IGNITE CHANGE. GO GREEN.

Faculty Spotlight:
Metin Duran, PhD, Civil & Environmental Engineering

In this interview series, we will bring you inside the world of Villanova’s professors and explore how their work relates to creating a sustainable future. In this first issue, we got to sit down with Metin Duran PhD, a professor in the Civil & Environmental Engineering. Dr. Duran has a very insightful outlook on sustainability and is involved with some cutting edge research in his field.

Where did you begin your academic career?
I studied Civil and Environmental Engineering at Istanbul Technical University (ITU) in Turkey. ITU is the third oldest technical university in the world, and at the time, was one of seventeen universities in Turkey. The University was considered a working class school, with a hands-on learning focus. Given the school’s competitive nature, there was definitely a “survival of the fittest” mentality.

Why did you come to the United States of America?
I came to America in the mid-90s to obtain my PhD in environmental engineering from Vanderbilt University. My thesis focused on process maximization aspects of anaerobic digestion within the wastewater treatment field. It was a new technology being developed in response to the Clean Water Act. There were, however, some limitations to my research. No one considered the possibility of cogeneration because energy was so cheap.

Where did life take you after Vanderbilt?
I returned to Turkey and taught Environmental Engineering for a few years, but I decided to come back to America to further my career and build a family. After returning to America, I conducted post doctoral research at Bucknell doing a feasibility study on a nearby landfill. We were trying to determine whether or not the landfill owners could economically extract biogas, but the project never ended up getting funding. After finishing my post doc, I came to work at Villanova University.

How long have you been teaching at Villanova?
14 years. I really enjoy the interface between teaching and research that Villanova encourages. Villanova has strong infrastructure for environmental engineering research, which makes the school attractive to sponsor agencies.

In your own words, how would you define sustainability?
This is not ours, resource is limited. Shale gas is not ours, we have to be careful about how we use our resources so future generations are not disadvantaged. We can achieve the necessary savings for future generations by making simple choices.
Faculty Spotlight: Continued

Why is sustainability important to you, both professionally and personally?
Professionally, it's what I do. Environmental Engineering deals with maintaining the well-being of society.

Personally, I am a big sucker for kids. The next generation deserves a chance. I don’t like to think of sustainability as saving the Earth, the Earth has been around for billions of years and it’s not going anywhere. Instead, sustainability is about saving the future of the human race.

What is your current research focused on?
I am still working on anaerobic digestion, but I have some new ideas that focus on water and energy. Dr. Wenqing Xu, my fellow Environmental Engineering professor, and I are currently working on biochar filters that would be used to clean biogas. Biogas is very expensive to clean with present technology and these filters would make the process more affordable. I am also investigating biological processes that would reduce the energy required to remove nitrogen from wastewater.

Do you ever collaborate with other academic departments for your research?
If you’re going to change anything, it must come from fundamental science. Thus, I often work with both the Chemistry and Biology departments. I have also recently been in touch with a professor at the Law School, Joseph Dellapenna, with regard to water laws.

Do you incorporate sustainability in the courses you teach?
Calling any of the topics I teach “sustainable” wouldn’t change much about the material itself. Instead, I like to emphasize the big picture of why water treatment is important and how wastewater is a resource in of itself. This goes hand in hand with the concepts behind sustainability.

If you could create any course, what would it be?
I would like to turn my water-wastewater treatment topic into a project course. Students would each be given a town and be tasked with designing water treatment infrastructure within the population constraints. Instead of having lectures, there would be one-on-one meetings to guide the students through the design process. I believe that learning by doing works very well for engineering.

Written by Thomas Saldutti ’17, Civil & Environmental Engineering.
EVENTS

PennEnvironmental Forum
   November 30 (Monday), 7:00PM in Corr Hall 103
   Learn from a Global Warming Advocate at PennEnvironmental, a statewide citizen-based environmental advocacy group, about climate change issues, the upcoming talks in Paris, the crucial stages of the Clean Power Plan, and how you can help. **This event is ACS approved.**

World Climate Negotiation Simulation
   December 4 (Friday), 1:00-3:30PM in Driscoll 244
   Participate in a simulation of this month’s World Climate Negotiations in Paris, by learning about and acting upon the real life science, political and economic factors of the countries involved with and affected by the negotiation’s outcome. Work as a team to come up with your countries commitment to warding off climate change. **This event is ACS approved**

CUSP Climate City
   December 5 (Saturday), 11:00AM-2:00PM at the Franklin Institute
   Learn how the Climate Negotiations in Paris will affect you here in Philadelphia. Each vendor will have a hands-on activity that will help you understand how to prepare for or prevent the local impacts of climate change.

Cowspiracy: The Sustainability Secret
   January 7 (Thursday), 7:30PM at the UA King of Prussia Stadium 16 & IMAX
   Discover the devastating environmental impacts that large-scale factory farming has on our planet. Buy tickets ahead of time.
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Career Resources
Looking for a career involving the environment? Check out the Career Center’s environmental resource page for job boards that focus on the environment.

Think Outside of the Classroom
See sustainability in action when you participate in the GREEN Program. Develop leader skills and industry knowhow while traveling around the world or stay right here in Philadelphia. Check out the GREEN Program today.

GreenAllies Conference
The second annual GreenAllies conference is February 13 (Saturday) at Franklin and Marchall College in Lancaster, PA (just over an hour away from Villanova). This conference is geared toward college students interested in sustainability on campus. The conference organizers are currently looking for student speakers. Contact Liesel Schwarz if you are interested in speaking and/or attending.

Study Abroad in Lille, France
Experience the cultural beauty of France, while taking courses toward the Villanova Sustainability Studies Minor. Including “Ecology vs. Economy,” “Introduction to Renewable Energies,” and “Industrial Entrepreneurship in a Sustainable Economy.”

Christmas Gift Ideas
Shop local when possible. Studies show that when you buy local, over 50% of the revenue stays local compared to 14% from a big box store. Check out some of the local Christmas markets in the area, or visit your favorite local shop.

Buy Fair Trade goods. Villanova is a Fair Trade certified university to help encourage better wages and living conditions for folks around the world who make our goods and grow our food. Shop at one of the many Fair Trade stores in the area for great Christmas gifts for your friends and family.
Learn from a Global Warming Advocate at Penn Environmental, about climate change issues, the upcoming talks in Paris, the crucial stages of the Clean Power Plan, and how you can help.

Peace and Justice Approved for Posting

Until November 30, 2015
Approval does not imply university endorsement

Hosted by Villanova Environmental Group and PESC

When: November 30, 2015 at 7:00
Where: Corr Hall 103
Penn Environmental Forum

An ACS Approved Event
Don’t miss this exclusive one-night big-screen showing of Cowspiracy: The Sustainability Secret, “One of the most important films made to inspire saving the planet.”

**WHEN:** Thursday January 7, 2016 at 7:30pm  
**WHERE:** UA King of Prussia Stadium 16 IMAX & RPX  
**PURCHASE TICKETS:** [www.tugg.com/events/77035](http://www.tugg.com/events/77035) | Tickets must be purchased by 12/29
Course Offerings

Students receive credit for two three-credit courses for a total of six VU credits:

One course that counts toward Villanova’s Sustainability Studies Minor; the student chooses from among the following:

- Ecology versus Economy (GEV 4517)
- Introduction to Renewable Energies: A Focus on Solar Energy (ME 5130)
- Industrial Entrepreneurship in a Sustainable Economy (MGT 2206)

and

One intensive French language course following the sequence of French courses offered at Villanova.

SUMMER STUDY ABROAD IN LILLE

An attractive city with a student population of more than 100,000, Lille offers a vibrant setting where Villanova students will feel immediately at home. They will be studying at “la Catho,” the highly respected Université Catholique de Lille (UCL) located in the Vauban district, a residential neighborhood made up of cosmopolitan markets, stylish shops and beautiful gardens. Recognized as one of France’s most dynamic cities, Lille offers an ideal setting for a study abroad experience thanks to its fine museums, sports arenas, concert halls, theaters and restaurants.

Academics

Students take classes at the Université Catholique de Lille. In order to maximize opportunities for students to speak in the classroom, enrollments in each section are kept purposefully low. Classes are taught by experienced teachers, all of whom are native French speakers. As part of their immersive experience, students are expected to contribute entries to a blog shared with the Villanova community.

Language

Students should have completed the equivalent of FRE 1112. The Sustainability Studies course is taught in English.

Application

Academic requirements are: (a) 3.0 GPA or higher on a 4.0 scale, or approval of the Faculty Program Coordinator; and (b) University student status without disciplinary or academic probation, and/or financial holds on VU account.

Program Cost

The program cost of approx. $6,500-$7,000 will cover the tuition for 2 courses, homestay, breakfast and lunch in Lille, hotel in Paris, and cultural immersion activities. Airfare, textbooks, and personal expenses are not included in the program cost.

VILLANOVA UNIVERSITY

APPLY NOW!

Academic requirements are: (a) 3.0 GPA or higher on a 4.0 scale, or approval of the Faculty Program Coordinator; and (b) University student status without disciplinary or academic probation, and/or financial holds on VU account.
Cultural Discovery
The program takes advantage of the wealth of cultural sites on each side of the Franco-Belgian border. In addition to the guided tours of Lille and its many museums, the program organizes excursions to Brussels, Bruges, and the new Louvre museum in Lens. While in Paris, students are encouraged to explore as many cultural sites, museums, and neighborhoods as possible according to their interests.

Faculty Program Coordinator
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Sustainability Studies in France
Université Catholique de Lille (UCL)

Lille, France
May 27 – July 8, 2016