

# PLSC Productivity

NEWS FROM THE DEPARTMENT OF  
PLANT & SOIL SCIENCES



UNIVERSITY OF DELAWARE  
AGRICULTURE &  
NATURAL RESOURCES

## Chair's Corner

Welcome to the first newsletter issue of the 2019-2020 academic year. Hopefully it won't be long until we will have broken out of this hot, dry weather pattern – maybe by the time you read this?!? Record high temperatures and a sustained drought in September were good for our outdoor labs, getting crops harvested, and enjoying early-season football, but tough on our landscapes. It did offer excellent conditions for our annual department picnic (September 27) and the College's 150<sup>th</sup> anniversary "Farm Fresh" dinner hosted by the CANR Dean (September 28). That meal featured beef, cheese, and numerous vegetables grown in cooperation with our students. As our enrollment grows in Sustainable Food Systems, so will the food offerings coming out of CANR!



Speaking of a hot and dry climate, I was in Las Vegas this past July for the annual conference of the American Society of Horticultural Science (ASHS). The main reason for being there was to attend research talks and meet with prospective candidates for our new faculty position in Controlled Environment Agriculture (CEA). The CEA division is one of the biggest in ASHS with numerous talks on manipulating light quality with LEDs for more efficient production and the quest for energy sustainability in indoor vertical farms. I met with a number of bright young scientists, many of whom applied for our faculty position. We will be bringing four candidates to campus for interviews in late October.

CANR Dean and PLSC faculty Dr. Mark Rieger reported on travel with colleagues from the college, "In June, I visited Argentina with Dr. Amy Biddle (Animal and Food Sciences) and Dr. Alyssa Koehler (PLSC) to explore study abroad and faculty research collaborations. It was a whirlwind five-day tour of five institutions in two cities, Cordoba and Mendoza. As with our last trip, we were overwhelmed with the hospitality and warmth of the Argentine people and walked



away with several ideas to pursue for the future... There seemed to be ample overlap between the crop science work we're doing and that done by scientists at INTA-Cordoba, one of the country's largest agricultural research institutes. Dr. Koehler was pleased to meet a dozen or more plant pathologists at INTA, some of whom are working in areas close to her research... (Pictured here are) Drs. Koehler (left) and Biddle (right) preparing to enjoy a traditional Argentine barbecue – grilled meats, empanadas and, of course, Malbec wine from Mendoza."

We have two new faces in the department. Gail Ferry (pictured right) has joined us as an Administrative Assistant II from a previous position in UD Student Services. Gail will be splitting her time between the main PLSC office in Townsend Hall and the Delaware Biotechnology Institute (DBI) where she will support our DBI-located faculty. Dr. Eric Bardenhagen joined us August 1 as Associate Professor of Landscape Architecture. He is profiled later in this issue. Welcome Gail and Eric!



CANR just rolled out a new look for our website to match that of many other UD websites. The new format allows for features of benefit to PLSC (and beyond the scope of this newsletter), such as videos, a news feed with links to UDaily articles, and an upcoming events calendar. Explore <http://www.udel.edu/canr/plsc/>

Additionally, explore UDBG this fall as there is much to see and do:

- 🌿 The trial and herbaceous gardens still look terrific. Many thanks to Dr. Bob Lyons for his trial garden efforts.
- 🌿 Enjoy your lunch on one of the benches on the new patio on the *Lepidoptera* Trail. Or... take a yoga class. UDBG has teamed with Employee Health and Wellness to host yoga in the garden, Mondays from 5:30-6:30 PM.
- 🌿 Walk the new fitness trail which begins at the UDairy Creamery. The trail route is approximately 1.5 miles long and is marked by green arrows on posts.

## Honorifics

### Two graduate students received summer travel awards from UD's Graduate College

This past June, Lauren Mosesso attended IsoCamp, an intensive two-week course in Salt Lake City, UT, where students learned about stable isotopes in biogeochemistry and ecology. The course consisted of daily lectures and lab work with opportunities to discuss one's research with guest lecturers. Lauren is currently a third-year Ph.D. student in Dr. Amy Shober's lab, working on understanding and managing subsurface phosphorus loss from agricultural fields on the Delmarva Peninsula. *(Saltair, UT; courtesy of L. Mosesso)*



This past July, Andrew Hill (*pictured at the "top" of his class; courtesy of A. Hill*) received a travel award to attend the 11<sup>th</sup> annual fluxcourse at the University of Colorado's Mountain Research Station near Nederland for a two-week residential workshop on land-atmosphere fluxes and ecosystem modeling. The course was led by top researchers in academia and private industry specializing in ecosystem ecology, micrometeorology, and instrumentation. Andrew is currently a second-year Ph.D. student in Dr. Rodrigo Vargas' lab working on land-atmosphere carbon exchange within an anthropogenic semi-urban system and natural salt marsh to better understand ecosystem responses to environmental change.

## Faculty Highlights

The following grants were awarded this summer to our talented PLSC faculty and their UD colleagues.

<u>Principal Investigator(s)</u>	<u>Title/Topic</u>	<u>Sponsor</u>
Dr. Jules Bruck	Living Laboratory	Delaware Department of Transportation
Dr. Angelia Seyfferth	Impacts of TiO <sub>2</sub> Pigments and TiO <sub>2</sub> -Pigmented Agricultural Films on TiO <sub>2</sub> Distribution in Soil and Soil-Physico-chemical Properties	The Chemours Company
Drs. Angelia Seyfferth and Matthew Limmer	Fate of Cadmium and Arsenic under Engineered Physico-chemical Gradients in the Soil-Water-Rice Nexus	National Science Foundation
Dr. Amy Shober and Sydney Riggi	Nutrient Management Education Program	Delaware Nutrient Management Commission
Drs. Carmine Balascio and Jules Bruck	Teaching minigrant: spatial visualization skills	CANR
Dr. Susan Barton and Valann Budischak	Teaching minigrant: plant identification in the landscape industry	CANR
Drs. Jeff Caplan and Nicole Donofrio	Teaching minigrant: confocal microscopy	CANR
Drs. Alyssa Koehler, Mark Isaacs, and David Owens	Teaching minigrant: integrated pest management	CANR
Anna Wik and UD colleagues	Teaching minigrant: The Winterthur/UD Certificate in Historic Garden and Cultural Landscape Preservation	CANR

## Faculty Spotlight

*Eric Bardenhagen—Associate Professor, Landscape Architecture  
New Professor Profile*

### Could you give a little background on yourself?

I am excited to join the PLSC faculty and help to join in the building of the Landscape Architecture degree program. I come to UD from Texas A&M University where I taught numerous classes and design studios in the landscape architecture program, and served as the program coordinator and associate department head.

I came to landscape architecture as many come to the profession as a discovery career - for me, following my undergraduate degree and a short stint working in Chicago in the furniture and lumber industry. Growing up in Racine, WI, I was surrounded by the incredible natural resource of Lake Michigan, an intact and walkable downtown with a well-planned city form, an extensive and connected parks system, and the works of prominent landscape architects. I only came to appreciate these when I began work on a master's degree in landscape architecture, as these are some of the key foundations of creating vibrant communities through the work that landscape architects do. Following that I practiced in the profession for seven years in Madison, WI before embarking on my doctoral work at Texas A&M, where after completion, I took a faculty position.



My research centered on two areas that both deal with our understanding of the interactions of people and places, and how we are shaped by the built and environmental contexts that surround us. The first area of research centers on empirical approaches to understand how creating intentionally designed outdoor spaces in long-term care facilities can positively affect health outcomes and the quality of life of residents. Secondly, I have worked extensively with the National Park Service to proactively plan for the protection of natural and cultural resources when natural disasters occur, and to train individuals to serve as resource advisors to guide decision-making during these events on federal lands. While seemingly unrelated, both of these focus on understanding elements that become drivers to creating community and how informed design can afford usage of these places.

### What are your plans at UD?

At UD, I will continue these two research streams with potential partnerships in the College of Health Sciences on the STAR campus as well as through centers such as the Disaster Research Center, and the Center for Historic Architecture & Design. In the classroom, I will teach predominantly in the construction sequence of the landscape architecture degree program as we work to refine that area of the curriculum and to create a construction products laboratory. I will also develop a regional design studio that will seek to give students the opportunity to explore the creation of community on a broad scale and to engage in community outreach activities.

## Events and Outreach

From UDBG Acting Director Valann Budischak: "The UDBG has been a whirlwind of activity over the summer and now into fall. In June, we welcomed five interns. The students worked as a team, yet each adopted a portion of the garden to manage individually. One of their summer projects was the expansion of the patio in the *Lepidoptera* Trail. On August 7 the UDBG interns and staff hosted the Summer Turf and Nursery Expo which is sponsored by the Delaware Nursery & Landscape Association, and Cooperative Extension. More than 230 green industry professionals attended the event to learn about annuals and color in the garden. Speakers included Dr. Erik Ervin, Dr. Sue Barton, Dr. Bob Lyons, John Kaszan, Nancy Gregory, Tracy Wootten, and Brian Kunkel. During their final week, the interns showcased their hard work by welcoming UDBG members and donors to our first annual Open House Garden, where they led tours and recapped their summer experience."

*CANR photographer  
Monica Moriak captured  
the color and the crowd of  
August 7, 2019.*

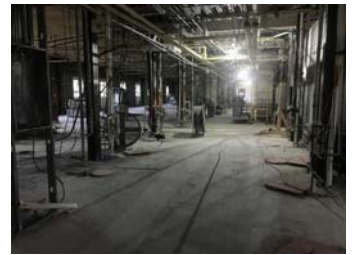


The UDBG summer interns and Brian Kunkel's interns enjoyed an August field trip to Chanticleer in Wayne, PA. From left: Brian Kunkel's interns Clarissa Hardcastle and Rebecca Gartley; UDBG interns Mary McCausland, Hunter Fleming, Connor Armstrong, Christian Stoltz, and Theo Kruppa.



## Ready – Set – Grow!

Dean Rieger sums up the state of the WorriLOW Hall renovation well: “WorriLOW Hall is now a construction zone! Nothing says you’re officially under construction better than knocking out walls and gutting the interior! The contractors are wasting no time on the demolition phase as they have finally begun the 18-month project that will result in one of the finest laboratory facilities on the UD campus. I walked through the long, dark hallway on the first floor for the last time in June as movers were packing and loading, and thought about how much better it will be on my next walk through a year or so from now. As I finish my seventh year as dean of the College, I am so grateful to the people who helped us get to this point – donors, administrators, half of the college’s faculty and staff, dozens of students, and UD’s Board of Trustees.”



An exterior modification on the south side of WorriLOW Hall is done to make way for a new glassed-in stairwell. The fourth photo illustrates Dean Rieger's remarks regarding demolition of the interior.



We encourage alumni to send us news to keep us informed! A new job, a promotion, a personal or professional award... they're all accomplishments we want to know! Email a note or a press release, including your graduation year, to [mpautler@udel.edu](mailto:mpautler@udel.edu)

We are seeking to showcase alumni stories on a bulletin board in the PLSC corridor of Townsend Hall. We would like to highlight the career paths of our former students to current and prospective students and their families. If you are interested in providing a 250-words or less description of your career path from your PLSC education to your current job, along with a photo showing you at said job, please email [mpautler@udel.edu](mailto:mpautler@udel.edu) for more details.

## Back Porch Business

Please consider making a DONATION to the PLSC department to support, for example: student travel to research meetings and professional development events or to fund stipends for undergraduate summer research and/or Extension scholars. One hundred percent of your gifts will impact the program you wish to support. You may make your gift to the University, the College of Agriculture and Natural Resources or another program by visiting [www.udel.edu/development/makeagift.htm](http://www.udel.edu/development/makeagift.htm) **However, designating the gift specifically to our department (PLSC) ensures that it will be used in direct support of PLSC students and faculty. Be sure to complete the “Other designation – indicate a specific purpose below” section and input “Dept. of Plant and Soil Sciences”.** If you have any questions or require assistance to complete any of these forms, please contact Dan Sarkissian, Director of Development, College of Agriculture and Natural Resources at 302-831-4595 or [djs@udel.edu](mailto:djs@udel.edu)

Edited by Maria Pautler, Research Associate and Erik Ervin, Chair  
Department of Plant & Soil Sciences

531 S. College Avenue | Newark, DE 19716  
Phone: 302-831-2531  
<http://canr.udel.edu/plsc/>

Notice of Non-discrimination, Equal Opportunity and Affirmative Action: The University of Delaware is an equal opportunity / affirmative action employer. For the University’s complete non-discrimination statement, visit the UD Legal Notices web page at <https://www.udel.edu/home/legal-notices/>