



National Institute of Food and Agriculture

U.S. DEPARTMENT OF AGRICULTURE

Grant Support Technical
Assistance Workshop

BIOENERGY, CLIMATE, AND ENVIRONMENT
FOOD PRODUCTION AND SUSTAINABILITY
YOUTH, FAMILY, AND COMMUNITY
FOOD SAFETY AND NUTRITION
INTERNATIONAL PROGRAMS

NIFA

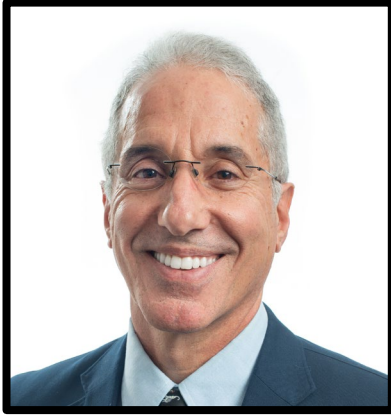
Opportunities for Educational Institutions

INVESTING IN SCIENCE | SECURING OUR FUTURE | WWW.NIFA.USDA.GOV

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Who We Are



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Education programs support the development of human and intellectual capacity and address critical educational issues

Goals of NIFA's Education Portfolio



Improve scientific and agricultural literacy



Recruit and **train** a skilled workforce to face societal challenges



Promote greater learning and engagement through improved formal and non-formal instruction and teacher training



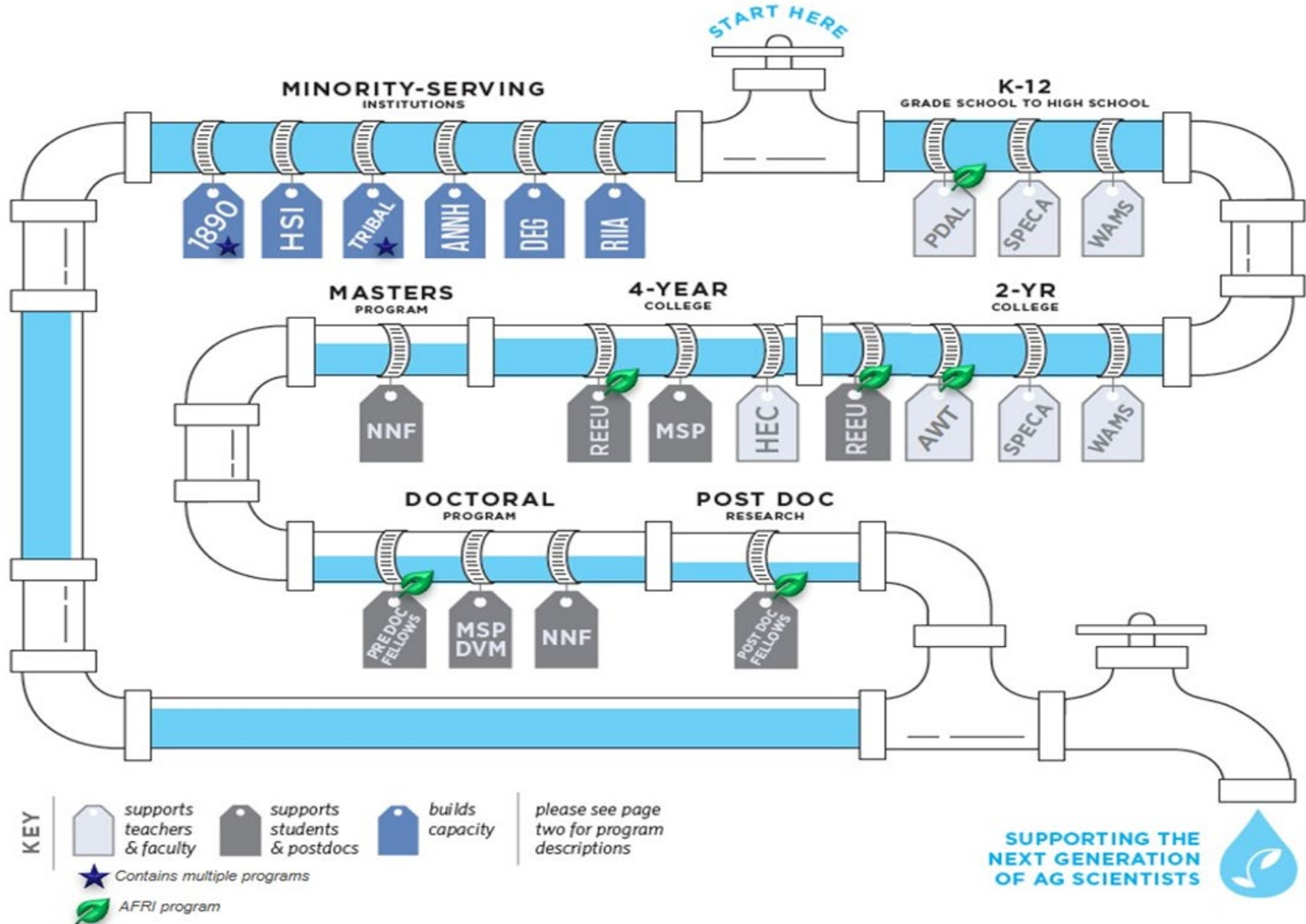
Advance science by supporting more inclusive graduate and postdoctoral training in critical research fields



Strengthen educational capacities of MSIs and NLGCAs in instruction, curriculum and research infrastructure

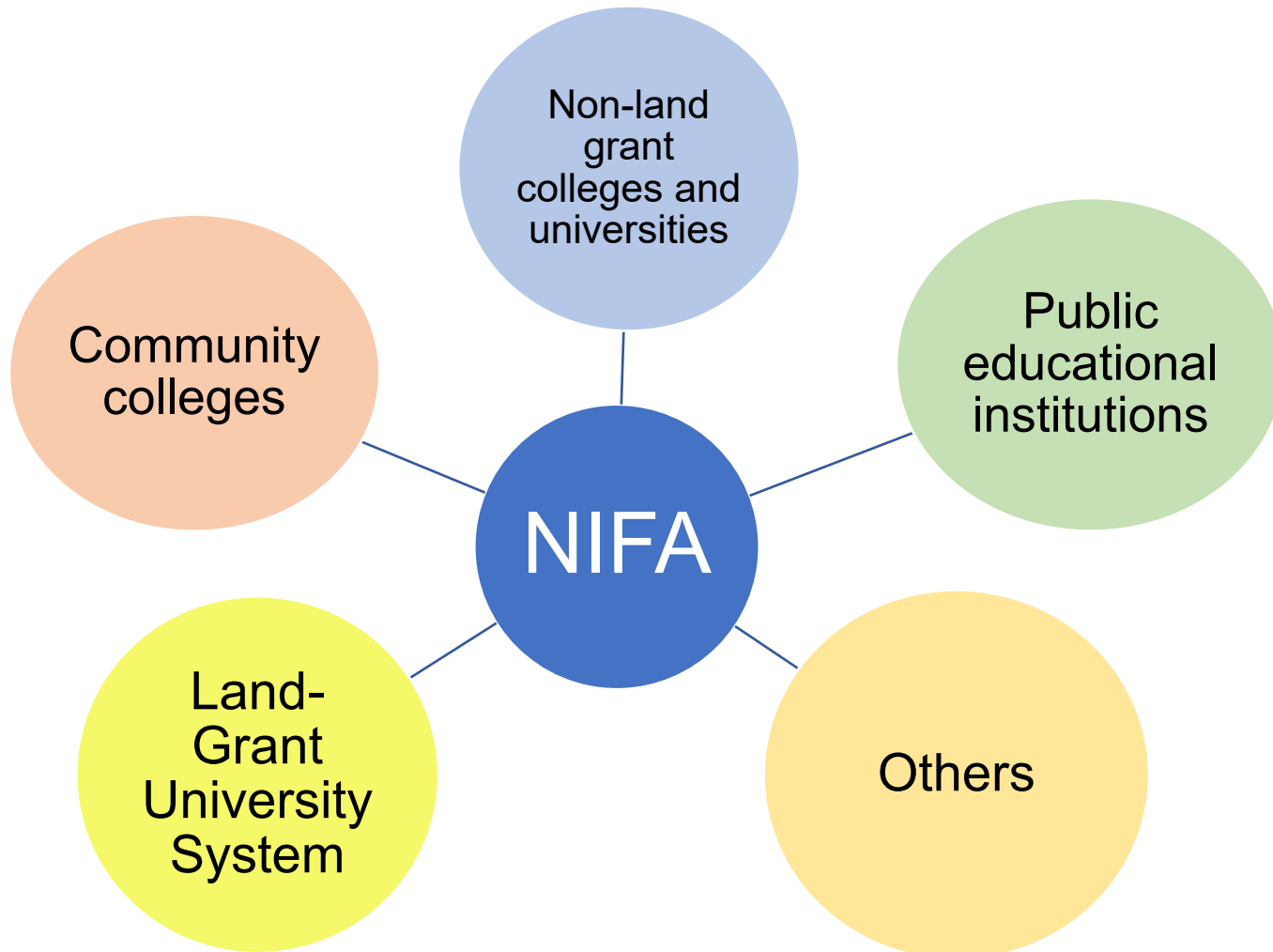


Breadth of Educational Programs





Potential Applicants



Education vs. Extension

- **Education:** Strengthens schools, universities and other organizations to train the next generation of scientists, educators, producers, students and citizens through formal and non-formal practices.
- **Extension:** Brings knowledge gained through research and education to the public





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Programs that Support NIFA's Educational Goals



Enhancing Literacy and Workforce Development

Focus: K-14 Programs and Non-Formal Education

Scope

- Teacher development
- Teacher continuing education
- Curriculum development
- Experiential learning
- Non formal education to foster development of technology-savvy youth
- Development or expansion of existing workforce training programs

Institutional grants for in-service training

- Support K-14 educators with increased knowledge of food and agricultural science disciplines and career opportunities
- Supports developing of improved curricula to enhance interest in agriculture education.

Programs

- FANE
- AWT
- BFRDP
- PDAL
- SPECA
- WAMS
- AITC



Developing Pathways

Focus: Undergraduate Programs

Scope

- Faculty development
- Curriculum development
- Experiential learning to enhance undergraduate education programs
- Student recruitment
- Scholarships
- Internships

Programs

- HEC
- MSP
- REEU
- NLGCA

Formal and Hands-On Education

- Experiential learning for students
- Gain skills applicable in the food and agriculture fields
- Primarily for undergraduate education



Advancing Science

Focus: Graduate Programs

Scope

- Graduate(masters and doctoral) and post-graduate education in agriculture and related disciplines.
- NIFA Predoctoral and Postdoctoral Fellowship program areas support predoctoral candidates and postdoctoral trainees respectively

Programs

- NNF
- AFRI Pre-Doctoral Fellowship
- AFRI Post-Doctoral Fellowship

Fellowships and stipends for masters, doctoral and post-doctoral students

- Recruit
- Retain
- Train



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Examples of Funded Projects



Example 1. Curriculum Development

Program: Higher Education Challenge Grants

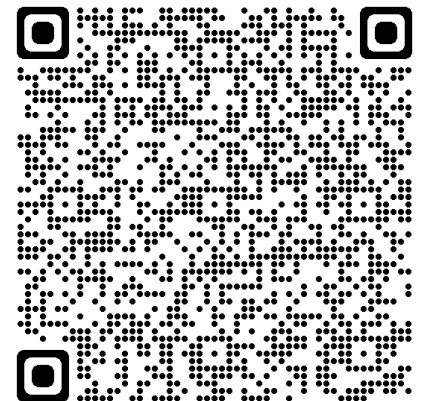


Project Title: USDA-HEC: Education of Novel CRISPR Technologies for Hawaii Undergraduate and Graduate Students

Institution: Univ of Hawaii, Honolulu, Hawaii

Funding Amount: \$200,000

Project Period: 2023-2025



Project Details – Example 1

Objective:

Enhance the teaching capabilities of the first official CRISPR laboratory course

Establish equity-minded CRISPR workshops for UH baccalaureate and two-year postsecondary students

Expected Outcomes:

- Students learn the process of designing a CRISPR gene-editing experiments. Enhance the agricultural sciences education in Hawaii by training students with cutting-edge genome-editing technologies.
- Educate and train 180 students in CRISPR genome editing throughout this workshop series.



Example 2. Scholarship

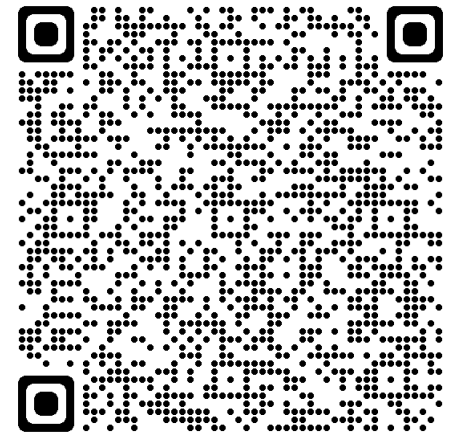
Program: Multicultural Scholars

Project Title: PATHS: Partnerships for
Agrosecurity Training, Health, and Science

Institution: Oklahoma State University

Funding Amount: \$200,000

Project Period: 2021-2025





Project Details (Example 2)

Objective:

- Develop qualified tribal students who will positively impact agricultural security through understanding of plant-insect interactions.
- Provide practical experiences with public and private entities to improve protection from arthropods transmitting diseases in agroecosystems.

Expected Outcomes:

- Increase in transfer rates from Northeastern Oklahoma Agriculture and Mechanical College (NEO) to Oklahoma State University (OSU) at or >56%
- Increase in graduation rates for NEO Agriculture Department. Increase in graduation rates for OSU Ferguson School of Agriculture at or >30%
- Increase in diversity of Agriculture students at both NEO and OSU
 - NEO - at or >10%
 - OSU - at or >25%
- Increase in food, agriculture, natural resources and human science (FANH) careers in tribal communities.



Example 3. Workforce Development

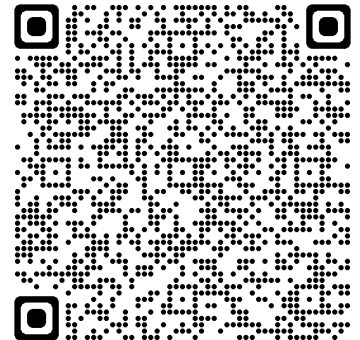
Program: AFRI Agricultural Workforce Training Grant

Project Title: Design of 2-Year Degree/Certification Pathway for Industrial Agriculture in Rural Arkansas

Institution: Cossatot Community College of the University of Arkansas System

Funding Amount: \$ 250,000

Project Period: 2023-2024





Project Details (Example 3)

Objectives:

- Modify current course/certification offerings to create a new degree/certification pathway designed to test and acquire industry recognized credentials in a field related to Industrial Agriculture;
- Address known bias and/or systemic barriers in agriculture workforce training to increase placement of Hispanic students in senior-level career tracks;
- Create and codify collaborative activities, including experiential learning opportunities, with up to three relevant industry partners;
- Create pathways of immediate credentialing upon course completion for industry recognized stackable credentials.

Expected Outcomes:

- Mechanisms and strategies for employer engagement to create universal skills needs that will be met throughout the region.
- Leverage the employer collaboration to determine regional Industrial Agriculture skills needs, as well as micro analysis of each employer's needs.
- Employer collaborators will create a shared language to better communicate hiring requirements of jobs.



Example 4: Experiential Learning

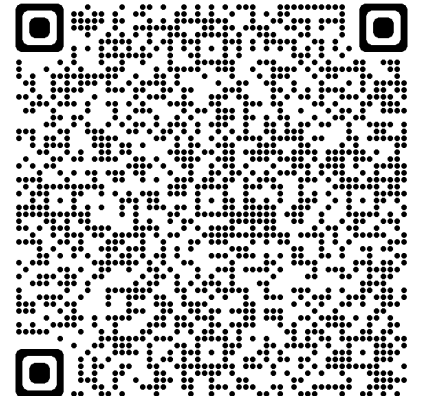
Program: Research and Extension Experiences for Undergraduates

Project Title: Year-round aquaculture training and R&D engagement in professional setting

Institution: University of Southern California

Funding Amount: \$ 500,000

Project Period: 2021-2026





Project Details (Example 4)

Objective:

- The objectives of this project are to promote the success of underrepresented and rural students through partnerships with aquaculture research companies
- Engage students in research and development w/ commercial aquaculture companies
- Enable rigorous training in experimental design, acquisition, and analyses of data, through bioinformatics, genomics, and artificial intelligence
- Invite trainees from underrepresented communities to attend a summer research training at the Alta Sea facility, while trainees from broader geographic regions will be reached via remote-learning platforms

Expected Outputs:

- Develop a remote certification training program for disadvantaged categories or rural locations
- Develop aquaculture curricula at various levels for University of Southern California
- Develop a month-long course on biodiversity and aquaculture sustainability at the Wrigley Marine Science Center (Catalina Island, California) and at National Taiwan University (Taipei, Taiwan)⁴



Other Programs which Support Educational Goals

- Agriculture and Food Research Initiative - Extension, Education & USDA Climate Hubs Partnership
 - Agriculture and Food Research Initiative - Sustainable Agricultural Systems
 - Beginner Farmer Rancher Development Program (BFRDP)
 - Organic Agriculture Research and Extension Initiative
 - Sustainable Agriculture Research and Education (SARE)
- and more

Program Appendix

- **K-14 Programs and Non-Formal Education**
 - FANE: [Food and Agriculture Non-Formal Education](#)
 - AWT: [Agriculture Workforce Training](#)
 - BFRDP: [Beginning Farmer and Rancher Development Program](#)
 - PDAL: [Professional Development for Agricultural Literacy](#)
 - SPECA: [Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge](#)
 - WAMS: [Women and Minorities in Science, Technology, Engineering, and Mathematics Fields](#)
 - AITC: [Agriculture in the Classroom](#)
- **Undergraduate Programs**
 - HEC: [Higher Education Challenge](#)
 - MSP: [Higher Education Multicultural Scholars Program](#)
 - REEU: [Research and Extension Experiences for Undergraduates](#)
 - NLGCA: [Non-Land-Grant Colleges of Agriculture](#)
- **Graduate Programs**
 - NNF: [National Needs Graduate and Postgraduate Fellowship](#)
 - AFRI Pre-Doctoral Fellowship: [Agriculture and Food Research Initiative Pre-Doctoral Fellowship](#)
 - AFRI Post-Doctoral Fellowship: [Agriculture and Food Research Initiative Post-Doctoral Fellowship](#)

Questions???

Please put your questions in the Q and A Box

Questions/comments/feedback: AdminOpsTeam.NIFA@usda.gov
Subject line: Grant Support Technical Assistance Workshop:2024



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