

ARD Updates

ASSOCIATION OF 1890 RESEARCH DIRECTORS

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Image by Freepik



Students incur little debt with USDA scholarships

Chyler Hughes, a recent Lincoln University (LU) graduate, has a vision — to create environmental and agriculture programs for women and girls in urban areas.

Growing up in cities like St. Louis and Kansas City, Hughes faced challenges with asthma and never imagined a future in agriculture.

However, that changed when she enrolled at LU and discovered her passion for the environment. Shortly after declaring her major in agriculture, Hughes received the 1890 David Scott Scholarship, allowing her to graduate with minimal debt and opening academic and networking opportunities.

Hughes' scholarship was part of [the \\$19.2 million investment in 1890 land-grant universities recently made by USDA](#) to provide undergraduate scholarships for stu-



Chyler Hughes, a recent Lincoln University graduate, received an 1890 Scholarship. Image courtesy of Lincoln University.

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DR. W. WHITTAKER

Dear Friends and Colleagues,
As the season changes, bringing cooler weather and vibrant colors, it feels like the perfect time to launch new initiatives and build on current ones — we're excited to share these with you in the coming months. From strategic visioning to pioneering research, there is much to anticipate.

Thanksgiving is approaching, and I must extend my warmest wishes for a happy and safe holiday. Thanksgiving is a meaningful time to reflect on our blessings and express

gratitude for our family, friends and communities that enrich our lives. It is a chance to gather, share and celebrate the support and connections we cherish, reminding us to appreciate the large and small joys that bring us together. We're also proud to be part of a land-grant system that values diversity and inclusion as strengths that enhance our community.

In this spirit, I'm deeply thankful for the opportunity to serve as the ARD chair. As mentioned last month, ARD is committed to building a premier research

Message from the Chair / DR. WESLEY WHITTAKER

association, and our efforts to elevate ARD to a leading regional research organization are ongoing. As chair, I am focused on refreshing our strategic agenda to guide our growth. We are 1890 Strong, which possesses an array of strengths and will continue to work together to support the core of our mission for which we stand.

To our talented faculty and staff across campuses, thank you for the tremendous work you do each day to make a difference in the lives of our students and other stakeholders. We will keep pushing toward new horizons, tackling challenges and emphasizing interdisciplinary programs and initiatives that drive collaborative learning, discovery and outreach—advancing economic development, globalization and sustainability.

Lastly, I want to recognize and thank the Veterans within our national land-grant system, along with all Veterans in general, for their service and sacrifice in defending our freedoms. Veterans Day (Nov. 11) is a time to honor their commitment, bravery, and resilience. Acknowledging their contributions reinforces the respect and gratitude they so richly deserve.

Thank you for all you do, and I look forward to an exciting period ahead.



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Congress approved the Evans-Allen Act of 1977 to provide capacity funding for food and agricultural research at the 1890 land-grant universities and Tuskegee University (the 1890 Institutions) similar to that provided to the 1862 universities under the Hatch Act of 1887. Research conducted under the Evans-Allen Program has led to hundreds of scientific breakthroughs of benefit to both the unique stakeholders of the 1890 institutions and the nation as a whole. The Evans-Allen Program has been extremely important in allowing the 1890 institutions to attract top-notch scientists to their campuses, conduct high-quality and innovative research and become more fully integrated within the land-grant system.

This edition, includes impacts from the 1890 research program submitted by scientists at Alabama A&M University.

A&M monitors forest biodiversity with censused plots

The Alabama A&M University Paint Rock Forest Dynamics Plot has been the foundation for building long-term capacity in forest ecology research, building deep collaborative relationships and training the next generation of forest scientists.

The 20-ha Paint Rock Forest Dynamics Plot is located within The Nature Conservancy's Sharp Bingham Mountain Preserve (Northeast Alabama); it was first censused between 2019 and 2022 and again in 2024. Every tree over 1cm in diameter at breast height was measured, mapped and identified.

The project was initiated with the support of an 1890 USDA capacity-building grant, with ongoing work funded through NFS and USDA.

In 2024, the site was officially integrated into the [ForestGEO network](#). The Forest Global Earth Observatory (ForestGEO) is a global network of scientists and forest research sites dedicated to advancing the long-term study of the world's forests. The network recognizes the importance of collaborating with local institutions to strengthen science capacity in an era of rapidly changing landscapes and climates to understand and predict forest dynamics.

These plots are integral to monitoring biodiversity through time and deepening ecological understanding. They

also allow us to investigate how forests respond to climate change, including shifts in growth patterns, carbon storage and resilience.

The Paint Rock Plot has 29,280 measured stems representing 79 species from 35 families and an average above-ground biomass of 210.9 Mg/ha. These datasets have become the foundation of graduate and undergraduate research projects, a training ground for field forest measurement and a wonderful space to build collaboration.

Over the six years, we have trained 30 recent graduates in forest measurement science and 20 undergraduates in forest science and data management, along with four graduate students developing research based on the site and available data. This project exemplifies our Department of Natural Resources and Environmental Sciences' mission to advance knowledge of the environment through scientific research, effective instruction, and community engagement to address global environmental challenges in impactful and meaningful ways.

Current research includes:

- Spatial variation of live aboveground woody biomass from a large temperate forest plot and its relationship with topographic indices.
- Assessment of canopy tree mapping using combined re-

See Forests on Page 4



Photo provide by Alabama A&M.

A&M regulates yeast lipids to offer the food industry options

Yeast lipids, a valuable resource in food biotechnology, offer diverse applications within the food industry. Derived from oleaginous yeasts, these lipids contain beneficial fatty acids, making them ideal for food additives, flavoring agents and nutritional supplements. Their potential to enhance food products extends beyond their nutritional value. By genetically engineering yeast strains to produce specific lipid profiles, we can create tailored solutions that address various dietary needs. This capability aligns with the increasing consumer demand for functional foods, providing a promising avenue for innovation in the food industry.

The Alabama A&M Food Biotechnology research team, led by **Dr. Stylianos Fakas**, studies yeast lipids biochemistry and molecular biology. We use the oleaginous yeast *Yarrowia lipolytica* as our model organism to understand how yeast cells synthesize their lipids because of its tractable genetics and the availability of tools for its

genetic manipulation. This research will contribute to the development of more efficient processes for lipid production. Our primary focus is on the enzymes phosphatidate phosphatase and citrate lyase, which are major regulators of lipid biosynthesis.

We studied a gene called *PAH1* that encodes for the enzyme phosphatidate phosphatase (PAP), which is important for making triglycerides in yeast cells. When we removed this

gene, it affected how the cells used sugar for energy and made different lipids.

These changes affected other genes involved in making lipids. We found that certain metabolites produced from sugar breakdown can stimulate lipid synthesis by activating the PAP enzymes. However, this only works in cells with the *PAH1* gene. This suggests that these molecules influence PAP activity and play a role in making lipids.

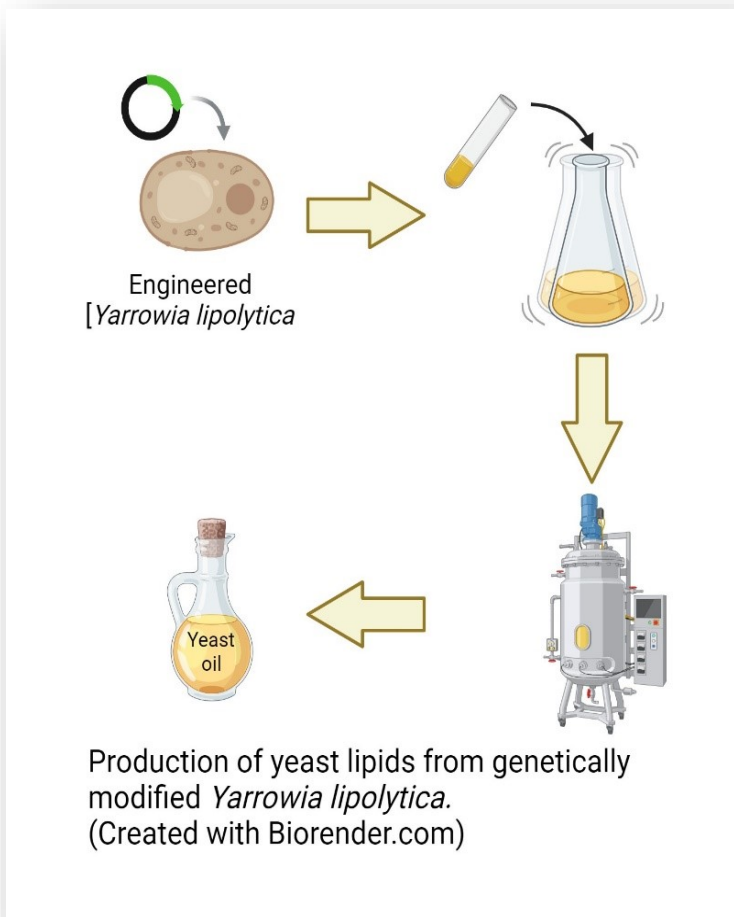
We also studied an enzyme called ATP: dependent citrate lyase (ACL). This enzyme synthesizes fatty acids, which are stored as triglycerides. We created yeast cells with different versions of the ACL genes to see how they affect lipid synthesis. When we removed the ACL genes, it changed how the cells made TAGs and other lipids. It also affected many other genes in the cells. This shows that ACL is important for regulating how yeast cells make lipids.

The above projects have provided many opportunities for student training. Two postdoctoral associates, four graduate students and three undergraduate students were trained in our lab.

Our long-term goal is to develop sustainable alternatives to fish-

derived lipids for human nutrition. By using genetically engineered yeast strains, we aim to produce functional lipids in a scalable and environmentally friendly manner. This research will address overfishing and contaminating fish oils with harmful substances.

For more information, please contact Dr. Stylianos Fakas, stylianos.fakas@aamu.edu. Department of Food and Animal Sciences, Alabama A&M University



IN CASE YOU MISSED THIS



WELCOME

National Land-grant Impacts Database Inputter Training

Introduction: Andrea Putman, Association of Public and Land-grant Universities (APLU)



The National Impacts Database

(NIDB) [training webinar](#) is now available online for asynchronous replay.

The [accompanying slide-set](#) is also available.

Forest . . . From page 2

mote sensing techniques in contrasting forest conditions.

- Investigating the within-species variation in drought resilience.
- Assessment of the age and growth dynamics of oak species in a large forest plot using dendrochronology.

Having a research site that is part of a global network has allowed us to leverage funds from USDA and NSF to build collaborative partnerships with the Smithsonian Institution, the Nature Conservancy, the Jones Center, Oak Ridge (DOE), the University of New Hampshire, the University of Maine, the University of Vermont and others. We welcome collaborative projects.

This research was partly supported by the intramural research program of the USDA's NIFA, Evans-Allen #1024525 and Capacity Building Grant # 006531. It was partly supported by the U.S. National Science Foundation RII Track 2 FEC: Leveraging Intelligent Informatics and Smart Data for Improved Understanding of Northern Forest Ecosystem Resiliency (INSPIRES) #1920908.

For more details on the data, research, and educational opportunities, contact the principal scientists: Dr. Dawn Lemke (dawn.lemke@aamu.edu), Patience Knight (patience.knight@aamu.edu), or Dr. Luben Dimov (ldimov@uvm.edu).



NextGen supports undergraduate international learning

Studying abroad can be a life-changing experience for students by expanding their career options and providing invaluable skills and experiences. Through the NEXTGeneration Inclusion Consortium (NIC) Project, students from Tennessee State University (TSU) had the opportunity to participate in international programs focusing on various agricultural sectors in countries such as Senegal, Kenya, England and Japan. [Learn more about the study abroad opportunities](#) proved by the NIC project, which is supported by the USDA National Institute of Food and Agriculture's NEXTGEN Program. (Pictured) Tennessee State University (TSU) working with community members as part of their study abroad in Africa. Image courtesy of TSU. Maggie Lawrence, Editor



USDA scholarships . . . From page 1

dents to stimulate interest in food and agricultural careers.

These scholarships enable outstanding 1890 Land-grant University (LGU) students to pursue and complete baccalaureate degrees in food and agricultural sciences and related fields. This program complements USDA's 1890 National Scholars Program, which provides competitively selected students with full tuition, fees, books, room and board. These programs are part of a suite of opportunities that the USDA administers to develop a highly skilled food and agricultural systems workforce.

Each [1890 LGU](#) received funds to support students at their institution. [Read more](#) about this program and meet other 1890 scholarship student recipients.

Hughes credits the scholarship with surrounding her with a supportive community of like-minded peers and mentors who helped her thrive. "It gave me more of a community where I could connect with other agriculture students and professors and build relationships," she said. These connections, along with guidance from her advisors, helped her navigate her studies and opened doors to various academic experiences. Under the mentorship of faculty and staff of LU, Hughes had hands-on experiences, helping build community gardens and learning about native plants, becoming deeply invested in sustainable agriculture and urban green spaces.

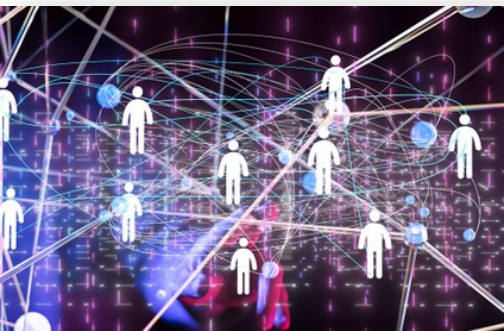
Hughes is now pursuing a master's degree in geography at the University of California, Davis, while continuing her internship with the Environmental Protection Agency, where she works in the watershed protection and grants branches.

"When opportunities come to you, grab them," Hughes said as she considered the opportunities she received through the 1890 David Scott Scholarship. "Don't run away. It might be scary at first, but the reward of doing it will definitely outweigh all of those worries."

NIFA webinar will address ag research transdisciplinary approach

Join NIFA at 1 p.m. EST on Dec. 11 for a webinar series highlighting the opportunities and challenges of transdisciplinary approaches in agricultural research.

Presented by USDA's NIFA and the National Agricultural Library, the seminar series will examine strategies for implementing transdisciplinary approaches, team-building and overcoming challenges to encourage adoption and training in transdisciplinary systems.



As more research funding agencies support the use of transdisciplinary and engaged research practices in their programs to help generate tangible, positive societal impacts, we can take advantage of opportunities to learn from programs that have been

early adopters of these modes of research. The increased emphasis on engagement throughout the research process is helping to shine a light on the importance of partnerships, relationships and trust in moving research into practice and policy. Yet identifying these intangible characteristics in proposals and project reports is not always straightforward.

In this webinar, we will hear from program leaders who have solicited, reviewed, funded and evaluated transdisciplinary and engaged research for several years. They will share what they have learned about crafting requests for proposals to encourage the inclusion of transdisciplinary research practices, how their programs review and rate proposals, and the criteria and tools they use to evaluate the outcomes of individual projects and the impacts of their programs.

Click here for more information and to register: [Reviewing and Evaluating Transdisciplinary and Engaged Research Projects: Perspectives from Funding Programs](#)

Deadline nears for FSLI & LEAD21 applications' deadlines

FOOD SYSTEM LEADERSHIP INSTITUTE

Are you ready to join the next Cohort of Fellows, advance your leadership skills and become purpose-driven catalysts for the food system? Then FSLI may be what you need.

The Food System Leadership Institute is designed for those currently serving as department heads or chairs (or equivalent titles) or higher and looking to advance their leadership skills and future career goals.

FSLI provides fellows with strategies to handle leadership challenges and opportunities in the future. The FSLI experience develops or reinforces a series of core leadership competencies identified by a team of top-level leaders, including university presidents and chancellors and leaders from industry and the non-profit sector who understand the requirements of food systems leadership. These professionals offer a wealth of understanding about leadership and the food system to help the fellows better understand their leadership potential.

The two-year FSLI experience includes three week-long residential sessions, personal leadership coaching, mentoring, individual leadership projects, a personal development plan and distance learning activities.

The two-year program costs \$24,000. The deadline to apply is March 20, 2025. This covers all instruments used, books, speaker fees, hotel lodging and food during the three residential sessions.

Limited funds to offset the program costs are available for need-based units. If you are interested in a scholarship, please include that request on the nomination form.

[Click for more information and to apply online.](#)

LEAD21

LEAD21 program is intended to meet the future needs for leadership development of faculty, specialists, district and regional directors, program and team leaders, research station and center directors, department heads and chairs and others in the universities' colleges of agricultural, environmental, natural resources, veterinary sciences and human sciences and USDA/NIFA. Individuals from land-grant, NARRU institutions and USDA are encouraged to participate.

LEAD21's primary purpose is to develop leaders in land-grant institutions and their strategic partners who link research, academics and Extension to lead more effectively in an increasingly complex environment, either in their current position or as they aspire to other positions.

Participants goals include:

- Enhance the application of skills and knowledge learned in four core leadership development areas (change, conflict, communication and collaboration).
- Develop a peer leadership network to enhance personal leadership practice, collaboration and diversity of perspective.
- Develop and implement an individual leadership development process.

The three on-site sessions are Session I: June 8-13, 2025, Chicago, IL; Session II: Oct. 6-9, 2025, Denver, CO; and Session III: Feb. 23-27, 2026, TBD.

The program costs \$12,000 and includes lodging, meals, and educational materials for all three sessions. Limited scholarships are available.

[For full consideration, the application deadline is Nov. 15. Click for more information and to apply online.](#)

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1890 Land Grant Universities

[Alabama A&M University](#)

[Alcorn State University](#)

[Central State University](#)

[Delaware State University](#)

[Florida A&M University](#)

[Fort Valley State University](#)

[Kentucky State University](#)

[Langston University](#)

[Lincoln University](#)

[North Carolina A&T State University](#)

[Prairie View A&M University](#)

[South Carolina State University](#)

[Southern University and A&M College](#)

[Tennessee State University](#)

[Tuskegee University](#)

[University of Arkansas at Pine Bluff](#)

[University of Maryland Eastern Shore](#)

[Virginia State University](#)

[West Virginia State University](#)

ARD Updates is published monthly by the Association of Research Directors. To suggest articles, contact Dr. Alton Thompson at athompson1@ncat.edu

JOB OPPORTUNITIES

LINCOLN UNIVERSITY, School Of Agriculture, Environmental and Human Sciences, [Associate Director for Cooperative Research](#)

NORTH CAROLINA A&T STATE UNIVERSITY, College Of Agriculture and Environmental Sciences, [Assistant Professor, Dietetics](#); [Program Director, Dietetics Graduate Program](#); [Assistant Professor, Nutritional Services](#); [Assistant/Associate Professor, Nutritional Sciences](#)

SOUTHERN UNIVERSITY SYSTEM, Department of Agricultural Sciences and Technology, [Assistant/Associate Professor of Agricultural Economics](#).

PROGRAM SPECIALISTS, Office of Partnerships and Public Engagement, Department of Agriculture, Multiple Locations (Alabama A&M University; Alcorn State University and University of Arkansas at Pine Bluff).

ALCORN STATE UNIVERSITY, School of Agriculture and Applied Sciences, [Assistant/Associate Professor of Agricultural Economics and Agribusiness](#)

TUSKEGEE UNIVERSITY, College of Agriculture, Environment and Nutrition Sciences, [Climate-Smart Project Associate](#) and [Agroforestry Project Coordinator](#)

PRAIRIE VIEW A&M UNIVERSITY, Cooperative Agricultural Research Center, [Veterinarian](#)

PRAIRIE VIEW A&M UNIVERSITY, Cooperative Agricultural Research Center, [Research Associate/Professor and the Director of the International Goat Research Center \(IGRC\)](#)

WEST VIRGINIA STATE UNIVERSITY, WVSU Research & Development Corporation, [Associate Dean/Associate Director for Research](#)

LANGSTON UNIVERSITY SHERMAN LEWIS SCHOOL OF AGRICULTURE & APPLIED SCIENCES, [Associate Professor of Biosystems Engineering/Precision Agriculture](#), [Associate Extension Administrator](#)

LINCOLN UNIVERSITY OF MISSOURI, [Director of Agricultural Communications](#). Contact the Search Committee Chair, [Dr. Douglas LaVergne](#) with questions.

KENTUCKY STATE UNIVERSITY, SCHOOL OF AGRICULTURE, HEALTH & NATURAL RESOURCES [Assistant Professor position for Integrate Pest Management](#); [Assistant Professor of Organic Agriculture](#); [Assistant Professor of Forestry](#); [Assistant Professor of Livestock Nutrition](#)

PRAIRIE VIEW A&M UNIVERSITY, COLLEGE OF AGRICULTURE, FOOD AND NATURAL RESOURCES, [Associate Professor or Professor & Associate Dean](#)

FORT VALLEY STATE UNIVERSITY, COLLEGE OF AGRICULTURE, FAMILY SCIENCES AND TECHNOLOGY, [Assistant Professor of Animal Nutrition](#)

UNIVERSITY OF MARYLAND EASTERN SHORE, [Associate Dean of 1890 Programs and Associate Director of UMES Agricultural Experiment Station](#)

KENTUCKY STATE UNIVERSITY, SCHOOL OF AGRICULTURE, HEALTH & NATURAL RESOURCES, [Assistant professor position for Integrate Pest Management](#); [Assistant Professor of Organic Agriculture](#); [Assistant Professor of Forestry](#); [Assistant Professor of Livestock Nutrition](#)

CALENDAR

2025 CARET/BAA Washington Conference | Feb. 23-26, 2025, The Watergate Hotel, 2650 Virginia Ave. Washington, D.C. | The meeting will feature food and ag thought leaders, advocacy presentations, networking with BAA stakeholders, and opportunities to connect with champions on the Hill.

Association of Extension Administrators (AEA) and Association of Research Directors (ARD), Joint Winter Business Meeting, Jan. 27 – 30, 2025, Hyatt Regency Crystal City, VA.



USDA's 101st Annual

Agricultural Outlook Forum

Meeting Tomorrow's Challenges, Today

Registration is **now open** for the **101st Agricultural Outlook Forum**. The event, titled "Meeting Tomorrow's Challenges, Today," will be held at the Crystal City Gateway Marriott on Feb. 27-28, 2025. Additionally, all forum sessions will be livestreamed on a virtual platform.

The forum program will feature a presentation on the 2025 outlook for the U.S. agricultural economy and trade by USDA Chief Economist Seth Meyer. The program will also include a plenary panel of distinguished guest speakers, alongside 30 breakout sessions organized by USDA agencies that will explore a wide range of current issues.

