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ARD UPdates

ASSOCIATION OF 1890 RESEARCH DIRECTORS

March 2021, Vol. 12, Issue 3



DR. CHANDRA REDDY

Message from the Chair

Dr. Chandra Reddy

Dear Friends and Colleagues,

Truly, the phrase, "What a difference a year makes!" comes to mind. This time last year we were in panic mode. We did not know much about COVID-19 except that it was deadly, especially in the Black and brown communities. COVID-19 paused the nation and the world. We were forced to re-think how we operated our research

labs while keeping our scientists and student safe. Our universities on all levels were affected; almost all had to quickly transition to online learning platforms. Yet, with ups and downs, the unfortunate loss of loved ones and employment, the mental, spiritual and physical tolls on our bodies...we largely persevered ourselves, our people and institutions.

We are now at another critical phase in our societal development. We have an opportunity to increase our chances for survival by taking the COVID-19 vaccine. I encourage all of you to take the vaccine, continue to wash your hands, wear your masks and maintain social distance. Importantly in our leadership roles, continue to be the strong advocates for science and science education through our Extension programs.

As ARD continues to lead our research enterprises through this "new normal," it is imperative that we stand committed to our mission – "provide visionary and enlightened leadership to member institutions as they continually address issues impacting their ability to provide innovative solutions to the food and agricultural research challenges facing the state, region, nation and world-at-large." We will also stand resolute to our passion to "support individuals, families, businesses in rural and urban communities, particularly the low-income, underserved and/or marginalized populations."

During this Women's History Month, I want to thank and salute Drs. Carolyn Brooks and Shirley Hyman-Parker for their leadership and service to this organization. Importantly, they have been great role models for women

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COVID relief for Black farmers

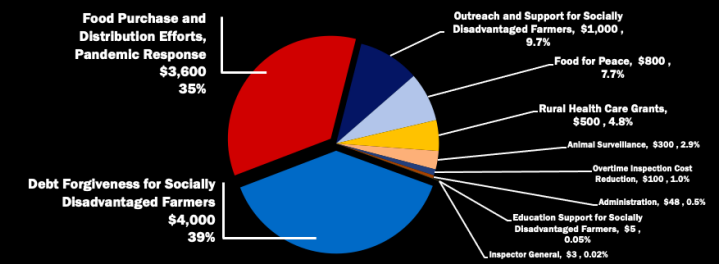
The \$1.9 trillion COVID-19 relief package, known as The American Rescue Plan Act of 2021, provides an estimated \$22.7 billion for nutrition and agricultural provisions. Below is a synopsis, done by the [American Farm Bureau Federation](#), of the funds that will be provided to assist Black farmers and ranches.

While the American Rescue Plan Act of 2021 does not appropriate funds directly, it's estimated that \$4 billion will be used to provide direct payments of up to 120% of a socially disadvantaged, e.g., Black, Hispanic, Native American or Asian American, farmer's or rancher's outstanding debt as of Jan. 1, 2021. The loans include USDA Farm Service Agency direct farm loans, USDA guaranteed loans and Commodity Credit Corporation farm storage loans, among others. The additional 20% is intended to pay off the taxes associated with the amount of the direct payment related to the outstanding debt.

In addition to the debt forgiveness, the act appropriates \$1.01 billion to provide outreach, training, education, technical assistance, grants and loans, and funding to educational institutions to help improve land access for socially disadvantaged farmers and ranchers and address heir's property issues, among other issues. In total, more than \$5 billion is expected to fund provisions designed to provide assistance for socially disadvantaged farmers or provide debt relief for these farmers and ranchers.

Agricultural Provisions of American Rescue Plan

Million Dollars



\$10.4 Billion Total

Source: American Rescue Plan Act of 2021, Farm Bureau Calculations

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Tennessee State highlights impacts with EA research funding

The Evans-Allen Act of 1977 was approved by Congress to provide capacity funding for food and agricultural research at the 1890 land-grant universities and Tuskegee University (the 1890 Institutions) in a manner 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 an impact of the 1890 research and Extension program submitted by scientists at the University of Arkansas at Pine Bluff (UAPB).

TSU develops efficient ways to reduce foodborne illnesses

Each year in the United States, it is estimated that more than 33 million people become ill and 9,000 people die due to foodborne illness. The cost in lost wages, insurance claims and medical bills amounts to between \$7.7 and \$23 billion a year.

Food safety issues are gaining increasing national attention; they have been the subject of numerous media articles and even as themes for TV sitcoms. Historically, pasteurization and other heat-based methods have been used to reduce the level of harmful contaminants in liquid foods. There has been a growing appreciation for the benefits of using non-heat-based treatments as a greener and more energy-efficient process to treat liquid foods. Also, some micro-organisms are becoming resistant to current heat-based treatment techniques. One method is ultraviolet (UV) light (highly energetic photons) to treat beverages to inactivate bacteria, viruses, and spoilage microorganisms.

Research by Dr. Ankit Patras and his team in the Food Safety and Bioprocess Engineering Program at Tennessee State University has been examining new ways to increase ultraviolet light efficiency in reducing harmful biological and chemical contaminants in foods. The new and improved

technologies developed at TSU have successfully reduced the cost of pasteurization and sterilization 10-fold. The process is yielding increased safety and better quality of foods.

A framework has been developed that will enable the process to be scaled up to an industrial/production level.

See Foodborne illnesses on Page 3



Dr. Ankit Patras, left, and colleagues in his TSU lab.

TSU supports food, fiber and energy systems with new antiviral tools

Viral diseases cause billions of dollars in annual losses to livestock production in the U.S. In addition to the threat to animals, we have seen the devastating effects when viruses jump from animals to humans, as is the case with zoonotic viruses such as SARS and the COVID-19 coronavirus. Despite the magnitude of these problems, there is a lack of effective vaccines and antiviral treatments for veterinary and human uses.

Dr. Youngming Sang and his student researchers at Tennessee State University have addressed this issue by searching for antiviral molecules that exist naturally in the wild, especially in livestock animals. These compounds, including those called natural immune interferons, have adapted over time to confront ever-changing viral threats.

Scientists centered their search on the omega type of immune interferon from pigs and cattle. These interferons have received relatively little attention in the search for new weapons to fight viral diseases. Pigs and cattle have a much

greater number of omega immune interferons than humans do and generally show a much greater antiviral activity than the most commonly studied interferon types.

Omega-type interferons were isolated from pigs and cattle and refined using bioengineering procedures. Several of the interferons have shown superior antiviral activity in laboratory tests. Some of them have broad activity to fight viruses not only in pigs but potentially in humans as well.

Several of the new omega interferon molecules have 100 to 1,000 times greater activity in cell and tissue-based tests than the conventional interferon alpha type. These new interferon molecules are now being released for use in research applications and a process has been initiated for animal tests and antiviral development.

For more information, contact: Dr. Yongming Sang; ysang@tnstate.edu. This project was supported primarily by the Evans-Allen Program of the USDA's National Institute of Food and Agriculture (NIFA).

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everywhere, particularly to African American women.

As we continue to adjust to this 'new normal,' I sincerely thank you for participating in and being fully engaged in ARD's winter business meeting. This virtual gathering of 1890 research directors and associate directors was very interactive and allowed sufficient time to discuss and vet a succinct set of important issues, opportunities and challenges pertaining to the 1890 research mission area, including but not limited to, the agricultural research infrastructure initiative; climate research capabilities; centers of excellence; and the 1890 scholarship program.

First, the 1890 research directors are advocating for the "Agricultural Research Infrastructure Initiative." As presented in an ESS webinar on Jan. 11 and a Rebuild Rural Coalition webinar on March 4, a significant challenge faced by the land-grant university system, particularly in the 1890s, is the need for substantial investment in a degrading agricultural research infrastructure. Prior to this webinar, the Rebuild Rural Coalition released the Gordian Report, entitled "A National Study of Capital Infrastructure at Colleges and Schools of Agriculture." This report, summarized by Peter Reeves, Gordian vice president, indicated that 69% of public and land-grant schools of agriculture are over 25 years old, meaning they are rapidly approaching the end of their life cycles and require urgent renovations to core building components to stay safe and useful. Based on the data collected by Gordian, Mr. Reeves identified \$11.5 billion in deferred maintenance, a 36.9% increase from an estimate made five years ago. To be clear, if we do not address the problems now, the solutions will become more intractable, the costs greater and the human, social, economic and environmental damage irreparable. Thus, there is an urgent need to transform our agricultural research facilities through strategic R&D infrastructure investment to ensure the future of U.S. agriculture's competitiveness.

The APLU BAA Experiment Station Section developed an [advocacy toolbox](#) and a [communication toolbox](#) (with Forbes Tate Partners) to help the land-grant system, respectively, promote this bold initiative to potential congressional champions and influencers and to engage in social media activity, including op eds. We are planning to coordinate with our government

affairs representatives and the 1890 communicators for advice related to advocacy or promotional activities.

ARD will continue to work diligently to make this bold initiative a reality. I thank you for any efforts that you may undertake to support this campaign via engagement with members of congress or on social media/with the press. If you have any questions, concerns and/or suggestions, feel free to contact me at creddy@tncstate.edu or (615) 963-7561/7620 or Moses Kairo at mkairo@umes.edu or (410) 651-6072 or Caron Gala at cga-la@aplu.org or (202) 478-6057.

The Biden Administration has described "climate change" as an existential threat and an issue with dimensions in national security, foreign policy, environmental justice, agriculture, transportation, energy, economic development and prosperity. Last month, to assess climate research capacity of the Experiment Station Section, the regional research executive directors polled their respective region's land-grant universities as groundwork for positioning the Experiment Station Section to attract research funding, rebuild infrastructure and build collaborations for system-wide advocacy. Based on a response rate of 80%, across all stations, 93% reported having a growing climate change research portfolio (small, medium and large). Sixty-four percent reported medium-to large-scale endeavors. In terms of the 1890 differential (all 19 stations reporting), 84% reported having a growing climate change research portfolio (small, medium and large). Fifty-eight percent of the respondents reported medium-to large-scale endeavors.

The modal domains of capacity were in the areas of 'sustainability agriculture, food security, and food safety;' 'natural resources, biodiversity and water resources;' and 'renewable and biofuels' for all of the regions. The modal domains of capacity for 1890 research station were the same.

Given these data, and as discussed in our meeting, the 1890s have the expertise and human capacity to contribute to solutions to the existential threats of climate change. Through a combination of capacity, capacity-building, center of excellence, and competitive funds together with strategic collaborations, we plan to move forward quite aggressively in advancing an 1890 Climate Change Initiative, including a focus on equity and impact

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Foodborne illnesses . . . from page 2

Once implemented by the food processing industry, this technology will save millions of dollars per year and reduce the risk of foodborne illnesses in liquid foods.

Other research has addressed ways to reduce the incidence of illnesses caused by Salmonella. Dr. Fur-Chi Chen and his group have developed molecular fingerprint and biosensor methods to detect Salmonella and other foodborne pathogens in foods.

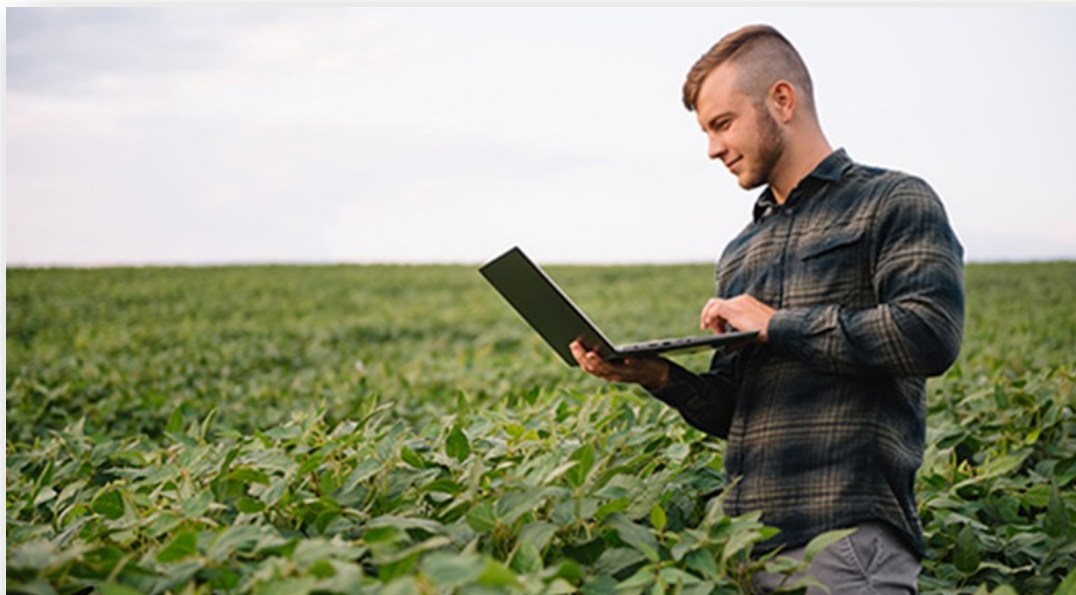
The improved time-saving concentration processes coupled with automated biosensor analysis provide an attractive alternative to current methods. Researchers have collaborated with the industry to further optimize the developed technologies. This research has resulted in rapid and accurate

detection technology to ensure food is free from contamination by pathogenic bacteria. The developed technology is intended for use by regulatory agencies, meat and poultry producers and processors to identify potential food safety fallouts in the processing facilities and final products. With this new technology, testing time that presently takes days will be reduced to a few hours, and the cost of tests will be reduced by 50% compared to current methods.

For more information, contact: Dr. Ankit Patras, apatras@tncstate.edu; Dr. Fur-Chi Chen, fchen1@tncstate.edu. This project was supported by the Evans-Allen Program of the USDA's National Institute of Food and Agriculture (NIFA).

AFRI funding opportunities

NIFA's Agriculture and Food Research Initiative (AFRI) - Education and Workforce Development (EWD) focuses on developing the next generation of research, education and Extension professionals in the food and agricultural sciences. EWD invites applications in five areas: professional development for agricultural literacy; training of undergraduate students in research and Extension; fellowships for predoctoral candidates; fellowships for postdoctoral scholars, and a brand-new program for agricultural workforce training. For more information, read the [EWD funding opportunity](#).



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on farmers and communities of color. Funds from the aforementioned agricultural infrastructure initiative would greatly assist our faculty, staff and students to address climate change and catalyze innovations.

The FY 2021 RFA for the centers of excellence (based on FY 2020 funds) was released by NIFA on Sept. 1, 2020; the proposals were due on Nov. 18, 2020. The RFA allocated \$5,760,000 to fund four centers (Student Success and Workforce Development; Farming Systems, Rural Prosperity, and Economic Sustainability; Global Food Security and Defense and Nutrition, Health, Wellness and Quality of Life). The following universities submitted consortium proposals: Alabama A&M, Delaware State University, Lincoln University, North Carolina A&T State University, Southern University, Tennessee State University, Tuskegee University, and the University of Maryland Eastern Shore.

We anticipate the release of the RFA based FY 2021 funding of \$10,000,000. As discussed, we proposed funding the four existing centers at a level of \$6,000,000 and funding the two new centers (Emerging Technologies & Natural Resources, Energy and the Environment) at level of \$4,000,000, minus administrative costs. Emerging Technologies will be not only be a stand-alone center, but its programs and activities, as appropriate, will be incorporated in all six centers. Perhaps it's realistic to expect and to include climate change focus area in the Center of Excellence in Natural Resources, Energy and the Environment.

One concern that the 1890 community is asking NIFA to address pertains to year-to-year funding. It is very difficult to operate a Center of Excellence on annual funding; multi-year funding is preferable.

As championed by Rep. David Scott (D-GA) (now Chairman of the House Agriculture Committee) and authorized in the 2018 Farm Bill passed by Congress in December 2018, funds for the Scholarships for Students at 1890 Institutions have been released to all of the 1890 institutions. The Council of 1890 Deans of Agriculture has appointed project directors to individually and collectively implement this significant investment in the 1890 system. The project directors are meeting virtually, regularly to discuss scholarship management and implementation, recruitment and retention strategies, methods of awarding

scholarships, promising and best practices, value-added professional development, documentation, evaluation and reporting metrics and engaging students during the summer. As of our meeting date, March 10, 2021, 790 scholarships have been awarded to first year students in the food and agricultural sciences. About 27% of these student scholars are majoring in agribusiness/

agricultural economics. About 17% of these student scholars are majoring in animal sciences, following another 17% majoring in general agriculture and about 10% are majoring in food science/nutrition. In terms of demographics, 78% of these student scholars are African American and 64% are female.

Finally, these scholarships are attracting outstanding students at our universities to pursue and complete baccalaureate degrees in the food and agricultural sciences that will lead to a highly skilled food and agricultural systems workforce capable of competing globally at the very highest levels.

I look forward to working with the membership on these important initiatives and programs as we continue to chart a path forward to advance the compelling, value-proposition ARD mission and vision.

“... it is imperative that we stand committed to our mission – ‘provide visionary and enlightened leadership to member institutions as they continually address issues ...’ ”

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1890 Land Grant Universities

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[Florida A&M University](#)

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[Kentucky State University](#)

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[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



Welcome back Sec. Vilsack

THOMAS J. VILSACK was confirmed as the 32nd United States Secretary of Agriculture on Feb. 23, 2021 by the U.S. Senate.

He was nominated by President Joe Biden to return to a role where he served for eight years under President Barack Obama.

As leader of the U.S. Department of Agriculture as the 30th Secretary of Agriculture between 2009-2017, Vilsack worked hard to strengthen the American agricultural economy, build vibrant rural communities and create new markets for innovation in rural America. He fought to put Americans back to work by investing in rural infrastructure, renewable energy and large-scale conservation partnerships. Under his leadership, USDA supported America's farmers, ranchers and growers who drove the rural economy forward, set records for U.S. agricultural exports, provided food assistance to millions of Americans, and helped provide a safe, sufficient and nutritious food supply for the American people. USDA introduced healthier food choices in school meals to benefit 50 million children during Vilsack's tenure and expanded free and reduced-price lunches for millions of kids. [Read full release here.](#)



SEC. TOM VILSACK

JOB OPPORTUNITIES



NORTH CAROLINA A&T STATE UNIVERSITY, Blue Cross and Blue Shield of North Carolina Urban Food Systems Endowed Professorship: Blue Cross and Blue Shield of North Carolina Urban Food Systems Endowed Professorship: <https://jobs.ncat.edu/postings/21225>

UNIVERSITY OF MARYLAND EASTERN SHORE, ASSISTANT OR ASSOCIATE PROFESSOR IN FOREST ECOLOGY The Agriculture Experiment Station (AES), Department of Agriculture, Food and Resource Sciences (DAFRS), and the Department of Natural Sciences (DNS) at the University of Maryland Eastern Shore, invite applications for the position of Assistant Professor in Forest Ecology. This position is joint between the AES, DAFRS and DNS, and is a nine-month, tenure-track appointment. The anticipated starting date for this position is fall 2021. [Click here for additional information.](#)

NEW APPOINTMENT



Congratulations to **DR. ROBERT TAYLOR**, dean and research director in the College of Agriculture and Food Sciences at Florida A&M University, on being named the new chair of the Southern Administrative Heads Section. The Administrative Heads Section (AHS) is a unit of the APLU Commission on Food, Environment, and Renewable Resources (CFERR) of the Board on Agriculture Assembly (BAA).

ARD CALENDAR



AEA SYSTEMWIDE EXTENSION CONFERENCE, July 25-29, 2021 | Orlando, Florida

JOINT COPS MEETINGS, July 19-23

MANRRS35 2021 NATIONAL CONFERENCE | APRIL 6-10 | VIRTUAL EDITION

Through the Annual Career Fair and Training Conference, the National Society of MANRRS offers many benefits and services to help members increase their knowledge and develop skills in partnerships for student success. Our sessions acquaint new members with MANRRS and prepare them for future roles in their chapters, and help experienced members improve and refine their knowledge and skills for their ideal job or internship in the field of agriculture, natural resources, and related sciences industry.



MANRRS