

# GLOBAL FOOD SECURITY AND DEFENSE.

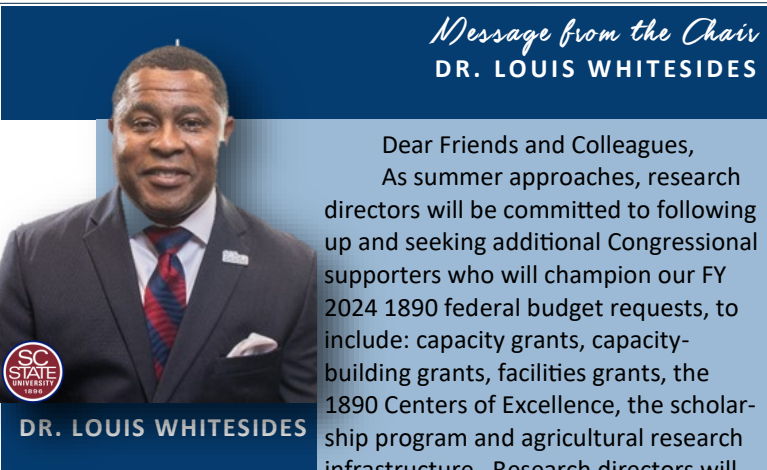
# QUARTERLY ARD Updates

THE 1890 UNIVERSITIES CENTER OF EXCELLENCE FOR GLOBAL FOOD



## ASSOCIATION OF 1890 RESEARCH DIRECTORS

May 2023, Vol. 14, Issue 5



*Message from the Chair*  
**DR. LOUIS WHITESIDES**

Dear Friends and Colleagues,  
As summer approaches, research directors will be committed to following up and seeking additional Congressional supporters who will champion our FY 2024 1890 federal budget requests, to include: capacity grants, capacity-building grants, facilities grants, the 1890 Centers of Excellence, the scholarship program and agricultural research infrastructure. Research directors will

also be working to advocate for the 1890 system's farm bill priorities and participating in listening sessions. In so doing, these efforts help keep the voices and needs of our stakeholders at the forefront, especially as we prepare to expand existing programs and develop new initiatives designed to improve the quality of life, enhance economic development and educate our next generation of ag leaders.

I am excited about the future of the nation's food and agricultural systems and ARD's role in co-creating transformational research and education. Our work is important, and we must remain committed to thoughtfully charting a mission-driven path that incorporates the diverse expertise, innovative approaches and technological advances used at our member institutions.

While we also prepare for a busy summer focused on advocacy, the season will be full of opportunities for research directors to strengthen partnerships, explore new collaborative research and develop impactful programming. The Joint Committee on Organization and Policy (COPs) meeting and the New Administrators Orientation will occur in Kansas City in July. In August, we will meet jointly with the Southern Association of Agricultural Experiment Station Directors (SAAESD). I hope you make plans to attend the meetings.

On behalf of the 1890 community, I congratulate Dr. Manjit K. Misra, professor of agricultural and biosystems engineering at Iowa State University, as the new NIFA director. Misra's credentials are im-

## Misra named NIFA director

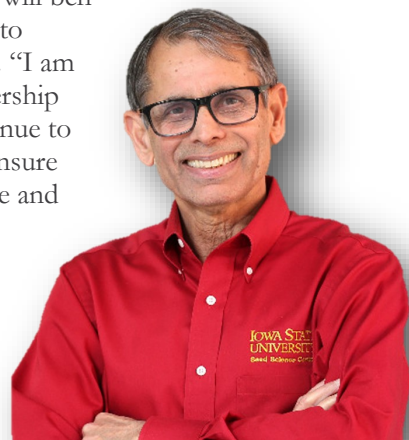
The U.S. Department of Agriculture (USDA) recently announced the appointment of Manjit K. Misra as the new NIFA director. He will lead the agency's work in advancing agricultural research, education and Extension to solve societal challenges. Misra started his new role on Monday, May 8, 2023.

"Dr. Misra is an esteemed scientist and educator whose devotion to studying and sharing his knowledge of seeds with the world will benefit society and inspire generations to come," said Secretary Tom Vilsack. "I am confident he will bring strong leadership and expertise to USDA as we continue to invest in and grow initiatives that ensure the long-term viability of agriculture and food systems."

"We are excited to add Dr. Misra's leadership and expertise to our team as we continue to transform our nation's food and agricultural system," said Chavonda Jacobs-Young, USDA chief scientist and Research, Education, and Economics Under Secretary. "NIFA, with its unique research, education and Extension partnerships, and the current unprecedented investments we have toward building the next generation of ag professionals, is well positioned to address the complex challenges we face in agriculture."

Before joining USDA, Misra was an agricultural and biosystems engineering professor at Iowa State University. For more than 30 years, he was director of the university's Seed Science Center. The center has administered the National Seed Health System, authorized by USDA's Animal and Plant Health Inspection Service, since 2001. Misra also was the founding director of Iowa State's Biosafety Institute for Genetically Modified Agricultural Products.

In 2012, Misra was appointed chair of the USDA National Genetic Resources Advisory Council (NGRAC), a posi-



**DR. MANJIT MISRA**

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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.

Below is an example of impacts from the 1890 research program submitted by scientists at Florida A&M University and Fort Valley State University.

## AI helps monitor pest and support small farmers

Insect pest monitoring is a critical component for vegetable crop protection because it helps provide important information to farmers about the pest situation in the field and the necessary action to take. The information is critical for the farmer to make a timely management decision.

Dr. Muhammad Haseeb, an associate professor and IPM specialist in the Center of Biological Control, explained that insect monitoring could be accomplished by observing several plants in an area. The pest population is recorded by calculating the number of insects caught in traps or by counting their numbers per plant, leaf, fruit, flower, etc. The number of insects found is then put into a statistical model to determine the economic threshold for appropriate pest control measures.

Timely pest management decisions help to lower production costs and improve crop productivity and profitability. Small-scale growers widely use this technique, but it has a downside, especially for large-scale commercial agricultural activities such as vegetable production. Large-scale agricultural production activities would require more resources and trained personnel (pest scouts), time and operational costs to monitor and manage the pest situation in the field effectively.

In a recent study of cucumber growers in north Florida, Haseeb and his team of collaborators evaluated the efficiency of AI technology (automation) as an economical and

reliable way to monitor the cucumber moth, *Diaphania indica* (Lepidoptera: Crambidae) for small-scale growers that has resulted in crop losses of up to 75% or more from larval feeding from their surveys.

According to Haseeb, using AI technology is becoming increasingly common in a wide range of agricultural activities, such as precision agriculture for irrigation, disease and insect pest monitoring and crop health. In addition to lowering the cost of pest monitoring, AI technology also increases data accuracy and efficiency because the data can be accessed anywhere in real-time. For these reasons, it was decided to test the effectiveness of an automatic insect monitoring system for cucumber moths in Leon and Gadsden counties in north Florida, which could also be adapted for other regions.

Several automatic traps with pheromones were set up in the field to capture the cucumber moth. Each trap was powered by a solar panel with a camera to capture the moth images. These images were recorded and sent to researchers via computer and cell phone in real-time.

Based on the specific pheromone used, Haseeb indicated that the trap captures only the species of interest, the cucumber moth, and was able to accurately determine the population density of the cucumber moth remotely in Leon and Gadsden Counties. Dr. Ihsan Nurkomar (Borlaug Fellow) from Indonesia and two graduate students, Larisner

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From left: A. Manual insect monitoring, B & C insect monitoring using conventional traps with yellow and white colors, and D. Automatic insect monitoring trap in open field conditions.

# Peanut skins = better meat, better health

An ongoing Fort Valley State University study revealed that peanut skins could lead to better health and sustainability.

Dr. Andres Pech-Cervantes, research assistant professor of animal science at the 1890 land-grant university, discovered that peanut skins, a low-value byproduct, increase the concentration of antioxidants in lean meat.

“The idea of using peanut skins is to take advantage of potential opportunities in the southeast,” he emphasized. The key benefit is that the United States is one of the biggest peanut producers in the world, with Georgia currently holding the No. 2 spot as a top peanut producer in the country.

Under Evans-Allen and Sustainable Agriculture Research and Education (SARE) grants, Pech-Cervantes is studying the effect of dietary supplementation of peanut skins with and without polyphenols on the performance, rumen fermentation and carcass characteristics of Florida native sheep. His research relies on next-generation techniques like metabolomics and metagenomics to understand the mode of action of feed additives in ruminants (cows, sheep and goats).

“We are rethinking an idea that was applied in the 1980s in which ruminants can consume non-edible products, such as peanut skins,” Pech-Cervantes said.

Peanut skins, commonly produced during the peanut manufacturing process, are discarded. By consuming this byproduct, ruminants could have health benefits for humans who consume meat because peanut skins can be a rich source of antioxidants and are precursors of alpha-tocopherol (vitamin E).

“Antioxidants are a good source to prevent diseases or potential cancer problems,” Pech-Cervantes said.

Therefore, he and his team, including graduate students Voris Bryant II and Modoluwamu Idowu and undergraduate students Britany Howard and Nayelly Mendez, incorporated the antioxidants from the peanut skins into the meat of Florida native sheep. This breed of ruminants is parasite resistant because they are well adapted to this area, which is an additional benefit.

“Parasites are a problem in the southeast of the U.S., which limit animal production,” Pech-Cervantes noted.

The team studied 33 intact male lambs, feeding only 11 of them a low proportion of peanut skins (20%) for 42 days, plus seven days of adaptation. They were randomly blocked by body weight (11 lambs per treatment) and distributed among three isonitrogenous and isocaloric diets: control diet, diet plus 20% of intact peanut skins and diet plus 20% of treated peanut skins without polyphenols.

Then, the lambs were slaughtered to evaluate carcass characteristics and rumen fermentation. Dry matter intake, body weight and blood samples were collected and analyzed using the effects of treatment, interactions and random effects of the animal.

Dietary intact peanut skins and polyphenols did not

affect the dry matter intake and final body weight compared to the control. Dietary-treated peanut skins without polyphenols reduced blood glucose levels compared to intact peanut skins and the control. Still, intact peanut skins had lower blood urea nitrogen than treated peanut skins without polyphenols and the control.

Both intact peanut and treated peanut skins without polyphenols decreased the total volatile fatty acid concentration and increased the rumen pH compared to the control. The carcass weight was similar among treatments, but treated peanut skins without polyphenols reduced the dressing percentage compared to intact peanut skins and the control. Both intact peanut and treated peanut skins without polyphenols reduced liver weight compared to the control.

Conversely, intact peanut and treated peanut skins without polyphenols increased the vitamin E (alpha-



**Fort Valley State University is studying the effect of dietary supplementation of peanut skins with and without polyphenols on the performance, rumen fermentation and carcass characteristics of Florida native sheep.**

tocopherol) concentration in lean meat compared to the control. This study showed that intact peanut skins increased the incorporation of antioxidants in meat without impacting animal performance.

“What we observed is that vitamin E concentrations increased by more than 100% when we fed animals with peanut skins compared to those animals not fed peanut skins. The results suggest that feeding peanut skins to small

See Better meat on Page 4

# Deadline extended for ESS DEI nominations

The Experiment Station Section (ESS) seeks nominations of individuals, teams, or programs for the National Experiment Station Diversity, Equity and Inclusion (DEI) Award. This award recognizes the creation or implementation of pluralistic and inclusive efforts at the local, state, regional or national level; efforts that go beyond meeting EEO/AA program requirements.

The due date for submissions of nominations has been extended until June 30, 2023. As a reminder, there are two awards for which we are seeking submissions: individual and group. We encourage you to recognize the exemplary DEI work of your colleagues.

Please check the [call for nominations](#) and make submissions through our [DEI nominations portal](#).

## Pest control . . . From page 2

Simeon and Ann Maria Robinson-Baker, also participated in the study.

### Impacts

Using automatic traps has reduced the cost and time of monitoring the cucumber moth in cucurbit crops and is recommended to farmers for adoption. The results and benefits were also discussed at stakeholder meetings.

The findings were presented at the World Food Prize Event in October 2022 (Des Moines, Iowa) and the Global Produce and Florida Show in Fall 2022 (Orlando, Florida).

**For additional information, contact:** [Mubammad Haseeb](#), Ph.D., Associate Professor, Center for Biological Control, College of Agriculture and Food Sciences, Florida A&M University, [mubammad.haseeb@famu.edu](mailto:mubammad.haseeb@famu.edu), or (850) 412-7060.

## Better meat . . . From page 3

ruminants increases the quality of the meat and the incorporation of antioxidants,” Pech-Cervantes said.

The FVSU researcher explained the objective is to produce sustainable food by taking a byproduct commonly produced by peanut industries in Georgia and using a local breed of ruminants well adapted to this area.

“This could be explored and exploited in the future as an alternative to produce better meat with higher concentrations of vitamin E. Meat produced at FVSU is consumed by the community, and we are ensuring that we are producing quality products,” Pech-Cervantes said.

He added that sus-



tainable agriculture could help keep product prices low by meeting the demand and maintaining competitive prices. His research addresses this matter because the cost of meat produced per pound is cheaper when using byproducts.

“This research is significant because consuming better meat ensures a better life. We are thinking of future generations and taking advantage of byproducts instead of throwing them away,” Pech-Cervantes said.

**For additional information, contact:** [Andres Pech-Cervantes](#), Ph.D., Research Assistant Professor of Animal Science, College of Agriculture, Family Sciences, and Technology, Fort Valley State University, [andres.pechcervantes@fvsu.edu](mailto:andres.pechcervantes@fvsu.edu) or (478) 827-3002 or [Latasha Ford](#), M.Ed., Research Communications Specialist, [fordl@fvsu.edu](mailto:fordl@fvsu.edu) or (478) 825-4307.

## Whitesides . . . From page 1

pressive, and he thoroughly understands the land-grant system. (for the full announcement, refer to page 1). For more than 30 years, he served as director of the Iowa State University Seed Science Center. Since 2001, the center has administered the National Seed Health System, authorized by USDA's Animal and Plant Health Inspection Service. Misra is also the founding director of the Iowa State University Biosafety Institute for Genetically Modified Agricultural Products. The 1890 community looks

forward to working with Misra and engaging him intentionally.

Finally, I sincerely thank Dr. Dionne F. Toombs, who provided exemplary and visionary leadership as NIFA's acting director for over a year. Toombs' emphasis on excellence, quality and access were valued and appreciated. The 1890 community is pleased that Toombs will remain with NIFA as the associate director of programs.

## NIFA schedules technical assistance workshop May 8-12

USDA's NIFA is hosting a five-day technical assistance workshop from **May 8 through May 12, from 10 a.m. to 1 p.m. CDT**. This workshop will focus on accessing information regarding NIFA's competitive programs, grant writing tips for success, application review process and post-award management.

Different topics will be covered each day. Participants attended all five days or attended sessions featuring topics of particular interest or even when their schedule permitted. However, registration is required. [Find workshop and regis-](#)

[tration details here.](#)

Multiple sessions will focus on helping underrepresented institutions become more competitive in receiving and complying with NIFA funding. During the daily sessions, approximately 30 minutes will be set aside for live Q and A. Participants are encouraged to submit questions posted as FAQs and recordings for future use.

For more information or to request reasonable accommodation, contact [Neerja Tyagi](#).



Time is running out to respond to the 2022 Census of Agriculture. If you have not responded, there is still time. **By federal law, the ag census questionnaire needs to be completed by everyone who received it, including landowners who lease land to producers, those involved in conservation programs, even those who may have received the ag census and did not farm in 2022.** Return your ag census by mail or fill it out online at [agcounts.usda.gov](http://agcounts.usda.gov). Learn more at [nass.usda.gov/AgCensus](http://nass.usda.gov/AgCensus) and respond today.

### Misra . . . From page 1

tion he held until 2017.

Misra has served on over 60 local, national, and international boards and committees. These include the Steering Committee for the Food and Agriculture Organization's (FAO) International Conference on Biotechnology, the Scientific Advisory Council of the American Seed Research Foundation, the Board of Directors of the Iowa Seed Association, the Iowa Crop Improvement Association and the First Seed Foundation.

Misra is the recipient of several awards for leadership, including the "Distinguished Service Award" from the American Seed Trade Association, the "Order of the Knoll Faculty Award" from Iowa State University, the "Global Ag-

ricultural Leadership Award" from the Indian Council of Food and Agriculture, the Sukup Global Food Security award, a certificate of appreciation from the Secretary of Agriculture and the AE50 award from the American Society of Agricultural and Biological Engineers (ASABE).

Misra earned a bachelor of science in agricultural engineering in India, a master of science and a doctor of philosophy in agricultural engineering at the University of Missouri-Columbia. He is a researcher with 137 publications and an innovator with 10 patents. During his tenure as the director of the Seed Science Center, the faculty and staff conducted seed programs in 79 countries, including 34 countries in Africa.



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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](mailto:athompson1@ncat.edu)

## JOB OPPORTUNITIES

**SOUTHERN RURAL DEVELOPMENT CENTER (SRDC)** is seeking a [post-doctoral associate](#) to join their organization to advance collaboration with the 1890 land-grant system. This position will be located on the MSU campus. Minimum qualifications include (1) terminal degree (PhD, EdD, JD) in the social sciences (e.g., sociology, economics, community development), public policy and administration, law, or a closely related discipline; and (2) prior experience with an 1890 land-grant university in a student and/or staff/faculty position.

**UNIVERSITY OF MARYLAND EASTERN SHORE, School of Agriculture and Natural Resources.**

[Assistant or Associate Professor: Bioinformatics and/or Biostatistics](#)

[Assistant or Associate Professor: Precision Agriculture](#)

[Assistant or Associate Professor: Cell Biology/Immunotoxicology/ Metabolism](#)

[Assistant or Associate Professor: Fashion Merchandising and Textiles Program](#)

[Assistant or Associate Professor: Nutrition and Dietetics](#)

[Assistant Professor and Agribusiness /Resource Economist Specialist](#)

[Chair, Department of Agriculture Food Resources Science](#)

**PRAIRIE VIEW A&M UNIVERSITY, College of Agriculture and Human Sciences**

[Research Associate Professor \(Ruminant Nutritional Physiology\) \(myworkdayjobs.com\)](#)

**UNIVERSITY OF ARKANSAS AT PINE BLUFF, School of Agriculture, Fisheries and Human**

[Assistant Professor – Ag Economics](#)

[Assistant Professor – Ag Engineering](#)

[Assistant Professor – Animal Science](#)

[Extension Specialist III – Horticulturist](#)

[Extension Specialist II – Project/Program Manager/Communications Director – School of Agriculture,](#)

[Fisheries and Human Sciences](#)

**VIRGINIA TECH, Center for Food Systems and Community Transformation, Department of Agricultural, Leadership and Community Education. Research Assistant Professor**

[Department of Agricultural, Leadership, and Community Education \(ALCE\), Center for Food Systems](#)

[and Community Transformation. For a full position description and information to apply.](#)

**WEST VIRGINIA STATE UNIVERSITY, WVU Research & Development Corporation, Associate Dean/Associate Director for Research**

**CENTRAL STATE UNIVERSITY, John W. Garland College of Engineering, Science, Technology and Agriculture, Dean and Director of 1890 Land Grant Programs**

**AMERICAN SOCIETY OF ANIMAL SCIENCES, Chief Executive Officer**

**PENNSYLVANIA STATE UNIVERSITY, College of Agricultural Sciences, Senior Associate Dean**



## CALENDAR

**2023 JOINT COPS SUMMER MEETING** | July 18-20, 2023 | Loew's Kansas City Hotel, 1515 Wyandotte St., Kansas City, MO 64108 | Phone: (816-897-7070).

The Joint Committees on Organization and Policy (and associated groups) is the elected and appointed leadership from the Board on Agriculture Assembly sections executive committees (Academic Programs Section, Administrative Heads Section, Cooperative Extension Section, Experiment Station Section, International Agriculture Section), The Board on Health and Human Sciences (BHHS), Council on Agriculture Research, Extension and Teaching (CARET) executive committee and liaisons, the Policy Board of Directors and the three standing committees of the Policy Board of Directors: Budget and Advocacy Committee, Committee on Legislation and Policy (Farm Bill), and Communication and Marketing Committee.

**2023 NEW ADMINISTRATORS ORIENTATION** | July 19-21, 2023 (same location)

The event will have one-day crossover meetings with Joint COPS so that BAA and BHHS leadership can interact with the new administrators beginning at noon on Wednesday July 19. The New Administrators Orientation is intended for individuals on the Board on Agriculture Assembly and their supporting administrators or faculty, who have entered an administrative position recently; USDA-NIFA personnel who are interested; and any others who would like to learn more about APLU, the Land-Grant University System, the BAA, and USDA.

[View Draft Agenda.](#)

### SAVE THE DATE:

[Joint Southern CARET/AHS Meeting](#) | July 28-30, 2023 | Knoxville, TN

**2023 ARD-SAAESD Joint Meeting** | Aug. 9-10, Noon to Noon | Atlanta Airport Marriott

