

eDimensions October/November 2013



Dean's Welcome

The fall semester is well under way at the Purdue School of Engineering and Technology. We have many things to celebrate.

We welcomed 597 new students, including freshman and transfer students, to our engineering and technology programs this fall. Our School's overall enrollment set a new record, exceeding 2,900 students, up 9% over two years.

Earlier this year, U.S. News and World Report released their 2014 rankings of best engineering graduate schools. For the first time in our history, we were ranked in the top 100, ahead of 7 out of 12 IUPUI campus peers. Most impressive, we were the 3rd highest ranked school in this category based on size. Only Yale and North Carolina were ranked higher, while having smaller graduate engineering programs than us.

Our technology programs remain strong too. Per the latest report from the American Society for Engineering Education, our School ranks #3 nationally for the number of bachelor's engineering technology degrees awarded annually.

Sequestration negatively impacted our research grants last fiscal year from federal sponsors such as the National Science Foundation (NSF) and the National Institutes of Health (NIH). However, we had a great start to our new fiscal year, with over \$4 million in new awards from the NIH alone, as well as new awards from NSF too. Dr. Ghassan Kassab is just one example of a faculty member in our School who successfully competes at the highest levels. Ghassan continues to forge a strong relationship in the Indiana life sciences community, including a partnership with Cook Medical, through his work in cardiovascular research.

We just celebrated our 9th Motorsports Day on campus. This year we welcomed IndyCar driver Graham Rahal and Martin Plowman, the winner of this year's 24 hours of LeMans. Representatives from our partners at Hoosier Racing Tire, Dallara, and many others were on hand to present workshops and answer questions from current and prospective students about the motorsports industry.

Finally, we continue to be grateful for the tremendous support of our alumni, friends, and industry partners. Without your generous gifts of time, talent, and treasure, we would not continue to be successful in our ascent to one of America's best urban schools of engineering and technology.

I look forward to welcoming you back to campus soon. Please come and see what is new and exciting at our School!

Dr. David J. Russomanno, Dean

Racing Into the Future

By Ric Burrous

Ever since he had his Hot Wheels vehicles as a youngster, Matt Mote has found himself entranced by the racing world.

But where most young race fans find



themselves relegated to the sidelines, Mote has plunged headfirst into that world, thanks to the IUPUI Motorsports Program in the School of Engineering and Technology.

Mote has been part of the IUPUI's Purdue Grand Prix go-kart team. He spent a summer interning for the IndyCar Racing League, traveling across the nation to help officiate races. He has helped run the program's special events. He credits Terri Talbert-Hatch of the school, plus the rest of his Motorsports family, for the possibilities offered to him.

"I can't believe that I'm the one getting all these opportunities," said Mote. "I really don't know why I'm the one being chosen, but I plan to take full advantage of them!"

One such opportunity was working the 2013 Indianapolis 500, which "an awesome experience" for Mote, though he was (and still is) a diehard NASCAR fan with a fondness for Hoosier native Jeff Gordon.

The IUPUI sophomore admitted that he had moments when he was tempted to be more fan than race official. "It was really cool walking around the grounds and seeing little kids hanging on the fence, because it wasn't that long ago that I was one of those kids," Mote chuckled, recalling his family support, especially from his grandfather, Bob Mote, also of Hope.

Mote's passion for racing began in his elementary school days "when I got into driving go-karts myself," he said. "It started out as a hobby, but I learned more than you could put a price tag on."

The learning has accelerated in the Motorsports Program. "I came up here my junior year at high school, and was amazed at how big and exciting the program is," Mote said. The biggest impression came from Motorsports Day — an event he headed up last month. "That was probably kind of fitting," Mote laughed.

He also had a chance to join fellow Motorsports student Stephanie Borchelt in North Carolina, where she showed him around the Hendrick Motorsports team operation that was her internship for many months.

"Stephanie is one of my biggest mentors," Mote said. "To see where she worked and what she did, and for my favorite racing team, was very cool!"

Mote would like to test himself as a crew chief in a racing operation. "I would enjoy being a crew chief more than driving now," he said. "When you're behind the scenes, you have to listen to all kinds of ideas, then put them all together in a way that works."

His experiences last summer as a track official helped expand his horizons, but Mote is sure he would enjoy working with a team this next summer. "I'd like to have more say in the outcome of a race," he said. "That's something I'd like to learn."



By Ric Burrous

IUPUI's Living Lab may be tucked away in the lowest level of the Engineering and Technology building, but the lab and its director, Connie Justice, find themselves increasingly well known throughout the school, across the campus and in the community.

A track record of hands-on expertise will do that for you. And the Living Lab provides that type of personal performance for more than a dozen students each semester. "We train them to become information technology (IT) professionals by emulating their real-world IT counterparts," said Justice, who launched the lab more than a decade ago. "They solve problems, build faster and more effective systems, improve security and network operations and more."

It wasn't always that way.

"When we started the Living Lab, students were looking for IT experience even before they attained an internship and we needed a mechanism to provide it" Justice said.

So she and her fellow Living Lab founders built their own server rooms and helped other units in Engineering and Technology troubleshoot issues. Curious students began showing interest, and that was all Justice needed.

"We started with a philosophy of offering real-world experience to our students by taking care of our own equipment," the lab director said. But things didn't stop there. As the months rolled by, the Living Lab connected with other eager clients, first on the IUPUI campus, then to nonprofit organizations, and finally into the Indianapolis community.

The latter group eventually included the Simon Property Group (which oversees Simon Malls across the country); that partnership provided numerous work opportunities for IUPUI students and multiple success stories for Simon. The relationship continues to grow -- Justice has even teamed up with Scott Barnes, Simon's vice president of information technology infrastructure and operations, on several national and international presentations. Barnes has provided equipment as well as opportunities, Justice said, and he often sits in on students' presentations.

The work and presentations are a vital part of her students' training, Justice believes.

"Everything they do here is resume worthy," the director said. "They learn how to do it all, because the work is a real product that goes out the door!"

The quality of that work has brought other organizations to the Living Lab's door, such as Riley Hospital for Children, which will work with the lab and IUPUI students on a major initiative later this year.

"As technologists, it is up to us to solve problems," Justice said. "Our goal is to provide our clients the means to carry on even after we're gone from a project."

The Living Lab allows students -- usually 15 per semester, though enrollment has climbed as high as 22 -- to serve clients by applying the networking, security, database, website and application development concepts and techniques they've learned in courses.

"Their work prepares them for the kinds of job they'll face once they begin their careers," said Justice, who admits that she still finds herself excited about sharing her knowledge and passion with her students, more than a decade past the Living Lab's launch.

"I never really thought I'd be doing this," Justice admitted. "But the Living Lab has come into its

own the last three or four years, and taken on a momentum I didn't expect. It's been a fun ride."



Engineering and Technology partners to form STEM Floor in new University Tower

The Purdue School of Engineering and Technology and the IUPUI School of Science have teamed up to create a STEM residential learning floor in the new University Tower. E&T students occupy 45 of the 76 beds and include a variety of majors, including biomedical engineering and motorsports engineering.

The STEM partnership between the two schools began in 2011 with the addition of a summer bridge learning program that helps STEM students prepare to be

successful in college with early emphasis on their designated majors. When the campus decided to turn the hotel into a residence hall, Dr. Terri Talbert-Hatch, assistant dean for student services, jumped at the opportunity to create the STEM floor and fill it with our students.

"Statistics show that students who have a residence hall experience are more likely to be successful in their coursework and to graduate from college," explains Dr. Talbert-Hatch. "These students have the unique opportunity to have a built-in network of friends and study partners to help them experience all that IUPUI and our school have to offer."

Maria Harlan, a biology major who went through summer bridge during her freshman year, serves as the STEM floor resident advisor and agrees with Dr. Talbert-Hatch. "As a freshman, I was greatly impacted through the STEM Bridge Program. I can confidently say that I would not be the high achieving student that I am today if it wasn't for the influence of this program."

University Tower, formerly the University Place Hotel and Conference Center, opened this fall, adding more than 500 beds for incoming freshmen. The facility, located in the heart of the IUPUI campus, also includes the campus' first dining hall, offering students a variety of culinary choices and an additional 30,000 square feet of classroom space.

IUPUI's Industrial Assessment Center Provides Complimentary Energy Assessments

The Purdue School of Engineering and Technology, IUPUI's Industrial Assessment Center (IAC), a program funded by the Department of Energy (DOE), provides complimentary energy assessments for small to medium sized companies to aid in improving energy efficiency, reducing waste, and increasing productivity. A team of highly skilled engineering faculty and students conduct energy assessments to identify immediate opportunities for companies to save energy and reduce cost. The IAC assessment process is confidential and simple, never interrupting production. For each audit, the IAC works with the client on establishment of baselines, conducts an on-site energy audit, and provides the company with a comprehensive report. The IAC audit team will identify opportunities to make the company more energy efficient, which will be detailed in a comprehensive report that fully explains the recommendations, provides the potential savings with detailed calculations, estimates implementation costs, and computes payback times. The decision for implementing recommendations is at the company's

discretion as there is no obligation. To see if your company qualifies for a free IAC energy audit, [click here](#). For additional information regarding the IAC, please visit www.engr.iupui.edu/IAC or contact the IAC at iupuiiac@iupui.edu.