

**One Health Institute
Office of the Vice President for Research
Request For Proposals**

One Health Institute's Mini-Grant Challenge:

Emerging disease threats with implications for African Swine Fever

The determinants and interactions of disease emergence and transmission are complex and involve the interplay of environmental factors such as climate and land-use change with cultural, social, behavioral, and economic dimensions of disease spread. Fortunately, Colorado State University students in world class programs across all eight colleges are ready to offer creative approaches to address these complex disease challenges.

To take advantage of the entrepreneurial and innovation capacity of CSU students, the One Health Institute (OHI) in collaboration with USDA-APHIS Veterinary Services is launching a Mini-Grant Challenge open to CSU undergraduates, professional students, graduate students, and post-doctoral students. OHI recognizes that innovation often arises from dynamic partnerships and collaborations, so OHI welcomes proposals that engage stakeholders and/or form teams with students from different disciplines. Funding allows up to nine total awards.

For this mini-grant challenge, OHI is seeking One Health solution-oriented approaches to emerging disease threats that also demonstrate clear potential to inform preparedness and response for African Swine Fever (ASF). ASF is a viral disease that is not a direct threat to human health, but spreads quickly and kills most wild and domestic pigs who get the disease. Currently, there is no treatment or vaccine for ASF, so the best protection is prevention. African Swine Fever has never been found in the United States, but it has recently been found in the Caribbean countries of Haiti and the Dominican Republic. The nearby ASF threat has increased the urgency to keep African Swine Fever out of the United States and be prepared if the viral disease is detected in the U.S.

The One Health Institute is seeking proposals from students in a wide range of disciplines including, but not limited to, animal health, wildlife biology, microbiology, computer science, engineering, the social sciences, natural resource management, art, communications and business who have innovative ideas and approaches that can inform solutions to ASF challenges:

- Students in business, communications and the social sciences could draw from their experiences with small businesses and rural communities to inform on viral disease and ASF biosecurity within the U.S. and its territories at increased threat of ASF incursion, for example:
 - Are there small business benefits such as herd productivity and market access that can be derived from biosecurity investments? How can these be realized?
 - Are there lessons learned from previous work with rural communities in places such as Puerto Rico or the Dominican Republic that can be applied to the development of biosecurity messaging that has local relevance?
 - What are the best ways to communicate viral disease risk and reduction to occupational and community groups?
- Students in engineering, natural resource management, and landscape ecology could draw from their experiences in processes, systems, tools, and techniques to design approaches to disease surveillance that strengthen detection capabilities and enhance outbreak preparedness, for example:
 - Are there datasets that could be used to better understand movement of animals, people, or transport vehicles across the landscape, and could insights from that data inform viral disease and ASF surveillance or response?

- Are there technological tools and techniques that could readily be translated to inform viral disease and ASF surveillance in rural communities?
- What is the impact of landscape and biodiversity change on viral disease transmission dynamics and how can high-risk ecosystems be managed to curb disease transmission?

Focus Areas

- **OPEN:** Up to five awarded mini-grants (up to \$10,000 per award for a total of \$50,000) will apply innovative methods and analysis that can inform real-world ASF challenges. Projects may be related a student's own work at the university.
- **EXTREME WEATHER:** Up to four awarded mini-grants (up to \$10,000 per award for a total of \$40,000) will focus on understanding extreme weather impacts on viral disease risk. Students will apply scientific methods and analysis to either: 1) Work from available datasets (provided by USDA and/or the mini-grant awardee) to identify rural communities at high risk for viral disease and will inform on incursion of ASF (e.g. non-commercial farms with pigs near wild pig habitat) and how those areas may overlap with extreme weather hotspots, 2) Develop a weather vulnerability index for non-commercial farms in rural communities, or 3) Design and test weather-ready response for viral disease that will inform on ASF response and preparedness strategies such as pre-event scenario planning, table-top exercises, or rapid prototyping. Projects may be related the student's own current and/or past work at the university.

Eligibility

The opportunity is open to students at Colorado State University (non-funded collaborators welcome). Undergraduate, graduate, professional, and post-doctoral students are encouraged to apply. Student teams will be considered if the team is multidisciplinary (team members are from different disciplines). Selected students will work with a university mentor (usually related to the student's current or past university work and who is involved in the proposal submission).

Duration of Funding

Funding will be effective October 30, 2024 – September 30, 2025.

Reporting Requirements

Written final report, quarterly check-in, final oral presentation of results.

Publications:

Recipients of any grant from the OHI are strongly encouraged to publish their findings in a peer-reviewed journal. All such publications must acknowledge funding provided by the Colorado State University One Health Institute and USDA (see footnote 1) and make publications accessible to the public to the extent practicable (see footnote 2). OHI would appreciate receiving an electronic copy of publications resulting from support by OHI grants.

Deadlines:

June 15, 2024	RFP Announcement Release
September 15, 2024	Application Submission Deadline
October 15, 2024	Award Notification
October 30, 2024	Award Start Date
September 30, 2025	Award Completion Date
December 1, 2025	Final Report Due

The deadline for submission is Sunday September 15, 2024 at 5:00pm Mountain Daylight Time to Onehealth_contact@mail.colostate.edu

Email questions to Onehealth_contact@mail.colostate.edu

Guidelines for proposals:

Format: Applications must be submitted using the guidelines below. For the body of the proposal, use one inch margins on the left, right, top, and bottom, and 12-point type. For clarity, avoid abbreviations and acronyms whenever possible. All pages after the title page must be numbered, with the number in the lower right corner. The student's last name must be placed in the upper right corner (header) of all pages after the title page.

1) Title Page and Abstract (1 page):

Student Applicant; Degree Pursued and Program; E-mail

Faculty Advisor(s); Department and College; E-mail

Title of Proposed Research

Proposal Abstract: Do not exceed 1/2 page.

- State the objectives, state the projects aims, and describe the methodology used to achieve these goals.
- Avoid the use of the first person and avoid summarizing past accomplishments.
- Description of approach—Why is it innovative/creative? How does it improve our understanding and inform ASF challenges?

2) Background Information: *Do not exceed one page.* A list of references must be included in the Appendix section.

- What is the problem/challenge is being addressed? How does it benefit from the student's current work/experience? How is the problem/challenge affecting the community? What is the project's scope and how will it be completed during the grant award period?

3) Hypotheses and Project Aims: *Do not exceed 1/2 page*

4) Research Plan: *Do not exceed three pages in total.*

- What is your overarching question? What are your primary objectives? Describe your rationale, general approach for each project aim, anticipated application/findings, potential pitfalls

5) Description of how this project informs on preparedness and response for ASF (one page)

6) Proposed Budget: Please provide a proposed line-item budget and succinct budget justification

Budget (*one page*)

- **Budget Guidance:**

The financial award will support student efforts on funded projects, and is not intended to support a student stipend, tuition, or other university funding. All grant funds are required to be used for direct project expenses (e.g., field expenses, supplies, equipment, lab analyses, publication costs, travel to the field and conferences).

Equipment: Students will use their own computers and will purchase any needed materials or equipment through their mini-grant. Any equipment purchased will remain the property of Colorado State University.

Special Contracts: No special contracts.

Travel: Students may propose and justify travel for their project to be funded through their mini-grant.

7) Appendices:

a) Literature cited

b) Project timeline (in table or figure format)

c) Description of team—Student and Faculty Advisor CV

d) Letter of support from Faculty Advisor

e) Brief description of the grant's contribution towards the student's degree

f) Letters from collaborating investigators, if applicable

g) Approved or submitted permits, if applicable

h) Approved IACUC or IRB, if applicable for funding to begin

Proposal Review: Proposals will be reviewed by a panel of internal and external reviewers. Highly ranked proposals will have:

- Well-defined rationale and general approach
- Attainable goals and objectives
- Outcomes and products that can be completed within the project period
- **Clear Potential** to inform ASF challenges
- **Clear Potential** to deliver products/outcomes specific to the extreme weather Focus Area (if applying to that Focus Area)

Footnotes:

1. For CSU: This project was supported (or supported in part) by the One Health Institute, Colorado State University. For USDA: This work was funded by a cooperative agreement between the Center for Epidemiology and Animal Health (CEAH) of the USDA, Animal and Plant Health Inspection Service (APHIS) Veterinary Services (VS) and Colorado State University as USDA Award #AP24VSSP0000C040 (Science to Action Mini-Grants)
2. Departmental Regulation (DR) 1020-006 establishes USDA's policy for public access to scholarly publications and digital scientific research data assets. The DR requires USDA to make all peer-reviewed, scholarly publications and digital scientific research data assets arising from unclassified scientific research **supported wholly or in part by the USDA** accessible to the public, to the extent practicable. The full text of the DR can be found here: <https://www.usda.gov/directives/dr-1020-006>. The DR requires that agencies align their policies and procedures with this DR within 12 months of the publication date (July 20, 2023).