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MENU

Oakland University

**School of Engineering
and Computer Science**



The official newsletter serving students, alumni, faculty, staff and friends of the School of Engineering and Computer Science at Oakland University.

**May 2014
Volume 3 - Issue 2**

Winter 2014 Senior Design competition was a success

As winter semester 2014 came to a close, seniors in the School of Engineering and Computer Science finished the year, and their undergraduate careers, showcasing their engineering skills.

On Thurs., April 17, the Senior Design Showcase was held in the Oakland Center.

As the assignment varies each semester, students had just a few months to collaborate with each other to create a working project. This time around, teams composed of students from each engineering discipline were asked to create a device that could not only sort Skittles by color, but also count them as it did so. Points were given based on the time taken to sort, as well as the accuracy of the sorting and counting. Finally, these factors were considered against the amount of money teams used to put together their machines.

"Skittles are not very conducive to being moved through machinery," Associate Professor of Mechanical Engineering Mike Latcha, Ph.D., explained. "We were aware in designing this project that it was an extraordinarily difficult task."

Of the teams that competed, three teams had what are considered successful runs, and were able to get some of the candy sorted and counted. While there was no clear-cut winner in the competition, Latcha says that the real winners were those who came into the competition with a good attitude and an enthusiasm for the learning process.

For many students, this was the first time they are building something, and not just theorizing about its effectiveness. Working in teams also helps to create a real world experience for the students, who can benefit in a number of ways from going outside of their comfort zones.

In the end, Latcha says, the process to get to the competition was far more important than being the top competitor. "It comes down to taking on projects that look impossible," he said. "The end result is that students got to learn an awful lot."



Senior Design is the culmination of a student's education at Oakland University's School of Engineering and Computer Science.

OU School of Engineering and Computer Science recipient of \$50,000 gift

Oakland University's **School of Engineering and Computer Science** (<http://www.oakland.edu/secs>) has received \$50,000 gift from **ABB Robotics** (<http://new.abb.com/products/robotics>), a leading supplier of industrial robots headquartered in Auburn Hills.

The gift was made to **Dr. Betty J. Youngblood** (<http://www.oakland.edu/?id=4056&sid=167>), interim president, **Dr. James P. Lentini**, (<http://www.oakland.edu/provost>) senior vice president for academic affairs and provost, and **Dr. Louay M. Chamra** (<http://www.oakland.edu/Default.aspx?id=28765&sid=527&CWFriendlyUrl=true>), dean of the School of Engineering and Computer Science by Michael Mahft, vice president and general manager of ABB Robotics, North America and an OU alumnus (MA '97, SECS '95).

**NOTICE ABOUT PARKING LOT 36 CLOSURE, ENTRANCE TO DODGE HALL**

Facilities Management has closed the access sidewalk and main doors to Dodge Hall of Engineering (I from now until early July to complete the underground construction connections for the new Engineering All access from Lot 36 to DHE will be closed off. In order to access DHE, please use Lot 38 and enter the Science and Engineering Building (SEB). The south portion of Parking Lot 1 or Parking Lot 43 (adjacent to the police department) are also accessible; visitors will have to walk through Hannah Hall to get to DHE. To accommodate all disabled students, staff and faculty, additional handicapped parking spaces have been added in Parking Lot 38, Lot 43 and the southern portion of Lot 1. To learn more, please see the attached (<https://www.oakland.edu/upload/docs/SECS/Newsletter/Sidewalk%20closure%20map.pdf>).

ENGINEERING IN THE NEWS

Seaholm H.S. students explore simulation software with OU's ISE professor (<http://www.oakland.edu/News/Default.aspx?sid=527&nid=11238&showBack=true&PageIndex=0>)

OU using renewable fuels to heat campus (<http://www.tv20detroit.com/news/Oakland-U-Using-Renewable-Fuels-to-Heat-Campus-255421001.html>)

OU: Masters in Engineering Management Interview (<http://www.engineering/Education/EducationArticles/ArticleID/7366/Oakland-University-Masters-in-Engineering-Management-Interview.aspx>)

Student and doctor who saved him after crash reconnect to form deep friendship (<http://www.detroitnews.com/article/20140319/LIFESTYLE/303190029/Student-who-saved-him-after-crash-reconnect-form-deep-friendship>)

OU offers new robotics program (<http://www.dbusiness.com/daily-news/An-2014/Oakland-University-and-U-M-Dearborn-to-Offer-New-Robotics-Program>)

Automation Alley opens Product Lifecycle Management Center at Oakland University (<http://www.oakland.edu/News/Default.aspx?sid=527&nid=11016&showBack=true&PageIndex=1>)

OU builds a hybrid battery fuel cell golf cart (http://www.heliocentris.com/fileadmin/user_upload/02_Technical_Education/Nexa_Integration_System/H_Case-Study_Oakland-University_1405.pdf?utm_source=HC+NL+ETR+--+the+times+there+are+ch&utm_campaign=ETR+NL+Mai+%231&utm_medium=email)

OUTREACH EVENTS

Register now for an upcoming camp or event.

K-12 STEM Camps (<http://www.oakland.edu/secs/outreach>)

One-week camps for upper elementary, middle school, and high schools for students who do or might have an interest in Science, Technology, Engineering and/or Mathematics (STEM). The students will be taken through a series of hands-on, science-centered experiences where they will learn a little bit about what each of the engineering fields do, build and test equipment and conduct experiments in the various disciplines that include all of STEM. Topics include:

(https://ebill.oakland.edu/C21178_ustores/web/store_cat.jsp?STOREID=528&CATID=211&SINGLESTORE=true) **Engineering Exploration** (https://ebill.oakland.edu/C21178_ustores/web/store_cat.jsp?STOREID=528&CATID=211&SINGLESTORE=true)

One-week introduction camps for elementary, middle school, and high schools for students who do or might have an interest in STEM.

Computer Science Exploration Week (https://ebill.oakland.edu/C21178_ustores/web/store_cat.jsp?STOREID=52&CATID=211&SINGLESTORE=true)
One-week camps for 3rd - 12th grade students who have an interest in Computer Science.

Conventional and Alternative Energy (https://ebill.oakland.edu/C21178_ustores/web/store_cat.jsp?STOREID=52&CATID=211&SINGLESTORE=true)
One-week camps for 3rd - 12th grade students who have an interest in Conventional and Alternative Energy.

Industrial Engineering and Robotics (https://ebill.oakland.edu/C21178_ustores/web/store_cat.jsp?STOREID=52&CATID=211&SINGLESTORE=true)
One-week camps for 3rd - 12th grade students who have an interest in Industrial Engineering and Robotics.

Electrical and Computer Engineering (https://ebill.oakland.edu/C21178_ustores/web/store_cat.jsp?STOREID=52&CATID=211&SINGLESTORE=true)
One-week camps for 3rd - 12th grade students who have an interest in Electrical and Computer Engineering.

To learn more about outreach events and opportunities through the School of Engineering and Computer Science visit [oakland.edu/secs/outreach](http://www.oakland.edu/secs/outreach) (<http://www.oakland.edu/secs/outreach>).

(http://www.oakland.edu/view_news.aspx?sid=34&nid=10342)

UPCOMING EVENTS

University Closed - Memorial Day Holiday
May 26

The 22nd Annual Intelligent Ground Vehicle Competition (<http://www.oakland.edu/igvc>)
June 6-9

Summer recess - S03 session only
June 21-28

Final Exams - S01 session
June 23-25

University Closed - Independence Day
July 4

The gift will support of the development of a four-year industrial robotics and automation program and be applied to curriculum development and related student programs. In addition, ABB will provide internship opportunities for several Oakland University students each year in programs designed to produce valuable, work-ready graduates.

"There have been strong advances in manufacturing, both in southeast Michigan and across the United States, and industrial robotics has been at the heart of much of that development," said Dean Chamra. "By focusing on applied research and cooperating with those in the industry, OU's goal is to become the premier research center in this area. We want to put quality engineers in jobs and help industry solve their problems and challenges."

Currently, three members of ABB Robotics' executive team in Auburn Hills are OU alumni, ABB's Michael Mahfet added. "We might be a little biased, but we know OU is a highly regarded school in the engineering community. We're pleased to be able to play a part in advising the SECS on their new robotics curriculum. Ultimately, it's good for OU and it's good for companies like ours. The automation industry is changing so fast that it's important to have your finger on the pulse of what customers want."



From left, Dean Louay M. Chamra, Dr. James P. Lentini and Dr. Betty J. Youngblood from Oakland University with Michael Mahfet of ABB Robotics, North America.

Congratulations to Cyber OU



The School of Engineering and Computer Science's Cyber Security Club of Oakland University (CyberOU) was the recipient of numerous accolades at OU's Center for Student Activities and Office of Alumni Engagement's 2014 Student Activities and Leadership Awards Night. CyberOU won "Outstanding New Student Organization of the Year," "SAFB's Best New Student Organization," and "Outstanding Educational Program for Oakland University's Cyber Summit." SECS student Trpko Blazevski also won the "Alfred G. Wilson Award," the "School of Engineering and Computer Science Professional Development Award," the "Promising Future Alumni Award," and "Outstanding Officer of a Student Organization for CyberOU." Pictured above, from left to right, are Trpko Blazevski, Richard Fischer and Flavius Popan.

Congratulations to our graduates!

Detailed information about all upcoming events can be found at [oakland.edu/se/calendar](http://www.oakland.edu/se/calendar) (<http://www.oakland.edu/se/calendar>).

CONTACT US

Office of the Dean (<http://www.oakland.edu?id=20078&sid=304>)

248 DHE
Phone: (248) 370-2217
Fax: (248) 370-4261

Computer Science and Engineering
(<http://www.oakland.edu/se/cs/cse>)168 DHE
Phone: (248) 370-2200
Fax: 248-370-4625

Electrical and Computer Engineering
(<http://www.oakland.edu/ece/>)102A SEB
Phone: (248) 370-2177
Fax: (248) 370-4633

Industrial and Systems Engineering
(<http://www.oakland.edu/se/cs/ise>)653 SEB
Phone: (248) 370-2989
Fax: (248) 370-2699

Mechanical Engineering
(<http://www.oakland.edu/se/cs/me>)170 DHE
Phone: (248) 370-2210
Fax: (248) 370-4416

Academic Advising
(<mailto:secsadvising@oakland.edu>)159 DHE
Phone: (248) 370-2201
Fax: (248) 370-2084

The School of Engineering and Computer Science is always interested in hearing from our alumni. E-mail us a few lines about your latest job, accomplishments, or relocation to prawdzik@oakland.edu (<mailto:prawdzik@oakland.edu>).



Congratulations to all of the 2014 graduates of Oakland University's School of Engineering and Computer Science. Click the photo above to view additional photos taken at commencement.

Dinsmoor shares Computer Science with high school students



Laura Dinsmoor, Computer Science and Engineering Special Instructor, recently spoke to 8th to 12th grade students in computer science classes at Stoney Creek High School. The group also included students from Rochester Adams and Rochester High School, via distance learning labs.

Dinsmoor's discussion included the difference between computer science, information technology and computer science jobs and degrees. She explained necessary skills students should have for a career in these fields. She also talked about why they should consider careers in these fields, including the variety of fields available, the high number of job opportunities and the salaries they can expect to earn.

"Too often I've heard from high school students that computer science related jobs are either boring, only for nerds, or something they couldn't try because they don't know how to program," Dinsmoor said. "Another common perception I've heard from students and parents is there are no jobs available because all software is being shipped overseas. I hope, by visiting the schools and speaking with the students directly, I can clear up these misconceptions. After spending nearly 20 years in industry, I can talk to the students about my work experience. Being an alumni of Oakland University's School of Engineering, and now teaching here since 2000, I also hope to share my passion for OU with the students."

Engineering Center continues to take shape



The School of Engineering and Computer Science's new Engineering Center continues to come along nicely.

Engineering and Computer Science Brag Corner

News and notes from around the School of Engineering and Computer Science.

Computer Science and Engineering

- **Dr. Dae-Kyoo Kim** published an ebook titled "*Writing Scientific Papers in English*" (ISBN: 9780615965178) at Amazon and Apple iBooks Store.
- **Drs. Kim and Lunjin Lu** and Kim's former Ph.D. student, **Sangsig Kim**, published an article "*Building Hybrid Access Control by Configuring RBAC and MAC Features*" in the Journal of Information and Software Technology (SCIE , IF: 1.52). The journal is ranked 3rd in software engineering by ISI Thomson Reuter's Journal Citation Reports.
- **Dr. Kim** has an article "*Process Correlation Analysis Model for Process Improvement Identification*" accepted for publication in the Scientific World Journal (SCIE, IF: 1.73).
- **Dr. Kim** has a paper "*Recommending Process Improvement Packages using Direct and Indirect Relationships of Activities*" at Workshop on Recommendation Systems for Software Engineering (RSSE), 2014.
- **Dr. Mike Wu** was invited to serve as the Guest Editor for the International Journal of Business Process Integration and Management (JBPIIM), 2014.
- **Dr. Wu** was invited to serve as the review board committee for the Kentucky SBIR-STTR Matching Funds and he has traveled to Lexington, Kentucky to review the research proposals for Kentucky State on March 11, 2014.
- **Dr. Wu** was invited to serve as the Panel Track Chair and Conference Section Chair for the 3rd IEEE International Congress on BigData (BigData 2014) Satellite Section Taipei Section June 2014.
- **Dr. Wu** and his doctoral student **Yen-ting Lee** had a paper, "*A Quality-based Semantic Service Broker Using Reachability Indexes*" accepted for publication and presentation in the IEEE World Forum on Internet of Things WF-IoT 2014 in Seoul Korea, March 6-8, 2014.
- **Dr. Wu** and his doctoral student **Tawfiq Khalil** had a paper, "*Link Patterns in the World Wide Web*" accepted for publication in the International Journal of Information Technology and Management Information System (IJITMIS), December 2013. (Journal Impact Factor: 5.2372 2013 calculated by Global Institute for Scientific Information (GISI)). **Dr. Wu** and **Khalil** also had a paper, "*XaaS: A Novel Approach to Reify 'CommUnity Linked' and Enable Data Self-governance*" accepted for publication and presentation in the IEEE Fourth International Conference on Innovative Computing (INTECH) London UK, August 2014.
- **Dr. Wu** and his doctoral student **Rafat Hammad** had a paper, "*Provenance as a Service: A Data-Centric Approach for Real-Time Monitoring*" accepted for publication and presentation in the 3rd IEEE International Congress on BigData (BigData 2014), Anchorage, Alaska June 2014.
- Special Instructor **Laura Dinsmoor** spoke to over 1,700 students at the Robotics, Engineering & Technology Days held at Macomb Community College. The two-day event was geared for 6th through 12th grade students to introduce them to potential careers in STEM. (December, 2013)
- **Dinsmoor** is a co-organizer, along with **Amy Rutledge**, from the School of Business, in presenting the first ever TEDx conference at Oakland University on March 15, 2014. Dinsmoor, Rutledge, and a team of committee chairs have been organizing this event for a year. The tickets were immediately "sold out", (the event is free), but due to the generosity of SECS, it will be available live stream on the day of the event, and in additional, all talks will be available online sometime after the event. Visit [tedxoaklanduniversity.com](http://www.tedxoaklanduniversity.com) (<http://www.tedxoaklanduniversity.com>) for more information.
- **Dinsmoor** volunteered at the Society of Women Engineers event, Girls Exploring Engineering Day, held at Wayne State University. The goal of the event is to provide 4th through 6th Grade girls within the Detroit public school system the opportunity to experience a day filled with activities based on the fields of math, science, engineering and technology. (March, 2014)
- **Dinsmoor** was a co-organizer of the Michigan Award Event for the NCWIT Aspirations in Computing competition, along with CS faculty from MSU and MTU. This event recognized the Michigan winners for this national contest. The purpose of the competition is to honor high-school level girls for their computing-related achievements and interests. (March, 2014)

Electrical and Computer Engineering

- **Dr. Subra Ganesan** organized ASEE NCS conference on April 4-5 at Oakland University. There were nearly 150 papers and 30 student posters presentations.
- **Dr. Ganesan** was the organizer and session chair for the session "Automotive electronics Systems Engineering"

at the SAE world Congress, April 8-10, 2014.

- **Micho Radovnikovich** and **Dr. Ka C Cheok** published a conference paper titled, "*Simultaneous Multi-Vehicle Control Obstacle Avoidance using Supervised Optimal Planning*," at the 2014 IEEE International Conference on Technologies for Practical Robot Applications, April 14-15, 2014, Woburn, Massachusetts.
- **Dr. Hoda Abdel-Aty-Zohdy** was organizer of the 2014 IEEE Southeast Michigan Spring Conference hosted by Oakland University on April 24, 2014.

Industrial and Systems Engineering

- **Dr. Michael Polis** was honored at Oakland University's annual Founders' Day luncheon. At the luncheon, OU formally recognized faculty members whose teaching and research excellence, creative achievements and community service have contributed to the betterment of society. Dr. Polis was recognized as a distinguished member of the Institute of Electrical and Electronics Engineers with exemplary enthusiasm for the ISE department and the field of engineering.
- **Dr. Megan Conrad** and her students are working with the Advanced Manufacturing Engineering group at Chrysler on project to develop a Universal Ergonomic Assessment Interface. This software interface will integrate all ergonomic tools used for job assessments and will provide a single web-based interface helping to guide an ergonomist to appropriate assessment tools.
- ISE students and faculty presented two papers describing ISE department activities in Product Lifecycle Management (PLM) at the ASEE NCS Conference at Oakland University on April 4 - 5. ISE student **John Katona** and **Dr. Megan Conrad** presented a paper titled "*Early Introduction to Computer Simulation Enhances Student Learning in Engineering*" while ISE student **Atul Khiste**, Adjunct Professor **Pat Hillberg** and Professor and Chair **Robert Van Til** presented "*Developing an IT Infrastructure for Educational Institution Teaching Product Lifecycle Management*."
- **Meredith Deneweth**, **Taylor Humm**, **David Leduc** and **Anthony Sciuto**, members of our Institute of Industrial Engineers (IIE) Student Chapter, represented the ISE Dept. at the IIE Great Lakes Regional Conference at Western Michigan University on February 21 - 23. Taylor presented her paper titled "Improving the Work Responsibilities of the Social Work Department at Crittenton Hospital Medical Center."
- Congratulations to ISE undergraduate **Taylor Humm**. As a member OU's volleyball team, she has been selected to the Horizon League Academic All-League team. She is one of only 14 players selected to the team.
- The ISE department was invited to have a booth in the Technology Tip-Off at the Siemens Manufacturing in America Symposium at Ford Field on March 19 - 20. ISE instructor **Bill Edward** and Professor and Chair **Robert Van Til** represented the ISE department. They talked with representatives from several companies about the department's educational programs, research activities and laboratory facilities. ISE students **Atul Khiste**, **Ozge Civit** and **Mohamad Al Haji Sleiman** attended the symposium.
- **Ozge Civit**, ISE M.S. student, was OU's International Students and Scholars Office's Student of the Month for March 2014. She is involved in the Host Family Program which helps her to better understand and become accustomed to American culture. Ozge is also a member of OU's Institute of Industrial Engineers Student Chapter. She was the first person to graduate from Gaziantep University in Turkey with the degree in Industrial Engineering and has studied in Poland.

Mechanical Engineering

- **Dr. Laila Guessous** (PI) and **Dr. Qian (Beth) Zou** (co-PI) were once again awarded a three-year \$359,826 grant by the National Science Foundation to offer the AERIM Research Experience for Undergraduates (REU) program in the summers of 2014-2016 (<http://me-reu.secs.oakland.edu> (<http://me-reu.secs.oakland.edu>)). This is the third time that the program has been funded by the National Science Foundation; the program was previously offered during the summers of 2006-2008 and 2010-2012 and has so far involved a total of 62 students from 46 different universities. The funding will each summer allow for 10 students to participate in automotive and energy-related research projects and to take part in other activities such as industry tours, seminars, professional conferences and meetings with industry professionals. Other Mechanical Engineering Faculty who are involved with the program include **Professors Brian Sangeorzan**, **David Schall**, **Lianxiang Yang**, **Gary Barber**, **Xia Wang** and **Michael Latcha**.
- **Distinguished Professor Sayed Nassar** gave an invited research seminar on March 10 at the Yildiz Technical University's Faculty of Mechanical Engineering in Istanbul, Turkey. The seminar topic was "Joining of Lightweight Dissimilar Materials."
- **Dr. Nassar** developed and taught a short course in March to one hundred John Deere engineers at their Technical and Innovation Center, in Moline, IL. Short course topic: "Fundamentals of Fasteners and Bolted Joints."
- **Dr. Nassar** has been recently engaged as a "Subject-Matter Expert" on a bone screw infringement litigation.
- **Dr. Rodrigue Narainen** and **Dr. Lianxiang Yang** received, in February 2014, a \$25,000 grant from Chrysler LLC for a project titled "Influence of the pre-strained on the hole edge cracking limit strain in tensile tests - Aluminum case study."
- **Dr. Yang** received, in March 2014, a \$22,940 grant from Tongji University, Shanghai, China for a project titled "Development of Shearography System with a Wide Angle of View."
- **Dr. Nan Xu**, a December 2013 graduate advised by **Dr. Yang**, received the "2013 most outstanding dissertation of Oakland University" for his Ph.D. dissertation titled "Development of Digital Shearography for Quality Inspection of Spot Weld."

School of Engineering and Computer

Science

248 Dodge Hall of Engineering
2200 N. Squirrel Road
Rochester, MI 48309-4478
(248) 370-2217
[oakland.edu/secs](http://www.oakland.edu/secs) (<http://www.oakland.edu/secs>)
[facebook.com/ousecs](http://www.facebook.com/ousecs) (<http://www.facebook.com/ousecs>)



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2200 N. Squirrel Road
Rochester, Michigan 48309-4401

(248) 370-2100 | [Contact OU \(/contact\)](#)

[Coordinate map of Auburn Hills Entrance \(https://www.google.com/maps/@42.672702,-83.220234,16z\)](https://www.google.com/maps/@42.672702,-83.220234,16z)

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- [College of Arts and Sciences \(/cas\)](#)
- [Business Administration \(/business\)](#)
- [Education and Human Services \(/sehs\)](#)
- [Engineering and Computer Science \(/secs\)](#)
- [Health Sciences \(/shs\)](#)
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INFO FOR

- [Future Undergraduate Students \(/futurestudents\)](#)
- [Future Graduate Students \(/grad\)](#)
- [Current Students \(/students\)](#)
- [Alumni \(/alumni\)](#)
- [Faculty & Staff \(/faculty-and-staff\)](#)
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- [About OU \(/about\)](#)
- [Academic Calendar \(/important-dates\)](#)
- [Directory \(https://sail.oakland.edu/PROD/bwpkedir.P_DisplayDirectory\)](https://sail.oakland.edu/PROD/bwpkedir.P_DisplayDirectory)
- [Jobs at OU \(/jobs\)](#)
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