ZONTA INT’L AMELIA EARHART FELLOWSHIPS
Two FSU students among elite crop of aerospace-related fellowship winners

Two Florida State University graduate students are among the 35 women chosen from across the globe for Zonta International’s Amelia Earhart Fellowship that supports women who are pursuing advanced studies in aerospace-related sciences.

Puja Upadhyay, a mechanical engineering doctoral student, and Jin Yan, an industrial and manufacturing engineering doctoral student, both won $10,000 offered by Zonta International, a global organization working to advance the status of women and girls.

It is the first time two FSU students have received the award.

“It was a bit of a surprise,” said Wendy Grey, the president of the Tallahassee chapter of Zonta International. “But, we’re so excited to see two local women receive this award and it shows how much women in the sciences are doing at FSU.”

The award winners are from universities across the globe and the winners represent 20 different countries. Upadhyay is originally from Nepal and Yan is from China.

Upadhyay’s research focuses on flow field studies of commercial aircraft, specifically looking at ways to improve noise control mechanisms for aircrafts.

Left-right: Jin Yan, an industrial and manufacturing engineering doctoral student and Puja Upadhyay, a mechanical engineering doctoral student.

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DEAR ALUMNI AND FRIENDS OF ENGINEERING:

The College’s alumni are one of our greatest assets. The fact that our alums are employed in various sectors of the economy around the globe demonstrates the abilities of our students and is a testament to the quality of our engineering programs. Our alumni work for some of the best, established technological companies in the world. Others are entrepreneurs with their own companies. They have globally been recognized as some of the best engineers and entrepreneurs. We hope that our alumni are as proud to have graduated as a product of the FAMU-FSU College of Engineering, as we are proud to have had the opportunity to provide them a superior engineering education. We will continue to reconnect with our alumni and share the multitude of success of our continued growth.

Friends of the College, industry partners, state and federal government colleagues and other stakeholders are key players in our efforts to excel. We ask that you continue to stay in touch, share your successes and offer your loyal support.

The 2014-2015 academic year will bring new challenges and opportunities. We promise to work hard to achieve our goals and will remain efficient in the ways we use educational funds. Your contributions and support are always appreciated and needed for our sustained success and we assure you that we are, and will continue to be, good stewards of your generous donations. Your help is needed today and tomorrow!

Regards,

Yaw D. Yeboah, Sc.D.
Dean of Engineering

“Friends of the College, industry partners, state and federal government colleagues and other stakeholders are key players in our efforts to excel. We ask that you continue to stay in touch, share your successes and offer your loyal support.”

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Civil engineering students attend CalPoly’s 2013 summer NSF REU program

Margaret Gidula and Barry Darius, on recommendations by their civil engineering professor Tarek Abichou, were among the ten undergraduates selected from nationwide applicants to participate in California Polytechnic University’s 2013 summer REU program. Here is Ms. Gidula’s story in her own words:

This summer (2013) I attended the Research for Undergraduate Experience program, funded by the National Science Foundation, at California Polytechnic University (CalPoly) in San Luis Obispo, California. Ten students were selected from across the country to spend ten weeks working on ongoing projects of the Global Waste Research Institute. I was lucky enough to be one of two students from the Department of Civil and Environmental Engineering who Dr. Abichou recommended to the CalPoly REU selection committee.

Getting this internship was the best experience of my life. I was assigned to work on growing algae in wastewater to be used for biofuel. I spent about 400 hours in the lab doing water quality tests or doing practical work on a project funded by the DoE. I worked alongside many graduate students and professional engineers. CalPoly is not only an excellent, nationally ranked engineering school, it was also an absolutely beautiful place. In fact the town it is near, San Louis Obispo, has been dubbed by Oprah to be, “the happiest place in the U.S.” CalPoly is nestled in the mountains with ample hiking trails and close proximity to the beautiful beaches of the West coast. The equipment we used was state of the art and labs were well maintained, to say the least. This gave me and Darrius hands-on perspective and a realization of the imperfection involved in research. Previously I had only done lab courses, where the results are well known and procedures have been carried out hundreds of times.

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2013 FES Big Bend awards night

This year’s FES Big Bend Awards ceremony was held on February 22, 2013 at the Capital City Country Club. The night started out with high emotions when Michele Rambo-Roddenberry, Ph.D., P.E. (FSU/FAMU) received the 2013 FES Big Bend Outstanding Service to the Profession Award. Engineer Roddenberry gave a motivational speech about the Engineers Creed “I pledge to give...” Google it. Memorize it. She spoke of honor, service and performance to people and the profession with God’s help.

Next Audra Hayden, P.E. (EGS) received the Young Engineer of the Year Award. She had a great year serving as the FES Big Bend Vice President, raising thousands of dollars for scholarships through the silent auction, and being the MATHCOUNTS co-chair.

Kamal Tawfiq, Ph.D., P.E. (FSU-FAMU) then received the 2013 FES Big Bend Engineer of the Year Award for his support of FES through school functions, research projects and patents.

– Mark Fuller, P.E., FES Big Bend Awards Chairman

For more: http://bit.ly/1lS57Pf
Congratulations to the 2014 Graduate Student Research Symposium Winners

FAMU-FSU College of Engineering hosted its second annual Graduate Student Research Symposium on April 10th, 2014. The symposium provided an opportunity for the graduate students enrolled at the College to showcase their current research through poster presentations. A total of 18 students graduate students participated in the event. Judging of the symposium was facilitated by faculty members belonging to different departments at the College, such that each poster was judged by at least two of the judges.

Graduate students who placed First and Second place have won certificates along with travel awards for $500 and $250, respectively. All other participants will be awarded “Certificate of Participation” for presenting their work at the 2014 Graduate Student Research Symposium. Associate Dean Reginald Perry presented awards to:

Ruben Nelson, left, Electrical and Computer Engineering (ECE) graduate student, placed 1st in the FAMU-division.

Atul Patil, right, Civil and Environmental Engineering (CEE) graduate student, placed 1st in the FSU-division.

Nemmi Cole, left, Civil and Environmental Engineering (CEE) graduate student, placed 2nd in the FAMU-division.

Soumak Mookherjee, right, Electrical and Computer Engineering (ECE) graduate student, placed 2nd in the FSU division.

NSF REU | Continued from page 3

Over the ten weeks I spent there, many days were spent seeing how this processed worked was amazing. From the methane run generators, to the falconry, to the giant machinery, to the knowledge of the liner system in place, to the leachate disposal processes, to the business aspect of running such an industry, all contributed to my recent decision to apply to graduate school and become a landfill manager.

I would definitely recommend this program to any civil engineering student I know and am indescribably grateful that I was selected to participate in this REU. It was a great experience in many ways. I was able to travel farther than I have in my life, build professional and technical skills, gain hands on experience, live on a beautiful campus, work with some of the best engineering professionals in the industry; meet like-minded individuals from across the nation, and get paid a food stipend on top of a $4800 check for ten weeks work.

And it doesn't stop there. This past summer has opened my eyes and many doors for me. Since returning two weeks ago, I have been selected to work on other research projects at the FAMU-FSU College of Engineering and have also been offered an interdisciplinary directed individual study on an offshore wind turbine as my senior design project.
FAMU-FSU Student Chapter of Engineers Without Borders

This past May, a team of highly motivated civil engineering students and Professor Tarek Abichou from the College of Engineering traveled to an island community known as Bahia Roja, in the Bocas del Toro region of Panama, as part of their first official Engineers Without Borders (EWB) trip.

EWB-USA is a nonprofit humanitarian organization established to support community-driven development programs worldwide through partnerships that design and implement sustainable engineering projects, while creating transformative experiences that enrich global perspectives and create responsible leaders.

Bahia Roja is a small bayside village of farmers and fishermen. Previous collected data had shown dangerous levels of the presence of E. coli bacteria in the community’s source for drinking water. The team’s goal was to assess the village for alternatives to improve water quality, availability, and distribution. During the trip, the students applied their studies to successfully engineer and build a rain catchment system that capitalized on an existing school roof. Principles of hydraulics and concrete design were used in the design of this system. One of the team members, civil engineering major Allie Joura stated, “This trip has given me an incredible opportunity to use my knowledge and skills to bring clean drinking water to a people who are gracious for our help.”

Senior civil engineering major Josh Lorenz was asked about how EWB has given him confidence for his future. He said, “My experiences in Panama have given me so much more confidence in my engineering abilities; both technically and working with others to reach a common goal. I really feel like EWB has helped prepare me for my professional career with all of the unique opportunities it has allowed me”.

The team has plans to return to Bahia Roja in the spring of 2015 to implement the next phase of their project. Until then, the student team will be focusing on engineering design alongside completing their coursework. Senior biomedical engineering student Chase Greist says, “The experience was formative. It gave me a perspective of the massive impact simple engineering projects can have in the developing world and motivates me to tackle my coursework with a newfound vision and purpose of how an engineering education can change lives.”

ZONTA | Continued from page 1

The Amelia Earhart Fellowship will help her pay for tuition and fees, books and other supplies, she said.

“The number of women in aerospace-related fields, specially engineering, have always been sparse,” she said. “This recognition and financial support from Zonta International is indeed a great encouragement. It has not only inspired me to work harder but has allowed me to focus more on my research with lessened financial burden.”

Yan said she will use the money to help support her research in aerospace-related structural health monitoring systems.

Florida A&M University–Florida State University College of Engineering Dean Yaw Yeboah said he was “thrilled” to see Zonta recognizing two of the college’s graduate students.

“One special mission of the college is to graduate women in engineering fields of study and we are glad to see that Zonta is working to assist women in obtaining aerospace and related engineering degrees,” he said. “The awards to two of our students, out of 35 international awardees, are a testament to the quality of our programs.”

–By Kathleen Haughney, FSU University Communications

FSU article: http://fla.st/1lap53G
The Florida Institute of Consulting Engineers/American Council of Engineering Companies of Florida (FICE/ACEC of Florida) is pleased to announce that Will Mechling, attending Florida State University, was recently awarded a $5,000 scholarship. Since 2004, FICE/ACEC of Florida scholarships have honored Florida college students expressing interest and commitment to the business and management of the engineering profession. To qualify, a student must be a U.S. citizen pursuing a bachelor’s or master’s degree in an Engineering Accreditation Commission of ABET approved engineering program or in an accredited land-surveying program. Recipients of the awards are evaluated for work experience, extracurricular and community activity, references, grade point average, and a written essay.

“I am always amazed by the determination and work ethic shown by today’s engineering students,” said Jim Thompson, PE, LEED AP, and 2014 FICE President. “As a homeschool student going away to college Will has had the maturity and the independence to succeed. He has a perfect 4.0 GPA, has worked at different engineering internships, which has diversified his experience, and has a history of volunteerism, which will serve him now and in the future. Will is a great selection as winner of the FICE/ACEC of Florida scholarship.” Will's accomplishments to date will be acknowledged at FICE’s annual conference, held in August at Marco Island. His application was also forwarded to compete nationally in the 2014 ACEC scholarship program. Nationally, two other applicants were forwarded. They are Patrick Miskel from the University of Florida and Anna Hayes from the University of South Florida.

Will Mechling is a junior at FSU studying civil engineering. His academic record thus far has been stellar, and he currently holds a 4.0 GPA. In 2011, his senior year in high school, Will was the winner of a Florida Engineering Society scholarship. He is also a recipient of the Florida Bright Futures Scholarship and the Florida State University Freshman Scholarship. His involvement in engineering extends beyond his academic activities. Will was recently elected as an officer to the American Society of Civil Engineers/Florida Engineering Society student chapter at the FAMU-FSU College of Engineering.

Continued on page 7
Congratulations to Renee Gordon, a senior FAMU PhD student in the Department of Mechanical Engineering, on her Fulbright U.S. Student Award. Gordon’s research is supervised by Dr. Peter Kalu, 3M Distinguished Research Professor in Mechanical Engineering at the FAMU-FSU College of Engineering. At the end of the application review process, a Fulbright Program representative wrote Gordon, “We are delighted to inform you that you have been selected for a 2014-2015 Fulbright U.S. Student Award to Nigeria. The Fulbright Program is the flagship international educational exchange program of the United States. You will represent the country as a cultural ambassador while you are overseas, helping to enhance mutual understanding between Americans and the people in Nigeria.”

Gordon expressed her thanks to her department chair, Dr. Emmanuel Collins, for his recommendation saying, “I could not have done this without your help.” Promising to keep her department up to date on what is going on with her travel and research, Gordon ended, “I am extremely excited. Again, thank you from the bottom of my heart.”

Gordon will join over 100,000 Fulbright U.S. Student Program alumni who have undertaken grants since the program began in 1948.

Newly Established Fellowships Awarded to ME Graduate Students

Congratulations to our mechanical engineering students who have been awarded one of the newly created graduate fellowships funded by industry partners and engineering research centers.

These fellowship programs help attract and retain strong students and provide them with the resources to conduct aero-propulsion, mechatronics and energy (AME) research. They also further the mission of FSU to promote collaborative research by offering cross-disciplinary fellowships.

Left-right: Greg Robertson, Jennifer Gavin, and Phillip Munday, are among the first students to receive newly established mechanical engineering fellowships. Robertson and Munday are two of three awardees of the Lockheed Martin-AME-FCAAP Graduate Fellowship and Gavin is the sole awardee of the Turbocor-AME-FCAAP Fellowship.

Not pictured: Brian Davis, who is the third awardee of the Lockheed Martin-AME-FCAAP Graduate Fellowship. Also not pictured are Robert Cook and Vineeth Chandran Suja, who both have received an AME-FCAAP fellowship.

Will Mechling | Continued from page 6

In addition, Will currently holds an internship with Independent Green Technologies, a Tallahassee-based firm that provides solar installation. Will also works as a field technician on an as-needed project basis for his father’s engineering firm, Mechling Engineering & Consulting Inc. Special thank you to judges Ron Beladi, Neel-Schaffer Inc.; Richard Busche, PE, CFM, Kimley-Horn and Associates Inc.; Ann Schiola, FINELY Inc.; and Sandeep Singh, PE, AVCON Inc.
We would like to start off by saying thank you very much for all of your assistance, funds, and in-kind contributions throughout the year.

Undoubtedly, without key contributions from faculty at just the right times, the team would have not been able to join our alumni in Houston this past weekend.

Below are some key highlights from the weekend:

We successfully arrived in Houston without any hiccups, and finished the project with more than $1000 of allocated funds remaining! The team was able to get the vehicle back into an operational condition after 2 days of hard work!

The team was the first FAMU-FSU team to make it to a Shell Eco-Marathon, and also the first Solar Car team to ever go to a competition. Our alumni were genuinely happy to see us there for the first time, and treated the team to great dinner and career advice on Saturday night.

We met with many different company representatives and recruiters at the event, including: Scuderia Ferrari, Shell, Michelin, Linde Group, National Geographic, Penzoil, and SAE. We were able to give many of them rides in the solar car, and even got a photo with the Netherlands HQ HR President of Shell after he took it for a spin! Others included the PR & Communications Manager responsible for the event, and the FAMU-FSU Shell Recruiter.

National Geographic did an interview with the team about our thoughts as graduate engineers on the future of energy and transportation, which will be on their website in the next 2 weeks!

Two teams also attending the event had technical problems that prevented them from competing; however with some hands-on help and a few part donations, both teams were able to compete and ranked well in the event!

Thank you very much again for the privilege of working on this great project. We will never forget all of the sweat and tears that went into it!

Sincerely,

The 2014 FAMU-FSU Solar Car Team: James Croasmun, Fritz Jeanty, David Joliceour, Julia Clarke, Wael Nabulsi, Jose Cardenal, Zachary Barr, and Francois Wolmarans
2014 Mechanical Engineering Senior Design Projects Lead to Commercial Products

According to the senior design instructors, Drs. Chiang Shih and Kamal Amin, and Dr. Emmanuel Collins, Chair of Mechanical Engineering at the FAMU-FSU College of Engineering, some of the department’s senior design projects are expected to lead to commercial products.

Redesigning the Hoof Knife

The goal of this project was to create a second-generation hand held grinder specifically designed for use in the hoof trimming industry. The new model is redesigned to revolutionize the way equine owners work with livestock by providing portability, variable speed, and reduced generation of heat during operation. Along with the performance upgrades, the prototype is ergonomically improved to increase the user’s comfort and safety. YouTube Demo Video: http://youtu.be/XfpKhk1mbg

Pedibus Development

Capital City Pedicab Company and its owner Ron Goldstein have entrusted the Department of Mechanical Engineering at the FAMU-FSU College of Engineering with the task of aiding and assisting in their overall goal of establishing a manufacturing station of fully operating pedibus systems in the southeast region of the United States. The design and manufacture of a pedibus transportation vehicle involves the development, testing, and integration of various mechanical components. The pedibus operates like a normal bike in that it involves a steering system, drive train, braking system, peddling stations; sometimes it involves some type of alcohol distribution system. Team 18 took on the task of completing the design of a novel pedibus and ensured that the model is fun, eco-friendly, and most of all safe to the public and environment. YouTube Demo Video: http://youtu.be/aT8lBZEZttU

Self-Stabilizing Pool Table

Beyond Innovation LLC, founded by inventors and engineers who have a passion to build, create, invent, and innovate, sponsored this project. For this project Beyond Innovations decided to create a billiards table capable of vertically stowing itself whenever additional space is needed in the area of a house in which the table is kept. Along with its novel storage ability this table is also capable of self-stabilization so that after it has been removed from it’s housing, the table levels the slate to be perfectly horizontal.

eNews Story: http://fla.st/1m8Qw15
Sean Tacey: Chemistry prodigy excels in research and music

Sean Tacey has dreamed of the boundless knowledge that awaits him in the world of science since he first set eyes on a Bunsen burner in his high school chemistry class. Some may describe the Florida State University senior as a prodigy. He has maintained a perfect 4.0 grade point average as a chemical engineering major — with minors in chemistry and mathematics — and belongs to the university’s Honors Program.

Tacey most enjoys problem-solving classes that force him to think outside the box. At FSU, he favored organic chemistry, taught by Mark L. Kearley, an honors lecturer in the Department of Chemistry and Biochemistry, and thermodynamics taught by John C. Telotte, an associate professor in the Department of Chemical and Biomedical Engineering.

“There is no question that Sean is an impressive student,” Kearley said. “I have taught college chemistry for 20 years and I would say that Sean is among the top 10 students that I have ever taught. Sean is a uniquely talented young man and I fully expect him to excel as a researcher.”

Tacey has received recognition for his record of academic achievement, earning the Undergraduate Research and Creative Activities Award scholarship to pursue research over the summer 2013 semester. With the aid of the scholarship, Tacey is conducting research into the continuous enzymatic process for biomass conversion to energy.

“My role involves breaking cellulose into glucose to ferment it and produce biofuels,” Tacey said. “I’m studying the miniscule reactions of enzymatic hydrolysis on cellulose to learn what promotes reactions and what demotes reactions.”

Tacey works alongside Subramanian Ramakrishnan, the head of the Complex Fluids and Nanomaterials Research Group at the FAMU-FSU College of Engineering. Ramakrishnan is associate professor in the Department of Chemical and Biomedical Engineering.

“Tacey is intelligent, hardworking and, most importantly, shows the curiosity and interest to learn new things,” Ramakrishnan said. “He was clearly the best student in the two classes I have taught and has the potential to become a good scientist and engineer. I look forward to working with him on the project.”

Tacey hopes to continue this research until graduation and plans to present his findings for the Honors in the Major Program.

In addition to being an exemplary scholar and researcher, Tacey is an accomplished musician. During his first two years at Florida State, he devoted hundreds of hours to rehearsing and performing tuba with the world-renowned Marching Chiefs, the marching band at FSU. His junior year, Tacey transitioned to Seminole Sound, the Athletics pep band.

“I’m most proud of my time in the Marching Chiefs,” Tacey said. “It was crazy to be in the stadium surrounded by 80,000 people. Being a member of the Chiefs was a huge part of my life for two years and I worked so hard. It meant a lot to me.”

Continued next page
Sean Tacey | Continued

Tacey also is involved in honors societies on campus, including Phi Eta Sigma, Phi Kappa Phi and the National Society of Collegiate Scholars. Tacey is an active member of the American Institute of Chemical Engineers (AIChE) and FSU’s chapter of Tau Beta Pi, the engineering honors society for which he serves as corresponding secretary.

“I'm really happy to be a member of Tau Beta Pi and AIChE because, in both, we get to do a lot of outreach and to connect with professionals regarding internships,” Tacey said.

After graduating summa cum laude spring 2014, Tacey plans to work at FSU’s National High Magnetic Field Laboratory before attending graduate school in the fall, working toward a doctoral degree.

“I hope to eventually teach at the university level to assist college students in achieving their own form of success,” Tacey said. “I also want to conduct my own innovative research to improve the overall quality of life worldwide.”

For entire FSU Student Spotlight: http://fla.st/1qH2IIe

Electrochemical Society (ECS) North Florida Student Chapter
It’s official! Newest student organization at engineering is approved

(left-right, back row) Derrick Nguyen, Anandanesh Shellikeri, Charles Oladimeji Folakunmi, Jamal Stephens, Pedro Moss (Faculty Advisor), Ruben Nelson, Venroy Watson, and Shannon Anderson (front, center). Not pictured: Oyidia Elendu, Bilal Jones, Eugene Moss, and Nahome Tewolde

Engineering graduate student team places 3rd in Environmental Challenge International @ A&WMA 2014

On June 24-27, 2014, Nemmi Cole, PhD candidate, environmental engineering, Daria Sakharova, MS candidate, environmental engineering, and Davis George Moye, dual-enrolled grad student in law and in electrical engineering, competed in the International Air and Waste Management Association’s (A&WMA) Environmental Challenge International (ECi). This competition involved a multidisciplinary approach to solving a real-world problem. There were teams from all over the US and Canada, and the FAMU-FSU College of Engineering team finished 3rd, tying UF for 3rd place.

The core purpose of A&WMA is to improve environmental knowledge and decisions by providing a neutral forum for exchanging information. The Mission of A&WMA is to assist in the professional development and critical environmental decision-making of our members to benefit society

(left-right) Nemmi Cole, Daria Sakharova and Davis George Moye placed 3rd tying University of Florida (UF) in the 2014 ECi competition.

Chemical engineering alumnus blogs: “How my Relationships with Mentors Fostered my Learning Habits” –By Alicia Calero

Training the next generation of scientists is a key part of the MagLab’s mission. In our series Mentoring Moment, scientists, teachers and students share their stories about mentorship at the lab. Here petroleum engineer Alicia Calero, a former participant in the lab’s Research Experiences for Undergraduates program, talks about two MagLab scientists who played a key role in her training.  –Nat’l High-Magnetic Field Laboratory

During my time at Florida State University, I had the chance to learn from Amy McKenna (a chemist and researcher in the MagLab’s Ion Cyclotron Resonance department) and Anant Paravastu (an assistant professor of chemical & biomedical engineering).

If it wasn’t for Amy’s enthusiasm and knowledge of chemistry, I would not have the same thirst for knowledge. Amy was my teaching assistant for chemistry, and in a course where so many freshmen fear the assignments and material, she was always willing and excited to help. She made learning about science worthwhile and encouraged me to pursue engineering all throughout my time at FSU.

Similarly, Anant Paravastu, my chemical engineering professor, gave me the best opportunity of my college career: to be his laboratory researcher. In working alongside him, I not only got to learn about state-of-the-art techniques, I also got to use them. We performed a multitude of activities at the MagLab, ranging from spectroscopy to working with novel materials and proteins under a magnet.

I specifically remember when he taught me how to use one of the lab's small-bore magnets. Running samples in these small-bore magnets is a time consuming process in that learning how to start is quite difficult, and knowing how to fix a sample's inaccurate reading while the sample is running is something that only experience can bring. At the beginning, this was daunting for me. But Anant had the patience and kindness to reiterate complicated procedures as well as teach me solid-state nuclear magnetic resonance theory. His continued attitude toward sharing knowledge and imparting a skill that few have made learning how to run magnetic samples at the MagLab fun. If it weren't for Anant's tutelage, I would not have been able to retain as much information and skill on this subject to this day.

Like Amy, Anant shares an ardent passion for learning about science. He constantly strives for knowledge and genuinely loves teaching. He makes learning new things exciting and fun.

Alicia Calero, foreground, aboard a deepwater, Shell-owned oil-and-gas plant in the Gulf of Mexico. She is there to make a preproduction safety inspection.

Continued next page
His attitude toward teaching and learning are what continue to feed my desire today to push for more understanding and to never settle for less. If it were not for the hard-work ethic that he taught me, I would not be as skilled in research or delving into complicated topics with my positive and tenacious attitude.

Since having graduated from FSU, I've had opportunities to excel as a skilled engineer. But if it weren't for Amy and Anant’s presence in my life, and my time at the MagLab, I would not be the same hardworking or knowledge-hungry engineer that I am today. My mentors taught me to think outside of the box and to never settle for less. They taught me that there is more than meets the eye if you are patient and careful enough to see it.

When I think of them, I think of their approachability, and I will never forget how humble they both are. Regardless of how many accolades they earn, they are still friendly, dedicated and willing to help. This is important, as there are many scientists who are not so encouraging and push others in the opposite direction. When I think of my mentors, I think about passion, dedication, and creativity.

I hope that my mentors remember me as that stubborn student who wouldn't stop asking questions. I want them to remember me as that student who would continuously bring up topics that would lead to more discussion for expanded learning. With this, I hope that they remember that what they say is influential, and that it inspires others to not only be creative, but to also be determined.

To this day, I hope to be the mentor that Amy and Anant were to me. They continue to be the scientists I think about for successful pursuit of knowledge. Their patience and care for the field of science is important because that alone has taught me to share that patience with others. I hope that I will be that inspiration for someone else to pursue science as Anant and Amy have inspired in me.

MagLab Mentoring Moment: http://fla.st/1rO68e1

Spotlight on... Lance Ellerbe, graduate student in electrical engineering

A graduate student in electrical engineering and recent Tau Beta Pi honor society inductee, Lance Ellerbe exemplifies the College’s slogan, “Two Universities, One College, Twice the Opportunities.”

Ellerbe attended Florida Agricultural & Mechanical University (FAMU) for his undergraduate degree and enrolled in Florida State University (FSU) to pursue his MS in Electrical Engineering.

“I gained great experiences from attending FAMU as an undergrad,” said Ellerbe. “I learned a lot about myself and my culture. The move to FSU has helped to broaden my horizons beyond my own by mingling with other cultures, becoming an adaptable person with various life experiences.”

Engineering programs across most departments at the FAMU-FSU College of Engineering require a capstone or senior design project. These projects are designed to give students an opportunity to practice what they have learned in the classroom in simulated real-life situations.
Ellerbe sees this as a positive in his academic experience. “As part of the curriculum,” he said, “you have opportunities to work with students from other engineering programs and disciplines, like mechanical and industrial engineering, where you take what other students bring to the project. You find yourself becoming a manager of people’s skills and abilities all focused on creating a more efficient product.”

Ellerbe has this advice for incoming freshman. “Work hard to get your GPA up as high as you can early on. As the classes get harder and harder,” said Ellerbe, “there is a downward sloped in your grades and it’s harder to work from the bottom up. So get your GPA as high as you can your first semester.”

Ellerbe talks about passion for his studies and his research and knows this has been the key to his success so far. He added, “I also advise people to understand that if you are trying to pursue a degree in Electrical Engineering or in any field, it has to be a passion. And you need to be truthful with yourself that this is what you want to do and if it’s a passion you’ll be great in it.”

And speaking about being passionate, Ellerbe confided, “Funny story... I’ve been going to Engineering Day for three years straight, every semester, every spring every fall. And I’ve been going to Harris’s table each time trying to get an internship with them for about three years now. I’m now a graduate student and I finally got that internship. They have given me an offer and I’m very happy about that. So perseverance, working hard, and having a good work ethic will always pay off.”

And a little passion doesn’t hurt.

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**Spotlight on... Usama Usman, electrical and computer engineering senior**

[...] Usman’s dream of pursuing an engineering degree started in secondary school. “I found that mathematics and physics interested me the most,” said Usman. “My father was also a mathematics professor so I got a solid background in math. In high school I felt pressure from my family to pursue a degree in medicine because all my cousins were in medical professions at the time. But I chose engineering because my passion was to become an electrical engineer.”

Usman decided to pursue his engineering degree at FAMU-FSU College of Engineering because he wanted to do research in Renewable Integration and Energy Management. “The Center for Advanced Power Systems (CAPS) provides a world-class research facility in the area of power systems,” remarked Usman. “Also the faculty members at this college are really competitive and well acquainted with cutting-edge academic and industrial research. It gives me the opportunity to work closely with them and to learn new things.”

As a college undergraduate, Usman’s favorite engineering subjects are Power Systems Analysis and Engineering Management, with a research focus in the area of renewable energy integration and solutions for distributed power generation.

“My concentration,” said Usman, “is on wind and solar energy and methods to improve existing transmission line capacity and energy storage systems.”

“As a foreign and Fulbright student,” said Usman, “I got opportunities to meet with students from various parts of the world which has helped me understand cultures different from mine. I didn’t know a thing about American football before coming to the US but now I’m a big Seminole fan and will definitely miss watching my team from Doak Campbell Stadium!”

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*eNews Spotlight: http://fla.st/VKpsf5*

*Usama Usman*
Congratulations to Ruben Nelson, candidate for a Ph.D. in Electrical and Computer Engineering under the supervision of Dr. Mark H. Weatherspoon, Associate Professor in the Department of Electrical & Computer Engineering, at the FAMU-FSU College of Engineering.


Nelson was among eight students who won recognition for their research by presentation of their work as papers or posters at the 2014 FREEDM Annual Industry Review and Conference, held January 23-24, 2014 at the McKimmon Center in Raleigh, NC at NC State University.

Joshua Degraff, in his HPMI research lab at the FSU Materials Research Building.

Joshua Degraff, a PhD candidate in the Department of Industrial & Manufacturing Engineering and a researcher with the High-Performance Materials Institute, was recently awarded a McKnight Doctoral Fellowship.

The McKnight Doctoral Fellowship program is designed to address the under-representation of African American and Hispanic faculty at colleges and universities in the state of Florida by increasing the pool of citizens qualified with Ph.D. degrees to teach at the college and university levels. Josh received one of up to 50 Fellowships that awarded annually to study at one of nine participating Florida universities. Each award provides annual tuition up to $5,000 for each of three academic years, plus an annual stipend of $12,000.

Joshua's research involves developing a thin, lightweight and flexible nanocomposite actuator. He is specifically interested in designing a lean manufacturing process flow and applying complex statistical algorithms to ensure process repeatability. The new composite actuator design is a promising alternative to recent designs, as it requires a minimal amount of energy to operate.

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FAMU engineering alumna receives big promotion at multi-billion dollar defense contracting firm

Tameika N. Hollis, an alumna of FAMU’s mechanical engineering program, is taking on a new set of responsibilities at one of the country’s largest defense contracting firms.

Northrop Grumman Corporation has appointed Hollis to the position of vice president, Engineering, Manufacturing and Logistics (EM&L) for the Advanced Concepts and Technologies Division (AC&TD) in its Electronic Systems sector.

In her new role, she will be responsible for the Electronic Systems sector’s infrastructure operations, including facilities, capital administration, flight test, the sector affordability team and the Technology Underground activities at the sector’s Baltimore Washington International Airport campus.

Hollis joined Northrop Grumman Electronic Systems in 2003 as a systems engineer. After only two months, she was named integrated product team lead for systems engineering and integration and test for her program. In that position, she was responsible for the development of all systems engineering tasks and budgets as well as all system-test activities.

In addition to her technical contributions, Hollis was a part of a task force chartered with streamlining all the systems engineering processes at the company.

Before being hired at Northrop Grumman, Hollis worked for Raytheon and for Boeing Satellite Systems.

Hollis earned a bachelor’s degree in mechanical engineering from FAMU and a master’s degree in mechanical engineering from the University of Michigan.

Northrop Grumman produces a large variety of products for the U.S. military, including drones, fighter planes, radars, and sensors. Its annual operating revenue is more than $23 billion.

Article from RattlerNation: http://bit.ly/1mV3Tyb

Graduate Research in teleoperation and control of human-robot systems

Collins Adetu, Ph.D. student in Electrical and Computer Engineering, Dr. Rodney Roberts, Professor in Electrical and Computer Engineering, Matthew Wilson, M.S. student in Electrical and Computer Engineering, and Dr. Carl Moore, Associate Professor in Mechanical Engineering, pose with robot similar to those used by the military for risky jobs handled manually by soldiers in the past.

This group’s research involves teleoperation and control of human-robot systems.
Piero Caballero wins a best student paper award at 22nd International Compressor Engineering Conference

Piero Caballero won 3rd place in this year’s student paper competition at the 22nd International Compressor Engineering Conference, receiving a certificate of recognition and a cash prize.

Caballero, a Florida State University (FSU) Mechanical Engineering alumnus, submitted a paper based on work he had done last year as a summer intern at Danfoss Turbocor Compressors (DTC), entitled “Chiller Control Algorithm for Multiple Variable Speed Centrifugal Compressors.”

Piero’s entry was one of 30 student paper submissions for this competition. The students are judged based on the technical content of the written version of their paper and the oral presentation during the conference. The Purdue Compressor Conference always has a competition for best student paper.

According to Joost Brasz, Engineering Manager with DTC, the paper was written by Caballero and coauthored by himself and Turner Thornton, also from DTC and two FSU Mechanical Engineering professors, Dr. Chiang Shih and Dr. Juan Ordoñez.

Brasz, who supervised Piero during his summer internship last year, gives all the writing credit to Caballero saying, “All the heavy lifting (work) was done by Piero.”

“Both FSU and DTC should feel some pride in Piero’s achievement,” concludes Brasz.

Caballero joined Danfoss Turbocor Compressors May 2014 as an aero/thermo engineer.

Justin Vandenbroeck, IDEAS For Us Ambassador and Industrial Engineering

This guest post was authored by Justin Vandenbroeck, IDEAS For Us Ambassador and Industrial Engineering student at Florida State University, who was chosen as a Southeastern Delegate for the 2013 U.S. Solar Market Insight Conference happening this week in San Diego, CA.

“Are you interested in a career in solar energy? Would you believe me if I told you that there are already more than 119,000 solar workers in the U.S.?

After traveling more than 2,000 miles, I’m here in San Diego, California, preparing to attend the U.S. Solar Market Insight Conference with thousands of colleagues in the solar industry.

Over the next two days I’ll be taking a deeper dive into one of the fastest growing industries in the world. GTMResearch and Solar Energy Industries Association are bringing together industry leaders, including IDEAS For Us, to collectively navigate the complex market dynamics and local policies that can accelerate the solar energy industry.

In collaboration with the Southern Alliance for Clean Energy, I’ll be highlighting innovative companies in the solar industry that are on the forefront of solar energy design and deployment and sharing key findings about this fast growing segment of the clean energy economy.” – Justin Vandenbroeck

In the halls of the FAMU-FSU College of Engineering building sits a small off-road vehicle covered in dried mud.

The car is named Eileen, and it’s the pride and joy of the FAMU-FSU Society of Automotive Engineers. The 12-member group spent hours assembling Eileen and took the car by trailer all the way to Peoria, Ill. for the 2014 Society of Auto Engineers baja competition, an event that tested the vehicle’s ability to accelerate, climb hills and maneuver over rough terrains, including rocks.

They walked away with their best finish ever, finishing 46th out of 99 teams. Their previous best placement was 75th.

“It’s the best car we’ve ever built,” said Yoel Bugin, a senior mechanical engineering major who served as the racing team captain. “It’s completely open for students to design and create and implement whatever they wish within reason. All teams have to run the same 10-horsepower Briggs & Stratton engine. The competition essentially becomes about how well we’re able to build around that platform, how good our designs are and how those will hold up to real-life testing.”

Students competed in Peoria in early June, but only recently saw the final results from the competition. A tabulation error forced competition organizers to go back and rescore the student teams.

The group, which has existed at the engineering college since 1991, spends most of its year building a car to compete in competitions sponsored by the national Society of Automotive Engineers. Each team starts with a 10-horsepower Intek Model 20 engine donated by Briggs & Stratton Corporation, valued at $628.

The rest of the vehicle’s design is up to the students.

So, for the past year, students worked on all the elements that go into the making of a car. They tested out steering capabilities and tires. They designed brake lines and decided where and how to fuel the vehicle. They also picked bright pink and green colors so it would stand out even if covered in mud, and named her Eileen because the vehicle leaned to the left when they first began building it.

And on race day, driver Ralph Scott, who graduated in May, took the car through 20 laps around the course, for a total of two hours and 15 minutes.

Scott, who called the experience “nerve wracking,” said he’d always been interested in off-road racing, but he joined the group mostly to get the experience of building the vehicle.

“I feel this is a lot of real world experience for us,” he said. “You’re using everything you’ve learned in school to create something.”

The skills learned in their engineering classes weren’t the only ones they had to put to the test though.

The group also had to polish up its business development know-how. Members learned how to raise money from industry sponsors and how to budget the $20,000 they raised to cover supplies, travel and competition fees.
Alex Mankin, who also graduated in May, functioned as both the lead designer of the vehicle’s rear suspension and the treasurer for the group, so he felt extra pressure to make sure they picked the right parts that wouldn’t make them go over budget.

“When you’re first trying to come up with a design, the possibilities are endless, so you have to run through your head and you’re nervous about if the design is even going to work,” Mankin said. “It’s really on you to make the thing correct or something could go wrong with the car. It could perform badly, so you have to go step by step through the whole process.”

Though Mankin and Scott are moving on, their work will still help the group as it goes into the 2014-2015 academic year.

The SAE competition allows vehicles to be used in competition for two years. So, the group will fix problems they had with Eileen in Peoria and race her again next year. There were some problems with the steering and it wasn’t a particularly comfortable ride for driver Scott.

Forrest Misler, who will serve as president of the group for the upcoming academic year, said they are hoping to raise additional funds so they can take the car to two competitions per year.

They will also begin work on what’s called a formula car, the type of racing vehicle that is used at the Indy 500 or the Monaco Grand Prix. That goal, Misler hopes, will attract more industry interest because it provides real-life training for students to take into the job market.

“The companies really like to invest in these kinds of organizations, and we hope that many companies invest in us this year considering our tremendous improvement,” Misler said.

This year’s team was sponsored by Exxon Mobil, Cummins Inc., All About Scooters & Motorcycles, Schafer Industries, CVTech, Admiral Broach, Ferguson, GMH, Scott Burnett Inc-Mechanical Contractors, SolidWorks, Briggs and Stratton General Sheet Metal, Feeling Sticky, Florida Center for Advanced Aero-Propulsion and the FAMU-FSU College of Engineering. “It’s the best car we’ve ever built,” said Yoel Bugin, a senior mechanical engineering major who served as the racing team captain. “It’s completely open for students to design and create and implement whatever they wish within reason. All teams have to run the same 10-horsepower Briggs & Stratton engine. The competition essentially becomes about how well we’re able to build around that platform, how good our designs are and how those will hold up to real-life testing.”

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–By Kathleen Haughney, FSU University Communications

Coming up ... Our Formula Racing team is at the beginning of the design process and discussing the chassis design (a sample rendering is pictured at http://eng.fsu.edu/sae/news.html. This will be the first year the club has undertaken the Formula race. To get involved: http://eng.fsu.edu/sae/contact.html
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