Dean’s message:
It is great to be starting my second year here! I intentionally tried not to affect too many major changes and instead make preparations for that to start this year. We, nevertheless, had a few good outcomes to report.

We agreed on what the core components of a COSM strategic plan is: our emphasis on high-impact practices and faculty scholarship means that we will now work on developing the program, policies and infrastructures to support them.

There is evidence that COSM is far behind other colleges in terms of resources, e.g., the cost per student credit hour of offering biology courses is less than, e.g., anthropology! Nonetheless, we have added a few faculty and staff positions in the current year, both permanent and one-time. We will continue to grow COSM as needed.

Faculty, staff and students continue to do their outstanding work. In addition to all the new external grants and publications, three faculty in Physics received national awards and one student was selected for a national summer undergraduate research fellowship. Dr. Yvette Garner (Biology) should be commended for starting a new study abroad program in Belize. A special recognition to Ben Jenkins for all he did, again, for us but particularly for an outstanding planning for The Great American Eclipse, during which over 40,000 solar glasses were handed out to the community, including several of the estimated 5,000 people who showed up at the observatory on August 21. Our next big meeting will be to host the annual meeting of the Georgia Academy of Science, to take place March 30-31, 2018 on campus; Dr. Neal Chestnut is the lead organizer.

I would also like to report on a very successful fundraising year as the philanthropy of our private donors led us to receive the largest amount of non-facilities gifts of all the colleges, at slightly over $575,000 for FY17. Much of this will be going into scholarships for our students.

Lok
Introducing

Haley Jackson- Development

Ms. Haley Jackson joined University of West Georgia (UWG) in 2017 as the Director of Development for the College of Science and Mathematics (COSM) and the College of Education (COE). Haley is originally from Troy, Alabama and currently resides in Newnan, Georgia with her husband, Jarred Jackson. She received a Bachelor of Arts from Auburn University, majoring in History. Haley was employed at Auburn University in the Office of Development for four years while pursuing her undergraduate degree. Upon graduation, Haley obtained a full time position in the Office of Annual Giving before transferring to the Office of University Development and Strategic Priorities for the remaining portion of her five-year tenure at Auburn University. Outside of work, Haley enjoys meeting new people and establishing relationships, traveling to new places, especially trying out new restaurants, going to her family’s lake house, and being outside.

Haley is excited to join the development team at UWG and is eager to assist in furthering the efforts within the COSM and COE. She looks forward to bringing experience from Auburn University to ensure the COSM and COE continue to excel in their fundraising efforts while establishing new relationships among alumni and friends.

Ana Stanescu- Computer Science

Ana received her doctorate degree in computer science from Kansas State University (KS), where she studied and published work on machine learning algorithms with applications to natural language processing, recommender systems, but mostly bioinformatics. Her dissertation research focused on algorithms for DNA sequence classification. After graduation, she accepted a postdoctoral position at the Icahn School of Medicine at Mount Sinai (NY), where she worked on developing ensemble methods for building accurate prediction models from complex biomedical datasets. In parallel, she worked on an innovative application of these methods to DREAM challenges (http://www.dreamchallenges.org/). Ana also holds an M.S. degree in computer science from James Madison University (VA), where she studied software development from a security perspective.

“As a new professor, her highest priority is creating an effective and positive learning environment for the students. She is hoping to contribute to the outreach, recruitment, and retention initiatives at UWG and to increase the breadth of talent in Computer Science.”

Robert Burnham- Mathematics

Mr. Robert Burnham joined the Mathematics Department as a Limited Term Instructor. He received his M.S. in Mathematics from the University of Tennessee at Knoxville in 2011, and M.S. in Applied and Computational Math from Florida State University in 2015. Before joining UWG, he was a Software Engineer/Mathematician at Epic Tech LLC and he also worked as a Mathematics Instructor at Morehouse College in 2016.
Malcom Devoe- Mathematics
Mr. Malcom Devoe is a Limited Term Instructor of Mathematics. He received his M.S. in Computational and Applied Mathematics from Georgia State University in 2012. He is currently completing his Ph.D. from Georgia State University in the Fall 2017. He was a Professor of Mathematics at Atlanta Metropolitan State College before joining UWG. He also worked at UWG as a Mathematics Instructor in 2013-14.

Wesley Gay- Mathematics
Mr. Wesley Kyle Gay joined the Mathematics Department as a Limited Term Instructor. He received his M.S. in Mathematics from Jacksonville State University in 2016. Before joining UWG, he was an Adjunct Instructor at Southern Union State Community College.

Nathan Rehfuss- Mathematics
Mr. Nathan Rehfuss is a Limited Term Instructor of Mathematics. He received his M.S. in Mathematics from University of Illinois Urbana-Champaign. He worked as a Graduate Teaching Assistant at UIUC from 2012-14.

Mahdiyeh Soltaninejad- Mathematics
Ms. Mahdiyeh Soltaninejad joined the Mathematics Department as a Limited Term Instructor. She received her M.S. in Applied Mathematics from University of West Georgia in 2016. She was a Graduate Assistant at UWG during her graduate study.
Daniel Brooks- Biology
Hello! My name is Daniel Brooks, and I am excited to be working at UWG as an instructor for the Department of Biology. I have a Bachelor of Science in Biology and a Master of Science in Biology both from the University of West Georgia. I have been working as a part-time instructor/adjunct at multiple institutions until now, so I am happy to #GoWest again as an employee, and I look forward to this new academic year.

Amanda Mashburn- Physics
Ms. Mashburn joined the Physics Department as the newest Lab Coordinator. She graduated from the University of West Georgia with a physics major in 2016 and is originally from Marietta, GA. She has two publications and eight presentations as a result of her research at UWG.

Dr. Tilaye Asfaw- Physics
Dr. Tilaye Asfaw recently joined the Physics Department as a limited-term instructor. He received his Master’s Degree from Addis Ababa University, and his Ph.D. from the Max Planck Institute for Solar System Research, in Katlenburg-Lindau, Germany. He has worked previously at the NASA Goddard Space Flight Center, was a lecturer at Addis Ababa University for two years, and was also a High School Physics Teacher for 9 years in Ethiopia. His research focusses on the magnetic field of the Sun.

Promotion & Tenure
The following faculty were tenured and promoted effective August 2017: Andrew Edelman (Biology), Jessie Hong (Geosciences), Nguyen Hoang (Mathematics), Christopher Jett (Mathematics), and Kyunghee Moon (Mathematics). The following faculty were promoted: David Boatright (Chemistry, to senior lecturer), Megumi Fujita (Chemistry, to full professor), and Christopher Berg (Geosciences, to associate professor). Congratulations to all!
2017 External Grants

Dr. Joe Hendricks, Professor of Biology, (Co-PI) with Dr. Danilo Baylen, Professor of Instructional Technology and School Library Media received a $38,047 Teacher Quality grant through the University of Georgia to host a professional development program for fifteen K-5 teachers from Henry and Meriwether County school systems. In order to bolster the teachers’ knowledge of several key STEM concepts, encourage collaboration between teachers for the development of students’ reading and writing skills across content areas, and demonstrate how to collect data to determine activity impact on student learning.

Dr. Sharmistha Dutt, Chair and Professor of Chemistry, received $40,425 Teacher Quality grant through the University of Georgia to provide a 50-hour, 5-PLU workshop for 24 teachers from Fulton, Coweta and Douglas counties to improve the teachers’ ability to engage elementary students in the nature of science (NOS) processes used in scientific inquiry and problem-solving procedures.

Dr. Gregory Payne, Professor of Biology and Associate Dean of COSM, renewed his research contract with the GA Cotton Commission worth $20,000 which he uses to monitor insecticide susceptibilities in tobacco budworm and bollworm populations in Georgia.

Dr. S Swamy Mruthinti, Professor of Biology began his fourth year as campus coordinator for the Georgia Alabama LSAMP grant. UWG will receive $250,000 providing 16-20 scholarships ($2000 per year) to STEM students for underrepresented minorities.

Dr. Nick Sterling, Assistant Professor of Physics, received $8900.72 from NASA through the Georgia Space Grant Consortium.

Dr. Benjamin de Mayo, Emeritus Professor of Physics, has received a grant from NASA via the Georgia Space Grant Consortium in the amount of $9,969. This grant will fund Dr. de Mayo’s undergraduate research program, which is studying the physical properties of powdered nano-materials, in particular nano diamonds, and NASA’s application of these materials in the space program. This is Dr. de Mayo’s 22nd grant from the Georgia Space Grant Consortium since 1994.

Dr. Shea Rose, Asst. Dean/Assoc. Prof. of Geosciences, received a $49,492 Teacher Quality grant through the University of Georgia to, along with her Co-Pls, Dr. Gail Marshall and Judy Cox, conduct a 50-hour, 5 PLU course for 20 teachers to be held at Gordon State College. The grant is a renewal of a highly successful Energy grant that included 15 middle and high school STEM teachers from five public school systems and one private school within Georgia.

Dr. Andrew Edelman, Associate Professor of Biology, received $31,000 as a participating agreement with the U.S. Forest Service Shoal Creek Ranger District to continue cooperative research on endangered bats and fire ecology. He also has a grant-funded project with the Alabama Department of Conservation and Natural Resources for $25,000 titled, “Assessing distribution and habitat associations of eastern spotted skunks in Alabama.”

Dr. Martin McPhail, Assistant Professor of Biology, received a $55,000 grant from the American Chemical Society Petroleum Research Fund.
COSM Publications 2017


A. Boumenir (Mathematics) and (Mathematics). 2017. Recovery of the heat equation from a single boundary measurement. Applicable Analysis.


Awards

Ann Robinson/Sharon Kirby-Homer L. Dodge Award
AAPT announced that Sharon Kirby and Ann M. Robinson, both instructors in the Department of Physics, received the association's Homer L. Dodge Citation for Distinguished Service to AAPT, during its 2017 Winter Meeting in Atlanta, Georgia.

Kirby earned her B.A. in Chemistry at Western Carolina University, a Masters in Secondary Science Education at the University of West George, and a Specialist Degree in Curriculum and Instruction at Piedmont College. Kirby most recently was an instructor in the Department of Physics at the University of West Georgia.

Kirby has a distinguished record of teaching and learning at the high school level and more recently at the university level with courses for education majors. A Physics Teacher Resource Agent (PTRA) since 2000, she has assisted in leading many PTRA workshops for teachers in the University of Georgia system. She has presented workshops and papers about the PTRA professional development at many state, regional, and national meetings, including national AAPT meetings.

Kirby's colleagues have said, "Sharon has been instrumental in improving the knowledge of physics and the quality of teaching physics for physics teachers in all parts of the country. She has worked with hundreds of teachers in Georgia, and understands the beauty and applications of physics. She works tirelessly and never complains or gets frustrated."

Kirby has served AAPT at the local level as a member of the Southern Atlantic Coast Section. In addition, she has been appointed a member of AAPT's Committee on Physics in Pre-High School Education.

Robinson earned her B.S. in Biology at Appalachian State University, a M.A. in Science Education at Atlanta University, and completed the Education Specialist program at University of West Georgia. She is currently a part-time instructor in the Physics Department at the University of West Georgia.

Robinson has a distinguished record of teaching and learning at the high school level and more recently at the university level with courses for education majors. A Physics Teacher Resource Agent (PTRA) since 1999, she has been an instructor for many PTRA summer workshops for science teachers in several different states, but especially, at the University of West Georgia. She has helped to write proposals to fund PTRA professional development and has presented papers about PTRA professional development at many state, regional, and national meetings, including national AAPT meetings.

Robinson has served the association as a member of the Southern Atlantic Coast Section and as the Vice Chair of the Committee on Physics in Pre-High School Education. She is also a member of the Physics Master Teacher Leader Taskforce. Formed by AAPT and two collaborating organizations (AMTA and PhysTEC), the taskforce is meant to address the growing national need for teacher leadership at the K-12 level.

About the Homer L. Dodge Citation for Distinguished Service to AAPT

Established in 1953 and renamed in recognition of AAPT founder Homer L. Dodge in 2012, 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.
Expanding their Minds: West Georgia Physics Professor Earns Top Honor
by Jessica Jervis-Viville

The universe is constantly expanding, and so are the minds of physics students across the country thanks to educators like the University of West Georgia’s Dr. Bob Powell who has dedicated the past 50 years to ensuring that students are continually learning about the field. A member of the American Association of Physics Teachers (AAPT), he was recently honored by the association for contributing to its mission of enhancing the understanding and appreciation of physical sciences.

“My career here at West Georgia has involved working with physics majors and I have tried to enhance them,” said Professor and Director of UWG Observatory Powell, who recently led a group of students on a research trek to the line of totality during August’s Great American Eclipse. “I’ve recruited new majors. I have tried to train them and equip them to go to positions of employment, as well as go to graduate school to prepare additional master’s and Ph.D. students.”

One of AAPT’s most prestigious honors is its AAPT Fellow, and this year Powell was named one of the recipients. In order to receive a fellowship, one must be an active member and have contributed to its mission. It is a peer nominated distinction.

“It’s a high honor here in the twilight of my career,” explained Powell, who will retire in December 2017. “Being a named a fellow of a national organization is an extremely high honor, and I was delighted to receive it.”

Powell has been able to significantly contribute to the organization and has had a profound impact on his peers. In the 1970s he founded the Southern Atlantic Coast Section of AAPT. He originally served as secretary-treasurer and rose through the ranks throughout the years. He then served as president for two terms. It’s during this time he learned how to improve his teaching style.

“I learned there are new teaching styles that I employ in my classroom. When I was going through physics as an undergraduate, all we had was the lecture method and depending on the class a few demonstrations,” Powell recounted. “Now I teach with demonstrations extensively. I give them a problem and time to individually address it, and then assign a group activity to check the results.”

After decades of work with the organization, Powell continues to believe that physics is an important field of study.

“Physics gives us a basis for things we do in our everyday life,” explained Powell. “Physics improves our everyday life. It was heavily involved in the space program, and from the work it did, we were able to send astronauts to the moon. Physics should be appreciated very highly.”

AAPT has had a huge influence in Powell’s life, and he is optimistic that future generations of physics leaders will join AAPT and continue the work that he has started.

“AAPT is really important for novice teachers, both at the high school and the college levels,” he stated. “It gives them way of learning more about pedagogy and helps them to establish relationships, which could lead to mentorships.”
Presently, Powell serves AAPT as a member of Committee on the Interests of Senior Members, a member of the Investment Advisory Committee and Section Representative of Southern Atlantic Coast.

He hopes to leave an impactful and compelling legacy behind.

“I hope that I’ll be remembered as someone who had a passion for physics and the teaching of physics, and that I contributed organizationally.”

Posted on August 31, 2017

Internal Awards and Honors

2017 COSM awards

A very strong pool of nominations was received for this year’s COSM Excellence awards, representing the select few among ourselves whom we would like to honor each year. The staff award was given to Dusty Otwell, lab coordinator for Chemistry; Dusty was cited for her versatility and leadership in effectively and efficiently coordinating labs and workshop sessions alike. The teaching award was split between Carrie Carmack (Mathematics) and Karen Tefend (Geosciences); they were both selected for going above and beyond in order to improve student success. The research award was awarded to Nick Sterling (Physics), particularly because of his very active research program involving undergraduate students, very productive publication record and invited talk at a major international conference.

Additionally, university-wide awards were received by Dr. Sharmistha Basu-Dutt as the Honors Faculty of the Year, by Jennifer Gordy (Best of the West, Academic Affairs - Value category for spring quarter) and by the Biology department (Best of the West, Academic Affairs - Value category for spring quarter). Congratulations to all!

Student Honored

The America Society of Plant Biologists (ASPB) Summer Undergraduate Research Fellows (SURF) for 2017 included Kenneth Kim, an undergraduate student in biology mentored by Dr. Mautusi Mitra. This program funds promising undergraduate students so they can conduct research in plant biology during the early part of their college careers over the course of 10 consecutive weeks. This year’s SURF recipients will present their research at Plant Biology 2018. Kim’s project is entitled Molecular characterization of two high light sensitive Chlamydomonas reinhardtii mutants, defective in a novel functionally uncharacterized gene.
Events

Biology Department’s first study abroad program to Belize

Biology students recently spent ten days studying the biology and culture of Belize, with a focus on information literacy, in the very first section of BIOL 4985: Field Studies in Tropical Biology: Belize. Dr. Yvette Garner (Biology) and Prof. Naomi Stuesser (Library) led the study abroad course and made a point to get off the beaten path to show students the amazing cultural and biological diversity of the small Central American country. Dr. Garner and Prof. Stuesser teamed up with Monkey Bay Wildlife Sanctuary, UWG’s on-site partner in Belize, whose mission is to preserve natural resources and educate visitors about the local environment.

The focus of the course was to get a first-hand perspective of how watersheds not only connect the mountains to the sea, but also impact the surrounding communities. With that theme in mind, the group took part in many adventurous experiences: an 8-mile canoe trip on the Sibun River, climbing to the top of a Mayan temple, sampling macroinvertebrates in a small stream, hiking through 5 different terrestrial habitat types, snorkeling near mangroves and coral reefs, and getting to know local Belizeans and their backgrounds. Students remarked on their ability to directly experience what they had previously only read about in textbooks and got to put the biology knowledge they have learned at UWG into practice in the field. Due to continual interactions with local scientists, students developed a newfound appreciation for the divisions of biology and the complex ways in which the field gathers and shares research findings. Many students were also inspired to pursue careers in the sciences that they did not know about prior to the course. Plans are underway to offer the course again in summer 2018, and students are encouraged to get in touch with Dr. Garner (ygarner@westga.edu) to receive more information.

Support for the program was provided by the Department of Biology, College of Science and Mathematics, and the Office of Education Abroad.
Students Present at Two National Conferences (August)
by Jessica Murphy

Earlier this year, six College of Science and Mathematics students from the University of West Georgia attended two national conferences for the opportunity of presenting their research. Their research focused on their majors of physics or engineering, and presenting at these conferences meant showcasing their work to undergraduate and graduate students, faculty and staff from around the world.

One student, Travis King, attended the American Association of Physics Teachers (AAPT) Winter Meeting in Atlanta with Dr. Ajith DeSilva, the student’s faculty advisor and associate professor of physics. His presentation, titled “Homemade Diode for Physics and Engineering Labs,” was presented to physics students, teachers and administration from all over the world.

“The AAPT National Meeting gave me a chance to showcase the hard work that Dr. DeSilva, Dr. [Javier] Hasbun and I have put into our diode research,” King said. “This experience gave me the opportunity to learn more about physics education and let me network with fellow students and professionals in the field of physics. I enjoyed presenting the results of our research, and I would do it all over again. My experience at the AAPT conference was exciting, engaging and educational.”

Five students later presented at the National Conference for Undergraduate Research (NCUR) 2017 at the University of Memphis along with DeSilva. Joshua Preston, a high-school student taking college courses under the university’s Move On When Ready program with a pre-engineering major, shared this experience with Wyatt Johnson, a physics minor student. They presented two posters on “TiO2 Nanoparticles Layers for Dye-Sensitized Solar Cells” and “Change in Optical Band Gap on Aatase TiO2 Nanoparticles Layer by Layer Assembly.”

“We have conducted this project over the past two semesters,” Preston said. “My time was intriguing, engaging and unforgettable; I’m proud to have been part of it.”

Johnson also felt as if his time at the conference was informative and beneficial to his field of study.

“The event proved to be a fertile ground for both the birth of new ideas and the dissemination of information,” Johnson said. “Researchers from all branches of academia were able to showcase their work to an enthralled audience of likeminded individuals.”
Two of UWG’s Advanced Academy of Georgia students, Christian Ozburn and Nicholas DiBattista, presented at NCUR as well. Their presentation was on “A study of Photocatalytic Properties of Thin Layers of Rutile and Anatase TiO2 Nanoparticles.” Both Ozburn and DiBattista thoroughly enjoyed their time at the conference.

“NCUR provided me several unique opportunities,” Ozburn said. “I was able to present the research Dr. DeSilva and I developed over the last two years, sharing our findings with the larger community. I was able to see what other undergraduate researchers had accomplished, learning more about the latest developments in multiple fields. I was also able to meet new people from across the country, all of whom are involved in undergraduate research, and thereby develop my professional network.”

Another student, Joshua Harwell, had the opportunity to present his research at NCUR as well. Harwell presented on “Investigation of Optical Properties of CdSe/ZnS Quantum Under High Pressure.”

“Attending the NCUR conference in Memphis was an educational experience as well as an enjoyable one,” Harwell said. “I was able to present an experiment that Dr. DeSilva, Dr. Chesnut and I had put a lot of effort into. I also was able to meet and learn from fellow STEM students from all over the country.”

These six students were all extremely excited for the opportunity to present to others from around the world who share a common interest. The opportunity to attend these conferences was made possible through their hard work, dedication and support from their advisors, professors and from UWG programs.

“One of the strengths we have in our department is the support for high-quality undergraduate research,” DeSilva said. He also acknowledged the financial support from the STEM Education Enhancement Plan and the Student Research Assistant Program at UWG.

“I am fortunate to have the students in my research group,” DeSilva said. “I congratulate them for having presented their work because research is vital for undergraduate students for their understanding of basic theories and laws. In my opinion, in order to stay competitive, every student should participate in undergraduate research.”

Posted August 8, 2017
West Georgia Regional Science and Engineering Fair (February)
The Next Generation of Scientists: UWG Hosts Middle, High School Students at Regional Science Fair by Julie Lineback and Bonnie Butcher

Some of the region’s sharpest young minds recently converged on the University of West Georgia when winners of local middle and high school science fairs showcased their hard work at the West Georgia Regional Science and Engineering Fair (WGRSEF). The event is just one of many examples of UWG’s commitment to STEM (science, technology, engineering and mathematics) education in the region.

“UWG is a leading educator in west Georgia, and of course STEM has become a hot topic recently,” WGRSEF Director Ben Jenkins said. “Everybody is wanting to focus on this because that is where a lot of jobs in the future will be. We want to ensure that the local community knows about these choices and knows that UWG is going to be able to give them that type of education to help train them for the jobs of tomorrow.”

According to the Bureau of Labor Statistics, employment in STEM-related occupations is projected to grow to more than 9 million jobs by 2022. But Jenkins, who also works as associate director of the UWG Observatory and senior lab coordinator for the Department of Physics, said many undergraduates arrive at UWG with a dislike of math and science because the subjects are difficult. Programs like WGRSEF help students understand early on that while science and math aren’t necessarily easy topics, it will help them understand how the world works.

“That is an important process for their worldview,” he observed. “Trying to engage them at a young age with things that are not just stuff in classrooms with someone in the front lecturing them can show them the ways these things are going to be a part of their lives as they move forward.”

Jenkins has been involved with WGRSEF since he was an undergraduate volunteer at UWG. When hired as an employee at the university, he served as co-director alongside Dr. Bob Powell, associate professor of physics and director of the observatory, before taking over in 2015.

“My motivation in working with this fair is just my excitement in seeing the younger scientists who are trying to make sense of the world around them, trying to solve problems and trying to figure out new ways of looking at old news,” Jenkins said. “We also invite judges, who are in many cases subject experts in their field. Being able to bring students together with people who are working in the field, having that communication and starting that bridge, is a good thing.”

Professionals invited to judge the projects included UWG faculty as well as representatives from Carroll County Schools, Southwire, Greenway, OFS Optics, and the Charlie Bates Solar Astronomy Project (CBSAP).

CBSAP Director Stephen Ramsden gave the keynote speech for the event. As the world’s largest solar astronomy outreach program, Ramsden and CBSAP host more than 70 events for more than 60,000 students and adults a year with affiliates in 23 countries.

Ramsden, a retired air traffic controller and U.S. Navy veteran, shared his story of growing up with an attentive mother who showed him math flashcards before he even knew how to read and a teacher who took a chance on him and taught him all about science, physics and chemistry.

“Growing up in southwest Atlanta, it was pretty easy for a teacher to dismiss a Southern boy and tell him to play football,” he shared. “Where I’m from, I was very fortunate to have run into this teacher.”
He told the parents and teachers in the audience that their involvement, no matter how big or small, can make an enormous difference in children’s lives. When addressing the students, he reiterated several times that the future is 100 percent dependent on them, be it colonizing Mars or breaking the faster-than-light barrier for travel.

“Don’t stop learning math and science, because it is the absolute key to your future,” he advised. “The best thing you can do right now is study science and math. Math is the language of science, and it’s the easiest language you’ll ever learn.”

Jenkins said he hoped the students in attendance walk away with a broader view of what UWG and science can offer everyone.

“I want them not only to see that their work is important and unique but also that it has applications beyond even what they are currently thinking of,” he concluded.

While many students presented at the fair, the following is a sampling of some of the projects highlighted at the event.

**Hope Lee, Lithia Springs High School**

“Digging Up the Hidden Truth” - State Winner

Hope’s project focused on PH levels of soil surrounding a gas station. Her hypothesis was if the soil were a basic PH then the gas station was affecting it. She used a PH indicator with the soil to find her results. She found her hypothesis was incorrect because the gas was not affecting the soil at all.

“I learned that a variety of things could affect the soil of the PH and its surrounding area, like vegetation, weathering, erosion and humans.”

**Cordell Palmer, Lithia Springs High School**

“Reco the Robot” - 1st Place

Cordell’s motive was to create an alternative method of home security instead of the basic home security systems that we see today. He created a robot, named Rico, who is a motion-detecting machine. Once Rico detects motion, he starts to pursue it. It uses an ultra sonic sensor component to navigate through its environment safely. It then captures images and recordings and stores it on an SD card. In the future Cordell hopes to add Wi-Fi control and create an app for the robot.

“When I first started building this robot, I barely knew what any of this was,” said Cordell. “Once I could get a solid foundation of what it was doing, it became pretty easy. Circuitry is really not hard, and that is what this project ultimately taught me.”

**Tiffany and Tyler Numa, Lithia Springs High School**

“Engineering (Materials and Bioengineering)” – State Winners

Tiffany and Tyler took on the problem of overheated phones. They recognized this issue often occurs when a phone is charging. Their prediction was that the fabric coconets would lower the temperature of a phone. Using an infrared thermometer, they could accurately measure phone temperature. They found significant decreases in temperature with the fabric pocket. The iPhone had a 10-degree difference and the Galaxy phone had almost a 20-degree difference.

“My favorite part of the process was building the fabric,” said Tiffany. “The material is tear resistant, so we had to figure out how to cut it. We ended up using surgical scissors.”


Posted February 17, 2017
Math Day- (March)
The Mathematics Department held its 46th annual Math Day on March 3rd, 2017, hosting 272 students from 20 area high schools. Students participated in mathematics competitions throughout the day, with teams from Sandy Creek, Luella, and Starr's Mill winning top honors. The top performing senior was offered a $500 scholarship to attend UWG in the fall, funded by long-time Mathematics Instructor Gloria Kittel. Students and teachers were also treated to a presentation by UWG Emeritus Professor Earl Perry, who spoke about his impetus for founding Math Day 45 years ago.

Hackathon (March)
by Amy K. Lavender
On Saturday morning, the halls of the Education Center at the University of West Georgia were all abuzz with student activity; however, this crowd of students wasn’t the building’s usual occupiers. Instead of college students preparing to be the next generation of educators, local teens between the ages of 13 and 17 filled two classrooms preparing to participate in UWG’s first Hackathon. An extension of the university’s uCode program, which encourages young children and teens to learn how to code, the Hackathon was organized by a partnership between the College of Education’s Fusion Center, UWG’s College of Science and Mathematics, and local software company GreenCourt Technologies, LLC.

“We've had computer science outreach activities before with the informal programming club called uCode here at UWG,” explained Kim Huett, assistant professor in UWG's Department of Education Technology and Foundations. “But this year we took a different direction.”

When Huett and Professor of Computer Science Dr. Anja Remshagen put their heads together with Fusion Center Director Lindsey Robinson, they came up with the Hackathon: an event with a focused purpose that guided students through a specific project. This year’s project focused on poverty.

At the beginning of the day, students were given their “assignment,” which challenged them to either create an app that provides resources for people who live in poverty or an app that raises awareness about the challenges people face when living in poverty.

“We tied it to the community and presented them with a problem to make the work more real,” Huett said. “[Executive Director of Literacy for Today and Tomorrow] Laura Miller was nice enough to come here today and talk to the students before they got started to give them some insight into how they can make a difference.”

Remshagen said the goal wasn’t just to have students practice coding but to also gain some real-world insight.

“We want students to see how technology goes into all these different areas,” she said. “Programming is a great skill, but to see how they can use it is important. There were really two main goals: one is for them to see the overall picture of the web development process; the other thing is to show them that they can use technology to affect change.”

Throughout the event, professional and student mentors were on hand to aid the multiple teams in their app developments. President and COO of GreenCourt, Ryan Roenigk, was one of those mentors. He said he was excited to help provide a valuable experience for local teens.

“Coding and technological literacy is just as vital as literacy of the English language,” he said, “and I think that, by and large, the jobs these kids have when they graduate will be knowledge jobs. Jobs that are about adding value to information. To give kids a view of how you can use a couple of clicks and a couple of characters to manipulate information is great. And to have the problem story that Laura talked about is really wonderful.”
Students also gained hands-on experience in teamwork and collaboration throughout the day as most attendees did not know each other when they arrived.

“Walking around, every one of these teams is going through the same things that we do on a daily basis,” Roenigk explained. “These young people are experiencing the conflict and celebration, the puzzles and solutions. Very little about this is actually about technology; it’s really about communication. This is truly workplace oriented education that they are experiencing today.”

Participants admitted they were definitely learning a lot from the event, both about coding and their community.

“I learned about how much this affects the community,” said sophomore Genesis Jimenez. “I mean, common sense tells you that there is poverty out there, but I didn’t realize how many people we had just in our community who are affected. It honestly changed my perspective.”

Sophomore Jordan Carr said he was excited to learn more about coding and to take action to benefit his community. His team spent the day working on an app that would help people in the community find places to donate food or clothes and help those in need find a shelter.

“I started coding two years ago, but I wanted to expand my horizons and work toward something that could do some good rather than just tinkering,” he said. “I’ve learned a lot today, especially about block coding, which I didn’t know much about before today.”

The day wrapped up with app presentations from each team and awards for computing excellence, best design, highest impact and best pitch.

“It was so inspiring to see the talent of our youth and the passion they have for making Carroll County’s community a better place,” Robinson said. “The Hackathon competition did a remarkable job at drawing in bright middle- and high-school students to engage in teamwork and creativity while focusing on their coding skills. Thanks to the expertise from both colleges and our community partners, the Hackathon event was a huge success!”

Source: https://www.westga.edu/news/academics-coe/hackathon.php

Posted on March 24, 2017

Eclipse- (August)

The solar eclipse on August 21, 2017, presented the Department of Physics an opportunity to do community service and outreach.

With funding from a grant (Sterling, Jenkins, Powell), the Department of Physics, and College of Science and Mathematics, 40,000 pairs of eclipse shades were distributed to students in the Carroll County and Carrollton Schools the West Georgia community, and beyond.

Ben Jenkins, Physics Senior Lab Coordinator and Associate Directory of the Observatory estimates that over 5,000 people came to the Observatory during the eclipse to look through telescopes equipped with safe solar filters or to collect a pair of eclipse shades; 3,200 pairs of shades were distributed during the eclipse.

Bob Powell, Professor of Physics and Director of the Observatory, designed a PowerPoint presentation, “Darkness in the Afternoon, the August 21 solar Eclipse, which he has delivered at 27 locations, primarily during the period August 3 - 20, 2017. The locations included six civic clubs, four community groups, two church groups, and 15 schools. The attendance at the presentations was over 2,400.

Ben Jenkins also made several presentations.

Bob Powell and Ben Team led an expedition of 20 people to the path of totality near Lexington, SC to a site selected on May 30, 2017. They performed a number of experiments, which we are currently evaluating. The group included a reporter from the Times-Georgian and two WUTV student reporters.
The University of West Georgia will host the 31st Midwest Conference on Combinatorics and Combinatorial Computing (MCCCC), October 20-October 22, 2017.

The MCCCC originated as the Carbondale Combinatorics Conferences, held 1986-1990 at the Southern Illinois University, Carbondale. It has since evolved into a prestigious national conference, and regularly attracts researchers with backgrounds in mathematics and theoretical computer science from different institutions. At the MCCCC, participants will share ideas and present research at the cutting edge of these areas. These conferences started small and have grown slowly over the years. We expect 50 to 70 participants in Fall 2017.

The conference organizing committee consists of Xiafeng Gu, Jeong-Hyun Kang, Abdollah Khodkar, David Leach and Rui Xu. Several other members of Mathematics Department will also help, along with the Department’s two staff members.