The end of the semester is fast approaching! We are beginning to think about family and friends back home, a much needed break in the hectic routine of the academic semester, and the joy of finding that perfect gift for the special people in our lives. The end of the semester can also bring with it the stress and the anxiety of taking finals, completing term projects, and other types of assignments. While it can be a stressful time, it doesn’t have to be that way if you take a few simple time tested steps:

✱ Get plenty of rest and sleep.

✱ Prepare yourself – create a calendar of events, set a study time schedule but make sure to set aside time for breaks.

✱ Share your feelings with a friend or family member.

✱ Take a long walk or jog around our beautiful campus.

✱ Avoid the negative thoughts and only focus on the positive.

Lastly, relax and read this latest edition of the AGNR Student Newsletter. Preparation is the key to success. I wish you the best of luck closing out the semester and enjoy the holiday season.

Sincerely,
Leon Slaughter

Congratulations to Brooke Hyman, 2013-2014 Merrill Presidential Scholar!

Click here to read more!

Aspiring veterinarians looking for wisdom from the real world need look no further than 2004 UMD alumnus Caleb Frankel. The emergency small animal veterinarian shared his tips for preparing for vet school and combining career aspirations and hobbies. Check out this excerpt from Kirsten Petersen’s interview with this semester’s AGNR Amazing Alumnus and read the rest of the story online.

“Veterinary school admission is and always will be heavily dependent on your pre-veterinary experiences. This is mostly to demonstrate your understanding of the diversity of our profession and your dedication towards the extensive veterinary studies ahead of you.

As for internships, I was very interested in gaining diverse experiences so I sought mentors in all aspects of veterinary medicine. I focused heavily on working with vets and animals in areas I had no previous experience. I spent time with zoo veterinarians, equine veterinarians, and farm animal veterinarians. I also dabbled in some small animal experiences while at Maryland. Almost every experience I secured was somehow the result of a cold-call or email exchange. Be bold and reach out to people. What do you have to lose?”
AGNR Abroad: Exploring Italy's Architecture
TAKE A PEEK INTO SENIOR STEPHANIE MARINO'S EDUCATIONAL 17-DAY TRIP TO ITALY

by Harper Wayne

When one thinks of Italy, a few things may come to mind: pizza, spaghetti, tight-knit families and soccer, to name a few. The boot is also widely recognized, though, for its considerable architectural achievements, from the construction of Roman style domes and arches to being home to the Palladianism and the Leaning Tower of Pisa. For a landscape architecture major, Italy is an architectural Mecca begging to be explored.

This past June, senior landscape architecture major Stephanie Marino had the chance to do just that, during a 17-day University of Maryland program titled Italy: Landscape Architecture, Architecture, and Music. During her stay, Marino stayed in five different Italian cities, and enjoyed day trips to multiple others.

The program’s goal was to introduce a new culture to students, in order to give them a chance to analyze and determine the good and bad of a culture unfamiliar to them. Students kept a journal and a sketchbook during their travels, and learned how to better evaluate different characteristics of a culture through the use of writing and drawing.

“Italy is very inspiring and I was able to experience well-known sites of landscape design and architecture,” said Marino. “I now have a better understanding of the aspects that make designs work.”

Marino had been hoping to study in Italy long before participating in the program, and was thrilled to have the chance to study in such an architecturally diverse city. She enjoyed being able to experience the wide variety of landscapes the country had to offer, such as the open, rolling hills of Tuscan farms situated right outside the busy city of Florence.

When she wasn’t studying, writing and drawing, Marino enjoyed trying new foods, attending musical performances, and touring various sites throughout Italy. Aside from her coursework, Marino’s fondest memory of the trip was cooking dinner on her last night.

“For our last dinner together, we went to a cooking class and learned to cook an authentic Italian meal,” she said. “It was a great end to the trip and something I would not have thought to do if I had traveled to Italy outside of the program.”

“We had to keep to a fast moving schedule in order to visit all of the cities in a very short time,” said Marino. “If I were to go again, I would want to spend much more time exploring!”

Marino’s future plans include designing sustainable, memorable spaces that showcase her interest in contemporary design. She also hopes to continue to be very involved in the landscape organizations and community volunteer programs that she took part in throughout her college career.

After college, Marino plans on working at a landscape architecture firm in the Baltimore, Md. area, but has every intention of revisiting Italy and spending more time in her favorite cities from her trip. For those who haven’t studied abroad, Marino highly encourages it.

“Whether the program relates to your coursework or not, I guarantee you will learn much from the experience.”
Salmonella in Spices: ENST Student Studies How To Stop Harmful Strains from Hitting The Shelves

by Kirsten Petersen

When you hear the word “salmonella,” raw eggs, cookie dough and contaminated poultry may come to mind. But what about oregano, cilantro, or black pepper?

Marie-Laure Flamer, a senior Environmental Science and Technology major concentrating in environmental health, is searching for a faster way to identify strains of salmonella in spices before they hit the shelves as an intern for the FDA.

Salmonella cells can latch onto spices in many ways. Sometimes contamination results from packaging and preparation methods. Salmonella is found in animal excretions, which can end up in runoff and travel by water to fields where spices are cultivated. Salmonella can also travel through the air and soil before landing on a plant.

Despite this high risk of contamination, spice plants have antimicrobial properties that fight off harmful bacteria. So why is there a concern about salmonella contamination?

Certain substances like cooking oil seem to prevent the antimicrobial properties from inhibiting the bacteria’s growth. This means that salmonella cells in black pepper may survive when the spice is added to food being prepared on a stovetop.

“It makes you think anything could happen, but it could be the rare chance that the perfect environment was provided to protect them,” Flamer said.

Flamer is experimenting with substances called broth environments that will keep the salmonella bacteria alive and active for at least 24 hours. These growing environments can improve the detection methods spice producers use to more quickly identify salmonella in their samples.

Discovering the salmonella would prompt them to conduct a recall and pull their products off the shelves before consumers could be exposed to the bacteria.

“The mission is to minimize the risk, protect health and prevent these kinds of incidents,” Flamer said.

When beginning an experiment, Flamer first selects a broth environment. She places a spice sample and salmonella bacteria in the substance, observes the growth of the bacteria and performs a DNA extraction to see if the same strain survives in the broth.

Want more? Click here to finish reading this article online.
French Agriculture Program Encourages Cultural Analysis and Lasting Friendships

SENIOR TIM VON THUN CONNECTS WITH AMERICAN PEERS WHILE STUDYING IN ANGERS

by Kirsten Petersen

Postcards, photographs, and souvenirs help tell the story of a study abroad experience. But what if the best part of a trip was not something you could take home with you—the people you met?

For Tim Von Thun, a senior Agricultural Science and Technology major, the best part of his summer trip to Angers, France, was the new friendships he made, which have continued beyond his brief study abroad trip.

Von Thun attended the Ecole Supérieure d’Agriculture (ESA) in Angers this summer as part of a month-long study abroad experience. Students take classes in English and travel to farms to learn about different agricultural practices in the country.

Thirty-five students from the University of Maryland, Texas A&M, University of Wyoming, Illinois State University, University of Wisconsin and University of Minnesota participated in this summer’s program.

“Everyone was nice and outgoing and that’s what I’ve been seeing from everyone in the agriculture industry,” Von Thun said, adding, “After a day or two it was like we had known each other for weeks.”

Von Thun said that his peers had diverse backgrounds and interests, ranging from people who had never set foot on a farm before to “people who grow 5,000 acres of cotton in Texas.”

Some students specialize in chicken, beef and cotton industries back home in the United States. Von Thun, whose family operates a fruit and vegetable farm in New Jersey, enjoyed talking to his peers about their agricultural experiences.

“In Maryland we know one kind of agriculture,” Von Thun said. “Being able to talk to people in Texas and the Midwest about their experience with agriculture opened my eyes to things.”

Conversations weren’t the only way to learn about diverse agricultural practices while in Angers. Field trips to farmers markets and dairy farms demonstrated the difference between agriculture in the United States and France.

When the group visited a farmers market, they asked what happens to the leftover food at the end of the day. The response? There are no leftovers,

“You don’t have to produce as much as you can and go to the maximum limit. As long as you’re happy, that’s all that matters,” Von Thun said.

For Von Thun, this was a stark contrast from food production in the United States.

“We’d never do that in the United States,” he said. “We make more and more and more until we meet demand.”

Another agricultural practice new to Von Thun, called terroir, takes into account the climate, geography, and geology of an environment, as well as historical agricultural practices, when deciding what types of produce to grow. For his final project in Angers, his team reported on how the Champ Secret farm practices terroir when producing Camembert cheese.

Since the trip ended, Von Thun has stayed in touch with his new friends. He still has long conversations with them and can call them if he has a question about other agricultural industries.

When he thinks back to his time in Angers, Von Thun said that the memories he made with his friends come to mind.

“It’s great to have those experiences and look back on all the great times that month,” Von Thun said.
Summer Research Internships Foster New Discoveries Outside the Classroom

by Harper Wayne

Among the thousands of internships offered to undergraduate students, Research Experiences for Undergraduates (REUs) are some of the most selective. Only students with previous internship experience and a GPA higher than 3.25 qualify, and from that competitive pool, only 10 to 15 students from across the country are chosen for each site.

The REU program's goal is to support active research participation by undergraduate students in the areas of research funded by the National Science Foundation. There are more than 20 different sites, each hosting a group of undergraduates who work in the research programs of their host institution. Every student is associated with a specific research project, where he or she works closely with the faculty and other researchers. Students are granted $4,000 stipends and, in many cases, assistance with housing and travel.

This past summer, two of our own AGNR seniors were accepted into the REU program. Environmental Restoration and Management major Sara Mack was sent to the Louisiana Universities Marine Consortium, and Wildlife Ecology & Management major Micah Miles spent his summer conducting research at the Smithsonian Environmental Research Center and the University of Maryland.

In Louisiana, Mack investigated iron nutrient cycling rates in soils of different plant types at sites impacted and un-impacted by the BP oil spill. Her project played a role in a larger goal to understand all of the various types of nutrient cycling processes in the surface soils of Louisiana marshes, and to investigate any changes that may have arisen from the BP oil spill.

"Understanding these types of nutrient processes and BP spill impacts in the soils is both useful and important for many reasons," Mack says. "By looking at the different rates of iron cycling, we can better understand how Louisiana salt marsh and mangrove ecosystems contribute to global climate change."

By investigating and comparing nutrient cycling processes between both oiled and un-oiled BP spill sites, she explains, everyone can better understand the everlasting impacts that the BP spill may have had on the ecosystems, as well as the resiliency of the ecosystems to rebound from the spill.

Back in Maryland, Miles worked with a graduate student studying pollinators and pollination of the black mangrove – a unique tree specially adapted to grow in submerged or partially submerged salt or freshwater.

"Everyday we would drive out to these mangrove forests and record the types of pollinators, such as bees, wasps, butterflies, and other insects, that visited the flowers on the black mangrove," Miles says.

The goal of his research was to better understand the pollination ecology of black mangroves and investigate how recent changes in climate have affected the pollination ecology of this species.

"I also had the amazing opportunity to organize my own independent project, and I developed an experiment where I excluded anoles, a group of small lizards that feed primarily on insects, from black mangrove trees in an effort to understand how they impact insect herbivory on the trees," Miles says.

Want more? Click here to finish reading this article online.