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WESTERN MICHIGAN UNIVERSITY
College of Engineering
and Applied Sciences

E-News



CEAS Calendar

September 3	CEAS Passport Day at Parkview Campus
September 8	Fall 2015 Classes Begin
September 13	STEP Kick-Off BBQ at Valley Pond
September 30	Custer Office Lecture Series Presents Dan Miller

Fall Welcome 2015

CEAS Gears Up For Passport Day

The WMU- STEP Program (STEM Talent Expansion Program) is preparing to welcome over 400 new incoming students in September.

The STEP Program will host "Passport Day" as part of the CEAS Fall Welcome activities in which all incoming freshmen and transfer students are invited to come to the Parkview campus to visit open labs, participate in brief presentations, and meet their new classmates along with faculty and staff. Students receive a "passport" upon arrival and collect a stamp for each activity they attend. Prizes are awarded to students with the most stamps.

The STEP Program has hosted Passport Day since fall 2011 to get students into the right frame of mind to start college. Passport Day allows students to engage in hands-on activities, network with college staff, faculty, and administrators, and learn the opportunities CEAS has to offer. Having labs and offices open also allows students to find their classrooms before school starts on September 8th.

Dr. Edmund Tsang, the Associate Dean of Undergraduate Programs and Assessment and the Principal Investigator of the STEP Program said, "The introduction of Passport Day adds an academic component to the 'rah-rah' of Fall Welcome. Doing hands-on activities like the spaghetti bridge design, printing, and flight simulation expose students to opportunities available to them." Tsang also said CEAS has participated in Fall

(Cont'd)



CEAS Will Host 400+ Students

The WMU-STEP Program (STEM Talent Expansion Program) is preparing to welcome over 400 new incoming freshmen on September 3rd from 1-4 p.m.

Left: Student helpers hold signs for the incoming CEAS Fall Welcome groups during the 2014 Passport Day.



(cont'd) 2015 Passport Day

Welcome since 2008, when WMU started the program.

It takes many CEAS faculty and staff volunteers to make the day a success. Pearl Devries, administrative assistant for the Advising office, said her favorite part about the day is interacting with the students and making it fun. Students who visit the Advising Office this year will not only receive a stamp, but will also be treated to homemade baked goods courtesy of Pearl. "I'll have to bake all week! But it's worth it to make the day special for our incoming students," Pearl said.

Faculty and staff enjoy participating in the day's events not only to welcome students, but also to help them experience the family atmosphere at the Parkview Campus. Kay Mortellaro, Budget Analyst for the Office of the Dean, says that Passport Day is one of her favorite days of the year. "I like the excitement of the day and watching the students have a good time experiencing what CEAS has to offer. I think it's a great way to kick off the

"Doing hands-on activities like the spaghetti bridge design, printing, and flight simulation expose students to opportunities available to them."

new semester," Kay said.

Passport events for this year include the Neurobiology Engineering Lab in which students will learn how neurons communicate using electrical signals. Other activities include tours of the paper pilot plant, the transportation research lab, the noise and vibration lab, and the printed electronics lab among many other activities.

New events for this year include a presentation from the CubeSat club, where students can meet the faculty mentor,

Dr. Kristina Lemmer, and the student team members. They can also sign up to join the group, which will be the first on campus to design and launch a satellite into space. Also new this year, the Electrical and Computer Engineering department (ECE) will be hosting demonstrations of student Raspberry Pi projects including game design, robotics, and everything in-between.

Students will have the opportunity to collect over 40 stamps from CEAS events, presentations, and meeting staff members over a 3-hour period. The 2015 CEAS-STEP Passport Day event will be held on Thursday, September 3rd from 1-4.

Based on data from previous Passport Day participants, students who attend this activity have a statistically significant higher GPA than students who choose not to attend.

STEP Kick-Off BBQ

On Sunday, September 13th the STEP program will host their Kick-Off BBQ as another way to welcome incoming freshmen. All incoming students are invited to the Valley Pond area on the main WMU campus to break bread with faculty, staff, and various CEAS registered student organizations.

Each year on the first Sunday after the new semester starts, the STEP staff members and faculty grill hamburgers, hot dogs, and brats to welcome the new students and to give them the opportunity to personally talk to faculty and staff in a relaxed atmosphere.

Dr. Paul Engelmann, the Assistant Dean of Advising and Retention and a veteran griller for this event, provides hand-made bratwurst, which have always been a hit with the students. "I love the excitement that our incoming students have and I enjoy getting



Left: Dr. Engelmann works the grill during the 2014 BBQ. **Right:** Members of the RSO, National Society of Black Engineers, at the 2014 STEP BBQ.

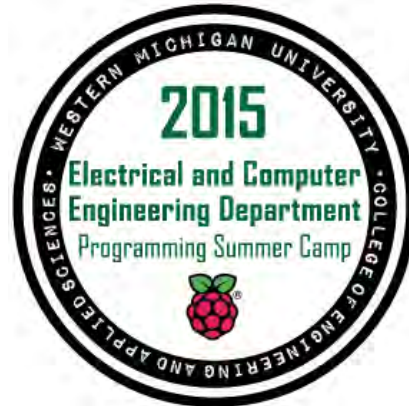


students to try very good food that most have never had the opportunity to eat before, because the brats are special ordered just for this event," said Dr. Engelmann. Vegetarian options will be available this year from the grill as well.

Many of the CEAS registered students organizations (RSOs) like Sunseeker, the Baja team, and the Society of Women Engineers will be onsite during the event to meet and talk with students about what their organizations have to offer. Students interested in joining an RSO will have a great opportunity during the BBQ.

August 2015

Kids learn to program at ECE Raspberry Pi camp



The Electrical and Computer Engineering Department (ECE) hosted two Raspberry Pi camps for 5th and 6th graders in July. Two sessions of 15 campers each were held during two separate weeks of half-days, Monday through Friday.

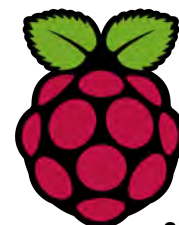
Campers came to WMU-CEAS to learn to program using the Raspberry Pi graphical “drag and drop” programming language called Scratch.

In addition to learning programming concepts, the campers developed games and learned to control input/output devices such as ultrasonic sensors, switches, digital cameras, and light emitting diodes (LED).

Bob Makin a technical staff member and doctoral student, Brian Durant an MSEE student, and two undergraduate students, Alan Irwin and Steve Mohny helped to host this year’s camp. The camp was something Steve Durbin, chair of the ECE Department, wanted to do as part of outreach activities. “Bob and I hatched the specific idea of using Scratch on a Raspberry Pi platform together, as something that might appeal to middle school boys and girls,” he said.

“The idea of programming something that is close in size to an iPod really appealed to me.”

Thomas Engelmann, a 9th grader from Plainwell, Michigan, participated in this year’s camp. He was initially interested in the camp because of the size of the Raspberry Pi computers. “The idea of programming something that is close in size to an iPod really appealed to me,” he said. Thomas felt that the instructors were very nice and did a great job catering to all levels of knowledge among the campers. “It was a really good learning experience and I thought it started out at the perfect pace but was still challenging toward the end,” Thomas added.



Raspberry Pi is a single-board computer used to teach students the basics of computer science and programming.

Visit adafruit.com to learn more information.



Dr. Kristina Lemmer

Dr. Lemmer Receives NSF Award

August 2015

Award will be used to collect microorganisms at low and high altitude as part of ecology study

Dr. Kristian Lemmer, assistant professor of Mechanical and Aerospace Engineering, along with Dr. Kathryn Docherty, assistant professor of Biological Sciences, have won a National Science Foundation Grant to study microorganisms at low and high altitude.

The project will include both students and other faculty members including Dr. Rebecca

Hale, an expert is GIS and remote sensing data from Idaho State University. Graduate masters and undergraduate students in both aerospace engineering and biology will be involved in the project.

The team hopes to identify the microbial communities that are present in the atmosphere as a function of location and altitude.

Dr. Lemmer will be tasked with building, designing, and launching both tethered and free floating balloons with vacuum pumps that will collect air samples and filter it to collect the microbial communities.

Dr. Docherty, Dr. Lemmer, and the students will have tethered balloons at four locations, each with an urban site and a National Ecological Observatory

Network (NEON) site. The paired sites are Boston and Harvard Forrest, Minneapolis and the University of Notre Dame Environmental Research Center (UNDERC), Boulder, CO and the Central Plains Experimental Range (CPER), and Tucson, AZ and the Santa Rita Experimental Range (SRER).

The tethered balloons will have payloads at three altitudes (2, 50, and 150 meters above the ground).

The free-floating balloons will only be released from three NEON sites: UNDERC, CPER, and SRER. No free-floating balloons will be launched from the Massachusetts site as the chances of losing a balloon are higher due to the proximity of the ocean.



Dr. Rebecca Hale



Dr. Kathryn Docherty

Connect with CEAS



Fred Sitkins Set to “Retire” in August

Fred Sitkins, a professor in the department of Engineering Design, Manufacturing and Management Systems, will retire on August 31st. Fred has worked for the university for 36 years.



Fred had already worked for 20 years in industry before he started his career at WMU-CEAS on a 2-year appointment. “This is the longest 2-years I’ve ever worked,” Fred joked.

Fred has worked as a master faculty specialist for the College of Engineering and Applied Sciences. He served as the Co-op Director as well as a STEP faculty mentor, and an advisor for the Sunseeker team. He is a former chairman of the Mike Gary Athletic Fund and a former “W” Club Man of the Year honoree for his role in raising significant donations for the athletic program. Fred is also a Bronco Battalion Alumni (ROTC, 1959).

Fred has been instrumental in building industry relationships throughout his years at CEAS, which have led to internships for our students.

Although he is officially retiring at the end of August, Fred will continue to teach a fabrication class at CEAS as a part-time instructor this fall. He has big plans for changing up the class, including holding the labs at different industry locations.

Fred is a Western Michigan University and Kalamazoo legend, in fact, as a student at WMU, “Fast Freddy” Sitkins was one of the first DJs at WIDR-FM (WMU’s student run radio station).



Top: “Fast Freddy” Sitkins and Tom Swartz at a STEP BBQ. **Bottom:** Professor Sitkins introduces the legend of “Spanky” to incoming students.

FACULTY SPOTLIGHT

ECE Welcomes Dr. Pablo Gomez as New Associate Professor

Dr. Pablo Gomez started as an Associate Professor at CEAS in January 2015. He taught Modeling of Power Equipment during the Spring 2015 semester and he will be teaching Senior Design I this fall. He is also supervising thesis projects for two master’s students and 2 PhD students who are working on projects related to power transformers, electrical distribution networks, and lightning studies.

Dr. Gomez is from Monclova, a small town in northern Mexico. He received a bachelor’s degree in Mechanical and Electrical Engineering from Universidad Autonoma de Coahuila in 1999. From 2000 to 2005 he worked on his master’s and PhD in Electrical Engineering in Guadalajara, Mexico at the Center for Research and Advanced Studies (CINVESTAV). The center is dedicated to graduate programs and research with different campuses in Mexico. From 2005 to 2014 he served as a full-time professor at the graduate level in Electrical Engineering from the second largest university in Mexico, Instituto Politecnico Nacional, in Mexico City.

From 2008 to 2010 he worked as a postdoctoral



Dr. Pablo Gomez

“The most enjoyable part of teaching is getting the students engaged and in doing so seeing them improve and eager to learn more.”

researcher at New York University Polytechnic School of Engineering in Brooklyn, New York. There he worked with Francisco de Leon, one of the world’s leading researchers in transformer design, which is one of Gomez’s current areas of research.

Dr. Gomez is looking forward to many things in the next academic year including teaching Senior Design I, his first undergraduate course. “I am very excited and expecting great things from this course,” he said.

He is also looking forward to welcoming several Mexican students to WMU to supervise their research. One student will

(Cont’d)

#ILookLikeAnEngineer

Recently the hashtag [#ILookLikeAnEngineer](#) spread on Twitter and Instagram like wildfire as practicing female engineers shared photos of themselves along with the hashtag.

The phenomenon was started by Isis Wenger, a 22-year old platform engineer from the firm OneLogic, who received backlash after posing for a recruitment ad. Soon, female engineers from all over the world began posting photos of themselves, creating the social media storm.

The campaign highlights how many amazing women are working in the engineering field and is an inspiring sentiment for future generations of engineers.

Read more about the phenomenon from the [Society of Women Engineers](#) and [Today](#).



(cont'd) Dr. Pablo Gomez

be starting his PhD program and three others are master's students who will be staying for one semester as visiting scholars. "I'm hoping that they are the first group of many students coming to WMU under this type of program," he added.

Dr. Gomez has been active in teaching for more than nine years. "The most enjoyable part of teaching is getting the students engaged and in doing so seeing them improve and eager to learn more," Gomez explained. It wasn't an easy task when working in Mexico with students from many different backgrounds. "I hope I can use this previous experience for the benefit of WMU students," he said.

Dr. Gomez is a welcome addition to the WMU-CEAS faculty and he is grateful to be working at WMU. "I hope that I can contribute my knowledge and experience to the students' education and the development of relevant and useful research projects," he added.

Engineering Career Expo set for October 14



This year's Engineering Career Expo will be held at the Parkview Campus on October 14 from 10 a.m. to 3 p.m. Employers who would like to attend can register online at the [Career Services](#) site.



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