USDA National Institute of Food and Agriculture
U.S. DEPARTMENT OF AGRICULTURE

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

NIFA

Agricultural Genomes to Phenomes Initiative FY2024 RFA Announcement and Technical Assistance Webinar

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

Non-Discrimination Statement

https://www.usda.gov/non-discrimination-statement

- In accordance with federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs, are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.
- Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.
- To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax (202) 690-7442; or (3) email: program.intake@usda.gov.
- USDA is an equal opportunity provider, employer and lender.

Christian Tobias
National Program Leader
Institute for Food Production and Sustainability
christian.tobias@usda.gov
610-312-7619

Angelica Van Goor
National Program Leader
Institute for Food Production and Sustainability
angelica.van.goor@usda.gov
816-584-5304

Daniel McCoy
Program Specialist
Institute for Food Production and Sustainability
daniel.a.mccoy@usda.gov
970-657-1063

Topics We Will Cover

- NIFA Overview *(5 min.)*
- Program Overview *(15 min.)*
- Request for Application (RFA) Details *(10 min.)*
- Proposal Evaluation Process *(10 min.)*
- Additional Information/Resources *(10 min.)*
- Time for questions and answers at end of presentation

National Institute of Food and Agriculture

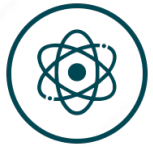
U.S. DEPARTMENT OF AGRICULTURE

NIFA Overview

NIFA Overview

- **National Institute of Food and Agriculture (NIFA)** is the extramural science-funding agency within USDA's Research, Education and Economics mission area.
- NIFA **invests in and supports** initiatives that ensure the long-term viability of agriculture.
- NIFA provides **funding and strategic leadership** for programs that ensure groundbreaking discoveries in agriculture-related sciences and technologies reach the people who can put them into practice.

Topics Covered by NIFA Programs



Advanced Technologies
Bioenergy; Biotechnology; Nanotechnology

Animals
Animal Breeding; Animal Health; Animal Production; Aquaculture

Business and Economy
Markets and Trade; Natural Resource Economics; Small Business

Natural Resources
Forests; Grassland and Rangeland; Soil, Water, and Air

Education
Minority Serving Institutions; Teaching and Learning; Workforce Development

Environment
Climate Change; Ecosystems; Invasive Pests and Diseases

Farming and Ranching
Agriculture Safety & Technology; Farmer Education; Organic & Family Farms

Human Sciences
Community Vitality; Family Well-Being; Youth

Food Science
Food Quality; Food Safety

Food and Nutrition Security
Nutrition; Obesity; Wellness

International
Global Engagement; Global Food Security

Plants
Crop Production; Pest Management; Plant Breeding; Plant Health

National Institute of Food and Agriculture

U.S. DEPARTMENT OF AGRICULTURE

Program Overview

RFA Page 6

Purpose

- Study agriculturally significant crops and animals in production environments to achieve sustainable and secure agricultural production.
- Ensure that current gaps in existing knowledge of agricultural crop and animal genetics and phenomics are filled.
- Identify and develop a functional understanding of relevant genes from animals and agronomically relevant genes from crops that are of importance to the agriculture sector of the United States.
- Ensure future genetic improvement of crops and animals of importance to the agriculture sector of the United States.
- Study the relevance of diverse germplasm as a source of unique genes that may be of importance in the future.
- Enhance genetics to reduce the economic impact of pathogens on crops and animals of importance to the agriculture sector of the United States.
- Disseminate findings to relevant audiences.

RFA Page 6

Priorities

- Promote effective collaborations across academic disciplines by integrating diverse perspectives and expertise through team science and communication.
- Develop models connecting traits such as yield, feed conversion efficiency, production efficiency and nutritional quality with environmental variability, genetics, and climate.
- Employ common data architectures across crop and animal systems consistent with FAIR data principles (https://www.go-fair.org/fair-principles/).
- Engineer novel hardware, computing, and information systems to improve and democratize acquisition, interpretation, and analysis of large datasets of high periodicity imagery, spectra, phenotypes, genotypes and accompanying metadata.
- Study the potential relevance of diverse germplasm as a source of unique genes that may be of importance in the future genetic improvement of crops and animals of importance to the agriculture sector of the United States.
- Improve the quality and availability of crop and animal genetic resources that may reduce the economic impacts of climate change on the agriculture sector of the United States.

RFA Page 10

Eligibility

- State agricultural experiment stations
- Colleges and universities
- University research foundations
- Other research institutions and organizations
- Federal agencies
- National laboratories
- Private organizations, foundations, or corporations
- Individuals
- Any group consisting of two or more of the entities described in (1) through (8)

Project and Grant Types

RFA Page 8

Project Types

Research

Education

Extension

Integrated

Grant Types

Standard

Conference

FASE

Collaborative

CAP

RFA Page 7

Activities Funded

Research applications are encouraged to address at least two of the following 6 goals through a research-focused approach:

1) Development of new or augmentation of existing benchmark datasets comprised of genetic, phenotypic, environmental, climatic, and physiological data on crops or livestock for the purpose of testing, training, and comparing predictive analytic tools by the data science community with potential wide application in agricultural fields.

2) The combining of plant and animal genomic information with phenotypic and environmental data through an interdisciplinary framework, leading to a novel understanding of plant and animal processes that affect growth, productivity, and the ability to predict performance, which will result in the deployment of superior varieties and species to producers and improved plant and animal management recommendations for farmers and ranchers.

3) The removal of technological or institutional barriers that prevent effective collaboration with for-profit entities whose involvement is critical for development of robust predictive analytic tools for agricultural genomes to phenomes research.

4) Improvement of national agricultural data infrastructure to facilitate storage and programmatic access to very large datasets and to allow for improved data description, harmonization, and system interoperability.

5) The nurturing of world-class agricultural research talent through training, and mentoring at the undergraduate, graduate, or postgraduate level that incorporates creative, meaningful contributions by project participants to research design, interpretation, and scientific inquiry. Workforce development efforts that include partnership with private for-profit entities are welcome.

6) Organization of interdisciplinary agricultural genome to phenome, in-person or virtual working groups, conferences, programs, or colloquia that engage groups with diverse scientific expertise around high-priority, stakeholder-driven issues that would benefit from a coordinated research approach.

Other Program Information

RFA Page 7

- Applications (other than conference proposals) must include a budgeted plan for data management that includes making data publicly available and that adheres to FAIR data principles (https://www.go-fair.org/fair-principles/).
- Applications must provide a compelling case for why it is essential to bring together substantially different science and engineering disciplines to address a specific genome to phenome need.
- Applications that demonstrate coordination and collaboration with international partners, especially public-private partnerships, and other genome to phenome projects worldwide will be viewed favorably. However, applications must be submitted by eligible U.S. institutions.
- Consortia of eligible entities are encouraged to apply for this funding opportunity.

Application Changes from Prior Years

- Collaborations between U.S. crop and animal researchers are not required but are encouraged.
- No competitive process for awarding seed grants is required.
- Project type is no longer Integrated. Research only projects are requested.
- Mentoring Plan: 1 page per participant level (undergrad, grad, postdoc) is strongly recommended and does not count against total page limit of project narrative.
- Project Narrative: may not exceed 18 pages, 12-point font, single spaced.

Cost Share or Matching

RFA Page 10

Cost matching required unless waived by NIFA for the following reasons:

A. The results of the project are of a particular benefit to a specific agricultural commodity, but those results are likely to be applicable to agricultural commodities generally.
B. The project:
   a. Involves a minor commodity.
   b. Deals with scientifically important research.
   c. The recipient is unable to satisfy the matching funds requirement.

National Institute of Food and Agriculture

U.S. DEPARTMENT OF AGRICULTURE

Application Details and Documents

RFA Page 8

Application Details

- RFA is available online at https://www.nifa.usda.gov/grants/funding-opportunities/agricultural-genome-phenome-initiative
- Application Deadline: 5 p.m. (Eastern Time) May 30, 2024
  - Submitted through Grants.gov
- Total funding available in FY 2024: ~$2,308,369
  - *Enactment of a continuing resolution, appropriations act, or other authorizing legislation may affect the availability or level of funding for this program.*
- Program Code: AG2PI
- Maximum funding per award*:
  - $1,200,000 for Research Projects
  - $50,000 for Conferences

* Program has flexibility to modify the awards and related award amount they fund

Key Documents

RFA Page 13-15

Key components of your Application:

- Project Summary/Abstract
- Project Narrative
- Bibliography/Reference List
- Data Management Plan
- Mentoring Plan
- Other Documents such as letters of support or commitment (See RFA and NIFA Grants Application Guide)

Application Details (contd.)

RFA Page 13

- Project Narrative should be limited to **18 pages including figures and tables** and will be strictly enforced.
  - **Single line spacing** (six lines per vertical inch)
  - No smaller than **12-point font** Includes text, figures and tables.
- Within 18 page Project Narrative Include:
  - Introduction
  - Rational and significance
  - Objectives
  - Approach
  - Project timeline
  - Centers of Excellence Justification (Optional)
- Applications exceeding the page limitation will be returned without review.

Data Management Plan

RFA Page 14

- Investigators must provide detailed (up to 2 pages) business and management plans including descriptions of:
  - Expected data type(s)
  - Data format
  - Data storage and preservation
  - Data sharing, protection and public access
  - How plan is consistent with FAIR data principles (https://www.go-fair.org/fair-principles/)
  - Roles and responsibilities

- Please also review: nifa.usda.gov/resource/data-management-plan-nifa-funded-research-projects

RFA Page 12-13

Application Submission

- NIFA only accepts **electronic** submission of applications.
- NIFA Grants Application Guide available: nifa.usda.gov/resource/nifa-grantsgov-application-guide
- Application documents **must be in Portable Document Format (PDF)** to be accepted by NIFA, including your narrative and budget justifications.
  - Grants.gov may allow other formats, but NIFA does ***not***
  - Do not use third-party PDF builders


NIFA-18-013

NOTE: The guide provided here is meant to serve as an example. Refer to and follow the Grants.gov Application Guide provided in the application package on Grants.gov for the specific funding opportunity of interest.

USDA United States Department of Agriculture
National Institute of Food and Agriculture

NIFA GRANTS.GOV APPLICATION GUIDE

A Guide for Preparation and Submission of NIFA Applications via Grants.gov

GRANTS.GOV℠

The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.

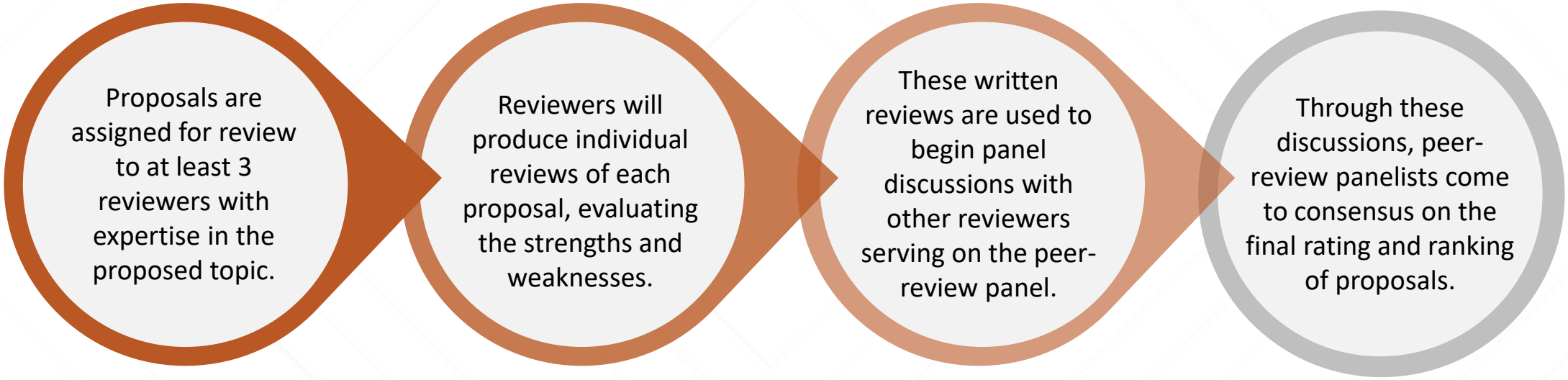
National Institute of Food and Agriculture

U.S. DEPARTMENT OF AGRICULTURE

Proposal Evaluation Process

Evaluation Process

RFA Page 17



Evaluation Criteria: Research proposals

RFA Page 18

- Documentation that the research supports the Purposes of AG2PI, is directed toward specific Program Priorities, and is designed to accelerate productivity, economic, environmental, and social sustainability of U.S. agriculture with respect to natural resources and the environment, human health and well-being, and rural communities.
- Clarity and delineation of objectives including why it is essential to bring together different science and engineering disciplines to achieve them.
- Adequacy of the description of the undertaking including how contributing disciplines will be integrated.
- Suitability of the data management plan.
- Probability of success of the project given the level of scientific innovation, and risk-reward balance.
- When international or public-private partnerships are involved, the project leverages expertise, resources, and experience to achieve greater impact or brings foreign or international research efforts to address issues relevant to U.S. agriculture.

Evaluation Criteria: Conference Proposals

RFA Page 18

- Demonstrated need. Justification of conference, curriculum proposed, or planned activities. Application adequately addresses at least one of the FY 2024 AG2PI priorities referenced in Part I.B.
- Adequacy of background research. Listing of recent meetings, outreach activities or other activities on the same subject.
- Stakeholder involvement. Application includes names and organizational affiliations of the chair and other members of the organizing committee or planning team members, including information on how stakeholders were selected, how their input was solicited and incorporated, and a description of their future involvement in the project.
- Quality of proposed program (or agenda) for the conference activity and planning proposals, including a listing of scheduled participants, their institutional affiliations, and a description of their expertise. For curriculum products, a description of the program including the target audience, expected number of participants, a detailed syllabus, experiential training activities, how the program fits within ongoing activities.
- Describe how the impact of the programs being proposed will be assessed.
- Potential for the project to make a difference.

Timeline of Competitive Programs

1-2 months

- Request for Application (RFA) release
- Proposal writing and planning
- **Proposals due**

2-3 months

- Proposal under peer review
- Proposal funding notifications

1-2 months

- Awards are finalized and made

On average, a competitive program takes about 3-5 months from the proposal due date to an award being made to an institution.

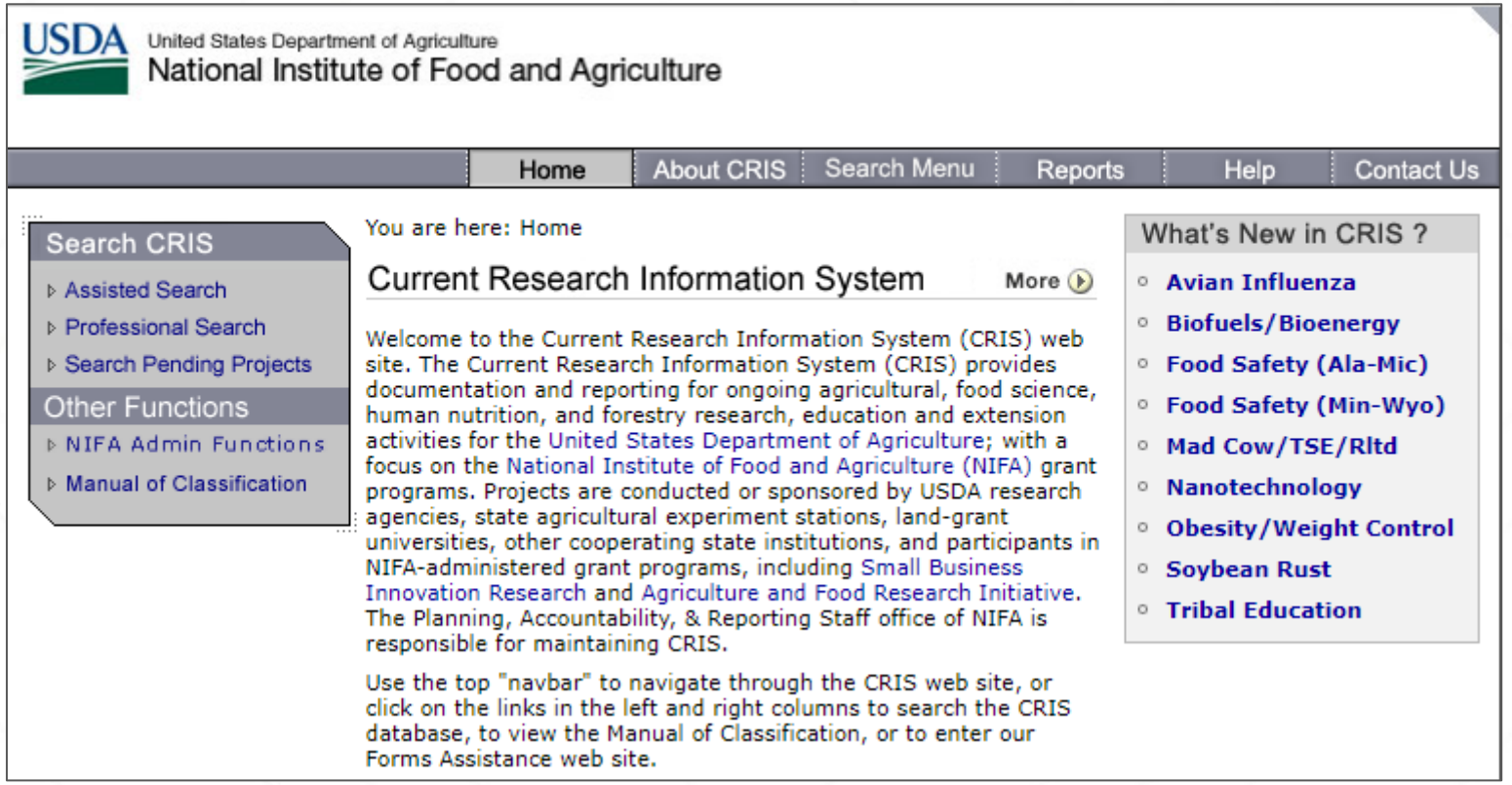
We will keep you updated as much as possible. We appreciate your patience!

National Institute of Food and Agriculture

U.S. DEPARTMENT OF AGRICULTURE

Additional Information

Use CRIS to Find Funded Awards



https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=(GC=AG2PI)&format=WEBTITLESGIY

Upcoming Events

- NIFA Events Calendar for upcoming deadlines, meetings and webinars: nifa.usda.gov/events

- Upcoming Request for Applications (RFA) release calendar: nifa.usda.gov/upcoming-rfa-calendar

Grant Resources

- Funding Opportunities: nifa.usda.gov/grants/funding-opportunities
- Competitive Grants Flowchart: nifa.usda.gov/competitive-grants
- NIFA Grant Resources: nifa.usda.gov/grant-training
- NIFA Policy Guide: nifa.usda.gov/policy-guide
- Indirect Costs: nifa.usda.gov/indirect-costs
- A Guide for Preparation and Submission of NIFA Applications via Grants.gov: apply07.grants.gov/apply/opportunities/instructions/PKG00249520-instructions.pdf
- Information on Awarded Grants: cris.nifa.usda.gov

Questions?

Christian Tobias
National Program Leader
Institute for Food Production and Sustainability
christian.tobias@usda.gov
610-312-7619

Angelica Van Goor
National Program Leader
Institute for Food Production and Sustainability
angelica.van.goor@usda.gov
816-584-5304

Daniel McCoy
Program Specialist
Institute for Food Production and Sustainability
Daniel.a.McCoy@usda.gov
970-657-1063