

buckeye/engineering

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Renovation for collaboration

INSIDE/

NEW GRADS SET TO MAKE THEIR MARK

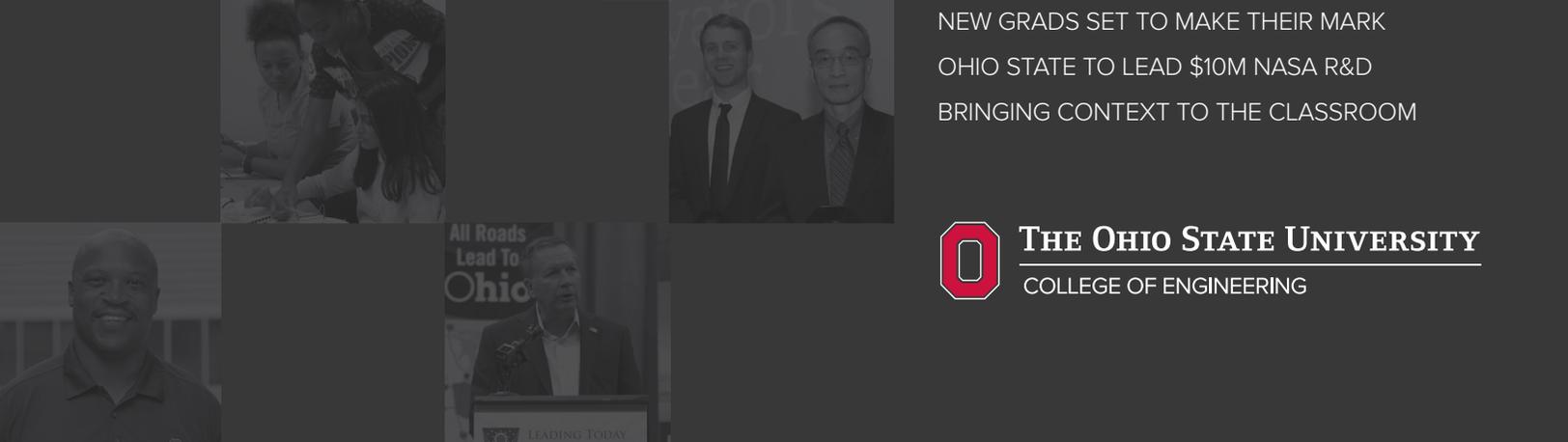
OHIO STATE TO LEAD \$10M NASA R&D

BRINGING CONTEXT TO THE CLASSROOM



THE OHIO STATE UNIVERSITY

COLLEGE OF ENGINEERING





Map data: Google, Image Landsat / Copernicus



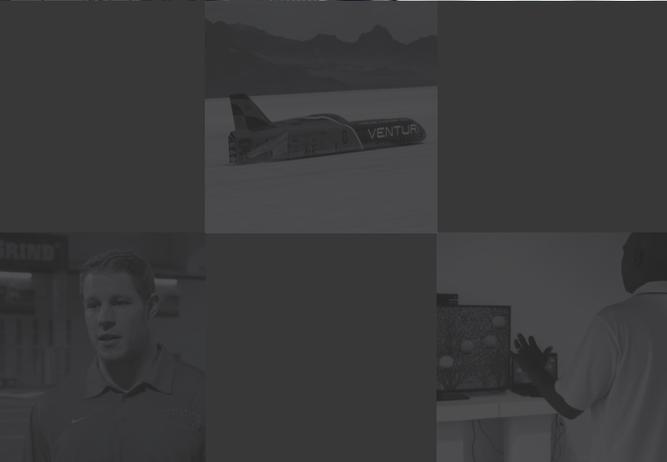
Introducing the Advanced Materials Corridor

By summer 2020, the Departments of Materials Science and Engineering, and Biomedical Engineering will share a new home—one that will support their missions of teaching, learning and discovery.

Design work is currently underway for the Koffolt-Fontana renovation on north campus. It's the first of what is expected to be at least a two-phase project to create the Advanced Materials Corridor—the university's investment in next-generation materials research, development and experiential learning. The \$59.1 million project, which includes state and university investment plus a \$10 million philanthropic target, will transform the aging Koffolt and Fontana Lab buildings into modern, efficient spaces. It will also allow the biomedical engineering academic program to move to central campus.

There is a critical need to modernize both structures, explained Rudy Buchheit, associate dean for academic affairs and administration. "Those buildings have been well-loved and well-used for 50 years and we've gotten every bit out of them that we can."

Learn more: go.osu.edu/corridor1



Newest alumni aim to make their mark

This spring, the college welcomed more than 1,200 new alumni into the Buckeye engineering family. The 2016-17 undergraduate class, with 1,806 degrees conferred, is the largest ever in college history. Here are just a few who made the most of their education in and out of the classroom.

Since her first semester on campus, Joan Lee has filled her time outside the classroom participating in a variety of research and internships. Her well-rounded experience is one reason she is the first welding engineer ever—and one of just 40 students nationwide—accepted into GE Aviation's Edison Engineering Development Program.

Brian Kulp, a chemical and biomolecular engineer, came to Ohio State to be part of the Integrated Business & Engineering Honors program and discovered a passion for intellectual property law. His next stop? Harvard Law School.

For electrical and computer engineer Myer Tuolee, the path to the podium was a long journey—one delayed but not stopped by war, a refugee camp or his immigration to the U.S. Although returning to school wasn't easy, he encourages others to never stop learning.

Meet the Class of 2017: go.osu.edu/grads17



Study examines women's pursuits in engineering higher ed

An Ohio State study aims to understand why women persist in the field of engineering despite the barriers they face.

The three-year study is backed by a \$1.4 million grant from the National Science Foundation. Principal investigator Monica F. Cox, chair of the Department of Engineering Education, said the study will explore reasons women continue to push forward in faculty engineering positions, and will examine situations in the context of race, class and gender. The team will focus on the stories and experiences of women faculty in engineering, including what motivates them, how they navigate academia and how they define and achieve success.

The idea for the study emerged when Cox became the first African American woman to earn tenure at Purdue's School of Engineering. When she tried looking at data to find other women like her in similar positions, she had trouble locating them.

"There really isn't a complete database of exactly how many women there are who are like me and where they're located. That's surprising in our data-driven age," said Cox. "That discovery led to a bigger conversation of who are we, where are we, why we're doing what we're doing and have we really made progress."

Learn more: go.osu.edu/persist

Photo: Prof. Monica Cox (center) with colleagues Prof. Ann Christy (left) and Prof. Rachel Kajfez.

Bringing context to the classroom

After hearing engineering education pioneer Richard Felder speak about the importance of bringing context to a problem in engineering classes, Professor Aimee Ulstad had an idea. Why not involve industry partners in her production planning and facility layout course to bring key concepts to life?

The assistant clinical professor of integrated systems engineering (ISE) knew she learned better when concepts were introduced with real-world context and she had a hunch students would too.

Both Ohio State alumni and supply chain professionals alike enthusiastically volunteered to dedicate a few hours to discuss how their company applies course concepts with groups of four students. Sixteen mentors participated during spring semester, representing Abbott, AGC Automotive, All-Clad, American Woodmark, American Red Cross, Caterpillar, GE Aviation, Greif, Honda of America Mfg., L Brands, PepsiCo/Quaker, Rockwell Automation, TE Connectivity, Ventura Foods, Walmart and Worthington Industries.

For alumnus John Seeley (pictured on right), a continuous improvement and environmental engineer for AGC Automotive, being a mentor is a way to give back that also provides benefits.

“They help generate new ideas,” Seeley explained. “Sometimes the questions that the students ask can be challenging. Those kind of questions can be a benefit to me and provide a different outlook for the company.”

Learn more: go.osu.edu/context



Tech trailblazer engineers success

With more than 30 years of experience in leadership roles at industry giants like Microsoft, Motorola and AT&T, alumna Maria Martinez knows what it takes to succeed in the high-tech business world. Now Salesforce's president of Global Customer Success and Latin America, this Buckeye engineer is passionate about helping the company's customers and her team define and realize their own ambitions.

Martinez was attracted to the field of engineering because it was relatively uncharted territory back then for women, not to mention her love of “how engineering drives innovation and sets the pace for change.”

Named one of the 50 Most Powerful Latinas in corporate America in 2017, Martinez is most inspired by helping future generations—especially women and other underrepresented groups—find their own path to success. She recently shared some of her success secrets, advice for new alumni and future leaders, and more about her role at the world's number one CRM provider.

Q&A

**Get to know Maria
in an online Q&A:
go.osu.edu/martinez**



NASA taps Buckeyes to lead electric aircraft engine R&D

As part of its University Leadership Initiative, NASA selected Ohio State as one of five teams to explore novel ideas for improving aeronautics. Total value of the five-year award is \$10 million.

NASA did not specify the research topics or disciplines for the teams to pursue. Instead, universities were asked to propose the most compelling investigations, so long as that technical challenge addressed one of six strategic priorities.

Led by Assistant Vice President for Aerospace and Aviation Mike Benzakein, the multi-institution team will address the “Transition to Low-Carbon

Propulsion” strategic thrust, specifically the introduction of electric machines in the commercial aircraft fleet. A team of experts will tackle the significant technical challenges, including system integration, ultra-high power density machines, energy storage, advanced control of onboard electrical power systems and electric aircraft research infrastructure. The Ohio State collaborative includes five other universities, General Electric and the NASA Glenn Research Center.

“This is a unique opportunity for Ohio State and its partners to define aircraft propulsion for the



future and solidify the nation’s leadership in a highly competitive field,” Benzakein said.

Learn more:
go.osu.edu/nari

Space community helps launch Armstrong Chair

Former Apollo astronauts at a space symposium in May doubted whether commercial companies will be able to accomplish human space travel, while representatives of those companies talked about redefining what it means to succeed—or fail—in such grand endeavors.

Current and former NASA administrators and a space law expert were among the panelists at Ohio State for the Armstrong Space Symposium. The event preceded the formal installation of aerospace innovator John M. Horack (pictured) as the university’s first Neil Armstrong Chair in Aerospace Policy.

Holding a joint appointment in the College of Engineering and John Glenn College of Public Affairs, Horack bridges the worlds of technology and policy within the university. With previous experience in both government and industry sides of aerospace, he’s expected to enhance Ohio State’s relationship with its external aerospace partners.

Ohio hosts \$7.6 billion in economic activity from the aerospace industry and has produced more NASA astronauts than any other state. The university is perfectly positioned to unify the state and make Ohio peerless in spaceflight, Horack said.



The Neil Armstrong Chair is funded through a gift from Huntington Bank and funds from The Ohio State University Discovery Themes.

Learn more:
go.osu.edu/armstrong

briefs:

Ohio State relaunches petroleum engineering program

go.osu.edu/peprogram

Professor Kay Bea Jones named Glass Breaker

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New research may offer key to infertility treatment

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