STAFF/STUDENTS

WHOM DO YOU KNOW? MEET COLLEGE OF ENGINEERING STAFF

As Manager of Academic Policy and Procedures, Nancy O’Connor is often the first College of Engineering staff person that new students meet.

Q: How long have you been with Villanova?
A: I have been with Villanova since 1986, except for a two-year hiatus from 1999 to 2001.

Q: What specific responsibilities do you have as manager of academic policy and procedures?
A: I support the various College of Engineering academic processes, for example, assisting new freshmen with their Advanced Placement choices and their implications, developing and managing the online degree audit system rules, and tracking college enrollment and retention data.

Q: What is your favorite thing about your work?
A: I enjoy seeing the students grow in four years from being new freshmen to graduates who are well-equipped to join the professional world.

Q: If you could give students one piece of advice, what would it be?
A: I would advise them to have their time management skills so that they will do well in their academic programs while having time to experience the many great activities and opportunities available at Villanova.

Q: What are some of your hobbies and interests?
A: Family events, travel, music and doing charity in poetry.

Q: What is one thing people would be surprised to know about you?
A: I was once invited to compete on the television game show Bowling for Dollars.

“EVERY ORGANIZATION HAS A ‘GO TO’ PERSON: NANCY O’CONNOR

Jonathan Adams ’20 CE discusses his schedule with Nancy O’Connor.

“All this and engineering, too!”

There’s a common misconception that engineering majors are too overwhelmed to possibly enjoy the University’s many extracurricular activities. In fact, there are literally hundreds of College of Engineering students who prove otherwise. From athletics and the arts, to service and student government, engineering students are involved in countless ways. Here is just a sampling of our engaged undergraduates.

Calith Callahan ’19 ME

Activity: Club soccer (defender) and club lacrosse (goalie)
Years involved: I’ve been playing lacrosse and soccer my entire life.
Time commitment: With soccer in the fall and lacrosse in the spring, I probably devote six to eight hours a week between practices and games.

“Managing the engineering curriculum with two club sports is all about time management. Spans are at odds for me to get my work from school, so I make every effort to get everything done in order to go to practice.”

Mechanical Engineering sophomore is well-represented in club lacrosse Lauren Tischler (first row, far left), Calith Callahan (third row, fourth from left) and Juan Contreras ’19 ME (third row, third from left).

Lucia DeNol’cia ’17 ME

Activity: Varsity rowing
Years involved: Since freshman year of high school.
Time commitment: In season (September-November and February-May), 20 hours of practice per week; out of season, eight hours a week. With individual workouts, on average, about 16 hours a week. Races can last up to 18 hours a day.

“It is difficult to be an engineering major and a part of the rowing team, but all about balance. Waking up at 4:30 a.m. has taught me great time management skills. Having practice every morning also gives me something to look forward to.”

Lucia DeNol’cia ’17 ME, varsity rowing

Austin Hake ’18 CE

Activity: President of Inter-Hall Council, also member of the Student Alumni Association (SAA) and Phi Sigma V honor fraternity

Description: Inter-Hall Council builds community across campus by bringing people together for large interactive events, while developing individual residence hall relationships through the efforts of smaller councils. The SAA under the umbrella of the Advanced Boardman Program shows main function is to enhance student alumni interaction.

Time commitment: Roughly five hours a week

“The year prior, I had a harder balance between residence hall, school, day, free time and work. It requires a clear prioritization of activities and ability to keep track of deadlines. Yes, it is difficult, but many people at Villanova are involved because we know that busy students are the future. In order to participate in other activities we try to have a proper balance and contribute to the community.”

Ellarri Hillard ’17 CE

Activity: Board president and Villanova chapter president of SREHUP, the Student Run Emergency Housing Unit of Philadelphia

Description: Founded by Villanova freshmen in 2009, SREHUP is a multi-university organization. The Villanova chapter consists of about 20 students who come to the shelter and help by preparing and serving donated meals, cleaning up and spending time with the residents. “Part of what makes SREHUP great is that many volunteers actually share a meal with the residents and understand the dinner table, which facilitates community between college students and individuals experiencing homelessness.”

Time commitment: Volunteer two to four times a week and spend about two hours a day doing SREHUP-related work

“Clinical engineering is hard work and SERHUP’s an enormous time commitment, so it’s kind of a help to plan everything in my agenda for Sunday morning so I can get ready the day before. I just try my best to work and school assignments on other problems as soon as I can, and everything always gets done.”

SREHUP volunteers Kanyinsola Odutun ’19 CLAS, William Drewry ’17 CLAS, Grace Homan ’17 CE, Ellarri Hillard ’17 CE and Mark Brown ’17 CE

Ed Keenan ’20 CE

Activity: Club curling

Description: It’s curling, players slide stones on a sheet of ice towards a target area, which is segmented into four concentric circles. Points are scored for the stones resting closest to the target.

Time commitment: Four hours of practice every Friday. Competitions last all weekend.

“it is very easy to balance with engineering since practice is on Fridays. Group project work and weekend tournaments, however, can be a challenge.”

SREHUP volunteers Kanyinsola Odutun ’19 CLAS, William Drewry ’17 CLAS, Grace Homan ’17 CE, Ellarri Hillard ’17 CE and Mark Brown ’17 CE

Ed Keenan ’20 CE, club curling

Neil MacDonald ’17 CE

Activity: Copy desk chief, The Villanovan

Years’ experience: Wrote for my high-school paper and worked my way up to copy chief in senior year. I was hired on the staff of The Villanova since I was a freshman.

Time commitment: Six to 10 hours a week

“While it definitely takes practice to balance coursework with an extracurricular activity, I view my campus involvement as a way to take a break from being immersed in engineering and to contribute to the campus community as large. I have really enjoyed my newspaper experience because it allows me to meet other students and become another voice of the community.”

Matt Massina ‘19 CP

Activity: Club quidditch

Description: Founded at Villanova in 2009, quidditch is a social contact sport with a unique mix of elements from rugby, dodgeball and tag. A quidditch team is made up of seven athletes who play with brooms between their legs at all times. Other colleges and community teams meet in tournaments. Villanova has attended at least two tournaments in the fall in order to meet the qualification for regionals. Teams who win at regionals advance to the World Cup in the spring.

Years playing: Begins as a senior in high school

Time commitment: Two hours to three hours a week

“Practise with the team doesn’t feel like a chore because I enjoy it so much, and having practice on weekend afternoons is perfect timing as it usually does not interfere with study time.”

Matt Massina ’19 CP, club quidditch

In addition to serving on the PESC, Thomas also is engaged in the Environmental Leadership Learning Community as a student advisor. He leads weekly discussions, helping freshman come to grips with the conversation about environmental issues.

Student demonstrates commitment to sustainability.

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• Electrical Engineering
• Mechanical Engineering
• Water Resources and Environmental Engineering

The College also offers 11 graduate certificates, as well as full- or part-time PhD programs with more than 80 students currently enrolled.

Ed MacDonald ’17 CE (center), at the Villanova

Neil MacDonald ’17 CE (center), at the Villanova

Matt Massina ’19 CP, club quidditch

Matt Massina ’19 CP, club quidditch
FROM WATER RESOURCES MANAGEMENT IN NICARAGUA...

V illanova Engineering PhD candidate Andrew Golato was initially drawn to service work when his co-worker Tim Montessori told him about the James A. Masterson Foundation, which he had established to honor his late brother Jim, a Villanova alumnus. The organization’s mission is to “help people in crisis” and at the time was raising money to buy water filters for families and communities in developing countries. When asked if he wanted to get involved, Golato welcomed the opportunity and was brought onto the foundation’s advisory board. Shortly thereafter, he embarked on his first service trip to Nicaragua where he and Tim traveled to remote locations and distributed 150 filters, which provided more than 12,000 people with clean drinking water.

This life-changing experience made a strong impression on Golato, leading him to initiate a meeting with the College’s Director of Villanova Engineering Service Learning, Jordan Ermilio, who recruits student volunteers to travel and support the initiatives of Villanova’s service partners around the globe.

As a result of their meeting, Golato was appointed a leader for the College’s 2016 fall break trip to Nicaragua. The goal of the trip was to support a long-term community initiative to provide greater access to clean water. Golato, Emilie and seven students traveled to Waslala, where they worked with community members to help survey and test the water. From arrival, they were greeted by a familiar face, Andrew Butler ’15 ME who has been living in Nicaragua, fully immersed in the project since fall 2015.

On the last day of the trip, the Villanova team joined together with the community for a big dinner with toasting. While the community was grateful for the work the students had done, Golato states, “The students saw the real benefits of this work. Not to downplay our role, but we have the chance to discover a new culture, apply our engineering skills and help the community execute this project; it’s a humbling experience.”

Back on campus, Golato and his teammates are buoyed up by the real deliveries, which include a recommendation for a computer model of a water distribution system, a cost-benefit analysis, two site maps and a how-to guide. A follow-up trip is scheduled for spring 2017. Golato appreciates this opportunity he says he could only have found at Villanova. He knows it will be an advantage as he applies for teaching positions at various universities after completing his doctorate this May. He notes, “VSL gives me a greater perspective on what I thought was a narrow career path. Being a professor can be about more than teaching and researching. You can truly collaborate.”

...TO STRUCTURAL HEALTH MONITORING AT VILLANOVA

G iven the service projects he’s worked on, one might assume that PhD candidate Andrew Golato is a civil or environmental engineer pursuing his doctorate in the area of water resources. In fact, Golato’s service experiences are unrelated to his academic pursuits, which lie in the area of structural health monitoring. Non-destructive testing allows for real-time, in situ monitoring of structures to detect flaws and determine when maintenance is necessary. In Golato’s work there is a system of piezoelectric sensors, which constantly monitor the structure for any issues. When a flaw is detected, the propagating acoustic wave will be scattered by that flaw. A series of piezoelectric transducers and a computer algorithm that transformed the scattered sound waves into data can provide the coordinates of the damage. The opposite is true; images can be generated and a how-to guide is included. A follow-up trip is scheduled for spring 2017. For those unfamiliar with the field, Golato offers an analogy, “Your car has a check-engine light, which monitors your engine to ensure all components function properly. When one is failing, the light turns on, and a mechanic connects a computer to the car, and the computer identifies the faulty component.”

In Golato’s work there is a system of piezoelectric sensors, which continuously monitor acoustic waves inside structures, such as pipes or plates being inspected. If a flaw (crack, hole, corrosion) in the structure is detected, the propagating acoustic wave will be scattered by the flaw. A series of piezoelectric sensors functioning as sensors to detect and record such events. The received scattered sound waves are then applied to a computer algorithm that Golato created, which uses prior knowledge of modeled seismic waves and wave propagation to provide the coordinates of the damage. The output is an image of the inspected plate or pipe on that area and may take anywhere between 10 mm.

Golato is advised by Villanova University Mechanical Engineering Professor Moeness Amin, PhD, and Temple University’s Fauzia Ahmad, PhD, an associate professor of Electrical and Computer Engineering. He also works with Center for Advanced Computing and Networking Director Moumen Amr, PhD. ©

Andrew Golato inspects a steel test panel in an ultrasonic-based defect localization scheme for thin plates.