

JUNE 2015

## Seaholm High School STEM students work with ISE Department

Students from Seaholm High School gained real-world experience during three recent visits to Industrial and Systems Engineering (ISE) Department laboratories in Oakland University's Engineering Center. Doug Baltz, AP Physics Teacher and OU Adjunct Lecturer in Teacher Development and Educational Studies, teamed up with Amy Butler of OU INC to set up the collaboration.

“This partnership provides a unique opportunity for high school students to have direct interaction with both college students and faculty, and build relationships,” Butler said. “It also engages them in asking questions and designing research to answer those questions, and how to generate and interpret the data. The experience can be a life-changing opportunity for many of the participants.”

The high school students are enrolled in a course called STEMx Research and Design — which was created two years ago to expose students to science, technology, engineering and math — spend their semester developing STEM related projects “while embedding authentic data internships with

professionals from the surrounding area” using the web, and lectures on and off-campus,” Baltz said.

Dr. Bob Van Til, ISE Professor and Chair, invited the students to visit the department and experience the research he and his colleagues are conducting during their three visits to Oakland's campus.



“We enjoyed hosting the Seaholm students and their teacher, Doug Baltz, for the STEMx course again this year,” Van Til said. “Our ISE students and professors had a great time working with them on three projects involving lean and Product Lifecycle Management (PLM). I look forward to working with Doug and his Seaholm colleagues in the coming year to expand on our joint STEM efforts.”

During their first visit to the ISE Department, the students ran a

lean simulation of a factory that builds ATV's.

Using data collected from their first visit, the students built and ran a digital simulation of the ATV factory in their second visit using the Siemens PLM software tool Plant Simulate.

During their third visit, students learned about ergonomics from ISE Professor Dr. Megan Conrad and completed a project using the Siemens PLM software tool, 'Jack.'

“The students have had such a positive experience with Dr. Van Til at the Engineering Center,” Baltz said. “Participating in software simulations that involve industrial and systems engineering applications was a very beneficial data experience.”

Students also looked at the program Jack to collect data concerning ergonomics. We look forward to having a long-term partnership with the School of Engineering and Computer Science.”

For more information about the Industrial Systems and Engineering Dept., visit [oakland.edu/secs/ise](http://oakland.edu/secs/ise).

# NEWS YOU CAN USE

## Senior design projects benefit Leader Dogs for the Blind

When engineering students are seniors, they are required to complete the senior design course. Mechanical, electrical and computer engineering students are brought together and assigned to groups that work in the Senior Design Laboratory. There they will work on real-world projects that demand the skills and knowledge of each of their disciplines.

It's a unique process, according to Dr. Michael Latcha, associate professor of Mechanical Engineering and director of the lab.

"This concept was driven by our industry partners," Latcha said.

He said industries began coming to him roughly 10 years ago with problems that went outside of a single field. His students have never really had a place to work on these projects until the new Engineering Center was built, and with it the Senior Design Lab.

"Partners want to take advantage of our new facility and to have design and fabrication work done here," Latcha said.

Projects vary by year and so does the amount of students working on a project.

This semester, students split into groups and designed projects for Leader Dogs for the Blind of Rochester, Mich. There were three main projects: An operating table and lift system; a

surgical box and footboards and a neonatal transport unit for puppies.

Students showed off the completed projects at their end-of-semester study day. There different professors and local business owners could view and discuss the finished projects with seniors. Leader Dogs was there as well with dogs to test some of the projects.

The senior design lab and course is a very hands on class, Latcha said, and different because many of the students have never had to produce something physical before.

"A lot of things that we ask them to do on the first day of class look impossible, and especially to be able to pull off in one semester," Latcha said.

## OU alum documents Detroit delights

Years after graduating from Oakland, filmmaker Anthony Brogdon has followed his dream to make movies. He recently released his first film, "The Great Detroit: It was, It is, It will be."

He brought his movie back to his alma mater to show OU students and faculty.

His film shows a side of Detroit that we don't often get to see: the good side. Students and faculty that attended the viewing had their eyes opened to some of the hidden gems The D has to offer.

This included museums, landmarks, churches and the

many times Detroit has been the first in the country to do something.

"I love Detroit, it's a great city," Brogdon said. "I hope that those who get a chance to see this movie see what I see in the city."

Viewers learned about much more than the automotive side of Detroit; they heard about yacht clubs, state fairs and the origins of hip hop and techno that came from The D. He brought his findings back to show his fellow Golden Grizzlies.

Brogdon actually graduated from Oakland with a degree in business, but he decided to pursue the arts instead. He tried his luck with playwriting but settled on becoming a filmmaker.

Along with wanting to show Detroit at its best, Brogdon came back to OU as a sort of thank you.

"Oakland made it happen for me," Brogdon said. "Thank you so much for letting me come back here."

The students and staff appeared happy to have him. Students, professors, and even President Hynd stopped by to see what Detroit is really all about.

Brogdon said that he hopes his film will be a step to showing people the real Detroit, perhaps it will be. Anyone interested in viewing the film can find it on Amazon.

# STATE AND NATIONAL HEADLINES

## **MN: Governor signs budget bill with \$166 million funding increase for public higher education**

Minnesota Gov. Mark Dayton (D) signed a state budget bill last week with a \$166 million funding increase for public higher education. The budget includes a \$100 million funding increase for the Minnesota State Colleges and Universities (MnSCU) and \$22 million funding increase for the University of Minnesota in an effort to hold down tuition increases. The new budget also includes \$30 million more for the state's medical school.

*The Pioneer-Press*  
May 23, 2015

## **Federal higher ed funding outpacing states as gap grows**

### **Dive Brief:**

A new report from Pew Charitable Trust shows the federal government contributed an increasingly large share of higher education funding from 2000 through 2012, paying more than half starting in 2010.

The Chronicle of Higher Education reports per-student state funding declined for much of the research period while federal funding grew, largely spurred on by higher Pell payments to more students.

State-by-state comparisons show a range in per-student funding levels from the federal government with Hawaii getting three times more than New Jersey, according to the article.

### **Dive Insight:**

The report looked at federal student aid grants like Pell, benefits to veterans, and research grants to universities. As The Chronicle reports, it did not include student loan spending or assign a value to education tax credits. A particularly illustrative graph in the Pew report shows falling state funding, on a per-

student basis, starting in late 2001 with sharp declines from then until 2005 and from mid-2008, during the recession, to 2012. While the actual dollar spending has not gone down so sharply, the per-student spending dropped as states failed to tie their appropriation levels with rising enrollment at colleges and universities.

*Education Dive*  
June 12, 2015

## **ND: Legislators approve state matching funds for academic-related private donations**

North Dakota lawmakers approved a bill this week providing \$23.5 million in state funding to match private donations to university foundations. The fund, created in 2013, matches \$1 in state funding to every \$2 in private donations. The matching funds will apply to donations related to scholarships, endowed chairs, research, technology, and educational infrastructure. Legislators included language prohibiting matching funds for donations related to capital construction projects, building repairs and athletic scholarships.

*Forum News Service*  
April 21, 2015

## **Experts: Higher Education Reinvestments Needed In Illinois & Nationwide**

Illinois, and nearly every other U.S. state, is spending less today on higher education than when the Great Recession started, according to new research from the Center on Budget and Policy Priorities (CBPP).

CBPP's report, issued last week, details how state-level cuts to higher education funding over recent years have been a key cause of "steep tuition increases that threaten to put college out of reach for more students." The center's research comes at a time when Illinois Gov.

Bruce Rauner has proposed deep cuts to higher education as part of his 2016 budget plan.

"College-educated workers are essential to our nation's economic success," CBPP policy analyst and report co-author Michael Mitchell said in a statement. "States must reinvest in their colleges and universities now to build the workforce they need to compete in decades to come."

*Progress Illinois*  
May 19, 2015

## **GA: Board adopts statewide policies to increase student safety, combat campus sexual assault**

Last week the University System of Georgia Board of Regents approved a plan to implement a number of campus safety recommendations derived from a student safety and security committee report. The recommendations include training for campus employees to identify and prevent sexual assault, sexual assault response training for campus law enforcement, and consistent guidelines for reporting campus crimes across the state's higher education system.

*Atlanta Journal-Constitution*  
May 19, 2015

## **Tuition balloons amid deflating higher ed funding in New Jersey**

### **Dive Brief:**

A report from the New Jersey Policy Perspective found ballooning student debt as a result of state spending changes since 2008.

NJ.com reports the average undergraduate tuition costs in New Jersey grew by almost 24% between 2004 and 2013, when adjusted for inflation, and family income fell by 7% in the same time period.

While New Jersey used to be known



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**State and National Headlines *CONTINUED***

for charging high tuition but offering generous aid, funding cuts from the state have contributed to an inflation-adjusted 41% jump in average student debt from 2004 to 2013, according to the article.

**Dive Insight:**

Average student debt has been on a steady upward trend for a very long time in the United States. The average borrower in the class of 2015 owes \$35,000 in student loan debt. That's up from less than \$10,000 in 1993. For a long time, when tuition rose, federal funding increased with it. When the financial crisis hit, state governments didn't have as much money to give, but colleges and universities had high costs to support. In many states, students have faced the brunt of the squeeze. And, as average student debt increases, so does the rate of default as borrowers find themselves unable to repay.

*Education Dive*  
May 15, 2015

**CT: House and Senate approve measures to expand college access for undocumented students**

The Connecticut House of Representatives and Senate have passed bills to help undocumented students pursue a college education. The Senate-approved bill allows undocumented students to have access to state financial aid programs, similar to laws in Minnesota and Texas. The House-approved bill lowers the state's requirement that an undocumented student attend a state high school from four years to two years. It would also extend in-state tuition rates to victims of crimes and human trafficking in their home countries. Both bills are supported by Gov. Dannel Malloy (D).

*Hartford Courant*  
May 19, 2015