

# ABE UPDATE

FALL/WINTER 2020/21



Artificial Intelligence  
in the Classroom

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Teaching and  
Adapting During  
COVID

UNIVERSITY of  
**UF** | FLORIDA

AGRICULTURAL  
AND BIOLOGICAL  
ENGINEERING

Fall/Winter 2020/21

UF/IFAS Agricultural and  
Biological Engineering  
Department

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### Cover Photo

Senior Lecturer William Pelletier follows face covering and physical distancing guidelines during an in-person, hand-on lab activity in his Heat and Mass Transfer course. See Page 6.

**GIVE**

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Dear ABE friends,

One of our core missions in the Agricultural and Biological Engineering department is teaching. This newsletter issue is dedicated to our teaching program, our staff who support it, our students, our faculty, and our contributing friends. The past year has been demanding and the next semester will continue to be so; we have been challenged in ways we never imagined. This challenge has showcased the talent, dedication, and community of our department. In addition, I believe that it has shown us new ways to teach and reminded us of how important some of our face-to-face, hands-on experiences are. Not to mention, how much we enjoy each other's company!

Another unique aspect of 2020 was the launch of UF's AI initiative which offers opportunities across colleges and missions, including the teaching program. The initiative is quite comprehensive providing access to a new HiPerGator 3 supercomputer that will be available for integration into course work, projects, and research. Additionally, trainings are being offered to prepare faculty in developing new AI components or modules into their courses. And, most exciting, ABE has been approved to hire a new faculty member who specializes in robotics and automation that will have a teaching component and contribute to our courses.

The observation of the importance of hands-on experience and the growth of AI in curriculum further supports our ongoing efforts to build a new ABE Teaching Building. This state-of-the-art building will house two hands-on, interactive classrooms with one designated to the Agricultural Operations Management program and one designated to the Biological Engineering program. We believe this facility will dramatically improve student experience by providing the students with an innovative learning environment, increasing faculty ability to offer hands-on, experiential learning courses, and creating a maker space and 'home' for design work. To contribute to our new teaching building fundraising goal of \$2 million dollars, please see [abe.ufl.edu/abe-teaching-building](http://abe.ufl.edu/abe-teaching-building) for information on donating.

As we enter Spring 2021, we are filled with hope, opportunities, and motivation. Our mission remains the same, to educate our students and provide them with the skills and confidence to be successful in whatever path they choose. Please enjoy learning more about the ABE teaching programs presented in this newsletter issue.

Go Gators!

**Kati Migliaccio**  
*Chair and Professor*



**KATI MIGLIACCIO, PH.D.**  
CHAIR AND PROFESSOR

 @hydroKati

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#7

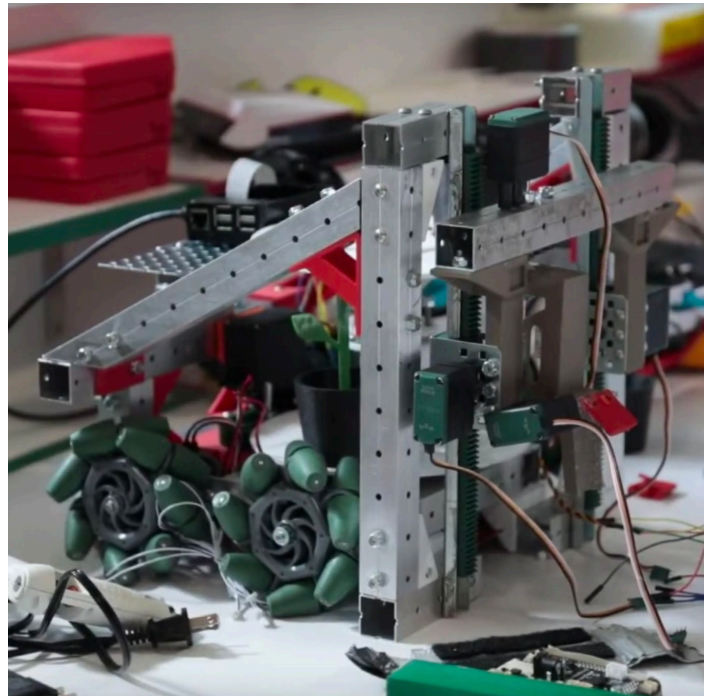
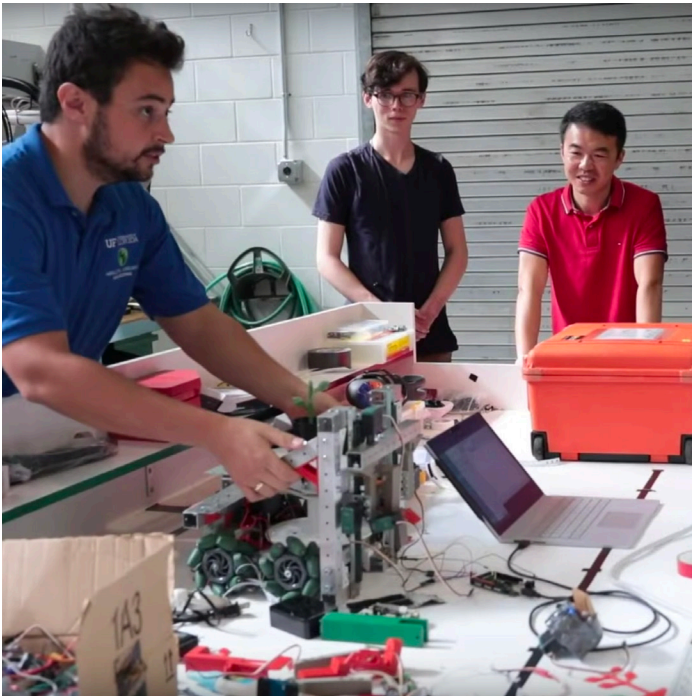
*Undergraduate Biological/  
Agricultural Engineering  
Program by U.S. News and  
World Report*

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#8

*Graduate Biological/  
Agricultural Engineering  
Program by U.S. News and  
World Report*

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## Artificial Intelligence in the Classroom

The University of Florida has kicked off a new artificial intelligence (AI) initiative that aims to bring AI to the forefront of the university’s technology programs. In a public-private partnership with technology company NVIDIA, the university has set its future vision to include an expansive plan to elevate its impact and reach in research, education, and economic development. This initiative will also create an AI-centric data center that houses the world’s fastest AI supercomputer in higher education.

Along with this AI Initiative, ABE and departments all across the university will begin introducing AI into its courses, in order to teach and train the next generation about emerging technologies that they will soon be using.

“As biological engineers we are always seeking ways to better model and predict biological

systems responses to different challenges such as climate change and sustainability,” ABE Associate Professor **Melanie Correll** said. “Machine learning and artificial intelligence are tools that allow for the building and testing of computational models of biological systems. Students in Biological Engineering should be at the forefront of utilizing and developing these algorithms for analyzing biological systems, since they have biological content expertise to ensure the use and interpretation of results of these tools is appropriate for desired application.”

Dr. Correll has started to introduce AI and machine learning (ML), a branch of AI focusing on predictive modeling, modules into her Quantification of Biological Processes (ABE 4662) course as of Fall 2020. In this class, students learn machine learning approaches to classify and count objects

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*Photos 1 and 2: The ABE Robotics Team utilizes artificial intelligence to compete in the annual ASABE Robotics Student Design Competition, a student design event in which to develop skills in robotic systems, electronics, and sensing technologies by simulating a fully autonomous robotics solution to a common agricultural process.*

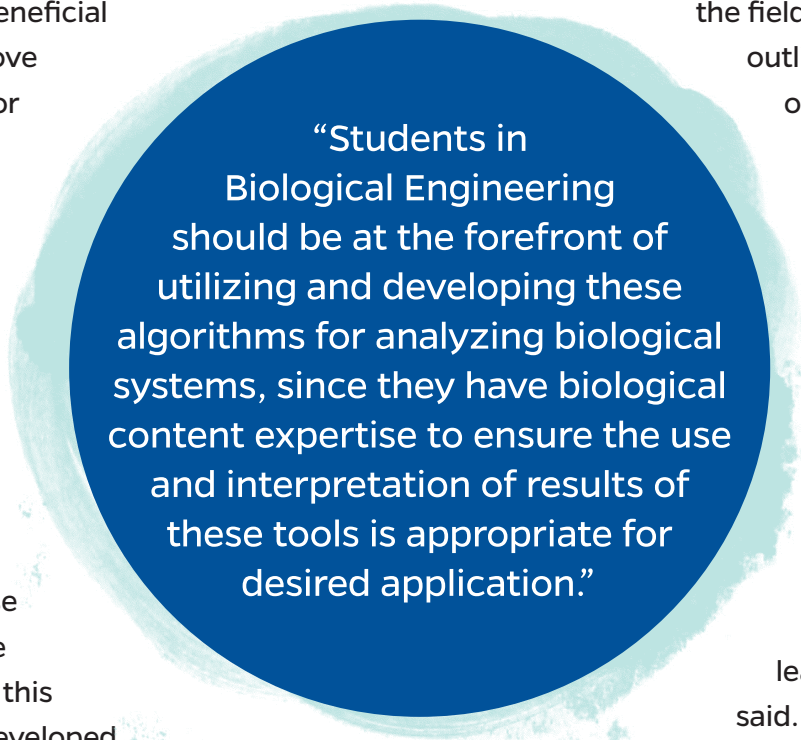
in images (e.g., leaves or number of cells in a microscope image), build a regression model for predicting quality of wine based on chemical analyses data, and determine cancer classification based on gene expression data.

The addition of AI into this course has already shown to be beneficial to students as they move on to other courses. For example, students in Dr. Correll's Quantification of Biological Processes course developed a project to classify images as "banana or not-a-banana" and to classify level of banana ripeness based on images. These students may continue to add components to this project in be further developed in their Biological Engineering Design (ABE 4043C) senior capstone course to use more image classification algorithms for predicting aspects of banana storage or ripeness.

ABE Associate Professor **Nikolay Bliznyuk** also includes AI and machine learning (ML) in his graduate level course, Statistical Machine Learning (ABE 6933). This course is devoted to ML and emphasizes methods rooted in statistics rather than in computer science, thereby complementing existing courses at the university. A major advantage of statistical methods for ML is that they are driven by an underlying statistical model for the observed (process) data, which,

in principle, allows one to simultaneously obtain point-level predictions (e.g., yield of a crop) as well as the uncertainty quantification (confidence and prediction intervals, distributional forecasts).

When discussing why it is important to teaching and train students in the field of AI, Dr. Bliznyuk outlines the importance of understanding and appreciating how revolutionary technology can be used or misused and ethical aspects of using AI and ML.



“Internet in general and Youtube in particular is rife with ‘over-optimistic’ application of machine learning,” Dr. Bliznyuk said. “It is important for an instructor or mentor to temper this overoptimism by improving users’ conceptual understanding of the methods and the ‘results’ that these methods produce, in order to avoid the damage caused by incorrect application.”

Many other courses in the ABE department will soon be incorporating AI subjects and projects to create an innovative teaching and learning environment for our students to explore.

For more information about UF’s AI initiative, visit [ai.ufl.edu](http://ai.ufl.edu). For more information about IFAS and ABE’s work in AI, visit [ifas.ufl.edu/artificial-intelligence](http://ifas.ufl.edu/artificial-intelligence).

 Dr. Melanie Correll, @G2EPlants



## Teaching and Adapting During COVID

Since March, classes across UF had to move to online formats to follow stay-at-home orders and physical distancing guidelines. With the move to an online format, many ABE classes that are usually taught in-person had to find ways to engage students and virtually present hands-on experiences.

Senior Lecturer and Agricultural Operations Management Undergraduate Coordinator **Wendell Porter** teaches many classes with demonstrations and hands-on learning where he had to find unique ways via an online course. One demonstration that Dr. Porter did online was his concrete estimating demonstration. For this demo, students found any section of concrete that needed repairing and calculated estimates on how much concrete would be needed for the repair project.

“Since I couldn’t ship them a 60lb bag of concrete I had them find a place nearby or an example where they could fix or apply concrete, describe the area, and tell me how much concrete it would take. So they fixed porches and sidewalks, mentally, so to speak. But because they had something physical to look at that was important to them, I got better results.”

Educating through videos was one technique Senior Lecturer **Richard Scholtz** used when adapting many of his classes to the online format. One way Dr. Scholtz did this in his Irrigation and Drainage Design course was by creating educational demonstration videos on how to take and process soil samples. These videos showed a step-by-step how-to process and explained the method and reasons behind each step.

Senior Lecturer **William Pelletier** taught a fully online class and a hybrid class this semester where he was able to meet with students in his Heat and Mass Transfer course in various lab sessions that followed physical distancing protocols.

“Most of the inconvenience was felt by the students, not having a chance to interact with each other or with me. And that is something students did mention when we met for the lab. They were really grateful to have at least that small component where they could see somebody and interact.”

As faculty, staff, and students continue to return to campus for the spring semester, classes will begin reintroducing in-person components that follow physical distancing regulations.



*Assistant Professor Haimanote Bayabil and research colleagues flying a drone. Image was taken prior to national guidelines of face coverings and physical distancing.*

## ABE Debuts SmartAg Graduate Certificate Program

The Agricultural and Biological Engineering department at the University of Florida is introducing its new Advanced SmartAg Certificate.

This graduate engineering certificate will offer training in various topical areas relevant to modern computation-based innovations in agriculture, termed SmartAg. Being identified as the nexus of future technology development in agriculture, SmartAg combines aspects of previous trends including precision agriculture, digital agriculture, agriculture 4.0, agriculture Internet of Things (IoT), and big data into a new paradigm that brings together technical expertise and supports from across engineering disciplines.

### Certificate Tier Structure

This certificate will have a tiered course structure that introduces students to precision agriculture, instrumentation, and control methods in SmartAg application concepts.

Students interested in this certificate can customize their course of study to their area of focus or interest. In addition to customizing this certificate, this three-tier course sequence includes three required courses on precision

agriculture, agricultural engineering research instrumentation, and SmartAg systems control methods.

Tier I courses of this certificate will introduce precision agriculture concepts (i.e. data collection and mapping, yield monitoring, prescription application, temporal and spatial variability of soil moisture, and crop factors) and agricultural engineering research instrumentation (i.e. data analysis, systems characterization, uncertainty analysis, analog and digital devices and circuits, and sensors). The tier II course will introduce students to fundamental computational control approaches (i.e. decision support, fuzzy logic, neural networks, classifiers, process control, and motion control applied to agriculture). Tier III will allow students to customize their certificate experience by choosing their final two courses in various SmartAg topics.

In addition to this new certificate, the ABE department will be premiering a new course titled “ABE5009: Control Methods in SmartAg Systems.”

The coordination of this certificate has been led by Agricultural and Biological Engineering Professor **Tom Burks** and will debut in Fall 2021.

# Certificates Programs

Certificate programs are a collection of for-credit courses that allow students to dive deeper into a distinct area of study. The Agricultural and Biological Engineering department has recently added new undergraduate and graduate certificates that offer more ways for students to explore this engineering industry. Students interested in these certificates can customize their course of study to their area of focus or interest.

## Biological Systems Modeling Certificate (Graduate)

In this graduate certificate, engineering and science graduate students and professionals are trained to model a wide range of biological and environmental systems. This program offers a tiered course structure that introduces students to conceptual modeling, model development and design with high-level programming languages, and an overview of the model application to simulation of biological systems.

For more information, visit [abe.ufl.edu/graduate/biological-systems-modeling-certificate](http://abe.ufl.edu/graduate/biological-systems-modeling-certificate).

## Advanced SmartAg Certificate (Graduate)

This graduate engineering certificate will offer training in various topical areas relevant to modern computation-based innovations in agriculture, termed SmartAg. Being identified as the nexus of future technology development in agriculture, SmartAg combines aspects of previous trends including precision agriculture, digital agriculture, agriculture 4.0, agriculture Internet of Things (IoT), and big data into a new paradigm that brings together technical expertise and supports from across engineering disciplines. This certificate will have a tiered course structure that introduces students to precision agriculture, instrumentation, and control methods in SmartAg application concepts. Coming Fall 2021.

## Applications in AI-based SmartAg

## Systems (Graduate)

This graduate certificate trains science graduate students in areas relevant to modern computation-based innovations in agriculture termed SmartAg, which relies on artificial intelligence to implement hardware/software-based solutions. Students can customize their experience by selecting electives in their area of interest in precision agriculture, remote sensing, GIS, controlled environment, and crop simulation.

## Packaging Engineering Certificate (Undergraduate)

The Packaging Engineering undergraduate certificate emphasizes engineering solutions to problems associated with packaging systems related to design, functionality and sustainability of packaging and product distribution. Topics include principles of packaging, food packaging, distribution and transport packaging, packaging production and processing, and computer tools for packaging. This certificate is limited to undergraduate engineering students in the Herbert Wertheim College of Engineering.

For more information, visit [abe.ufl.edu/packaging](http://abe.ufl.edu/packaging).



*“The Biological Systems Modeling Certificate provided a foundation for modeling design and analysis that can be applied to a variety of real-world, complex problems. I think these skills will be relevant in academia, government, or consulting jobs and the depth of knowledge learned from the certificate will set me apart from other applicants.”*

**Lory Willard**

Graduate Student  
Land and Water Resources Engineering



# Transfer Students



*"I chose to be a transfer student because it gave me the opportunity to take my first two years of college close to home, and then, once I earned my associate's degree, transfer to the University of Florida to complete my bachelor's degree. I was able to take the required classes for my core curriculum, then focus solely on my major for the last two years. ... By the time I transferred to the University of Florida, I had a diverse resume while also being more financially prepared to relocate to Gainesville."*

**Beverly Velazquez**

Agricultural Operations Management  
Specialization: Horticulture and Crop Management



*"I chose to attend the University of Florida as a transfer student primarily due to the opportunity provided by my school district to obtain my associate's degree concurrently with my high school diploma. The University of Florida has proven itself to be a leader in academics, especially as it relates to agricultural studies, which drew me heavily to the school. As a transfer student, you are provided the ability to discover and refine your academic habits and skills prior to entering into a major university where coursework can often be heavily demanding."*

**Joshua Jantz**

Agricultural Operations Management  
Specialization: Animal Production Management

Transferring to the UF Agricultural and Biological Engineering department allows students to complete their general education requirements at separate institution before they attend UF, where they will be able to jump straight into the classes specialized for their major.

Transfer pre-requisite course information for the Biological Engineering Major and the Agricultural Operations Management major can be found on our website at [abe.ufl.edu/prospective-students](http://abe.ufl.edu/prospective-students).

Community college students must complete an Associate of Arts, meet the required grade point average (GPA), complete the required prerequisite courses, and meet the foreign language and immunization policies of the University of Florida before transferring.

IMAGES WERE TAKEN PRIOR TO NATIONAL GUIDELINES OF FACE COVERINGS AND PHYSICAL DISTANCING

# Combination Degrees

Combination degrees allow highly qualified undergraduate students to work toward a Master of Engineering or Master of Science degree while obtaining their Bachelor of Science degree.

One of the benefits of enrolling in a combination degree program is that it gives students the chance to earn two degrees in around five years instead of the typical six when completing a bachelor's degree in four years and then a master's degree in two years. Combination degrees allows students to save time and get started on your career a little sooner.

We have created some combination degree paths for those that may be interested but unsure what a combination degree might look like or how to create a particular focus for a combination degree.

## Bioprocessing Engineering

The Bioprocessing Engineering combination degrees combines the Biological Engineering curriculum with a 30-hour Master of Science program to prepare students for a career in research and design of biobased products and technologies (e.g. food, feed, biofuels, biomaterials, biosensors, waste/wastewater resource recovery). Core courses will provide

a foundation in bioprocess engineering and design, including coursework in instrumentation, statistics, and biosystems modeling.

## Production Machinery

The Production Machinery combination degree combines the Biological Engineering curriculum with a 30-hour Master of Science non-thesis program, which will have core engineering courses in machinery design, automation and CAD. Students may customize this program according to their interests using electives.

## SmartAg

The SmartAg combination degree combines Biological Engineering curriculum with a 30-hour Master of Science non-thesis program along with classes in Environmental Control, Remote Sensing, Precision Ag, AI/Machine Learning, Modeling Instrumentation, GIS, and Control. Students may customize this program according to their interests using electives. These electives include advanced precision agriculture, control systems theory, computer vision, pattern recognition and intelligent systems, fundamentals biosensors, fluid power and control, food and bioprocess engineering design, and application control for robotics and automation.

## How To Get Started

- 1 Talk to Your Advisor\*
- 2 Complete the 'Combination Degree Program Request' Form
- 3 Receive Approval
- 4 Complete Your Graduate Coursework During Your Junior and Senior Years\*\*

## Questions?

**Robin Snyder**, Academic Advisor  
 rsnyder@ufl.edu / 352-294-6709  
 Frazier Rogers 116

\* 3.3 Upper Division GPA Required

\*\* Up to 12 credits of graduate coursework may be double-counted toward credit fulfillment of the BS and MS/ME degrees

# THANKS TO OUR ADVISORS!

*Our department is thankful to have knowledgeable, dedicated and thoughtful faculty and staff serving in the role of academic advisors for our undergraduate and graduate programs. These advisors have worked to keep our students on track during this time. Thank you to all of our great advisors!*



**Dr. Ana Martin-Ryals**  
Assistant Professor  
Biological Engineering  
Undergraduate Coordinator



**Dr. Wendell Porter**  
Senior Lecturer  
Agricultural Operations  
Management Undergraduate  
Coordinator



**Robin Snyder**  
Academic Advisor  
Graduate and  
Undergraduate Programs



**Dr. Greg Kiker**  
Professor  
Graduate Coordinator



**Dr. William Pelletier**  
Senior Lecturer



**Dr. Adam Watson**  
Assistant Professor



## Invention of the Year: AI-based Software to Analyze and Visualize UAV-collected Data

Agricultural and Biological Engineering Assistant Professor **Yiannis Ampatzidis** and his team received the UF Invention of the Year award from the UF Innovate | Tech Licensing for his cloud and artificial intelligence (AI) based application, **Agroview**.

Agroview is a software and application designed to use drone, satellite, and ground images to access plant qualities, quantities, and growth factors or impacts using AI. This software and application was developed to help producers take better care of their crops while also saving money.

For pest and disease detection and field phenotyping, traditional technologies rely on manual sampling. These methods are time consuming and labor intensive. With the limited availability of personnel trained for field scouting, the use of unmanned aerial vehicles (UAVs) has increased.

Using UAVs equipped with sensor technology simplifies surveying procedures, decreases data collection time, and reduces cost.

Agroview is used to accurately and rapidly process, analyze, and visualize data collected from UAVs and other platforms (e.g. small airplanes, satellites, ground platforms).

“This interactive and user-friendly application can: (i) detect, count and geo-locate plants and plant gaps (locations with dead or no plants); (ii) measure plant height and canopy size (plant inventory); (iii) develop plant health (or stress) maps,” Dr. Ampatzidis wrote.

This application uses deep learning to effectively detect individual plants on aerial maps by utilizing an AI-based machine vision algorithm.

The Agroview application has the potential to provide analysis for individual plants over large areas and compare phenotypic characteristics on different sets of plants. With the ability to create accurate tree inventories in a short time, this application can reduce data collection and analysis time and cost by up to 90%.

 @PrecAgSWFREC



## ABE Welcomes New Faculty Members

### Ziynet Boz, Ph.D.

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Dr. Ziynet Boz joined the ABE department as an assistant professor, specializing in sustainable food systems engineering with a research and teaching appointment.

Dr. Boz received her B.S. in food engineering at Mersin University in Turkey with Honors. She participated in year-long study abroad program at the University of Chemistry and Technology, Prague where she focused on chemical engineering, food microbiology and dairy processing. She continued her M.Sc. degree in food process engineering and modeling at Mersin University. Upon graduation, she was awarded a Fulbright Scholarship to pursue her degree in the U.S. and earned her Ph.D. from the Agricultural and Biological Engineering Department at the University of Florida (2017) with a specialization in packaging engineering.

Her recent work includes identification of preventive packaging solutions to reduce food waste in ReFED multi-stakeholder project, combination of food waste and nutrition loss data for thermal processing and packaging forms, and consumer research on sustainable packaging.

🐦 @ziynetboz

### Serap Gorucu, Ph.D.

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Dr. Serap Gorucu joined the ABE department as an assistant professor, specializing in risk analysis, safety, and health of agricultural systems.

Dr. Gorucu earned her bachelor's and master's degrees in Agricultural Engineering from Cukurova University, Turkey and a Ph.D. in Biosystems Engineering from Clemson University.

Dr. Gorucu's research focuses on agricultural injury surveillance and injury coding schemes. The agriculture, forestry, and fishing industry is the most hazardous industry in the U.S., resulting in thousands of deaths over the past ten years. Agricultural injury surveillance data can provide key information in prioritizing hazards.

Dr. Gorucu also works with the Southeastern Coastal Center for Agricultural Health and Safety, a center that explores and addresses the occupational safety and health needs of people working in agriculture, fishing, and forestry in Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, the U.S. Virgin Islands, and Puerto Rico.

🐦 @SerapGorucu1

# \$30K Donation to ABE Will Go to New Teaching Space

The Agricultural and Biological Engineering department received a donor gift of over \$30,000 from the estate of Dr. **Ira Joseph Ross**.

Ross earned a bachelor's degree from the University of Florida before pursuing his doctorate in Indiana. He then returned to UF where he worked before moving to the University of Kentucky (UK) in 1967. Dr. Ross worked at UK for 33 years where he served as department chair for 13 years and director of graduate studies for 10 years before retiring in 1994. Dr. Ira "Joe" Ross passed away in 2015 at the age of 82.

This generous donation was an estate gift that will be used to support our ABE Teaching Building project. We are very thankful for Dr. Ross and his contributions to ABE. His gift will help future students meet their full academic potential and enter the profession with the best educational experiences we can provide.

We strive to provide our students with the most relevant and innovative learning environments and to reflect the University of Florida's preeminence goals of top five ranking.

This innovative teaching space is a critical component of our continued success. As we prepare our students with the best education and ensure they have access to premier programs and equipment, we must provide the space needed for their growth as successful professionals.



BUILDING PLAN



AGRICULTURAL OPERATIONS MANAGEMENT WORKSHOP



BIOLOGICAL ENGINEERING DESIGN LAB



BUILDING EXTERIOR

# Building ABE's Future

The Department of Agricultural and Biological Engineering (ABE) is a key collaborator in the university and college mission. By developing, teaching and applying engineering principles to our constituency to improve and sustain systems within agriculture and natural resources, we are creating a stable environment for future generations.

**Innovative teaching space is a critical component of our success.** As we prepare our students with the best education and ensure they have access to premier programs and equipment, we need to provide the space needed for their growth as successful professionals. While we recruit and retain the most qualified students, we must have the top facilities to compete with our peer institutions. Specifically, state-of-the-art resources with ample space to work.

Existing facilities, such as the Agricultural Operations Management (AOM) teaching building, lack the basic elements of a nationally ranked academic institution. The absence of climate control and HVAC systems in addition to obsolete technology, dated design structure, and disrepair does not satisfy the minimal needs of our students. Most nationally ranked ABE departments have designated maker space for students to explore design and other hands-on activities. These spaces provide an environment where students can work as teams, explore multiple applications of engineering electrical, mechanical, hydrologic, etc. - and develop the technical and soft skills that will benefit them as they enter the engineering discipline. Our Agricultural Operations Management (AOM) and Biological Engineering (BE) programs lack this space, and it is a significant limitation to our undergraduate program.

**ABE seeks private funding in the amount of \$2M, from a single source or multiple entities,**



*Dr. Wendell Porter teaches an Agricultural Operations Management class in the current ABE teaching space facility. Images were taken prior to national guidelines of face coverings and physical distancing.*

**to build a new AOM teaching space and create a new Biological Engineering teaching classroom on campus.** The proposed teaching building-positioned just north of the current AOM teaching building on the corner of Museum and Hull Roads-would consist of two hands-on, experiential learning environments. One classroom would replace the AOM hands-on construction classroom, while the second classroom would provide a much-needed space for BE design. The proposed new building would not only address the basic functionality described, but it would also provide the best teaching equipment to ensure students are prepared to compete and excel in the workforce.

*For more information about how you can support this project, please contact:*

**Kati Migliaccio, Ph.D., P.E.**

Professor and Chair  
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**Cody Helmer**

Executive Director  
UF/IFAS Advancement  
352-392-5457 | [chelmer@ufl.edu](mailto:chelmer@ufl.edu)

Visit [abe.ufl.edu/abe-teaching-building](https://abe.ufl.edu/abe-teaching-building) for more information on this project and to give to this project.

### Awards and Accomplishments

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- ABE Professor **Rafael Muñoz-Carpena** was named a Fellow of the American Association for the Advancement of Science.
- ABE Professor **Won Suk “Daniel” Lee** was named an American Society of Agricultural and Biological Engineers (ASABE) Fellow.
- ABE Assistant Professor **Yiannis Ampatzidis** and his research team received the UF Invention Of The Year award from UF Innovate | Tech Licensing for their work on Agrovie, and artificial intelligence technology that helps farmers save money and take better care for their crops.
- The ABE **undergraduate engineering program ranked No. 7** in U.S. News & World Report’s Best Undergraduate Biological / Agricultural Engineering Programs, the highest-rated program for UF Herbert Wertheim College of Engineering.
- AgroClimate Program Director and ABE Professor **Clyde Fraisse** and his team received the World Meteorological Organization International Weather App Award for Weather/Climate Information for Farming for their Strawberry Advisory System App.
- ABE Graduate Students **Jinsheng Huang** and **Patrick Zheng** received the 2020 Roy Likins Scholarship.
- ABE Graduate Student **Arianna Partow** received first place in the 2020 ABE Poster Symposium with her research poster titled “Lignin-Based and Disulfate-Linked Aerogel as a Selective, Controllable, Reusable Superabsorbent.”
- ABE Graduate Student **Woi Sok Oh** tied for second place in the 2020 ABE Poster Symposium with his research poster titled “It Matters ‘How’, Not Just What, Factors Are Included: A Case Study of a Migration Agent-Based Model.”
- ABE Graduate Student **Stephen Lantin** tied for second place in the 2020 ABE Poster Symposium with his research poster titled “Classifying Thrip Biocontrol Damage in the Invasive Brazilian Peppertree (Schinus Terebinthifolia).”
- ABE Graduate Student **Ronald Fox** received the Best Overall First Year Graduate Student Award in the 2020 ABE Poster Symposium with his research poster titled “Water Conservation Potential for Turfgrass Grown in Compost-Amended Soil.”
- ABE Undergraduate Student **Julie Peeling** received the Best Overall Undergraduate Student Award in the 2020 ABE Poster Symposium with her research poster titled “Spatio-Temporal Structural Analysis Among Remotely-Sensed Environmental Variables in Ghana.”
- ABE Alumnus **Dale Zimmerman**, P.E., received the Tau Beta Pi Distinguished Alumnus Award for recognition of his outstanding career and history of service to professional societies.

### Department News

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- ABE Associate Professor **Rachata “Chot” Muneeppeerakul** was named director of the Florida Climate Institute.
- IFAS Government Affairs and ABE hosted State Representative Bobby Payne for a department visit to showcase what UF faculty are doing in water resources, best management practices, agricultural and environmental analysis, and more.
- ABE hosted its first virtual career fair via the Career Fair Plus App to help students connect with potential employers in a new, unique way.



## Fall 2020 Doctoral and Master's Degree Graduates



### Waleed Abdulrahman Z. Bin Masoud

Doctor of Philosophy (Ph.D.)  
Environmental Control  
Advisor: Dr. Melanie Correll



### Jerrett Logan Kandzer

Master of Science (M.S.)  
Agricultural Economics  
Advisor: Dr. J. Adam Watson



### Yifan Tang

Master of Science (M.S.)  
Biological Engineering  
Advisor: Dr. Eric McLamore

**CONGRATULATIONS  
TO OUR FALL 2020  
GRADUATES!**

## Fall 2020 Bachelor's Degree Graduates

### Ryan Thomas Bitter

Bachelor of Science (B.S.)  
Agricultural Operations Management

### Cassi Kuck

Bachelor of Science (B.S.)  
Agricultural Operations Management

### Thomas Fletcher Simmons

Bachelor of Science (B.S.)  
Agricultural Operations Management

### Brandon P. Fuller

Bachelor of Science (B.S.)  
Agricultural Operations Management

### Hayden Kale Lindsey

Bachelor of Science (B.S.)  
Agricultural Operations Management

### Suzanne M. Smith

Bachelor of Science (B.S.)  
Agricultural Operations Management

### Ben Schaffer Henderson

Bachelor of Science (B.S.)  
Biological Engineering

### McCoy C. Murphy

Bachelor of Science (B.S.)  
Agricultural Operations Management

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