan Jones, and Rachel Wilson. Faculty advisors to the team were Matthew Dettman and Jason Wilson.

A team of technology management from Samsung Electronics America, Inc. visited WKU’s Center for Research and Development, the department of Engineering, and the Energy Systems Lab to evaluate the potential for research collaboration and technology development.

During their visit on October 29, the team (pictured below) had the opportunity to meet President Ransdell, Provost Lee, Ogden College Dean Dr. Cheryl Stevens, and other WKU administrators. The Samsung team consisted of one technology director and two senior managers from its Advanced Development Center located in New Jersey.
Geology Major Conducts Research in Ethiopia

WKU geology major Deborah Flynn, a senior from Bowling Green, traveled to Ethiopia this summer to collect data for an ongoing research project. Flynn conducted fieldwork on the Ethiopian Plateau north of the capital city, Addis Ababa.

This is the first time Flynn has traveled to East Africa, providing her invaluable and hands-on field experience. The trip not only allowed her to explore and collect data for her undergraduate research, but it also helped her to understand the interaction between geology, environment, and people.

“The geology and culture were amazing, and I hope to return and continue researching the control of the Ethiopian Plateau geology on water resources and development solutions in the country. It was truly an eye opening experience,” Flynn said.

She will present her research findings this fall at the Geological Society of America Annual Conference in Denver, Colorado.

Director of WKU Meteorology Program Dr. Gregory Goodrich, at right, has received the Editor’s Award from the American Meteorological Society (AMS). The award particularly recognizes his outstanding reviews for the journal Earth Interactions. This journal is jointly published by the AMS, American Geophysical Union (AGU), and American Association of Geographers (AAG).

Dr. Goodrich will formally receive this recognition and award in February 2017 in Seattle, WA during the AMS annual meeting and banquet. Congratulations Greg!!

The Kentucky Mesonet at WKU has installed a second station in Shelby County and added a station in Boyle County near Danville. There are 68 stations located in 66 counties for the statewide network that is the Commonwealth’s official source for weather and climate data. The Mesonet stations collect real-time data on temperature, precipitation, humidity, solar radiation, wind speed and direction and transmit it to the Kentucky Climate Center every five minutes, 24 hours per day. The data is available at www.kymesonet.org.

A research team led by Dr. Royhan Gani, Associate Professor of Geology, has been working on mapping seabed topography and understanding depositional history of the Gulf of Mexico using high resolution 3D seismic data. The research finding has been included in a recent BBC Natural History documentary titled World’s Weirdest Events. Contact Royhan Gani at (270) 745-5977 to learn more.

WKU Meteorology Launches White Squirrel Weather

White Squirrel Weather, a real-time weather and climate monitoring system focused specifically on WKU, is located at http://wkuweather.com.

The site includes a two-minute update cycle of campus weather data including temperature, moisture, humidity, pressure, wind, and spectacular views from the roof of Van Meter hall. There is custom-designed radar for WKU with real-time lightning, regional air quality conditions, and traffic conditions. Daily and extended forecast information is also provided.
Math Ambassadors have been busy representing their department with class and style to recruit future Math Hilltoppers at recent DiscoverWKU events held in surrounding areas.

Congratulations to Ogden College Dean’s Office Advising Associate Ms. Jennifer Anderson for being honored with the Staff Student Advisement Award at the fall opening convocation.

Math and Computer Science Departments celebrate Boss’s Day on October 17th with a Fiesta and taco bar! Pictured above are the bosses: Dr. James Gary and Dr. Bruce Kessler.
The 2017 solar eclipse will not take place until next August, but plans are underway now for educational outreach programs centered around the big event.

Gordon Emslie, professor of Physics and Astronomy, stated, “WKU is only a few miles from the point of maximum solar eclipse, and also a key stopping point on the I-65 artery, which will funnel hundreds of thousands of eclipse viewers from more northerly states into the area.”

WKU is planning to use Houchens Industries-L.T. Smith Stadium and the WKU Farm for a variety of educational and public outreach activities. In Kentucky, the moon’s shadow will streak across the ground at about a thousand miles per hour, leading to a complete darkening of the sky for up to two and a half minutes at around 1:15 p.m. CDT. Information on the eclipse and WKU’s activities can be viewed at WKU’s eclipse website at http://www.wku.edu/eclipse/.

Congratulations to Dr. Richard Gelderman on his selection as a recipient of the American Association of Physics Teachers (AAPT) 2017 Homer L. Dodge Citation for Distinguished Service. Established in 1953 and renamed in 2012 in recognition of one of the AAPT founders, the Homer L. Dodge Citation for Distinguished Service to AAPT is presented to members in recognition of their exceptional contributions to the association at the national, sectional, or local level.

Scientists at WKU and Oak Ridge National Laboratory (ORNL) can have appointments to both institutions thanks to a joint faculty agreement. “This joint agreement will provide new opportunities for research for faculty,” said Dr. Cheryl Davis, Interim Associate Provost for Research and Creative Activity at WKU.

Dr. Cate Webb, Associate Dean of Ogden College, stated that WKU students and faculty have long benefited from ORNL’s extensive research facilities. WKU now houses the only publicly available large chamber scanning electron microscope in the United States, originally located at ORNL, in its NOVA Center in the Center for Research and Development.

The agreement was initiated by an ORNL researcher who had once been associated with WKU and was interested in seeking a joint appointment. “This was a direct result of a visit of a faculty member in Physics and Astronomy with one of his research students to develop a research collaboration with a scientist at Oak Ridge,” Dr. Webb said. “To now have the opportunity to expand our collaboration with Oak Ridge by appointing Oak Ridge scientists as faculty members will ensure that productive partnerships and collaborations will continue to grow.”

The work about Topology in Materials Science that WKU Physics professor Dr. Sanju Gupta and her collaborator at Los Alamos conduct relates to the scientific underpinnings of this year’s Nobel Prize in Physics and Chemistry. This may advance materials research in this field. The below news feature appeared in the MRS Bulletin online for the October/November issue.
At the recent AASP Annual Conference (September 28-October 1, 2016), in recognition of her significant contributions to research and practice in the discipline of sport psychology, Dr. Betsy Shoenfelt was named a Fellow in the Association for Applied Sport Psychology, an international organization with members in 57 countries. Dr. Shoenfelt also chaired and presented in a symposium, “Theory/Science to Practice for Excellence in Olympic Performance: Multi-National and Organizational Perspectives,” with colleagues from Germany, Sweden, and Ireland who worked with Olympic athletes for the 2016 Rio Olympic Games.

Over the summer nine students took part in the Research Experience for Undergraduates Program (REU). The program provides undergraduate students enrolled in colleges and universities where there are limited research opportunities with a unique opportunity to gain hands-on research experience on a topic related to the program theme. This year’s theme focused on the utilization or examination of technology as a means of advancing psychological research.

Students spent ten weeks working closely with a WKU faculty mentor on research. They also participated in developmental workshops and activities related to ethics, research methods, statistics, computer software, and presentation skills. At the close of the program, students presented their findings at a mini research conference to university faculty and staff.

Faculty mentors were Dr. Amy Brausch, Dr. Rick Grieve, Dr. Sharon Mutter, Dr. Jenni Redifer, Dr. Amber Schroeder, Dr. Matthew Shake, and Dr. Qin Zhao.

Amy Brausch is Co-Investigator on a new NIMH R15 AREA grant with a colleague from the University of Wisconsin-Eau Claire. The three-year project will study specific features of nonsuicidal self-injury that increase risk for suicide behaviors in young adults over an 18-month period. This project involves both graduate and undergraduate students in Dr. Brausch’s lab who will be screening eligible study participants and then administering a research protocol in the lab for each participant every 6 months. The research protocol includes survey questionnaires as well as computer-based behavioral tasks that measure habituation, implicit identification with self-injury, and implicit aversion to self-injury.

The Children and Families Lab is in need of your help.

We are recruiting families who are expecting or have infants less than four months of age to participate in a study examining social and emotional developing during early infancy. Mothers, fathers, and infants will come to the Children and Families Lab, which is located on WKU’s main campus in Gary Ransdell Hall, three times to participate in a variety of different tasks. Parents will also complete questionnaires about themselves and their infants. Families will be compensated $20 each time they participate, which means they can earn up to $60 for participating in the study.

Please contact the Children and Families Lab by phone at 270-745-4275 or email at childrenandfamilieslab@gmail.com for more information. If you get our voicemail, please leave your contact information so that we can get back with you. We look forward to talking with you further about our study.

If you have a child between the ages of 4.5 and 6.5 months and would still be interested in participating, please contact us as well.
Congratulations to Dr. Melissa Dennison, Ogden College Advisory Board Member, for being honored as a WKU Volunteer of the Year at the 2016 Summit Awards held October 20th during homecoming week.

A 1980 WKU graduate, Dr. Melissa Dennison was instrumental in helping reinstate an advisory council for Ogden College after many years. She understands how important STEM disciplines will be for the future of our region. She also feels that recruiting talented, local students to a quality college of science and engineering like Ogden College will only improve the quality of life in and around Kentucky.

In addition to her service on the Ogden College Advisory Council, Dr. Dennison served on the Board of Regents for WKU from 2009-2016. She has served on the Alumni Association National Board of Directors and is a Lifetime Member of the Alumni Association. She has also hosted numerous WKU events in the Dennison home in Glasgow, KY.

Dr. Dennison is married to Dr. Kenneth Dennison and they have three children, Ben, Barrett and Blair.

Faculty Leadership Year Fellows

Dr. Molly Dunkum is an associate professor in the Department of Mathematics. She has been with WKU since 2003. During her FLY project she will partner with Housing and Residence Life to offer a series of short interactive and interdisciplinary sessions for students. Faculty from Ogden and Potter Colleges will collaborate on interesting topics in an effort to recruit majors and promote Connections courses.

Dr. Matthew Nee, associate professor of Chemistry, comes to FLY with hope of improving access to equipment and other infrastructure for projects across campus. His FLY project will help develop online resources to help connect faculty, students, and staff in the college with the wide range of instrumentation and equipment available in the departments and centers spread across campus.

Dr. Stacy Wilson is director of the WKU Engineering Manufacturing Commercialization Center and a professor in the Electrical Engineering Program. For her FLY project she proposes to assist Ogden departments in the creation of Connections courses by working with the faculty to develop an assessment component of new Connections course proposals.