From the Dean

I want to send warmest greetings to all our friends, alumni, and supporters. There is much good news to share regarding the College of Engineering, Technology, and Architecture (CETA). We are enjoying record enrollments in a sustained period of unprecedented growth and student success. Some of our alumni may find it surprising that the college has grown to nearly 1,300 students. Students are responding to our themes of challenge and support leading to success, as well as the environment of engagement with our dedicated faculty and the support of our professional staff. Retention and graduation rates for students rank near the top for the University of Hartford. Our students are excelling in majors that are among the most challenging in the nation.

Thanks to our generous supporters, we’ve been growing CETA’s resource base to keep pace with our record enrollment and to maintain high-caliber teaching complemented by well-equipped and state-of-the-art labs and studios. Alumni and donors have stepped up and have played a major role in achieving these improvements and the excellence that the college has enjoyed. We have invested more than $3 million over the past three years in our architecture, technology, and engineering programs. We have a new and expanded architecture studio, woodshop, and fabrication lab in vacated bookstore space. Four new engineering laboratories were built in the past three years, including a top-shelf Manufacturing Metrology Laboratory made possible with the assistance of Pratt & Whitney—just one of the many strong partner companies of the college. There’s also a new Robotics and Automation Laboratory to support our new program in electromechanical engineering technology and the growing student interest in autonomous technologies. A new Biomedical Engineering Laboratory is well-equipped with both biomechanical and biological fluids capabilities. United Technologies Research Corporation is helping us to realize a new Turbo-Machinery Lab that will launch an ambitious, top-flight turbine research program.

And there’s good news for CETA graduates who are finding an unprecedented strong job market with robust hiring across all of our programs. From multinationals to regional firms, as well as smaller and start-up companies—all are seeking CETA graduates. These are truly exciting times for all of us in the college. As dean, I welcome you to learn more about the strides forward that we’ve made, and to stay connected with CETA to share in the energy. Please visit our website—hartford.edu/ceta—to learn more about what CETA is doing, other news and updates, and follow us on our social media feeds. And please visit us whenever you’re in the Hartford region. We’d love to show you around!

Louis Manzione, Dean
Plans for the Hartford.Health.Works. (HHW) collaboration with CETA call for a medical devices campus to be developed in Hartford, highlighting CETA’s expertise in medical devices, manufacturing, and education. The target industry for HHW is medical device startup companies. Mary Arico, assistant professor of biomedical engineering, can’t wait to get started on the project. She anticipates that she’ll collaborate with faculty from Trinity College on a middle-school-level biomedical engineering STEM program, where she can make connections between students and industry. Programming tracks include K-12 education programs, programs focused on getting students into manufacturing, and programs to place interns from CETA’s engineering degree programs at this small company incubator. Arico’s senior design students now work on projects with industry. With HHW in place, CETA will provide interns for startups and larger HHW companies to help move the process along and help solve a problem.

Arico explains that CETA’s expertise, labs, education, and testing facilities will help industry develop products. “When HHW is fully functional, it will provide resources not usually available to a small startup company, which typically does not have the means to build a laboratory for high-end testing and manufacturing equipment,” Arico says. There may also be a surgeon or a nurse with a great product idea, but without the “know how” to realize the idea. There will be benefits for both sides: HHW industries will have high-precision manufacturing and testing facilities or have access to them. The startup company, with its relationship to HHW, would be provided work space, lab space, and access to resources usually only available to large industry.

“I’m really excited and there are a lot of possibilities,” Arico says. “I think it is going to be engaging for both me and the students to be involved. Students will get an inside look at working in a startup company or working in a larger company and participating in testing.” Arico notes that students will have exposure to all of the steps to developing a medical device. “You can only talk about it so much; to actually see it is going to make a big difference.”

Mary Arico (left) with Ashley Chasse ’16 (right) discussing senior design.
When an exhibit of the life work of University of Hartford regent and architect Tai Soo Kim (Hon. ’15) opens in his native South Korea in February 2016, it will feature scale models of Kim’s designs, a few of which were built by CETA alumnus Todd Lee Conant ’11, M’14. As an undergrad, Conant studied architectural engineering technology and then stayed for his Master of Architecture degree, graduating in 2014. Even before graduating, he secured an internship at Tai Soo Kim Partners in downtown Hartford, and was offered a full-time position after completing his graduate degree.

Conant had a chance to work on a variety of projects, but he admits that some of his most rewarding work has been on creating models for the upcoming exhibit. “Tai Soo has a fascination with architectural models,” Conant explains, “and he uses them throughout the entire process of design, development, and presentation.”

A particularly demanding one is a sectional model through the entry to the University’s Mortensen Library, which Kim designed in the mid-1980s. Conant’s exquisitely detailed basswood model shows the intricate spaces that you experience passing through Mortensen’s outdoor loggia, the central lobby, and the library’s upper and lower spaces. In all, 18 models will be shipped from Kim’s office to the National Museum of Contemporary Art in Seoul, which Kim designed 30 years ago.
Sahay and Ghosh Awarded Federal Grant to Develop Course and Training Materials

Professor Chittaranjan Sahay and Assistant Professor Suhash Ghosh of CETA’s Department of Mechanical Engineering have received a grant from the National Institute of Standards and Technology (NIST) to develop course and training materials to accentuate the impact of standards and standardization on product realization.

The focus of this project will be the design, modeling, manufacturing, and inspection of a transmission gearbox. The course and training modules developed at the end of the 18-month project period will supplement the areas of mechanical design, materials selection, engineering drawing, manufacturing processes, measurements, and inspection. The grant is funded by NIST Standards Services Curricula Development (SSCD) Cooperative Agreement Program.

Through this grant opportunity, Sahay and Ghosh hope to ensure use of standards in design, manufacturing, and metrology courses, and standard test methods in the laboratory; encourage internship experiences to report on standards usage; obtain teaching resources from Standards Developing Organizations (SDOs); and identify “capstone projects” to challenge students in the use and application of standards. According to Sahay and Ghosh, few engineering students are introduced to standards in school, and even fewer are given an understanding of the standards development process. Students need greater exposure to standardization to position themselves competitively.

Sussmann Receives ‘Best Paper’ Award for Railway Infrastructure Research

Ted Sussmann, assistant professor in CETA’s Civil, Environmental, and Biomedical Engineering Department, received a “Best Paper” award at the Railway Engineering Conference hosted by Mike Forde of the University of Edinburgh in Scotland in July.

The award for “the best paper demonstrating the use of geophysics and non-destructive testing” was received for Sussmann’s paper, “Use of Seismic Surface Wave Testing to Assess Track Substructure.”

During the conference, Sussmann presented two papers: “Effect of Unsupported Ties at Transition Zones” and “Non-Invasive Monitoring of Track System Gaps.” The papers are the result of a collaboration with the Volpe Center in Cambridge, Mass. Sussmann’s team members include Hugh Thompson of the Federal Railroad Administration, Tim Stark and Steve Wilk of the University of Illinois at Urbana Champaign, Carl Ho of the University of Massachusetts at Amherst, and Soheil Nazarian of the University of Texas at El Paso.