



Walking on Water

Budding engineers test their ingenuity in the annual RecPlex race. — Page 16



Entrepreneurial Spirit

The **SOE's Team Redimed** participated in the Dolan School of Business' Fairfield StartUp Showcase last year and did its best to pitch a contraption designed to sort, dispense and track medications and supplements.

Fairfield StartUp is a yearly program of events through the Dolan School of Business designed to foster young entrepreneurial talent at Fairfield University through engagement with mentors and investors drawn from alumni and local business communities.

Starting with the Kickoff in September, prospective students are shepherded

through a sequence of educational, networking and mentoring events designed to help them ideate and articulate their business models, recruit teams and mentors and attract partners and other resources needed to start their businesses.

The program culminates each year at the StartUp Showcase, where students negotiate live with investors for seed money to start their businesses.

Watch this year's Fairfield StatUp on Thursday, April 6 at 6:30 p.m., Quick Center for the Arts

Dean
Bruce W. Berdanier, PhD

Associate Dean
Ryan Munden, PhD

Assistant Dean
Marcia Arambulo Rodriguez MOT '15

SPRING 2017
Integrated Marketing Manager
Tess Long '07, MFA '11

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Message from the Dean

Friends,

It is that time of year to reflect on the happenings in the School of Engineering (SOE) at Fairfield University. We started the fall of 2016 with a different mix of students than we had been experiencing the past few years. Our undergraduate population stayed steady at more than 270 students, made possible by the great work of **Associate Dean Ryan Munden, PhD**, in recruiting new transfer students from two-year community college pre-engineering programs in Connecticut.

We are pleased and excited to welcome **Adrian Rusu, PhD**, as our new chair of Electrical and Computer Systems Engineering (ECSE) as well as **Mehdi Safari, PhD**, who joined us as a new assistant professor in Mechanical Engineering. Dr. Rusu will be working closely with the faculty in the ECSE Department to reconfigure our programs and restructure our curricula to be more responsive to emerging market needs, especially in computer science and engineering.

The **Servo-Robot Group** continues as the **Fairfield SOE Engineer-in-Residence** for 2016 and 2017. Engineers from Servo-Robot Group work in the SOE Applied Research Laboratory at both the graduate and undergraduate level under the direction of **Amalia Rusu, PhD**, and in close collaboration with **Servo-Robot CEO Jean – Paul Boillot**.

The **Society of Automotive Engineers (SAE) Baja Buggy Team** continues to fabricate their first vehicle slated for the June 2017 competition in Illinois. Under the guidance of their advisor Professor Wojna, they have made great community connections for funding and fabrication assistance. We are so pleased to have the assistance of the master artisans at two Bridgeport companies, **Dragone Motors** and **Automotive Restorations**.

The Fairfield University **Engineers Without Borders (EWB)** student chapter continued its successful collaboration with South Dakota State University students in Bolivia. The two slow sand water filters are

approximately 90 percent complete for the campus and community in Carmen Pampa, Bolivia after three student-led trips in the summer of 2016.

As I close this message to all of you, I encourage you to read the news articles enclosed to catch up on our activities this past year. We expect many great adventures and accomplishments with our students as we continue to grow and mature.

Sincerely,

Dr. Bruce W. Berdanier, PE, LS, FASCE
Dean of Engineering

Follow us on social media:

- FairfieldUniversitySOE
- @fairfieldu_soe
- @fairfieldu_soe

Taking a Lead

In a recent surge of rankings over the last few months, Fairfield University and the School of Engineering have found themselves among top universities in a number of areas — including top rankings for STEM education, starting salaries and overall quality.

The picture that is emerging is an encouraging one: Fairfield is highly regarded. Its programs are among the best in the country. Its students succeed. Taken together it is a hard message not to like.



Best Colleges rankings among institutions that provide a full range of undergraduate majors and master's programs.

Fairfield is one of **9** U.S. universities among the list of "rising stars" in global higher education.
— As reported by Times Higher Education 2016.



Success isn't conjured. It's engineered.

Fairfield University's School of Engineering offers four **graduate degree programs** as well as **graduate certificate programs** in a number of specialty areas. Our skilled faculty will help you advance your career by empowering you to better understand complex issues and work more effectively.

- **Certificate Programs**
- **Master of Science in Electrical and Computer Engineering**
- **Master of Science in the Management of Technology**
- **Master of Science in Mechanical Engineering**
- **Master of Science in Software Engineering**
- **5 Year BS/MS Programs in Engineering**

Aaron Martin, MS in Mechanical Engineering

"I live in Stratford, Conn. and I'm a mechanical engineer. As an associate and as a project manager, I'm in charge of coordinating all the trades for the architect directly with the owner. I'm basically the communication point person between our firm and our client. I looked at several schools in the area and I was impressed with the well-established program.

I was at Fairfield from when I got married all the way until I had my daughter. The flexibility was the best part for me. The professors were really good, really knowledgeable, really understanding when I had work commitments, even family commitments. Take your time at Fairfield and take the classes you want. If you plan it out right, you get exactly the knowledge you want out of it."



Aaron

was able to complete his MS in mechanical engineering while balancing work and family commitments.



Paving the Way for Undergraduate Success

The SOE provides integrated opportunities for students to learn from alumni and sharpen their real-world capabilities by providing greater access to career fairs, internships, discussion panels and networking events throughout the year coordinated with our Career, Leadership & Professional Development Center.

BEYOND THE CLASSROOM

Professional Development Series

From our “backpack-to-briefcase” event to mock interview for internships and jobs, to networking with SOE alumni, the Professional Development Series prepares career-ready engineers for the world after graduation.

Community Engagement

The SOE maintains direct relations with area industries and manufacturers. These open lines of communication encourage the flow of information and support to keep the engineering curriculum current and relevant to the industry environment.

Service Learning

An experiential approach to teaching and learning links academic study and community service so that each is strengthened—and both are transformed.

CAREER, LEADERSHIP AND PROFESSIONAL DEVELOPMENT CENTER

The Career, Leadership and Professional Development staff works with undergraduate and graduate students as well as alumni and is committed to helping Stags throughout the career development process.

Comprehensive Services & Tools

- Planning and conducting an internship or full-time job search
- Resume development and critiques
- Interview and networking skills

Stags4Hire

An interactive job and internship site built specifically for Fairfield students.

SOME OF THE COMPANIES THAT HIRE FAIRFIELD SOE GRADS:



Passion & Purpose: our graduates build vital, meaningful lives. They think critically and independently, they know how to lead and how to work together, and they've done enough important work in the world to know why their work - and their world - matters.

Marcia Arambulo Rodriguez MOT '15, assistant dean of SOE, advises first-year electrical engineering student Taevon Walker '20.

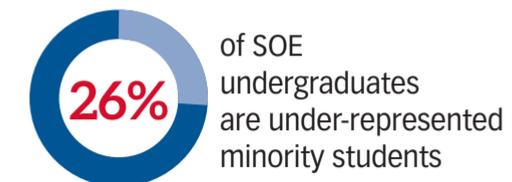
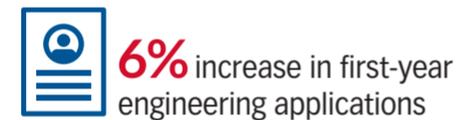
SOE Grad's Median Starting Salary:

\$65k

Placement Rate:

96%*

**of the Class of 2016 secured full-time employment, enrolled in a graduate or professional school, or are participating in a volunteer service program within six months after graduation.*



Alumni Profile - Ryan Shearman '09

RYAN SHEARMAN '09 Founder & CEO, FUSAR

Less than a month after graduating, mechanical engineering major Ryan Shearman '09 was hired as an R&D engineer by a leading architectural home hardware company based in New York City. After a short stint on their R&D team, the owner of the company learned about the electric motorcycle Shearman built as part of his senior capstone project at Fairfield and offered him a new, more hands-on position establishing a new manufacturing department at the company's production facility on Long Island.

Shortly thereafter, Shearman took a position working as a product development engineer for world-renowned jewelry company, David Yurman. He joined the men's product team, where he was responsible for developing some of the company's most successful men's collections.

"It was at Yurman that I had the opportunity to mix my creativity with my experience in



manufacturing and bring new and exciting products to the market in ways I hadn't done before," said Shearman, who was later approached by a competing company who sought his expertise to help launch its own line of men's products.

"That's when things got interesting," Shearman continued. "Long story short,

Yurman offered me six months severance to not take the other job. I accepted their offer and used the next six months to figure out what my next step would be."

It was during that time that Shearman started tinkering with a new idea and throughout the last few months of 2013, he was able to lay the groundwork for what would become FUSAR — which he says stands for the "fusion of technology and adventure." He describes it as "the world's first hardware/software technology platform for action sports." Shearman enlisted the help of his sophomore year roommate, Clayton Patton '09, and the two have been at it for three years now. They have been able to successfully raise more than \$3.5M in investment capital, build out a highly skilled team and launch four products globally.

"I wouldn't have been able to take FUSAR this far without all of my previous experiences," he said. "And Fairfield is where it all began."

New Engineering Faculty



MEHDI SAFARI, PhD, joined the School of Engineering as an assistant professor of mechanical engineering in 2016. His research areas are thermal-fluid science, computational fluid dynamics (CFD), turbulent combustion, propulsion, energy efficiency and numerical simulation. Mehdi received his PhD from Northeastern University in 2014 and previously, he was an assistant professor at Miami University in Oxford, Ohio. He enjoys marathon running and hiking when away from work.



ADRIAN RUSU, PhD, is the chair of the Electrical and Computer Systems Engineering Department. He comes from Rowan University where he was a professor of computer science. His research expertise is primarily in information visualization, software engineering and edutainment, but he is especially effective in interdisciplinary innovations and student mentoring. Through external collaborations with the industry, he has created research and teaching opportunities worth over \$1 million. Dr. Rusu chairs the IEEE-CT Entrepreneurs Network. His son Alex has also joined Fairfield's SOE this year. As a hobby, Adrian is active as a top-level state soccer referee in Conn.



JEAN-PAUL BOILLOT, chairman and CEO of SERVO-ROBOT continues to serve on the SOE Advisory Board and visit campus monthly to mentor students and faculty. **SERVO-ROBOT sponsors Fairfield's Engineer-in-Residence and Applied Research laboratory programs.**



Faculty Newsbreakers

DOUG LYON

Awards and Honors: Completed sabbatical at Yale University, conducting research in the area of natural language processing.

JAMIE MACBETH

Publications: J. Macbeth, M. Barionnette, "The Coherence of Conceptual Primitives," *Advances in Cognitive Systems* (ACS-16), Chicago, Illinois, June 23-26, 2016.

D. Patton, K. McKeown, O. Rambow, J. Macbeth, "Using Natural Language Processing and Qualitative Analysis to Intervene in Gang Violence: A Collaboration Between Social Work Researchers and Data Scientists," *Bloomberg Data for Good Exchange* (D4GX 2016), New York City, New York, September 25, 2016.

SRIHARSHA SRINIVAS SUNDARRAM

Awards and Honors: Named Brinkman Family Professor of Micro/Nano Manufacturing.

Senior design team comprising Calvin Champa, Christopher Gutierrez, Joseph Koelsch and Huy Nguyen received award of \$1000 from CT Space Grant Consortium for their project "Micro Bioreactor Array for Tissue Engineering Applications".

Publications: S. Sundarram, D. Jose and C. Gutierrez*, "Fabrication of Bulk Skinless Polyetherimide Nanofoams," ASME IMECE 2016, Phoenix, AZ, November 2016.

Presentations: S. Sundarram, D. Jose and C. Gutierrez*, "Fabrication of Bulk Skinless Polyetherimide Nanofoams," ASME IMECE 2016, Phoenix, AZ, November 2016.

Talks: "Effective Listening Skills – Why is it important?" at ASME FutureME Mini-Talks, ASME IMECE 2016, Phoenix, AZ, November 2016.

HARVEY HOFFMAN

Presentations: H. Hoffman, "Results and Implications of an Engineering Capstone Course Faculty Survey," 2016 International Conference on Industry, Engineering and Management Systems (IEMS), Cocoa Beach, Florida, March 14- 16, 2016.

Publications: H. Hoffman, "Results and Implications of an Engineering Capstone Course Faculty Survey," *The Journal of Management and Engineering Integration*, Vol. 9, No. 2, 31-39, Winter 2016.

JEFF DENENBERG

Application Development: Developed and released "Punchthru," a new communications app for Apple and Android phones. It provides fast, hands-free, voice messaging between registered users.

DJEDJIGA BELFADEL

Awards and Honors: Received Clare Boothe Luce funding for professional development

Presentations: D. Belfadel, Y. Bar-Shalom, and P. Willett. "Simultaneous Target State and Passive Sensors Bias Estimation," presented at the 19th International Conference on Info. Fusion, Heidelberg, Germany, July, 2016.

D. Belfadel, Y. Bar-Shalom. "Absolute Radar Registration Using Targets of Opportunity," Accepted for Oral presentation to be presented at Signal Processing, Sensor/ Information Fusion, and Target Recognition XXVI," Anaheim, California United States. April 2017

Publications: D. Belfadel, Y. Bar-Shalom, and P. Willett. "Statistical Efficiency of Simultaneous Target State and Sensor Bias Estimation." Accepted by ISIF/IEEE *Journal of Advances in Information Fusion*.

D. Belfadel, Y. Bar-Shalom, and P. Willett. "Space Based Sensor Bias Estimation in the Presence of Data Association Uncertainty." Accepted by ISIF/IEEE *Journal of Advances in Information Fusion*.

UMA BALAJI

Awards and Honors: Faculty research committee grant for research on "Annular Ring Patch Antenna for Dual Band Operation," 2016.

Pre-Tenure Sabbatical Leave to work on "Characterization of Multi-layered Dielectric Materials for High Frequency Applications," Spring 2017.

Publications: U. Balaji, "A Research-Based Assignment in a Course on Communication Systems to Infuse Technology Applications in Humanitarian Action," Proceedings of Fall 2016 ASEE Mid-Atlantic Regional Conference, October 2016.

U. Balaji, "A New Approach to Teaching Robotics to High School Students," accepted for publication in the electronic version of *Technology and Engineering Teacher Journal* (eTET) of ITEEA.

Presentations: U. Balaji, "A Research-Based Assignment in a Course on Communication Systems to Infuse Technology Applications in Humanitarian Action," at the Fall 2016 ASEE Mid-Atlantic Regional Conference, October 2016, Hempstead, NY.

SHAH ETEMAD

Awards and Honors: Named Bannow-Larson Foundation Professor of Advanced Manufacturing.

AMALIA RUSU

Awards and Honors: Received Clare Boothe Luce funding for professional development.

Named chair of IEEE-CT Joint Chapter of Computer; Systems, Man and Cybernetics; and Social Implications of Technology.

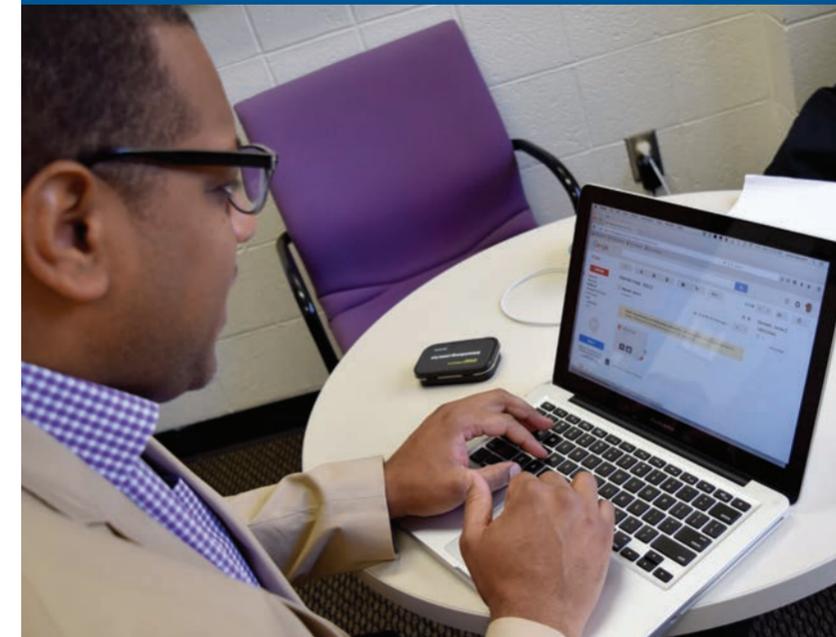
SOE Computer Science Prof's Research Helps Fight Cyberbullying

After completing his PhD at UCLA and post-doc study at both MIT and at Clemson University, Jamie C. Macbeth, assistant professor of computer science in the School of Engineering, brought his

cutting-edge research on cyberbullying prevention to Fairfield last year.

Generally speaking, Dr. Macbeth, a New York City native, conducts research on the intersection between human computer interaction and intelligent systems or artificial intelligence (AI) with the goal to build intelligent systems that can help people — and society — with cyberbullying issues.

Read the full article online at fairfield.edu/soe



Reaching Out

A School of Engineering service project helps Bridgeport's Harding High build a robot for competition.

In the past year, students in Fairfield's School of Engineering have learned that it takes a village to build a robot. That village extends from the Fairfield campus to Warren G. Harding High School in Bridgeport. It includes students, faculty and staff at both institutions as well as off-site supporters and alumni.

Read the full article online and learn more about service learning courses at Fairfield.edu/soe

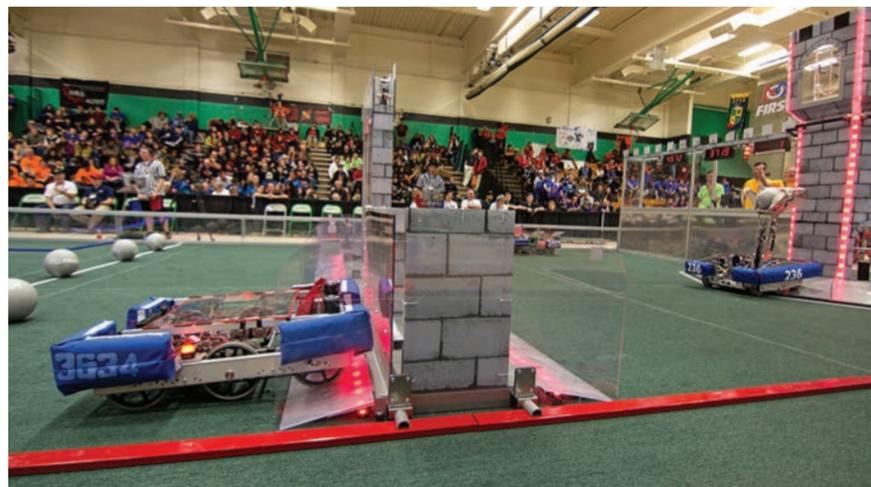


photo credit: Kimberly Eckhardt



(l-r) David Jose '16 and Vinicius Vieira Zanardi '16 in the Micro/Nano Manufacturing Lab.



Kristen (Rydberg) Costagliola '12

Senior Software Engineer, Datto, Inc.

Kristen (Rydberg) Costagliola '12, a computer engineering major, **had a full-time job offer with the Royal Bank of Scotland (RBS) the summer after graduating from Fairfield.**

She had test-driven the company by taking an internship with RBS the previous summer. Once full-time, Costagliola entered into an RBS rotational program working in programming languages such as Java, C Sharp and scripting languages such as Perl.

Now, Costagliola is a senior software engineer at Datto, Inc., a data protection company, where she supports its financial systems.

While a student at Fairfield, Costagliola was a Resident Assistant (RA) in Loyola Hall. She was very involved in campus ministry as a Eucharistic Minister and Kairos retreat participant. She also worked at the Help Desk in Computer and Networking Services.

"One of the greatest things I learned at Fairfield was how to learn something new and pick up the skills that are necessary to achieve what you want," Costagliola said. "I also learned how to find things you are passionate about and pursue those areas and to do something that improves the world around you."

Fairfield Students Engineer Clean Water in Bolivia

This past August, Dean of the School of Engineering Bruce Berdanier, PhD, along with Assistant Dean Marcia Arambulo Rodriguez traveled to Bolivia with a group of five Fairfield students to build a water filtration system.

Through the Engineers Without Borders (EWB) Fairfield chapter, established in 2015, the group planned extensively throughout the year and had several ventures - this summer and in years past - to complete the mission of clean water for the region.

"Sometimes the students get sick because it's so high up," said Dr. Berdanier about their home base in Bolivia and partner school, Universidad Academica Campesina, Carmen Pampa (UAC-CP), which is about 90 kilometers northeast of La Paz at nearly 14,000 feet above sea level.

It's a mountainous, lush and jungle-like region containing about 20 small villages that are served by UAC-CP, which has approximately 700 students. Half the people in these villages still don't have indoor plumbing so stomach distress from pathogens in the water plagues them.

The area is also starting to experience water pollution from agricultural run-off.

Through Dr. Berdanier, whose international service work expertise spans more than 25 years, Fairfield University's ventures to Bolivia with EWB have covered a few years and have taken the project from "assessment trips" to determine the needs and complexities of the area and water system, to the hands-on building of a filtration system that's fed by one of the area's two waterfalls. The filtration system that was erected during the August trip channels water through layers of sand to eliminate the dirt and parasites. It then transfers the water to a chlorinator to kill actively growing pathogens.

"I have never seen a team comprised of people who came from different worlds and spoke different languages accomplish so much while working together," said Kacper Laska '18, a junior in the School of Engineering who was part of both the planning process and the work trip.

The Fairfield group stayed in dormitories at UAC-CP and worked with local students,

South Dakota State University students and other volunteers to bring the project to life.

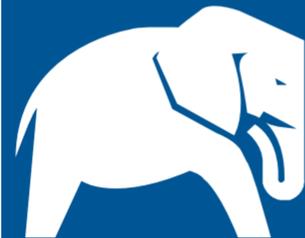
Hugh Smeltekop, executive director of the Carmen Pampa Fund and project collaborator, said, "The students from Fairfield University were excellent critical thinkers, flexible, hard-working and creative: all necessary traits for this kind of work. And the team involves the students at the UAC-CP and the community to ensure that everyone is informed of the need for clean water, and how we can work together to make that happen."

Dr. Berdanier explained that the project, which has received funding from several local partners including Aquarion Water Company and the Fairfield Rotary Club, is a globalized experience for the students that helps them see engineering as "the service profession that it is."

"What we do here - that's our mission - to solve the big problems in the world," Berdanier said. "We build our curriculum around society's biggest challenges. Everything that we build or design - it's about fulfilling a need or challenge."



Dean Bruce Berdanier surveys the mountain and works with students on building the slow sand water filtration system in Carmen Pampa, Bolivia.



Tanzania Service Learning Immersion Summer 2017

Fairfield SOE students will travel to the East African nation of Tanzania to install solar panels and experience culture and wildlife.



Five Fairfield University students: Christina Ficaro '18 (co-president SWE), Kathryn Higgins '18 (co-president SWE), Ravina Hingorani '17, Sarah Rybacki '17 and Maria Fedele '17 attended the Society of Women Engineers (SWE) annual conference, the largest event of its kind for women engineers, at the Philadelphia Convention Center this past fall.

More than 11,700 women engineers from all over the world attended the weekend conference that included opportunities for networking, special events, awards, information sessions and the WE16 Career Fair.

2016-17 SOE Senior Design Projects

Student Senior Design teams received funding through the Hardiman-Lawrence research funding endowment to support their research and development work with SOE faculty.



Degree Key

C: Computer Engineer

E: Electrical Engineer

M: Mechanical Engineer

S: Software Engineer

TEAM 1 - Experimental and Numerical Investigation of Advanced Fluidized Bed - Spouted Reactor

Advisors: Dr. S. Etemad, Dr. M. Safari, and Dr. B. Baird (Precision Combustion, Inc., N. Haven, CT)

Number of students: 4 Mechanical
Sanclemente, Gustavo - M
Sorgenti, Stephen - M
Pysarchyk, Michael - M
Cornwell, Geoffrey - M

TEAM 2 - Micromouse Design and Development

Advisor: Dr. U. Balaji
Number of students: 2 Mechanical, 1 Electrical, 1 Computer
Corsetto, Vincent - M
Ochoa, Christina - E
Rybacki, Sarah - M
Stewart, Andrew - C

TEAM 3 - A Quiet Shop Vacuum

Advisor: Dr. J. Denenberg
Number of students: 2 Mechanical, 1 Electrical, 1 Computer
Arabia, Fernando - M
Rinaldi, Christopher - E
Magnotta, Rock - M
Mentonis, Maxwell - C

TEAM 4 - Micro Bioreactor Array for Tissue Engineering Applications

Advisor: Dr. S. Sundarram
Number of students: 4 Mechanical
Gutierrez, Christopher - M
Nguyen, Huy - M
Champa, Calvin - M
Koelsch, Joseph - M

TEAM 5 - Wear Free Transfer of Electrical Power and Fluids to Translating Stages

Advisors: Dr. S. Etemad and Dr. A. Judge (ASML, Wilton CT)
Number of students: 4 Mechanical
Soni, Pinal - M
Olmstead, Ethan - M
Jago, Alison - M
McManus, Julia - M

TEAM 6 - Suture Diameter Measurement System

Advisors: Dr. R. Munden and J. Festa (Medtronic Inc.)
Number of students: 1 Mechanical, 1 Electrical, 1 Computer
Anastasio, John - M
Ganic, Dzermal - E
Kennedy, Daniel - C

TEAM 7 - Automated Unpacking System for Jewelry Charms

Advisors: Dr. M. Zabinski and R. Rossilli (Northeast Laser & Electropolish, Monroe, CT)
Number of students: 3 Mechanical, 1 Electrical
Kharbouch, Karim - M
Turano, Dennis - M
Fedele, Maria - M
Ali, Andalib - E

TEAM 8 - Robust Kernel-Based Object Tracking with Multiple Kernel Centers

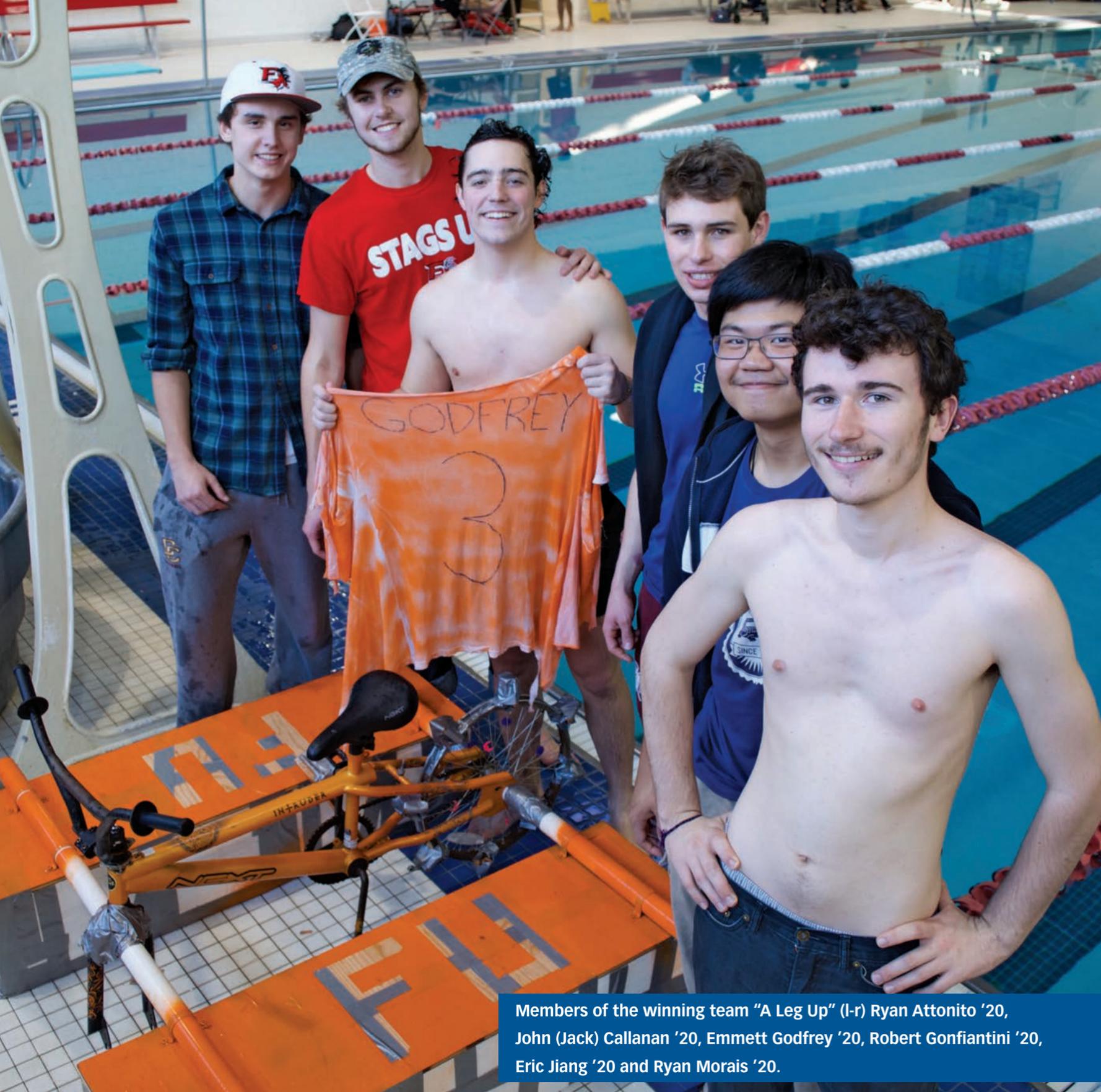
Advisor: Dr. D. Belfadel
Number of students: 2 Mechanical, 2 Electrical
Wright, Michael - E
Dube, Kyle - M
Tavcar, Andrew - M
Nussbaum, Kerin - E

TEAM 9 - Aircraft Conflict Resolution Cataloger

Advisors: Dr. Ad. Rusu and M. Paglione (Federal Aviation Administration)
Number of students: 1 Software, 1 Computer, 2 Electrical
Hingorani, Ravina - E
Danick, Andrew - E
Paulin, Joseph - S
Phillips, Davina - C

TEAM 10 - Ferrofluid Windmill

Advisors: Dr. R. Munden and Dr. A. Judge (ASML, Wilton, CT)
Number of students: 3 Mechanical
Brown, Keniel - M
Gleason, Connor - M
Ashong, Julian - M



Members of the winning team “A Leg Up” (l-r) Ryan Attonito ‘20, John (Jack) Callanan ‘20, Emmett Godfrey ‘20, Robert Gonfiantini ‘20, Eric Jiang ‘20 and Ryan Morais ‘20.

Walking on Water

Budding engineers test their ingenuity in the annual RecPlex race.

School of Engineering (SOE) Associate Dean Ryan Munden, PhD, tells his students, “As an engineer, you very well may have another person’s life in your hands. Say you design an airbag sensor — it’s not okay to just say ‘I tried hard.’ It has to work. Period. So, there has to be a time where performance matters.”

And the time where it really does matter is during the annual “Walk-on-Water” competition. Each fall, teams of students, mostly first-years and some sophomores, put their “EG31 Fundamentals of Engineering” course skills to the test with kinetic, project-based design work to build a contraption that must “walk on water” or rather, align with engineering principles to get them efficiently across the RecPlex’s 8-lane, 25-meter pool in record time, for a grade.

“It is a high-stakes event. [The students] have to make it across the pool or they don’t pass. It’s worth 20 percent of their grade,” said Dr. Munden, who helped to re-design the course and introduced the competition five years ago.

Sound harsh? Perhaps a bit. But, Dr. Munden explained that it’s a tried and tested project, and that students have plenty of time to develop their ideas and work out

details. When the project first started in 2012, there were 55 student participants from two course sections. Today, there are more than 80 student participants from four course sections.

Emmett Godfrey ‘20, a member of this year’s winning team, “A Leg Up,” said the project was “really interesting” and that, in the end, it helped the entire first-year engineering class bond.

“You are forced to work in a team environment and it was a great introduction to what working on a team in real life would be like,” Godfrey said.

The “A Leg Up” team’s winning contraption made it across the pool in 25.3 seconds. The team consisted of Godfrey and his

All participating teams had a budget cap of \$100 for building the machines. They had to acquire all the materials themselves and were encouraged to use spare, unused and recycled materials.

Moving “beyond the textbook” is what really attracts students to the project, according to Dr. Munden. After the presentations, he schedules team meetings to offer detailed feedback.

“It’s putting it all into action that counts for post-graduation work. All of our students go through the machine shop,” Dr. Munden said. “No matter what field of engineering they end up in, they have to know how things are made and how to be kind to technicians. It’s tricky to make things, especially if they’re

As an engineer, you very well may have another person’s life in your hands. Say you design an airbag sensor — it’s not okay to just say ‘I tried hard.’ It has to work. Period. So, there has to be a time where performance matters.”

- Dr. Ryan Munden

classmates Ryan Attonito ‘20, John Callanan ‘20, Robert Gonfiantini ‘20, Eric Jiang ‘20 and Ryan Morais ‘20.

going to be things that change the world.”

Read the full article online at Fairfield.edu/soe

Student Accomplishments

2017 BEI Scholarships

Jerome Davis '19
Luis Lopez '17
Jacob Musto '18
Kerin Nussbaum '17
Ethan Olmstead '18
Christopher Rinaldi '17
Gustavo Sanclemente '17
Pinal Soni '17
Andrew Tavcar '17
Calvin Thomas '19

Bernadette & John Porter Scholarships

Jason Alderisio '17
Christopher Calitri '17
Courtney Cockings '17
Evan Feil '18
John Finazzo '19
Nicholas Formus '18
Travis Fuller '17
Matthew Gagliano '18
Wondmaineh Girum '19
Tejaswini Gorati '17
Sandra Grandic '19
Jung Soo Kim '18
Chagney Nixon '22
Andrew O'Brien '17
Hanna Orlovska '17
Yashodha Savadi '18
Veronica Schroeder Sanchez '17

NASA Grants and Scholarships awarded to SOE Faculty and Students:

Christopher Gutierrez '17 received a NASA grant for his project, which focused on creating a device that would have various medical applications, such as testing medicine or drugs on the different types of tissues or organs, and **Julia McManus '17** received a grant to continue to redesign the power transfer in microchip manufacturing equipment. Earlier this semester, four students from the SOE were each awarded \$5,000 scholarships for their excellent academic performances: **Michael Wright '17, Ravina Hingorani '17, Samuel Nguyen '19** and **Sarah Kurtz '19**.

2016 Student Recognition Awards: Undergraduate Student Achievement Award and the Angela R. Anderson Award: Last April, **Blanca Aca-Tecuanhuehue '16** was recognized for her commitment to women in science. Throughout her time at Fairfield, Aca-Tecuanhuehue volunteered at local middle and high schools helping educate girls about STEM. Additionally, she was a Magis Scholar, president of the Society for Women Engineers, a member of Alpha Sigma Nu, Tau Beta Phi and Pi Mu Epsilon, a recipient of the Christopher B. Love Student Achievement Award, and served as President of the National Society for Collegiate Scholars.

SOE Graduate Service Award:

David José '16 (MS in mechanical engineering) "can be found teaching undergraduate students on a regular basis and helping them in their lab assignments as part of his graduate assistantship responsibilities...David was the ideal graduate student we expect to see at Fairfield University who not only excels in the classroom but also in the community." In addition to his academic work, José was the vice president of the Indian Graduate Student Association and an active member of JUHAN.



(l-r) Former University President Rev. Jeffrey P. von Arx, S.J. and Blanca Aca-Tecuanhuehue '16

Graduate Student Life Service Award:

Alvin Arulmani '17 (MS in mechanical engineering) is a central member of the JUHAN Humanitarian Action Student Group, a graduate assistant with the Center for Faith and Public Life, an international student ambassador and mentor, and a graduate assistant for the Teagle Foundation. Alvin's dedication to service speaks volumes to his commitment to help others while also to his aspiration to grow as a person in his own right.

National Action Council for Minorities in Engineering:

Keniel Brown '17 and **Christina Ochoa '17** each were awarded National Action Council for Minorities in Engineering (NACME) undergraduate research scholarships of **\$5,000**.

ISACA New York Metropolitan Chapter, IT Cyber Security and Auditing Student Competition Award Winners:

Maria Sette, PhD, affiliated faculty, Software Engineering, is also an NYPD principle information technology security and network officer and currently serves as academic relations committee chair of the ISACA New York Metropolitan Chapter. She recently brought her students to compete in a Cyber Security and Auditing competition and they returned home with rewards for their work.

Jaime Briceno MOT'16,
First Place Award - **\$1,000**
K'Ron Simmons '18,
Second Place Award - **\$500**
Peter Julian '18,
Second Place Award - **\$500**
Joseph Paulin '18,
Third Place Award - **\$500**

Society of American Military Engineers (SAME) New York City Post Scholarship:



Michael Wright '17

SAME unites architecture, engineering, construction, facility management and environmental entities and individuals in both the public and private sectors to prepare for - and overcome - natural and manmade disasters, and to improve security at home and abroad. The Post awards 205 scholarships each year to engineering students from more than 65 universities, and this past year, the Peter Kiewit Scholarship went to **Michael Wright '17** in recognition of outstanding leadership, high ethics and scholarship achievement.

Student Organizations & Societies:

- ⚙️ **Engineers Without Borders**
- ⚙️ **Society of Women Engineers**
- ⚙️ **Institute of Electrical and Electronics Engineers**
- ⚙️ **Society of Automotive Engineers**
- ⚙️ **Tau Beta Phi (Engineering Honor Society)**
- ⚙️ **American Society of Mechanical Engineers**

Save the Date: 2017-2018



STEM Awards Ceremony - June 6, 2017
Baja Buggy Competition - June 2017
STEM Open House - October 2017
Walk on Water Competition - November 2017
National Engineers Week - February 2018

Leadership In Academic Excellence

Thanks to the generosity of the Brinkman Family Foundation and the Bannow-Larson Foundation, these endowed positions allow us to attract and retain passionate scholars who love to teach.



SHAHROKH ETEMAD, PhD

The Inaugural Bannow-Larson Professor of Manufacturing

The establishment of this professorship is sponsored by the Bannow-Larson foundation for the next five years and recognizes Dr. Etemad's leadership, commitment to students and his work to improve the mechanical engineering program. Dr. Etemad has published more than 40 technical articles and holds over 30 patents and patent applications. In addition to his research in next-generation internal combustion engines and teaching excellence, Dr. Etemad has been instrumental in developing external funding for the digital machine laboratory and the materials characterization laboratory.

**SRIHARSHA SRINIVAS
SUNDARRAM, PhD**

**The Inaugural Brinkman Family
Foundation Professor of
Micro/Nano Manufacturing**

The establishment of this professorship is sponsored by the Brinkman Family Foundation and recognizes Dr. Sundarram's innovative, leading-edge research in nano materials. Dr. Sundarram was selected for this new role because of his pioneering research in the areas of micro/nano manufacturing and his strong commitment to incorporating students into all aspects of his work.



Dr. Sundarram (top)

Biomedical Instrumentation Lab

The BioE curriculum blends theoretical knowledge with hands-on experiential learning which culminates with a yearlong, interdisciplinary team-based capstone design project.

Kerry McHugh '18





Fairfield
UNIVERSITY
School of Engineering

VISION

As an integral component of a comprehensive Jesuit University, the School of Engineering is committed to providing a student-oriented classroom and laboratory environment enhanced by research that enables graduates to become leaders in the quest to solve society's greatest challenges in service to others.

MISSION

The Fairfield University School of Engineering is dedicated to providing quality educational opportunities in engineering and computer science to a diverse student population. The School emphasizes whole-person development (*cura personalis*) through its commitment to a unique integration of expertise in innovative technical areas with a strong liberal arts core, preparing graduates for professional practice and graduate education.