



## Dean's Remarks



In the fall of 2016, department chairs and select faculty from all departments and I worked to develop vision and mission statements for the College that were authentic and aspirational. After much deliberating, we arrived at statements that, we believe, succinctly describe the student-focused aspirations

that will guide us over the next few years.

Our vision statement is clear and confident: We will prepare graduates to lead innovation through collaboration. Our daily mission is to realize that vision by providing innovative, distinctive, and transformational learning opportunities that develop creative, responsible engineering and applied science leaders. Those opportunities take many forms, chief among them: enhancing the learning of diverse students through engaged classroom experiences involving hands-on projects; preparing students for modern workplaces by immersing them in multidisciplinary and team-based environments; educating them to solve tomorrow's problems by instilling an entrepreneurial mindset; and supporting long-term career growth by developing students' technical and interpersonal communication skills.

We also seek to benefit society by engaging students in research, scholarship, and outreach and by helping them explore the impact of engineering solutions on a world scale. The real world will continue to be an integral part of the curriculum through our partnerships with industry, government, and community organizations. Lastly, we strive to develop an international reputation by promoting an all-encompassing climate of excellence.

The stories in this newsletter illustrate that we are already well on our way to realizing our vision and mission. They describe an innovative and transformational curricular initiative to develop students' entrepreneurial mindset, engaged classroom teaching, exciting co-curricular student experiences, noteworthy student and faculty research, and faculty and student leadership in organizing a national conference and workshop.

Ron Harichandran, Dean

## KEEN Entrepreneurial Engineering Modules Go Viral

**After a successful debut here, our e-learning modules have spread to 25 other colleges throughout the country.**

The test population was a relatively small one. In the 2015 Spring semester, the University of New Haven exposed only faculty and students in the Tagliatela College of Engineering to our KEEN (Kern Entrepreneurial Engineering Network) modules. The modules' purpose: to foster an entrepreneurial mindset in engineering students through material presented in online format, followed by an experience-based assignment that cements the knowledge gained. The modules bore titles such as: "Delivering an Elevator Pitch," "Learning from Failure," and "Building, Sustaining, and Leading Effective Teams." There were six modules to start.

With the Spring 2016 semester, the University introduced the modules to other schools – but only those belonging to the KEEN network. As members, they already possessed a "keen" entrepreneurial mindset, so they were, essentially, a pre-warmed target audience.

Both the Spring 2015 and Spring 2016 semesters provided practice runs before mass deployment in universities and colleges throughout the country. In the Fall 2016 semester, and now in the Spring 2017 semester, we achieved that. After announcing the intended nationwide deployment on the University of New Haven website, as well as through faculty network contacts and engineering deans, a small tidal wave of faculty members applied for the mini-grant of \$2,000 to deploy the modules in their classes. We chose 24 of them – all in engineering programs.

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## Tagliatela College of Engineering Now in the Top Third of Engineering Colleges in U.S. News & World Report Ranking

In the *U.S. News & World Report* category that ranks engineering colleges in the country not offering a doctoral program, the College has moved up to the top third of about 200 engineering colleges. Dean Harichandran attributed this dramatic ascension to the increased visibility of both the College's curricular innovations – especially the entrepreneurial engineering e-learning modules – and the successes of faculty and student research and scholarship.



A five-hour workshop at the 2016 ASEE Annual Conference and Exposition in New Orleans prepped the faculty members for deployment. The ground covered in the workshop included how the modules would be exported to their institution's learning management system and how to design activities linked to the topic of the module. Dean Ron Harichandran and faculty members Maria-Isabel Carnasciali, Nadiye Erdil, Jean Nocito-Gobel, and Cheryl Li manage the development and deployment of the modules. Nadiye Erdil, Assistant Professor of Industrial and Systems Engineering, who is the project manager, emphasizes the need for the activities: "It's not just a matter of saying to the students, 'Here, I've got this extra resource for you. It's online, self-paced — go finish it on your own.' With that approach, everything would stay at the knowledge level. So, the instructor needs to design an activity linked to the module's topic."

Several months after deployment, the faculty feedback is in. The all-time favorite module? "Delivering An Elevator Pitch." One faculty member commented, "The module did a very good job of introducing students to stakeholder analysis and then using that analysis to shape an effective pitch." Elevator pitches and stakeholder analysis? Pretty exotic stuff for engineers, but critical for the 21st century engineering professional.

The "Learning from Failure" module brought this: "It helped students think about failure in a different way than is commonly accepted. Because of the manner in which it was tied to the other class material, the students compared and contrasted business failures and engineering/construction failures."

Feedback on the module titled "Building, Sustaining, and Leading Effective Teams" was a revelation, but shouldn't have been, since we're talking about human nature. In an earlier deployment, faculty members had complained that the module didn't contain sufficient material on the conflicts that crop up in teams. Disagreements among team members on everything from schedules to proposed solutions made for less-than-harmonious team

dynamics. So, for the Fall 2016 deployment, we added an entire chapter on Conflict Resolution, which resulted in fewer ruffled feathers.

Erdil explained, "We revise the modules as needed based on faculty feedback. The whole purpose of these external deployments is to get faculty input outside of our own internal findings so that the modules cover the material people expect to see under a specific topic."

New modules continue to be developed. The College identifies developers from all of engineering academia and industry, asking interested individuals to respond to a Request for Proposals. The College and The Kern Family Foundation — the funding institute — then select those that will go forward.

Once a module is ready for deployment, it is an easy process to get it to a destination school. The University of New Haven's IT department creates module packages, which are uploaded to a website, and the participating school's IT department goes to the site, clicks on the link, and downloads the module to the school's learning management system. The University of New Haven uses Blackboard, but the modules are compatible with Canvas, Desire2Learn, and Sakai, with Moodle requiring an assist from the University of New Haven's IT department — which they are happy to provide.

So, now that the modules have gone viral, what's next on the agenda? Even more exposure. "The modules have already had an impact on literally thousands of students across many engineering disciplines all over the country, but why stop there?" said Dean Ron Harichandran. "We'll be doing this again next year, so the modules will be reaching even more colleges and students." And after that? The world. In fact, Harichandran has already spread the gospel in India and has requests for deployment there.

For a list of schools that have deployed KEEN modules, go to: [www.newhaven.edu/KEENModules](http://www.newhaven.edu/KEENModules).





## STUDENT RESEARCH PROJECTS THAT ARE HOT RIGHT NOW

### The Drone as Perp

#### How Two Graduate Students Are Retrieving Evidence of Criminal Activity from Unmanned Aerial Vehicles

As we've discovered over the last few years, drones have their dark side. In the hands of criminals, they can be used to smuggle drugs over the border, shoot somebody, or even deliver a bomb. This is definitely not what UPS or Amazon had in mind. When two drones crash-landed on the White House lawn a couple of years ago, it shocked everyone, in part for its sheer banality. This is an ingenious but relatively common piece of equipment, which anyone can buy off the Internet, and it sailed blithely past the Secret Service without so much as a background check. And, certainly, anything a seagull can do to a jet engine, a drone can do with equally disastrous or worse results.

But, there's something on a drone that can land its owner in hot water with law enforcement, and that something is what graduate students Devon Clark and Christopher Meffert are working on: It's the forensic data that rides along on every drone trip.

The team's work was featured at the 8th International Conference on Digital Forensics & Cyber Crime at John Jay College in New York last September. In one of the three workshops held during the Conference, Clark presented the forensic process of acquiring data from the DJI Phantom III drone. DJI is one of the most prominent consumer drone manufacturers in the world, holding first place in market share.

As part of their research — conducted with associate professor Abe Baggili and assistant professor Frank Breitingger advising — the team also developed



an open-source tool called a Drone Open-Source Parser, which can parse data from DAT files on the drone. The data, which is encrypted and encoded, provides information similar to that found in an airplane's "black box." It includes GPS coordinates, sensor readings, remote control state, and more. If law enforcement and forensic investigators are able to recover a drone from a crime scene, this data would tell them where the drone has been, at what time certain events occurred, and possibly who used the drone to commit the crime. Participants in the workshop practiced extracting that very information with several sets of DAT files.

In a rather exciting development, shortly after the workshop the team was contacted by a member of the UK Government Centre for Applied Science and Technology (CAST). The group, an assembly of scientists and engineers who develop technological solutions to fight crime, were interested in learning more about Clark's and Meffert's research as it applied to the group's ongoing work in this area. That work ultimately will land at the front door of law enforcement agencies throughout the UK. And in a way, so will Clark and Meffert.

## Engineering and MBA Students Go Lawless at MIT Clean Energy Prize Competition

Lawless Energy, LLC was formed in January 2016 by Associate Professor of Mechanical Engineering Ravi Gorthala and graduate student Sean Lawless to market Tri-Sol— a revolutionary skylight technology that harnesses solar energy and delivers three energy streams: natural lighting, electricity, and hot water. The technology was developed by mechanical engineering students under Dr. Gorthala's direction.

Tri-Sol and Lawless Energy LLC had a chance to shine at MIT last February when Gorthala challenged Sean Lawless to put together an interdisciplinary team and compete in MIT's "Clean Energy Prize," a nationwide competition that aims to develop "a new generation of energy entrepreneurs and great

new companies." The competition is open to any company in which students own 51% of the firm, and only students can enter.

The student team — Sean Lawless, Tyler Valilik, Nifa Ahmed, and Rakesh Chandramohan — submitted a brief business plan and pitch and became semi-finalists, getting the green light to compete further. After working with an MIT-provided mentor, they followed up with a full business plan, a poster, and a pitch to MIT alumni, students, and potential investors. Although they didn't make it to the finals, the hard-core business experience they gained has inspired them to look forward as well as up — to getting Tri-Sol off the ground and onto roofs everywhere.





## The “Adulthood” Continues

**Following last year’s 3-Day Startup, Charger Startup Weekend was another priceless lesson in entrepreneurial thinking, salesmanship, and becoming a grown-up.**

They came from a spectrum of majors across the University – 70 students with an idea in their back pocket or else impatient to start the brainstorming. It was the second time that the University brought students together for an intensive weekend that would test their creativity, business sense, ability to work as a team, and aplomb in selling their ideas to a cool-eyed, Shark Tank-like panel of judges.

Charger Startup Weekend ran from Friday, September 16 through Sunday, September 18 at the University of New Haven’s Orange Campus. For two and a half days (and late into the night), students worked in teams to come up with an idea for a new startup company and then delivered their best elevator pitch to potential Angel Investors, who gave them tough but constructive feedback. And whereas last year’s 3-Day Startup was led by the Tagliatela College of Engineering, this year’s was led by the newly established Entrepreneurship and Innovation Program, a collaboration between the engineering and business colleges. The addition of the College of Business added a new dimension to the proceedings: The ideas had to satisfy an actual market need for a product or service.

Jonathan Spiegel, a mechanical engineering student who helped coordinate the program, summed it up: “You might see a problem in the real world that bothers you every day, and if it bothers you, there’s a chance that it bothers everyone else in America and the world. Develop a solution, and you could possibly have your own great company and attract investment for it.”

Coming up with solutions to problems is what engineering students naturally do. It’s in their DNA. Like racehorses breaking from the starting gate, they leap to the challenge before them, with all of their energy directed to designing a solution. So, it was a bit of a revelation to them that maybe they should slow down. Associate Professor of Mechanical Engineering, Maria-Isabel Carnasciali, who helped put the event together, explained why that was



a good idea. “Often, startup ideas fail because they don’t meet a market need or want,” she said. “The weekend challenged the student teams to step back and really assess their ideas before jumping into the design phase. For our engineering students, this is really out of the box because they have to battle their instinct to dig right in and solve the problem.”

The winning team was Interview4U, whose business proposal involved creating an Uber-like website for students looking to practice their job interview skills. Students would engage in mock interviews with industry professionals for a fee. The professional coach would get a percentage.

Brian Marks, a College of Business practitioner-in-residence, who assisted Carnasciali with the event, enthused, “Interview4U was truly emblematic of the event’s objective, demographically. It comprised both graduate and undergraduate students and was not limited to students from one particular discipline.”

It’s not uncommon today to hear some college graduates grumble that “adulthood” is hard. Thanks to events like Charger Startup, University of New Haven students are growing up fast. Sometimes a weekend is all it takes.

## Kagya Amoako:

### Tapping into the human body's genius for solving its own medical problems



It's called bio-inspired medical research. It's when Mother Nature acts as both doctor and teacher, rewarding those willing to accept that Mother really does know how to make it all better, and the smartest thing we can do is mimic how she does it.

Assistant Professor Kagya Amoako is one of those people. Leader of the College's new graduate program in biomedical engineering,

his bio-inspired research is blazing an exciting new path, not just in the College, but also in the medical field and in industries connected with it.

A native of Ghana who came to the U.S. in 2000, Amoako received his graduate training at the University of Michigan in Ann Arbor and started his biomedical research there, collaborating with resident M.D.s in the University Hospital and chemistry labs and working on medical device testing. Two and a half years ago, he was recruited by the University of New Haven for the express purpose of designing a Master of Science in Biomedical Engineering program. After putting together a curriculum, writing a proposal and getting it approved by all parties in the University and by the State, he launched the program in Fall 2016.

While overseeing and teaching in the program, Amoako continues the bio-inspired research he started at the University of Michigan.

#### A Bio-Inspired Answer to Medical Device Complications

Medical devices are wonderful inventions that can save lives. They can also cost them. Whether it's a stent, a catheter, an artificial hip or lung, any time an artificial part is introduced into the body, blood can clot on the device, and blood flowing over the clot can break it loose. Once it's on the move, the clot will travel the highways and byways of the bloodstream until it hits a roadblock — a narrowing of the blood vessel to a diameter smaller than the clot. Such a narrowing occurs at the heart, the brain, and the lung. A heart attack, stroke, or pulmonary embolism can follow.

"We give blood thinners such as warfarin and heparin to patients to prevent such events, but these drugs act systemically, compromising normal clotting in all tissue, and much of the dose can be excreted by the body before it gets to where it needs to go," explains Amoako. "This causes physicians to prescribe overly large doses in order to compensate, which taxes the kidneys. And for patients who already have an abnormal clotting system — say, low levels of platelets — systemic blood thinners can lead to severe, life-threatening bleeding complications.

"Can we make a device that has the ability to prevent blood from clotting on its surface in the first place?" he asks. Amoako looks to the human body's anti-clotting mechanism for inspiration and gets a two-word answer: nitric oxide.

Nitric oxide — a gas — is secreted by the endothelial cells on our blood vessels and is constantly released at small levels. Its job is critical. In a healthy body, blood will clot to stop bleeding from a wound, but what helps prevent the clot from becoming too large? Nitric oxide. Through a feedback mechanism in which the body basically says, "Alright, that's enough," nitric oxide halts the growing clot when bleeding has stopped. Amoako is striving to mimic that natural anti-clotting action, only on an artificial surface. He has applied nitric oxide to the surface of medical devices and has prevented clots from forming on them. So far, it has worked for the short term. Will a nitric oxide-treated device that's implanted in someone for six months still do the job? Stay tuned. Amoako is currently working on that very challenge.

Asked if nitric oxide could be a substitute medicine for patients who take a therapeutic dose of systemic blood thinners on a daily basis, Amoako envisioned how that could happen in the future: "Nitric oxide can be packaged into drug delivery vesicles, and it could be released into the bloodstream in controlled quantities. The beauty of that is we could package the nitric oxide with just the quantity needed."

#### A True Renaissance Molecule

Clot busting, however, is only one part of this molecule's skill set. In addition to being a neurotransmitter and a grower of blood vessels, nitric oxide — in the right concentration — can kill bacteria. Basically, it breaks apart the bacteria's cell membrane and messes with the enzyme whose job it is to clear out any damaged DNA. Without that enzyme's cleanup activity, the bacteria cell can't repair itself. End of bacteria cell.

Amoako foresees polymer wound dressings with nitric oxide-releasing material on the side that is applied to the wound.

The anti-bacterial applications of nitric oxide don't stop there. Implant devices — stents, catheters, and artificial joints and organs — are more than just clot sites. Infection is a fairly common occurrence with artificial devices and can be deadly. So, nitric oxide could be something of a molecule in shining armor — a savior that could prevent both clots and site infection when applied to implant devices.

Of course, the operative word at this point is "could." But, Amoako has already started the patent process for his nitric oxide applications and has identified a list of surgical device companies for possible collaboration. He plans to approach them for financial support to continue his research in making the applications a reality. In return, they would acquire the licensing for the technology.

## The Program that Is Bio-Inspiring Students

Amoako brings his passion for bio-inspired research right into the classroom and, in turn, inspires students in the College's new master's in biomedical engineering program.

The students are a dynamic mix. Because biomedical engineering is a highly multidisciplinary field, the students hail from several engineering disciplines as well as natural sciences programs from the College of Arts and Sciences. The faculty is just as diverse. Working with Amoako are a computational chemistry professor who is teaching drug design, an electrical and computer science professor developing bio-sensors and instrumentation, and a physics instructor working on material characterization.

The program is intensely experiential. As the students work their way through learning the material and listening to talks from leaders in industry and

academia, they are tasked with coming up with an idea – identifying a medical need that remains a challenge and proposing a solution that differs from any other solution ever proposed.

Students must also learn how to draft an NIH-format research proposal – a skill not to be underestimated. Most medical federal grants come from the NIH. Students who go on to earn a Ph.D. or work for companies looking for grants need to know their way around writing such proposals.

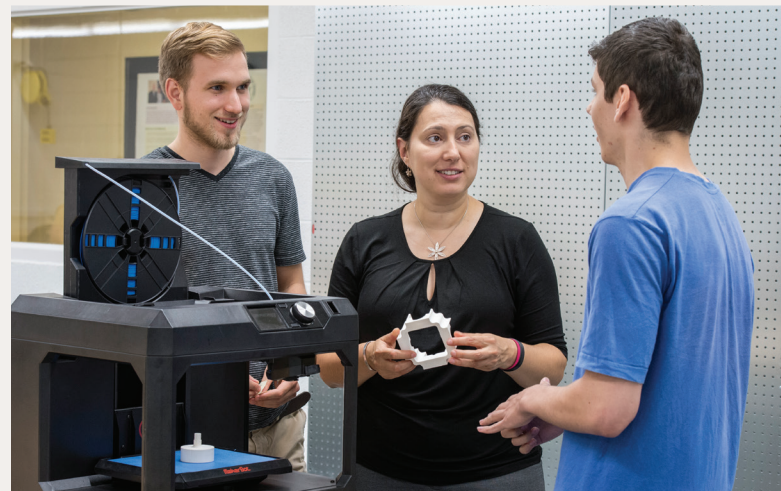
Are any of Amoako's students following in his nitric oxide research footsteps? Yes. One in particular is working on trying to find what level of nitric oxide released is toxic only to bacteria and will not harm dermal human cells – the so-called “happy concentration.”

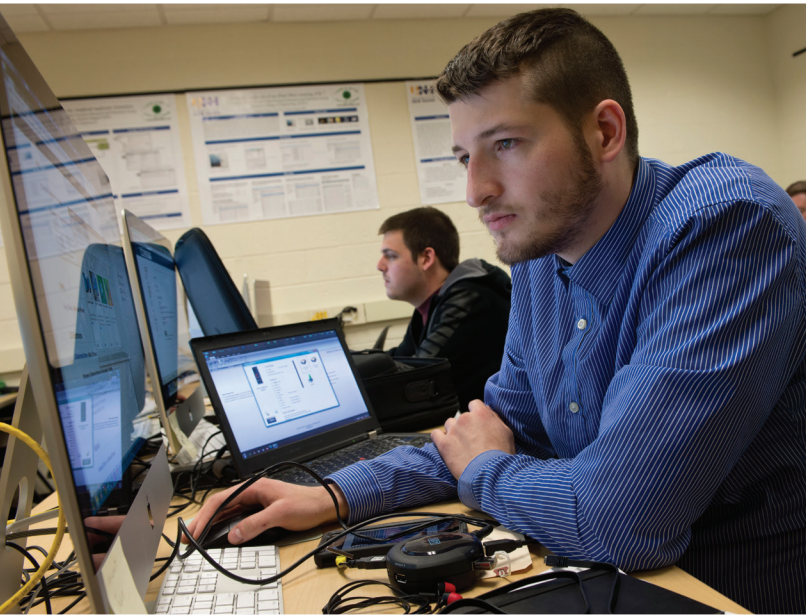
Mother Nature, of course, knows what that is. We just have to pry it out of her.

## Recognizing a Skilled Teacher

If a teacher imparts knowledge and a student learns it, many would consider that a satisfactory outcome. But it would be less than satisfactory for Associate Professor of Mechanical Engineering Maria-Isabel Carnasciali – which is one of the reasons she received the University's prestigious \$25,000 Bucknall Excellence in Teaching Award in November. Excitement, inspiration, and a vigorous back-and-forth dialogue between student and teacher are hallmarks of Carnasciali's classes, where students discover not only the principles of thermal-fluid science, her specialty, but also the untapped abilities lying within themselves.

Carnasciali does more than make existing material exciting to her students, however. She has designed new material, helping to revolutionize engineering education in the U.S., by implementing a Kern Family Foundation grant for the creation of entrepreneurial engineering modules. In addition, her natural enthusiasm, unable to stay within the confines of the college program, spills over to a summer engineering camp – sponsored by Sikorsky – that she runs for high school students. When they later relate what they did over the summer, these students can proudly talk about using a 3D printer to produce parts such as helicopter wings, truck tires, and windmills. And also of the associate professor they would be very fortunate to have in college.





## 8th International Conference on Digital Forensics & Cyber Crime

**(Attention cyber criminals: These people are smarter than you.)**

It was more than a meeting of the minds. It was a meeting of the cyber-brilliant. The Conference that ran from September 28 to the 30th at the John Jay College of Criminal Justice in New York City brought together top researchers and practitioners from diverse fields and various parts of the world, all of them intent on busting one type of criminal — the faceless evil-doer who launches devastating attacks using the Internet.

The conference was co-chaired by Ibrahim Baggili, Elder Family Endowed Chair and founder and co-director of the University of New Haven's Cyber Forensics Laboratory, and Frank Breiting, assistant professor of computer science and co-director of the lab. It was sponsored by Google and Nuix, a leading technology company. What did they talk about? These were a few of the arresting topics: "Exploring Deviant Hacker Networks on Social Media Platforms"; "Social Media, ISIS, and Cyber Terrorism"; "Information Warfare, Business, and Infrastructure Defense"; "Making Sense of Email Addresses on Drives"; and "Byte-wise Approximate Matching," presented by Baggili, Breiting, and Vikram Harichandran. Approximate matching is a promising technology that can be useful for filtering data for security monitoring and digital forensics.



Several workshops gave conference participants hands-on training in the latest developments. One, presented by Tagliatela College of Engineering graduate student Devon Clark, explored the forensics of drones. Participants were supplied with several DAT files from drones and asked to figure out where the drone had been and at what time certain events occurred. Note to law enforcement: These aerial vehicles may be unmanned, but they can still "spill their guts."

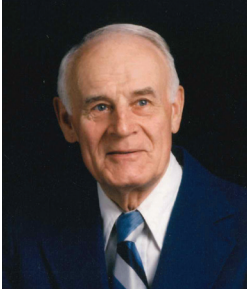
The field of digital forensics and cyber crime investigation is a multidisciplinary one, encompassing law, computer science, finance, telecommunications, data analytics, and policing. So, how do the good guys in law enforcement, national security, and information assurance make sure they cover all the bases?

"It's impossible for one person to be an expert on all of it," stated keynote speaker Elizabeth Schweinsberg, an incident response engineer at Google. "But what we do need is people who know enough about all of it. And then some things, really deeply."



# We Remember

## Professor Ivan Lobay (1911 – 2016)

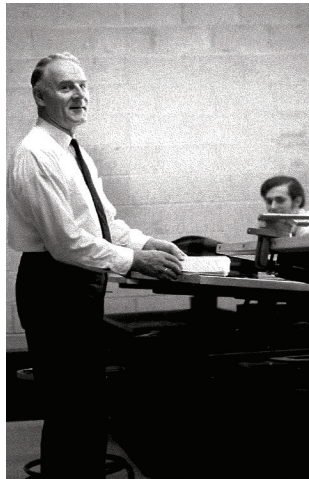


“You have to be passionate about your subject. And then love your students. With that, you will be a good teacher.” One of the most remarkable men ever to grace the halls of the Tagliatela College of Engineering, Ivan Lobay lived his own advice to the fullest – not just during his 15 years teaching at the University – but long after he retired. That is, if you can call the last 32 years of his life retiring. Not many would.

Professor Lobay passed away last March at the age of 104 – still young because he was forever inquisitive, forever learning, forever delighted in the natural world in all its exuberant diversity, and most of all, in the people that flocked to him, magnetically drawn to his *joie de vivre*.

His early life was a turbulent and dangerous one. Born in Ukraine on October 4, 1911, he, together with his mother, his siblings, and their animals, lived in trenches while his soldier-father was fighting with the Austro-Hungarian Army. He lost a young brother and sister for lack of health care. Schooling was almost non-existent. But an uncle taught him enough so that he could get into high school, and from that point on, nothing held him back.

After attending high school in Ukraine and Poland, he spent 1931 to 1940 at the German Higher Technical School in Brno, Czechoslovakia, where he earned his first mechanical engineering degree. He pursued a career in industry in Brno but left to become a lecturer at the Technical institute in Lviv in Ukraine – then under German occupation. In 1943, he returned to Brno and taught at the Higher Technical School until 1945. That same year, he became Chief Engineer with U.S. Army units in Regensburg, Germany, a post that lasted two years.



Venezuela was next. After holding positions as engineer for the Department of Sanitation in Caracas and professor at two universities there, in 1962 Lobay's path, at long last, swung toward the U.S. and to the University of New Haven.

One of his first orders of business was setting up a mechanical engineering laboratory and stocking it with the necessary equipment. And no industry offloads past their sell-by dates, thank you very much. As he instructed



then-dean Konstantine Lambrakis, his equipment-shopping partner, “Don't get junk. Get cutting-edge stuff.” They did. Together, they also were responsible for transforming the engineering curriculum into an accredited four-year program.

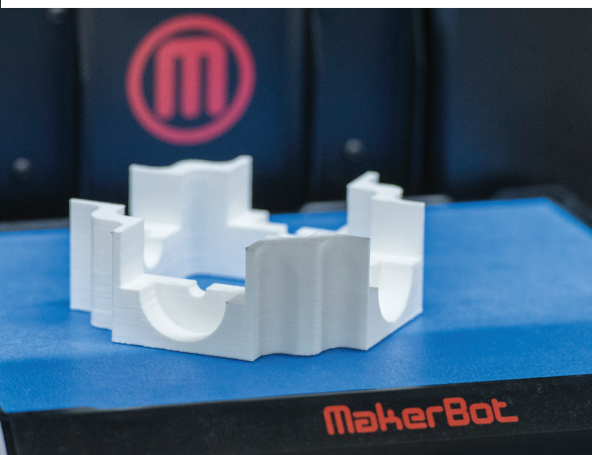
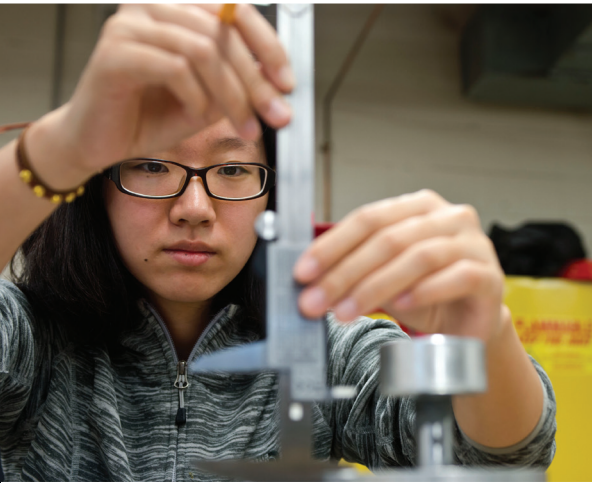
Lobay was the epitome of the European-educated engineer – one well-versed in other engineering disciplines and other fields of study, scrupulously well-mannered, and with a finely tuned sense of duty. As a teacher, he was tough, demanding, and disciplined but also understanding when the situation called for it. A student might be having an especially bad day and perform badly on a written exam. Lobay would offer a second chance, mentoring the student and then administering an oral exam to replace the original written one.

Lobay retired from the University of New Haven in 1977 at the then-mandatory age of 65, taught in Algeria for the next five years, and returned to the University in 1983 to teach part-time for another year

The next 32 years of his life were filled with activities and contributions. As Official Consultant at the Ministry of Education in Ukraine, he assisted that country's institutions and lectured widely throughout its cities. These were years of continual learning as well. In his late eighties, he began studying quantum physics and astrophysics, reflecting his fascination with the small and the huge. “Be always open to learning anything from anyone,” he often said. That included the class of eight-year-olds who used to write to him after he turned 100. In return, he gave them the best life advice he knew: “Be brave. Be not afraid of difficulties.”

His daughter Maria summed up why people loved her father so much: “He always treated people as if they had been his friends for 100 years.”

Make that 104 years.



## We Love a Good Challenge — Especially When It's Worth \$15,000

As part of the University of New Haven's 2016 Homecoming Challenge "Let's Get Crackin'," alum Mark Francis, B.S. in Mechanical Engineering, '86, agreed to match any gifts made to the Tagliatela College of Engineering Innovation Fund dollar-for-dollar up to \$7,500. Over 80 alumni and friends took that ball and ran with it, easily providing more than \$7,500 in contributions — in only two weeks. The gifts will fund equipment and student-centered innovative projects.



## The Right Stuff: New Equipment Gives Makerspace a Boost

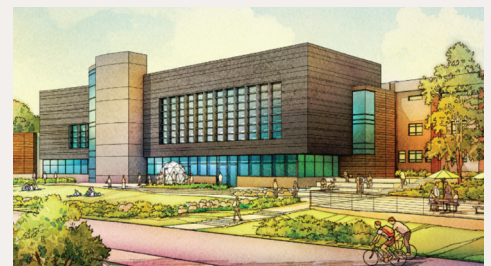
What makes a Makerspace a more marvelous place? Recently, it was two generous donors who contributed a total of \$50,000 for new equipment. Dennis Martin, a 1981 B.S. in Industrial Engineering graduate of the University of New Haven and another alum-donor, who prefers to remain anonymous, each gave gifts of \$25,000. The gifts will be used to purchase light equipment such as an electronic cutting machines, a tabletop 3D carving machine, a small part CNC milling machine, a vinyl cutter, more 3D printers, and even a sewing machine!

The Makerspace, located in engineering's Buckman Hall, is an interim space, providing a venue for tinkering and innovation until the University's dazzling new 40,000 square foot Bergami Center for Science, Innovation, and Technology opens in a few years. Funding for the Center includes a sizable naming gift from long-time donors Sam and Lois Bergami, who have helped fund several other cutting-edge facilities on campus.

But, until then, there will be no stopping our student innovators, thanks to the beautifully timed gifts for equipment that will ensure great ideas still see the light of day.

### BERGAMI CENTER FOR SCIENCE, TECHNOLOGY, AND INNOVATION

- Currently in design phase
- 40,000 square feet, 3 Floors
- Will combine Media & Communications
- 3D Visualization Technology Suite
- Collaborative Classrooms
- Innovation Laboratory
- **Anticipated opening 2019**



## Alumni Dinner and Hall of Fame Awards

### Exemplary. Distinguished. Outstanding.

The best of the best were lauded at the Alumni Dinner on October 13 for their vision and generosity, career achievements, and triumph over formidable odds. First to be honored was The Kern Family Foundation, which received the Exemplary Partner Award for its financial support of the College in conjunction with a daring vision to transform the field of engineering by making the 21st century engineer an entrepreneurial thinker as well as an applied science professional. Toward that end, the Foundation began with multiple grants totaling \$320,000. An enormous single grant followed – \$875,000 for the development of e-learning modules and the creation of experiential learning opportunities to promote an entrepreneurial mindset. It has enabled the College to form a strong new identity, a distinctive brand of educators who form dynamic professionals with the business savvy to go beyond their designs and inventions to actually marketing and selling what they invent.



Michael H. Ambrose, who graduated with a B.S. in Mechanical Engineering in 1984, received the Distinguished Lifetime Alumni Award. Upon graduation, his career path led straight to Sikorsky and wound its way through the company for the next 32 years, as he held positions ranging from tool designer in Manufacturing Engineering to fixture designer for the Blackhawk airframe to Chief System Engineer in Design Engineering for the UN-60M BLACK HAWK. Currently, he is Vice President of Aircraft Design and Manufacturing Engineering. He was part of the S-92 development team that received the American Helicopter

Society's 2000 Gruppo Agusta International Fellowship award. He is also the recipient of two U.S. patent awards. Elected to the University's Board of Governors in 2015, Ambrose was a member of the Alumni Association for eight years and president of the Board of Directors for two of them. A devoted mentor to students, he is a consistent donor, and in 2011 this former track star founded the Mike Ambrose Endowed Scholarship for student track athletes majoring in engineering.



One look at Terence Dew's story and it's no mystery why this 2012 graduate of the University went home with the Outstanding Young Alumni Award for his amazing career progress in just a few short years. Coming from a high school background that had no computer or programming classes, Dew made up for lost time once he was accepted to the University of New Haven by majoring in both computer engineering and electrical engineering. After landing two successful positions following graduation, first with iDevices in Avon, Connecticut and then with BrightSpot Creative in Meriden, today he is Founder and CEO of his own company, Knodeswap LLC in Jamaica, New York. Knodeswap's mission derives from Dew's own life experience. The company seeks to develop under-resourced, impoverished communities and inspire future innovators. The STEAM Academy was born from this mission and currently teaches S.T.E.A.M. (Science, Technology, Engineering, Art, and Mathematics) to 400 at-risk children throughout New York City.

### Generosity at Work continued



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The University of New Haven's \$100 million **Charger Challenge** campaign is already shaping our future. To see, first-hand, the innovative and creative work our students are doing, please join us at the **34th Annual Alumni Scholarship Ball** on **Saturday, April 22, 2017.**