A Guide to

CAAS Research Services

College of Agriculture & Applied Sciences
UtahStateUniversity

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Colleagues,

I am pleased to introduce you to the College of Agriculture and Applied Sciences Research Services Team. We are fortunate to have a talented and dedicated group of people who provide pre-award administrative support services to researchers for sponsored projects. We are committed to supporting high-quality, customer-focused, solution-oriented approaches to proposal development by providing the tools and assistance needed to enable granting success.

The following pages detail how we carry out our mission to advance your research programs and generate new knowledge. We look forward to working with you. If you are unable to locate the information you're looking for on these pages, please don't hesitate to reach out to one of our dedicated team members. We are here for you.

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Associate Dean for Research & Student Graduate Studies
Utah State University College of Agriculture and Applied Sciences
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CAAS Research Services Team

Proposal Specialist
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Proposal Specialist
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Proposal Specialist
Dr. Cody Bills
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Peer Reviewer
Dr. Greg Podgorski
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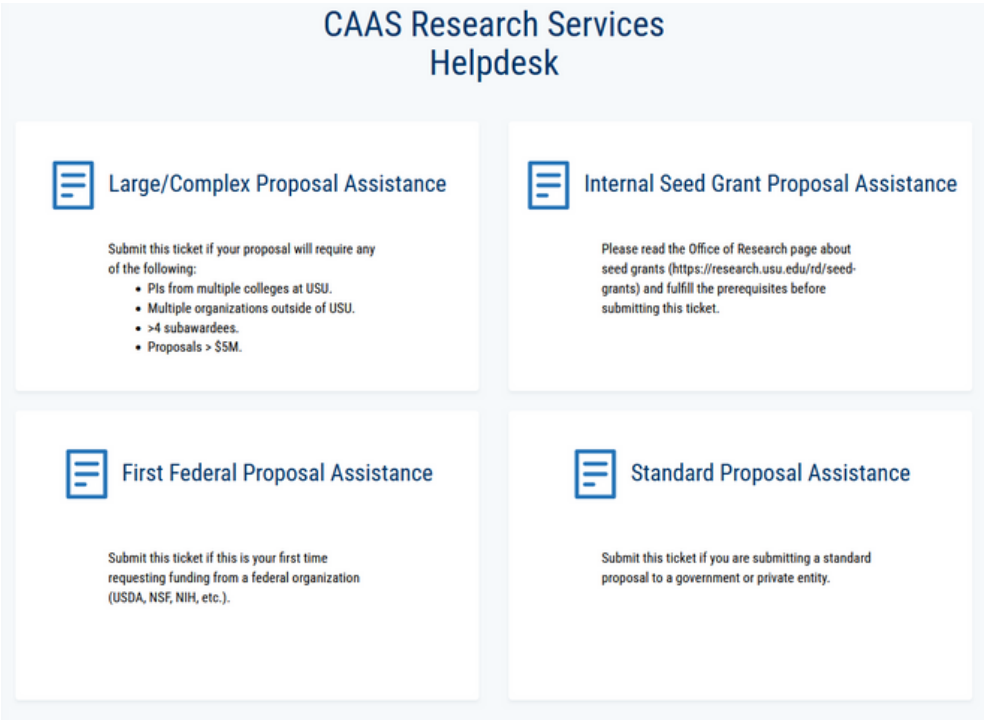
The CAAS Research Services Team provides direct support for proposal development and submissions for external and internal grant proposals for researchers in USU's College of Agriculture and Applied Sciences. We can provide the best support to produce a competitive proposal and facilitate smooth preparation and submission when we are involved from the earliest stages of proposal development. It is best to begin collaborations with principal investigators (PIs) as early as possible, ideally, six to eight weeks ahead of the funder's submission deadline. This creates the best opportunity to provide full support for proposal preparation, peer review, revisions, and the required four business days for USU Division of Sponsored Programs review. Commitment to the submission timeline will facilitate a smooth application process.

The proposal development specialists provide support for preparing external grant proposals by:

- Identifying support resources
- Creating a timeline for each part of the submission workflow
- Assisting in budget development
- Helping to coordinate efforts of multiple investigators and institutions where needed
- Form preparation and Kuali entry
- Editing proposal formatting
- Ensuring compliance with federal, state and university policies

Schedule assistance at the CAAS Research Services Helpdesk: https://usu.service-now.com/aggies?id=caashd



The peer reviewer, Dr. Greg Podgorski can meet with the PI before writing begins to discuss the project and how it responds to the sponsor's request for applications (RFA). Once a viable proposal draft is produced, he can review it and give comments for the PI to consider when finalizing the proposal. The USU peer review takes five business days and must be scheduled in advance.

Let your proposal specialist know that you would like to consult with Dr. Podgorski and they will schedule it for you.

Statistical Consulting Services

Dr. Xin Dai
Utah Agriculture Experiment Station statistical consultant
xin.dai@usu.edu

The Utah Agricultural Experiment Station (UAES) provides statistical consultation to faculty, staff, and students related to UAES-supported research. Dr. Xin Dai is the UAES statistical consultant, and she collaborates with researchers at various phases of their research projects, including the following:

- Experiment design
- Data collection/entry strategies
- Data import/export
- Data analysis
- Interpretation and presentation of analytical results

Statistical consulting is available by appointment. Please submit a consultation request at https://usu.co1.qualtrics.com/jfe/form/SV_9HQRbIptoHArldk

The USU Office of Research

The university's Office of Research has a series of grant and support programs aimed at strengthening USU's research capacity and grant proposal strength.

https://research.usu.edu/

Seed Grants

Seed grants are internal grants that help USU faculty to "grow" their potential to obtain external funding by supporting preliminary studies and other research activities aimed at strengthening a specific external grant proposal. The USU Office of Research provides competitive seed grant opportunities in two cycles each fiscal year.

Three types of seed grant funding opportunities are available through the Office of Research, all with an award period of one year and the expectation that an external grant that makes use of the seed grant work will be submitted within three months of completion of the seed grant–supported project.

Grant-Writing Experience Through Mentorship (GEM)

- $10,000 award limit
- For tenure-track junior faculty and researchers with fewer than four years in rank
- Requires commitment of a mentor of more senior rank to work with the applicant

Research Catalyst (RC)

- $20,000 award limit
- For tenured or tenure-eligible faculty, research faculty, or other USU research professionals

Integrated Team Research (ITR)

- $100,000 award limit
- Team must be three PIs minimum, two of which must be at USU and hold faculty appointments as defined in USU Policy 401
- Develop and submit an external grant proposal of $1 million+ within 3 months of ITR award end date

Faculty must complete the Office of Research-sponsored Faculty Proposal-Writing Seminar to be eligible for seed grant awards. This workshop is offered to faculty once each year in the fall semester, with dates announced in late August of each year.
Additional eligibility requirements apply in certain circumstances.

Capital Equipment Grants

- The Office of Research offers grant for equipment that has an acquisition cost of $5,000 or more and a useful life of more than one year
- This equipment should have the primary function of advancing research and/or creative activities

Find detailed proposal instructions at the USU Office of Research Internal Grants & Funding website: https://research.usu.edu/rd/seed-grants.

Proposal review is available through the CAAS of Office of Research seed grant proposals if they are submitted for review a minimum of seven days ahead of the submission deadline. Submit a request at the CAAS Proposal Helpdesk: https://usu.service-now.com/aggies?id=caashd.

All USU Office of Research seed grant proposals must be submitted to the CAAS associate dean for research **at least one day ahead** of the submission deadline. He will submit the final proposal to the Office of Research.

Utah Agricultural Experiment Station

The Utah Agriculture Experiment Station (UAES, https://caas.usu.edu/uaes/) provides several funding opportunities for faculty with UAES appointments. UAES grants are available to address critical issues related to its mission: To generate knowledge and new technology for improving the diverse system of agriculture and natural resources that feed, clothe, house, and enhance the environment for Utah's citizens.

Seed Grants

The UAES seed grant program supports UAES researchers' work to address critical issues included in Utah State University's USDA National Institute of Food and Agriculture Plan of Work. These critical issues include:

- Global food security and hunger
- Climate change and management of natural resources
- Nutrition and health
- Food safety
- Healthy and financially secure families
- Youth development
- Community resilience

Equipment Grant Program:

The UAES Equipment Grant program is for capital research equipment and instrumentation that costs over $5,000. The UAES Equipment Grant is intended to support a critical research need that will enhance the research mission of the UAES and requires a 50% match from non-UAES funds.

Only faculty with UAES appointments are eligible for funding.

Public Lands Initiative Grant

Public Lands Initiative Grants are available to USU faculty who study public lands management, recreation planning, fire ecology and management, animal and plant species conservation, animal movement, economics of public land use, evaluate restoration projects, or develop creative tools to integrate the management of private, state, and federal lands in Utah.

These grants do not require faculty to have a UAES appointment.

Find more information and requests for proposals at:
https://caas.usu.edu/uaes/internal-resources/uaes-grant-support

USU Extension

Water Initiative Grants

Water Initiative Grants are funded by the State of Utah for research proposals focused on at least one of the following topics:

- Water conservation—particularly agricultural water conservation, optimization, and efficiency
- Creating innovative tools that support/direct water conservation
- Improving and maintaining water quality
- Enhancing water availability or water efficiency

Priority will be given to projects that meet multiple objectives and that have the greatest potential to conserve the most water.

https://extension.usu.edu/employee/grants/index

Trainings

The Utah State University Office of Research supports the university's mission by facilitating a culture of excellence in research, scholarship, and creative activity of faculty and students through operational, training, funding, outreach, and compliance support. It is committed to supporting and growing nationally and internationally relevant programs of basic and applied research, scholarship, and creative inquiry.

The Office of Research also supports a host of annual training opportunities.
http://research.usu.edu/rd/faculty-training

Learn more about these opportunities to hone your grant writing and proposal development skills.

FALL

AUGUST

New Faculty Research Orientation

SEPTEMBER

Seed Grant Workshop
New Faculty Start-Up Budget Training

OCTOBER/NOVEMBER

Fall Proposal Writing Seminar

SPRING

JANUARY

Seed Grant Applications Due

FEBRUARY/MARCH

Datapalooza: Research Data Management Workshop

APRIL

Capital Equipment Grant Applications Due

SUMMER

MAY/JUNE

Assorted Trainings (See above website for more detail.)
Seed Grant Applications Due

Resources for Research Faculty

Center for High Performance Computing (CHPC)

USU offers access to high performance computing through the University of Utah. The CHPC is located in Salt Lake City. The services offered at the CHPC include support for big data, big data movement, data analytics, security, virtual machines, Windows science application servers, protected environments for data mining and analysis of protected health information, and advanced networking.

https://research.usu.edu/hpc

USU Libraries

The USU library offers consultation services for data management planning and provides digital archived materials. There is a team of librarians who specialize in CAAS subject matter.

https://library.usu.edu/help/librarians

Office of Global Engagement

The Office of Global Engagement oversees and facilitates study abroad programs, immigration advising for international students and visiting scholars, Fulbright programs, and international agreements with other universities, including some specific to the College of Agriculture and Applied Sciences.

https://usu.edu/global-engagement/

Utah Agricultural Experiment Station Research Farms

There are 14 UAES Research Farms in the state of Utah. These farms are essentially outdoor laboratory spaces where students and faculty learn and conduct research in plant, animal, irrigation, soil, and other projects.

https://caas.usu.edu/uaes/farms/

Resources for Research Faculty

Microscopy Core Facility

The Microscopy Core Facility at Utah State University is a research service unit managed by the Office of Research. The facility maintains a scanning electron microscope equipped with EDS/EBSD systems, a dualbeam (FIB/SEM) microscope equipped with Omniprobe/EBSD system, a laser dissection microscope, and several microscopy sample preparation tools.

https://research.usu.edu/microscopy/index

The Center for Integrated Biosystems (CIB)

The Center for Integrated Biosystems is a centralized resource for agricultural and life science research. The CIB encompasses state-of-the-art equipment for use in genomics, proteomics, flow cytometry, fermentation, and protein purification.

https://caas.usu.edu/biosystems/

Genomics

The Genomics laboratory is a core facility of the Center for Integrated BioSystems at Utah State University. The facility offers state-of-the-art resources and services, including Next Generation Sequencing, using our Illumina MiSeq and Illumina NextSeq systems. In addition, a range of traditional DNA sequencing and fragment analysis options are available using our ABI PRISM 3730 DNA Analyzer.

https://caas.usu.edu/biosystems/core-labs/genomics

Proteomics

The Proteomics group is a core facility of the Center for Integrated BioSystems at Utah State University. It exists to help researchers with novel biomarker discovery, discovering the molecular basis for disease, small molecule extraction and identification from organic and aqueous mixtures. Support equipment includes gel electrophoresis units, a GE Typhoon Laser Imager, an AB Sciex Triple Quad 7500 LC/MS-MS, and a GCT Premier mass spectrometer.

https://caas.usu.edu/biosystems/core-labs/proteomics

Resources for Research Faculty

Genotyping

The Genotyping laboratory is a core facility of the Center for Integrated BioSystems at Utah State University. It is equipped with a Fluidigm BioMark system, a Fluidigm Access Array system, and an Illumina MiSeq next-generation sequencing system.

https://caas.usu.edu/biosystems/core-labs/genotyping

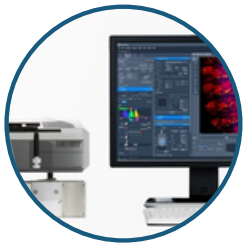
Flow Cytometry

The Flow Cytometry group is a core facility of the Center for Integrated BioSystems at Utah State University. The facility provides instrumentation, personnel, and expertise to assist researchers in flow cytometry and fluorescence-activated cell sorting (FACS) applications.

The laboratory is equipped with a BD Biosciences Special Order FACSAria II, which is a high-speed FACS that can perform high-resolution, multicolor flow cytometry analysis.

https://caas.usu.edu/biosystems/core-labs/flow-cytometry

Confocal Microscopy



The Carl Zeiss LSM-710 live cell imaging system is equipped with 34 spectral detection channels, five laser lines (458, 488, 514, 561, and 633 nm), a 405-nm laser kit, Axio observer Z1, various fluorescence equipment, X-Cite with computer control, motorized scanning stage, five optical lenses (10x, 20x, 40x, 63x, and 100x), Axiocam MRc-5, a stage-top incubation system with temperature, pH, humidity control components, anti-vibration table, ZEN 2010 software, a PC, additional memory (6-GB DDR3-1333 MHz ECC RAM), and a 30-inch monitor.

https://caas.usu.edu/iar/resources

USU Analytical Laboratories

The USU Analytical Laboratories provide testing and analysis services for soil, animal feed, manure, plant tissue, and irrigation/livestock water.

https://usu.edu/analytical-laboratories/

Resources for Research Faculty

Utah Plant Pest Diagnostic Laboratory (UPPDL)

The UPPDL has entomology and plant pathology specialists and diagnosticians available to diagnose plant pest problems of arthropod (insect, spider, mite, etc.) or disease origin. In addition, we offer general insect and arthropod identification, plant root identification, insect trap processing, and soil arthropod extraction services.

https://extension.usu.edu/pests/uppdl/

Utah Veterinary Diagnostics Laboratory (UVDL)

The purpose of the Utah Veterinary Diagnostics Laboratory (UVDL) is to provide timely, in-depth, cost efficient, veterinary diagnostic services to safeguard animal health, protect the agricultural economy, and shield the public against zoonoses (diseases transmissible from animals to humans). Diagnostic services include pathology, bacteriology, virology, serology, and molecular-based assays. The UVDL serves practicing veterinarians, personnel in regulatory state and federal governmental positions, public health officials, and animal owners.

https://www.usu.edu/uvdl/

USU Research Greenhouse Complex

The USU Research Greenhouse Complex is a Utah Agricultural Experiment Station facility that provides many researchers with full LED lighting and high-quality temperature control technology. This facility is available to all undergraduate, graduate and PhD students and USU faculty for varying amounts of time.

To initiate an application, contact Professor Bruce Bugbee at Bruce.Bugbee@usu.edu.

Intermountain Herbarium

The Intermountain Herbarium is a major regional herbarium. It provides resources for studying classification, floristics, genetics, and species distributions; workshops for plant and fungal identification; services for Extension county faculty and specialists; and assistance in documenting and describing new species.

https://usu.edu/herbarium

Resources for Research Faculty

USU Botanical Center

The USU Botanical Center guides conservation and wise use of plant, water, and energy resources through research-based educational experiences, demonstrations, and technology.

https://extension.usu.edu/botanicalcenter/

USDA Pollinating Insect—Biology, Management, Systematics Research Unit

The mission of the USDA Pollinating Insect—Biology, Management, Systematics Research unit is the development of non-Apis bees and enhancement of the role of native species in the pollination of annual, perennial, greenhouse, and nursery crops, while maintaining environmental quality.

https://www.ars.usda.gov/pacific-west-area/logan-ut/pollinating-insect-biology-management-systematics-research/

USDA Forage and Range Research Laboratory (FRRL)

The FRRL mission is to provide improved plant materials and management alternatives for sustainable stewardship of rangelands, pastures, and turf in the western United States. Research at the FRRL is accomplished through associations among laboratory scientists and their cooperators, under the broad umbrella of pasture, rangeland, turf, and biomass production.

https://www.ars.usda.gov/pacific-west-area/logan-ut/forage-and-range-research/

Resources for Research Faculty

Technology Transfer Services

Technology Transfer Services focuses on helping USU faculty, staff, and students transfer USU discoveries and innovations out into the business world to fill market needs and make an impact. They will help you patent and protect ideas and technologies that result from your research. The Technology Transfer team leverages financial, intellectual, and creative assets, while making sure that all university and government legal obligations and sponsorship requirements are met. Meet with them to turn your research into a real-world product.

https://research.usu.edu/techtransfer/