

PLSC Productivity

NEWS FROM THE DEPARTMENT OF
PLANT & SOIL SCIENCES



UNIVERSITY OF DELAWARE
**AGRICULTURE &
NATURAL RESOURCES**

Chair's Corner

Happy Holidays everyone! The week of Thanksgiving marked the end of any in-person classes and the departure of students from our residence halls. We are finishing up this COVID-impacted semester online, with final exams ending December 18. Our Winter Session runs from January 4 to February 5, with all classes online. Students who completed less than 18 credits in the Fall semester have the option to take 3 to 6 credits in the Winter for free. Spring semester classes begin February 15, with many more in-person class options. Across UD about 20% of classes will be in-person, while in the College of Agriculture and Natural Resources, over 30% will be face-to-face. In PLSC, Botany II, Woody Plants, Genetics, Field Sketching, Surveying, and Landscape Construction, Capstone, and Graduate Seminar will have in-person sections. Even though 2020 has been a tough year, there were several highlights:



The Bachelor of Landscape Architecture (BLA) program received initial accreditation. Kudos to BLA Director Dr. Jules Bruck and her faculty team of Wik, Barton, Balascio, Bardenhagen, and Trammell. BLA enrollment has grown quicker than expected with over 50 students; we will soon be at our goal of 60 and temporarily out of studio space, necessitating admission restrictions. Graduate student training at the intersection of landscape architecture, plant, soil, and environmental science is also being led for the first time by Drs. Bruck (Coastal Resilience Design Studio) and Bardenhagen.

Undergraduate enrollment across our three majors is well over 100, with good indications that we will stay steady or even grow as the Fall 2021 class enters.

Dr. Qingwu (William) Meng joined us in May 2020 as Assistant Professor of Controlled Environment Horticulture. Dr. Meng will be our lead advisor for our Sustainable Food Systems major. At less than 2 years in, we have 10 students in the major. They have loved Dr. Johnson's Introduction to Sustainable Food Systems class and Dr. Meng's online Hydroponics class. Even with COVID restrictions, Dr. Meng is about to open his Delaware Indoor Ag Lab (DIAL) and begin a research program aimed at developing best management practices for producing hydroponic food and floriculture crops.

Dr. Tom Evans, our 2019 College Teaching award winner, has once again been nominated by his students for 2020. Dr. Evans must have done an excellent job of teaching plant pathology in a hybrid (online and in-person) format!

A special shout out to all PLSC faculty who have put in many extra hours in 2020 to successfully deliver their courses in a hybrid format.

Dr. Erin Sparks and our graduate students inaugurated a PLSC Diversity, Equity, and Inclusion (DEI) Caucus that sponsored a national speaker, Dr. Terrell Morton (STEM experiences of minoritized students), and was the progenitor of the new CANR DEI Committee.

Our Delaware Biotechnology Institute (DBI)-affiliated faculty, Bais, Caplan, Green, Lee, Erin Sparks, and Wommack have all successfully transitioned into new, state-of-the-art laboratories in the Ammon Pinizzotto Biopharmaceutical Innovation Center (BPI) on the STAR campus.

Worrilow Hall is opening in January 2021 after a \$38M upgrade! On the first floor we will be teaching Soils, Botany, Genetics, and Plant Pathology in new classrooms, along with the Soil Testing Lab and Plant Diagnostics Clinic having amazing spaces. Second and third floor research lab neighborhoods will be occupied by PLSC and ANFS researchers. Our faculty and their graduate students are poised to do some impactful science! Please see all the highlighted new research grants of our productive faculty in the table later in the newsletter.

Dean Mark Rieger played a huge role in fundraising and planning for the Worrilow Hall renovation. Thanks to all those donors and alumni who supported this project. Dean Rieger is leaving at the end of the year to become Provost at Florida Gulf Coast University. Worrilow Hall will be a physical testament to many of his contributions. His leadership will be missed.





Lastly, Dr. Randy Wisser has resigned his Associate Professor position and moved with his family to Montpellier, France to direct a crop breeding and genomics program at the French National Research Institute for Agriculture, Food, and Environment. Dr. Wisser joined us in 2009 and developed an internationally-relevant program highlighted by over \$5M in grants from USDA-NIFA and NSF, creating Maize ATLAS (Adaptation Through Latitudinal Artificial Selection) and Disease Resistance of Maize (DR Maize). Dr. Wisser trained and mentored many undergraduates, graduate students, and post-docs, contributing to efforts in adapting and understanding diverse genetic resources directed toward the improvement of disease resistance of U.S. maize. We wish Randy, Grace, and their two boys all the best on their French journey.

Faculty Highlights

Editors note: So much good news about our faculty and their groups has come out in our UD press, space does not allow for a lengthy description. If you are interested to read more about these headlines, please search www.udel.edu/udaily or email mpautler@udel.edu for the UDaily links.

October 2020:

Dr. Tara Trammell's Lab: Force of Nature - UD researcher Covell McDermott studies red maples in urban forests

Ms. Anna Wik's LARC Edible Forest Garden Project: Eye for the Environment - Wildlife ecology and conservation major Charlye Stewart channels her inner Lorax

November 2020:

Dr. Angelia Seyfferth's Lab: Rice Fights Back - Fueled by faculty support, undergraduate researchers investigate rice's ability to combat plant stressors

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

<u>Principal Investigator(s)</u>	<u>Title/Topic</u>	<u>Sponsor</u>
Dr. William Matthaeus (Physics & Astronomy) Dr. Rodrigo Vargas Dr. Pinki Mondal <i>and others</i>	Building a Competitive and Sustainable Delaware Remote Sensing Big Data Center for Cutting-Edge Coastal and Environmental Change Research and Workforce Development	NASA
Dr. William Matthaeus (Physics & Astronomy) Dr. Harsh Bais <i>and others</i>	Minimizing the Food Outbreaks in Space: Understanding Innate Plant Defense Response in Leafy Greens under Zero Gravity Conditions	NASA
Dr. Erin Sparks	The Effect of Spaceflight and Microgravity on Plant Defense Responses	NASA
Dr. Alyssa Koehler	Evaluation of FHB Management Strategies in Delaware following the MGMT Coordinated Projects Standard Protocol	USDA
Dr. Jarrod Miller	Using Drone Technology to Predict Potential Nitrogen, Soil Sample Locations, and Planting Issues from Cover Crop Biomass	USDA
Dr. Mark VanGessel	Evaluating Potential <i>Miscanthus x giganteus</i> Spread on the Delmarva Peninsula	USDA
Dr. Donald Sparks Dr. Yan Jin <i>and others</i>	Anticipating Threats to Natural Systems	US Department of Defense
Dr. K. Eric Wommack Dr. Shawn Polson	Does Replicon Biochemistry Define the Infection Dynamics of Viruses within Ecosystems?	National Science Foundation
Dr. Randall Wisser	Elucidating How Durable Disease Resistance Curtails Fungal Infection in Maize Using Deep-Learning Facilitated Microscopy	Binational Agricultural R&D Fund

Faculty and Staff Spotlight

Several PLSC faculty and staff reached UD employment milestones in 2020. Let's hear from this 35-year stalwart!

Dr. Carmine Balascio, Associate Professor of Water Resource Engineering and Stormwater Management, PLSC Director of Undergraduate Studies



When did you first come to UD and why?

I came to UD originally as an undergraduate majoring in agricultural engineering technology. I went to Iowa State for my M.S. and Ph.D. in agricultural engineering, and continued to stay in contact with faculty in the Agricultural Engineering Department: Ernie Scarborough, Bill Ritter, and Norm Collins. When a position opened up in the department as I was finishing my Ph.D., I was invited to apply and got the position. I liked the opportunities that were available in both research and teaching. I especially appreciated the emphasis put on quality undergraduate instruction. As a native Delawarean, I realized I liked this part of the country and felt fortunate to find an academic position in the vicinity of family and many long-time friends.

How did you progress in your work over all of these years?

My workload has always been weighted more heavily towards teaching, and my research has had a complimentary focus on engineering practice, particularly in the areas of water resources and stormwater management. I obtained my professional engineering (P.E.) license in 1993, and in 2000, I got involved with the State of Delaware's engineering licensing board, the Council of the Delaware Association of Professional Engineers (DAPE), by being elected to the education seat. In 16 years of service on the DAPE Council, I have held the positions of Examining Committee Chair, Secretary, and Vice-President, and I was honored to receive the NCEES 2020 Northeast Region Distinguished Service Award. My service has been especially worthwhile for the opportunity it has given me to convey standards of professionalism to my students. It is particularly gratifying when, in my capacity as a member of the DAPE Council, I encounter former students who express their appreciation for what they learned in my classes.

Before the Department of Agricultural Engineering (renamed Bioresources Engineering) was dissolved in the early 2010s, I had taken on most of the department's undergraduate programming director duties. Now that I am with PLSC, I have formally taken on that position since Dr. Dave Frey retired. I am excited to be a member of the founding group of faculty for PLSC's newly-accredited professional program in landscape architecture in which I teach courses in site engineering and stormwater management. With landscape architecture being an allied profession to engineering, I like to think my background in the professional practice of engineering helps provide cross-disciplinary insight to my LA students that will help them in their professional careers.

On the other end of the timeline, let's hear from two recent hires who enhance and expand PLSC's capabilities.

Mr. John Emerson, Turfgrass Nutrient Management Extension Agent



Could you give a little background about yourself?

I have a B.S. in plant and soil science (turfgrass emphasis) from the University of Kentucky. I have worked in the turfgrass management industry for almost 20 years in a plethora of roles, including as a research assistant at the University of Kentucky's Turfgrass Research Farm and as a golf course superintendent. I have even owned a small turfgrass consulting company. (*Editor's note: John is a nationally-ranked Olympic weightlifter and a three-time state champion in Kentucky!*)

What are your plans at UD?

My plans are to educate those in the turfgrass industry to be more efficient at their jobs, create a culture of continuing education, and be better stewards of the environment. I also plan to pursue a graduate degree at UD.

Ms. Jill Pollok, Plant Diagnostician

Could you give a little background about yourself?

I came to UD from the Virginia Tech Eastern Shore Agricultural Research and Extension Center, serving as a plant pathology research specialist. There I executed experimental field trials on vegetables and field crops, and headed the plant disease clinic, which received 150-200 samples per year. I received my M.S. from Virginia Tech in 2015 in plant pathology, working on varietal resistance to root-knot nematodes in tobacco. I received my bachelor's degrees from Penn State in 2011 in biology and agroecology and worked for the Penn State Plant Disease Clinic for a year before going to graduate school. I grew up in central Pennsylvania and enjoy hiking, walking my two dogs, and creating art.



What are your plans at UD?

I am excited to bring my diagnostic experience to UD and keep the Diagnostic Clinic a reliable service for all who need this service. Additionally, I plan to expand molecular methods of diagnostics to improve upon which pathogens can be detected. I am happy to be part of the UD community and excited to eventually meet my colleagues in person!

Events and Outreach

DeLA is hosting a bi-weekly UD Alumni Panel Series on Zoom where alumni share their experiences in the landscape architecture field after graduation. October 5 saw the first speaker as Gena Wirth, a graduate of UD's Landscape Horticulture program who went on to receive master degrees in landscape architecture and urban planning and now serves as the Design Principal at SCAPE.

On November 11, "Coastal Connections: Promoting Resilient Communities," a free virtual panel exploring three different Land Grant Universities' efforts to engage with communities in their regions to establish resilience in the face of climate change and sea level rise was held. Panelists included Andrew Fox, Professor, Director of Coastal Dynamics Design Lab, NC State; Dr. Galen Newman, Associate Professor, Director of the Center for Housing and Urban Development, Texas A&M; Dr. Jules Bruck, Professor, Director of Landscape Architecture and Director of the Coastal Resilience Design Studio, UD; and Anna Wik, Assistant Professor, UD, both part of the Delaware Resilience Awareness Project.

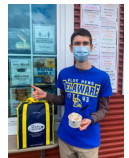
PLSC DEI News: On November 19, the CANR DEI Committee held its first virtual town hall to improve conversations and outcomes regarding diversity, equity, and inclusion. During the conversation, several comments were received from students, faculty, and staff pertaining to their experiences within the college and their forward-thinking ideas of how we can strive to improve CANR's culture, curriculum, transparency, and even recruitment practices. The committee is excited to continue developing a strategic plan for the college so that these words can be put into action. Positive change can only happen with all the CANR Community voices at the table! Email mpautler@udel.edu if you are interested in the work of the PLSC Diversity Caucus and the CANR DEI Committee.

Ready – Set – Grow!

The move into the renovated Worrilow Hall will happen in January!! Labs on the second and third floors will be filled with research as the unpacking unfolds. Classrooms on the first floor will welcome in-person students for Spring semester 2021. Many in PLSC are grateful to all those involved in this renovation in order to keep PLSC productivity going!



This PLSC alum, your editor, thanks all who have worked with her through the pandemic thus far. A soon-to-be UD alum (though not a PLSC alum), her son won the recent UDairy flavor contest, creating "Midnight Snack Attack." A sweet end to 2020!



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

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 for more details.

Back Porch Business

[Make a gift to the Plant & Soil Sciences Department](http://www.udel.edu/makeagift/plsc) (www.udel.edu/makeagift/plsc) to support student success. Gifts to the department provide funding for student travel to research and professional development events as well as stipends for undergraduate summer research and Extension Scholars. You may also give to the College of Agriculture and Natural Resources or another PLSC program by selecting "Other" and searching for the fund you wish to support. Contact Dan Sarkissian, Sr. Director of Development, College of Agriculture and Natural Resources at 302-831-4595 or djs@udel.edu with any questions or concerns.

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/>

The University of Delaware is an equal opportunity / affirmative action employer and Title IX institution. For the University's complete non-discrimination statement, please visit the UD Legal Notices web page at <https://www.udel.edu/aboutus/legal-notices.html>