

# 2021

# STATE *of the* COLLEGE

VIRTUAL ADDRESS

FRIDAY, JANUARY 22, 2021 | [GO.OSU.EDU/CFAES\\_SOC](https://go.osu.edu/cfaes_soc)

Hello CFAES Community — Today, I represent YOU — the faculty, staff, students, alumni, and stakeholders who make up the cornerstone college at The Ohio State University in the College of Food, Agricultural, and Environmental Sciences.



CFAES is both literally the cornerstone college of our university — which began as Ohio A&M — and the cornerstone of life on earth because of our disciplines.

In our college, we prepare people for the ultimate work — we sustain life.

To say 2020 presented challenges would be a great understatement but fortunately despite the challenges 2020 gave us, our college had an incredible year.

Today, I am joining you from our new CFAES Wooster Science building on our recently renamed CFAES Wooster Campus.

## Significant Developments

### CFAES Wooster

The Wooster campus was officially renamed from “OARDC/ATI” to CFAES Wooster to better reflect its role within CFAES and its status as a campus.

Changing the name connects this campus with our shared resources, infrastructure, personnel, and equipment. We will continue to use OARDC and ATI to designate the research enterprise statewide and our unique technical institute, but this new name brands the location as an integral part of CFAES and provides a gateway for Ohio State in northeast Ohio.



We completed this amazing new CFAES Wooster Campus Science building to house four state-of-the-art entomology research labs, as well as two undergraduate chemistry teaching classrooms to enhance education for ATI students and engage them with research being conducted.

From cutting-edge research and state-of-the-art teaching labs, to the new Bug Zoo, this building is connecting our faculty, students, and community.

### Innovative Scholarship Initiative

Our innovative scholarship is focused on our Grand Challenges but reaches across broad complex systems — like the plants and insects focused on in our new Science Building — but also engineered systems like Precision Agriculture — where machinery automation and use of spatial data utilize technology to more accurately place and meet site-specific crop and soil needs — to those focused on our environment like methods to sequester carbon dioxide in the soil in the CFAES Rattan Lal Center for Carbon Management

and Sequestration. We span food and biochemical systems such as in the work of our Center for Foodborne Illness Research and Prevention to ensure that the global food supply is both safe and healthy.

## FAHRP–CFAH



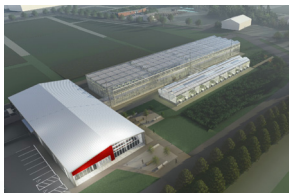
The complex interactions between Animals and Human systems became more obvious to us all in the year of Covid-19. The Food Animal Health Research Program (FAHRP) located on the CFAES Wooster campus but with its tenure home in the College of Veterinary Medicine (CVM) has transitioned into the Center for Food Animal Health (CFAH) within our college. CFAH will move within the Department of Animal Sciences and affirms our CFAES commitment to Ohio’s agriculture industry by helping to prevent disease outbreaks and ensuring the safety of our food supply.

## Stone Laboratory and the Ohio Sea Grant Program



With our continued commitment to water quality and management, the OSU Office of Research, and our college began streamlining the reporting structure for Stone Laboratory and the Ohio Sea Grant Program (OHSG), to shift it within our college. Fully integrating Stone Lab and OHSG enhances opportunities for impact and ensures long-term strategic direction, and allows for further integration across research, teaching, and extension – both within CFAES, OSU at large, and with other university and college partners and stakeholders across Ohio.

## Controlled Environment Food Production Research Complex and Interdisciplinary Research Facility



In 2020, we broke ground on the Controlled Environment Food Production Research Complex located on our Waterman Agricultural and Natural Resources Laboratory — along with the ground-breaking research it will house — which will provide us the infrastructure needed to improve food security, our food systems, and make progress towards the Rural and Urban Interface grand challenge.

Waterman is a as a proof-of-concept model for the work that will be done at the university’s new Interdisciplinary Research Facility located just south of Waterman.



The Interdisciplinary Research Facility focused on health — will deliver an innovative and integrated modern research and learning environment to serve multiple disciplines. The facility will serve as an anchor for Ohio State’s future West Campus Innovation District and will house approximately 305,000 new square feet. CFAES is an anchor college of the Interdisciplinary Research Facility along with the College of Engineering and College of Medicine.

All of these developments emerged for one singular purpose — to advance our innovative scholarship. To ensure we convert priorities to actions. To create more opportunities for us to leverage interdisciplinary systems which have the greatest potential to sustain life.

## College Initiatives

### Distinguished prof of FAES

Earlier today, we awarded our Distinguished Professors of Food, Agricultural, and Environmental Sciences. Our college awards this honorific title on a competitive basis to full professors who have excelled in teaching, research, or outreach/engagement, and whose work has demonstrated significant impact on their fields, students, college, University, or the public. These faculty exemplify our college’s purpose and mission — Today we honored:



Dr. Linda M. Lobao (Low-bay-o) Professor of Rural Sociology in the School of Environment and Natural Resources (SENR). Dr. Lobao has been practicing the scholarship of engagement her entire career. Whether in the classroom, advising graduate students, or directly with rural and agricultural stakeholders, Dr. Lobao has brought the richness of sociological inquiry and her research to civil public discourse on often ‘wicked’ societal issues.



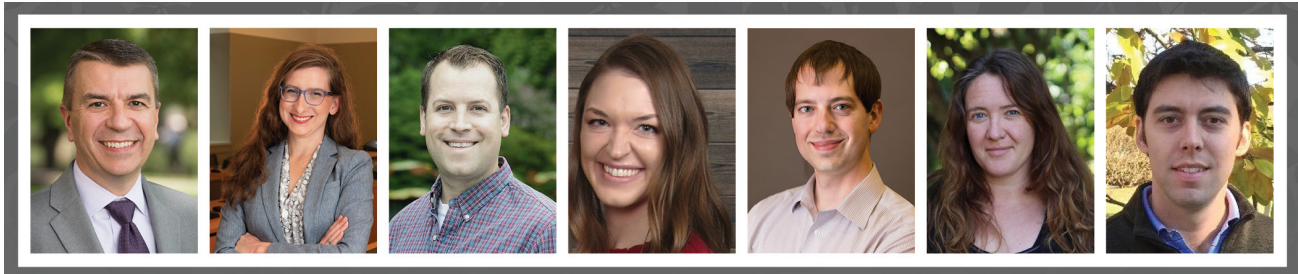
Dr. M. Susie Whittington is a Professor in the Department of Agricultural Communication, Education, and Leadership (ACEL) and Executive Director of Academic Enrichment and the Second-year Transformational Experience Program. Dr. Whittington is beloved by students and has been recognized with teaching awards throughout her career from professional organizations to the U.S. Department of Agriculture. Whittington has taught a variety of courses in the agriscience education major, preparing students to become high school agricultural educators through teaching methods, cultural proficiency, and program planning, as well as graduate courses in data collection and in advanced teaching methods.



Dr. Ahmed E. Yousef is a Professor in the Department Food Science and Technology. Since joining OSU in 1991, Dr. Yousef’s research includes searching for natural alternatives to currently used synthetic food preservatives. His team has discovered potent antimicrobial agents produced by beneficial bacteria; both the agents and bacteria are suitable for applications in food preservation. Since the late 1990s, Dr. Yousef and his research team have worked to develop methods to pasteurize shell eggs and to decontaminate fresh produce while maintaining products’ fresh qualities. This research has resulted in Dr. Yousef establishing the largest ozone research laboratory in the nation here at Ohio State.

We congratulate these faculty but celebrate that our faculty and staff are extremely accomplished. They are leaders in our food, agricultural and environmental sciences across Ohio, the Nation and the world. They advance science, they advance research, they advance knowledge and most importantly they advance people. We congratulate the numerous faculty, staff, and students who received awards this year — whether for teaching, research, or Extension — whether the awards were local, within the university or state, at the national and even, international level. The impacts of your work are recognized and substantial.

**This year, we also welcomed 7 new faculty members:**



- In the Department of Agricultural Communication, Education, and Leadership — Shannon Washburn joined us as professor and chair
- In the Department of Agricultural, Environmental, and Development Economics —Margaret Jodlowski joined us as an assistant professor
- In the Department of Animal Sciences—Benjamin Bohrer, and Jessica Pempek, assistant professors
- At our Agricultural Technical Institute—Zachery Matesich, assistant professor
- In the Department of Entomology—Ellen Klinger joined us as an assistant professor
- And in the Department of Horticulture and Crop Science —Guilherm Signorini, assistant professor



As you would expect, our research portfolio continues to be robust with more than 1,000 active projects, almost 200 capacity funded projects and over \$50 million dollars in competitive research grants. In FY20, 553 proposals were submitted — about a 20% increase and 11 new grants were received at \$500,000 or more.

It’s complex to sustain life, the challenges don’t stay within disciplinary boundaries and new challenges can emerge suddenly. In our college, our faculty work across academic and research areas and focus on systems to deliver the science and innovation needed today.



To address shifts in climate, you won't just find Aaron Wilson, our atmospheric scientist and extension specialist focused on effective adaptation — but also Jeff Firkins in Animal Sciences, whose research is on reducing greenhouse gases from Dairy production. He's joined by Zhongtang Yu, whose work examines the ruminant microbiome. Meanwhile, Alex Lindsey in Hort & Crop Sciences, examines drought and flooding stress related to corn, and Brent Sohngen in AEDE focuses on the economics of climate. Their work is complimented by many others — whether the interdisciplinary applied research for mitigating new pests and diseases by many of our Entomology and Plant Pathology faculty, or those focused on plant breeding, whether soybeans, barley, wheat, tomatoes, or even peppers and grapes.

### And our work has impact —

In FY20 our Intellectual Property included 7 active startups, 33 invention disclosures, 5 patents issued 27 new inventors and almost \$374,000 in licensing revenue.

Ahmed Youself identified a novel antimicrobial bacterium from an artisanal cheese that may be potentially safe to use as a pro-biotic for food preservation and promoting human health.

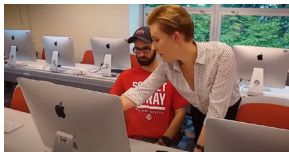


Roger Williams compared spring and fall fire behavior for their effects on forest ecosystems in Ohio, and in particular the influence of these fires on forest regeneration. The findings in these studies were incorporated into the material taught in Wildland Fire Management, Wildland Fire Lab and Forest Ecosystem Management.

Led by Sandy Velleman, a team identified specific proteins which may affect the regulation of muscle growth in turkeys during chick development.

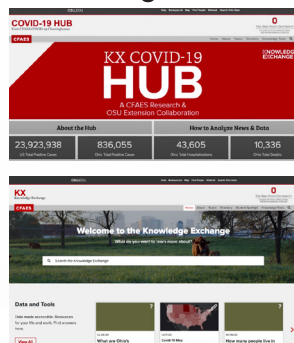


Celeste Welty and several colleagues focused on managing insect pests and disease as well as their natural enemies within cucurbit, hop, apple and other specialty cropping systems. Their work reduced the transmission of bacterial wilt, squash vine borer, and downy mildew.



And because we also recognize the importance of being able to communicate about our science, Annie Specht examined data visualization in agriculture and natural resources, these findings culminated in the development of a new course focused on data visualization and scientific storytelling in Food, Agricultural, and Environmental Sciences.”

### We'd even go so far as to say, that Science isn't done until its communicated —



In March, the Knowledge Exchange — not even fully launched — demonstrated its flexibility by responding to the COVID-19 crisis; the team designed and launched the CFAES COVID-19 Hub in less than a week. The hub focuses solely on reliable, vetted COVID-19 information.

On October first, the full Knowledge Exchange website launched, offering a robust catalogue of translated research related to CFAES disciplines and is a collaborative network of CFAES researchers, Ohio State University Extension professionals, communicators, data scientists, and industry experts whose mission is to communicate our science outside of the academic landscape and into the hands of the public.

While our research is an engine for all the work of our college, at the center of our college and its purpose — are our students.

## Students First Initiative



CFAES embodies the cornerstone college in its teaching mission by directly educating nearly 30% of all Ohio State Columbus campus undergraduate students. But our goal is even bigger — we want every OSU undergraduate in Columbus to have some kind of experience at Waterman — to learn about food, agriculture and the environment — before they leave OSU.



Nearly 25% of all Ohio State non-CFAES undergraduates enrolled in CFAES coursework during the 2019-20 school year and our courses fulfill nearly every Gen Ed breadth category including Social Science, Data Analysis, Social Diversity, Global Studies, Writing, Biological Science, Physical Science, Contemporary Issues, Historical Study, and Cultures and Ideas.

Our undergraduate students comprise 5% of the Columbus campus' undergraduate population, ranking the college as the 5th highest enrollment unit at the University (out of 15 total units).

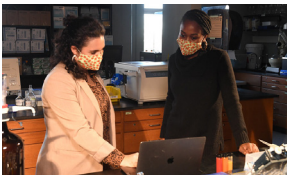
Our college maintained steady enrollment throughout the 20-21 school year despite the challenges posed by the COVID-19 pandemic. During the Autumn 2020 semester, CFAES showed a decrease of less than 1% in its total student enrollment.



The college is poised to have a similarly successful Spring 2021 semester, as projections show only a 2.7% decrease in enrollment as we started the semester.

The School of Environment and Natural Resources has been attracting new students extraordinarily well throughout the 20-21 school year, as enrollment in the school is projected to have increased nearly 6% over the previous year.

As a direct result of the strong connections with our faculty and staff, 93% of all CFAES students are retained to their second year and our 6-Year Graduation rates exceed the university's average since 2012. Our 4-Year Graduation rates have substantially exceeded the university's average since 2010. The most recent cohort which began in 2016 graduated at a rate of about 75% compared to the university average of 69%.



During the 2019-2020 academic year, CFAES graduated over 900 students, keeping graduation numbers in line with previous years despite the challenges that the pandemic brought to our students.

And about 94% of graduates are employed or are enrolled in graduate or professional school within six months of their graduation.



Our Student Centered philosophy continues — with our college awarding the largest amount of scholarship funding within the university — more than \$2.8 million.

Much of what we achieved in this challenging year would not have been possible without our generous stakeholders, alumni, donors and partners who helped raise a record-breaking \$40.82 million for student scholarships, research support, emerging priorities, and more. One example of that is an anonymous gift, which created a \$100,000 Student Emergency Fund, helping our CFAES Wooster students with needs beyond tuition which arose from the COVID-19 pandemic. That same donor provided an additional \$400,000 worth of support to enhance students' ability to be prepared to enter the workforce, aligning industry needs with our efforts.



Thanks to our generous alumni, stakeholders, and donors — we have set fund-raising records since 2017 — even during a pandemic — and we are well on our way to achieving our \$225 million goal for the Time & Change: The Ohio State Campaign with over \$144 million raised and almost \$90 million directed towards research support, student support and emerging priorities.

## Partnerships Initiative



Our college's External Relations team has been continuing to lay the foundation upon which our Strategic Partnerships unit will build. Emerging public/private partnerships with Nationwide, Kubota Tractor Corporation, Priva, Cargill, Scotts Miracle Gro, Apple, and General Electric Lighting are just the beginning. For example, ATI is partnering with Kubota Tractor Corporation and the National Coalition of Certification Centers to implement a Kubota-endorsed credentialing for students who are studying in our engineering technologies area. Students at ATI who take these courses will graduate with their degrees as well as with this industry-recognized credential. Kubota will also be providing students mentoring and internship opportunities.

We also are leveraging partnerships with others committed to STEM education — such as COSI — where we co-created science kits for kids across Ohio — the first kit is on water designed by 4-H and Stone Lab educators.

And we continue strong partnerships with Ohio Department of Agriculture, USDA National Resources Conservation Service, Ohio Farm Bureau Federation, Ohio Soybean Council, The Nature Conservancy, and other important industry groups.

## Transforming our Infrastructure Initiative



While some things had to pause or slow down due to COVID-19, we continued major progress on our priority around transforming our physical presence. Addressing deferred maintenance and needs for modern facilities to support our students, faculty, staff, and stakeholders. As well as finalizing our master plans to ensure efficiencies.

In the last three and a half years we completed \$42M in projects — \$9.3M of which were completed in last year — and more than 40 other projects of varying sizes were completed last year.

## Financials

By total budget, our college is the 4th largest of OSU's 15 colleges. After the Colleges of Arts & Sciences, Medicine, and Engineering.

We had over \$238M in spending last fiscal year with 67% being spent on payroll and benefits.

We also ended fiscal year 2020 with a strong equity position of \$111.9M, of this \$76M was non-base funding (Earnings, Gifts, Endowments, Grants/Contracts) and record years in fundraising commitments (\$40M) and grant expenditures (\$45M).



And in late December we learned that the additional 5% reduction to our Extension and Agricultural research lines after the initial 5% reduction, we had already received, that had been enacted by the State of Ohio this past October would be eliminated, restoring our funding to 1st Quarter levels for Extension and Agricultural research. We also received word that in the State Capital request, we received \$6M for the Fisher Auditorium renovation. We are grateful for the confidence these decisions demonstrate in the importance of our work and contributions to Ohioans.

We will continue to be vigilant as we navigate FY21 and will implement measures to continue to hold our college in its strong position — maintaining the hiring pause — using a strategic approach to filling vacant positions, continuing to reduce operational spend and reducing capital spend by focusing on mission critical items during this time.

## Challenges and Responses



I'm deeply proud of our CFAES community and how we have managed and responded during 2020. CFAES was one of the first colleges to gain approval for research exemptions under Governor Mike DeWine's "stay at home order". With this approval, CFAES researchers worked with The Ohio State University Wexner Medical Center physicians on COVID-19 antibody blood tests; and tested polymer face masks to protect against COVID-19.



Initial safety protocols were developed and tested by our approximately 30 staff based at our statewide research stations — many of these protocols were formulated, discussed, and tested before everyone else came back to work.

Last spring the CFAES Lean on Your Land Grant Food Supply Chain Task Force was convened to address pressing and long-term issues in our food system that have been created or exacerbated by the COVID-19 pandemic.

Since spring 2020 over 300 CFAES courses converted to greater than 50% Distance Learning Mode of Instruction. We Seamlessly converted all student support services to be offered virtually including:

- Academic unit and College Advising
- Career advising/development and Career Fairs
- Student recruitment
- New student orientation
- Embedded Clinical Counseling
- Student celebrations

And we began college-level implementation of new University General Education Model.

Many programs could not meet in-person this summer and had to quickly adapt. Lorain County 4-H created “STEM in the Summer” activity kits that were distributed to more than 2,000 youth to learn about STEM.



When county fairs were scaled back, Cuyahoga County 4-H created a “Fair-in-a-Box,” with supplies for a car parade, club competitions, and service projects. Special thanks to all of our county agricultural societies for working with Ohio 4-H to make junior fairs possible in many counties.



We extend our deepest appreciation to the thousands of volunteers who pivoted from the usual way of leading activities to ensure Ohio 4-H members still had positive youth development experiences, including home-based community service projects and demonstrations on club Facebook pages.

And OSU Extension Community Development educators created a business survey to learn about impacts of COVID-19. The responses helped identify opportunities for financial relief and prepare materials for state and federal stimulus packages that in turn, could help local businesses recover from impacts.

## Racial Justice

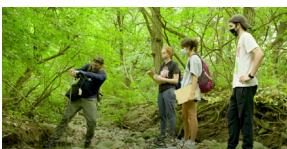


Covid wasn’t the only challenge this year — in response to current events, we affirmed the CFAES Principles of Community. Our college is working to ensure that we become a just and equitable learning community that prepares the next generation to lead in a better world.

We continue our work through the launching of our Diversity, Equity and Inclusion Action Council and our conviction that racism and inequality have no place in CFAES. I appreciate the many thoughtful discussions, openness to listening to one another, and actions taken to ensure we not only affirm, but live our principles.

## Insights into next 12 months

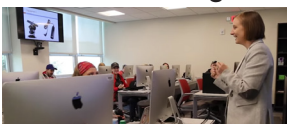
### So where are we headed in 2021?



The USDA reports the annual demand for college graduates in the agriculture and food industries is outstripping what colleges are producing. The demand for CFAES graduates continues — and we need to increase the number of graduates in our programs.

We’re adding programs and helping students get excited about our work and our careers—

### Enrollment Management Task Force



Our Enrollment and Recruitment task force is creating the foundation for increasing our knowledge and understanding of our enrollment trends and data, engaging faculty in considering our goals for student engagement, and reviewing our enrollment plan for implementation across the college.

## And we're developing new majors —

The proposal from our college, led by Casey Hoy to establish a new interdisciplinary major program in Sustainable Agriculture leading to the Bachelor of Science was approved by the Ohio Department of Higher Education.

## Research —



Within Ohio, we can see the challenges facing all of us which we need our cornerstone college to continue to address — increasing population, pressures on farmland, climate and water shifts, emerging diseases and pests, impacts of policies or leadership.

During the 2020 World Food Prize celebration for Dr. Lal we reaffirmed our commitment to the Center for Carbon Management and Sequestration (C-MASC), secured additional resources for its support, and the Board of Trustees approved the renaming to the CFAES Rattan Lal Center for Carbon Management and Sequestration.



Within Extension Agricultural and Natural Resources — we continue our work engaging and being embedded across the state as with the eFields Report just released to the public — with over 218 trials, 107 partner farms, 55 industry partners, and 65 OSU contributors — we increased podcast series on issues that impact agriculture, such as weather, land value, policies, commodity outlooks, and more and have nearly 200 virtual winter programs on hundreds of topics including Soil Health Series, Dairy Labor Mgt Series, Ag Tech Tuesdays, Water Quality Wednesdays, A Day in The Woods, and a Living Landscape Series.

In 2021, we anticipate the development and roll-out of a CFAES outward-facing, non-credit course catalog and marketing effort reaching more people with our programs.

## So, where are we headed?

We sustain life — and we have 50,000 alumni across the world doing just that —



Like Bruce Kettler, a 1987 graduate in Agronomy who now serves as the Director for the Indiana State Department of Agriculture.

Or Yolanda Owens, 2007 grad in Agricultural Communications and now, Founder & Principal Consultant of Colloquy, LLC and TEDx speaker on agriculture and the Black community.



Krystin Bachman Miller, who graduated in 2012 from Animal Sciences and then in 2016, from the College of Medicine — now a front line worker at OSU Wexner Medical Center throughout the COVID-19 pandemic.

And Ellen Crivella, a 2003 and 2006 graduate in Environmental Science, who now serves as Senior Vice President of Project Development and Engineering at DNV GL — a global company focused on risk management and quality assurance.

And thousands of others just like them —

It's clear that these are challenging times — especially when your focus is on the complex interlocking systems which are at the core of sustaining life — but our college is ready. Our people are dedicated, productive, and engaged. We are aligning our systems, processes, and facilities. We prepare students, and solve challenges impacting us locally, throughout the state of Ohio, across our country, and around our world. We are living our mission — **We Sustain Life.**