



Funding Opportunity Announcement/Solicitation: Oklahoma Applied Research Support AR21

Key Dates:

Application Submission Period Open

May 17, 2021

Application Due On/Before

Applicants are encouraged to submit applications in advance of the deadline because of the anticipated high volume of applications submitted in the last few hours of the submission period window.

July 2, 2021

(5:00 PM Central Time)

Applicants Notified of Award On/After

September 14, 2021

Submission of Required Documentation Due

October 11, 2021

Earliest Project Start

November 1, 2021

New Grants Management System – Oklahoma Grant Exchange

This funding opportunity will be available on the newly launched Oklahoma Grant Exchange (OGX) System, which is the upgraded version of OKGrants. This new system promises a more user-friendly and intuitive interface with many familiar elements from OK Grants. Please help us improve OGX with your feedback by completing our [OGX FeedbackSurvey](#)

About this Funding Opportunity Announcement (FOA)

Purpose This Funding Opportunity Announcement (FOA), also referred to as the Solicitation, is intended for informational purposes and reflects current planning; it does not obligate OCAST to make any specific number of awards. Awards are contingent upon the availability of state funds. If there is any inconsistency between the information contained in this FOA and the terms of any resulting contract, the terms of the contract are controlling.

This FOA may be amended by OCAST. Amendments can be found on OCAST's website under the section Funding Opportunities. It is the responsibility of the applicant to review any such amendments and make necessary changes in the application to meet the amended FOA requirements.

Make sure you have the MOST CURRENT version of this FOA by visiting:
<https://oklahoma.gov/ocast/funding-opportunities.html>

Users of this FOA Principal Investigators (PIs), Project Managers (PM), Contract Officials and/or Administrative Staff affiliated with Oklahoma-based colleges, universities, and companies

Application Submission Applications must be submitted through the state's online grant management system, Oklahoma Grant Exchange (OGX). Neither additional materials nor changes will be accepted after an application is submitted. Individuals wishing to change an application that has already been submitted may have their submitted application cancelled and submit a new application prior to the application deadline.



Failure to include all required documentation with the application at the time of submission will result in rejection of the application without review.

FOA Document Revision History

05-06-21: Important NEW information regarding Agency Administrator Registration in OGX. Added OGX announcement banner and survey link. Formatting revisions.

04-20-21: Clarified lead applicant information for Accelerated OARS Applications

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0. Updates for AR21

Proof of Concept Program Updates

Proof of Concept funding modified to allow \$90,000 request for one or two years; previously, a maximum of \$45,000 was allowed on a per-year basis.

Accelerated Program Updates

Accelerated funding maximum award increased to \$500,000. Accelerated previously was a maximum of \$300,000.

Accelerated projects must be submitted by the lead business applicant. A university partner, if identified, will be a subcontractor.

Accelerated projects must address an issue identified by a private sector business.

The identified business partner must certify the identified issue is negatively affecting current efficiency, the potential for improving efficiency and/or impeding ability for future growth.

The business partner must commit to implementing the results of the OARS accelerated project if those results appear to be a solution for the identified issue and the resources for implementation are available.

Accelerated OARS will be targeted to the top areas of importance to Oklahoma industry, specifically:

- 1) biotechnology, including but not limited to animal and agricultural biotech;
- 2) energy diversification, including but not limited to efficiency improvements in oil and gas; and
- 3) aerospace and autonomous systems, including but not limited to advanced manufacturing and materials, cybersecurity solutions and sensors/electronic systems.

Contact Jessica Stewart, Client Services Manager (Jessica.stewart@ocast.ok.gov) or Dan Luton, Director of Programs (dan.luton@ocast.ok.gov) if you have questions regarding your proposed program fit within these target areas.

1. Award Summary

Description The Oklahoma Applied Research Support (OARS) program provides funding to assist the research and development of innovation in Oklahoma by supporting early stage (Proof of Concept) and later stage (Accelerated) applied research activities in existing and emerging technical areas in which the results:

1. Lead to innovation, new knowledge or technology and have a high probability of leading to commercially successful products, processes or services within a reasonable period of time;
2. Are technically sound, will produce a measurable result and have a commercial application; and
3. Have reasonable probability to enhance employment opportunities within Oklahoma

OARS awards provide a maximum of one state dollar of funding for each non-state dollar of matching funds. OARS awards encourage collaborative projects among Oklahoma firms, Oklahoma universities and colleges, and Oklahoma non-profit research organizations. These awards assist Oklahoma businesses in developing their research and development capability and expanding the capacity for technological innovations. These awards also facilitate technology transfer and research involving Oklahoma colleges, universities, and businesses and commercialization activities that benefit the state of Oklahoma.

Awards	Proof-of-Concept Applied Research and Development	Accelerated Applied Research and Development
Project Type	Early stage applied R&D projects including exploratory development and product definition	Later stage R&D projects that address an industry defined need. A business partner is required for application to Accelerated OARS.
Award Funding	Maximum of \$90,000	Maximum of \$500,000
Award Project Period	One or two years	One, two, or three years
Anticipated Start Date	November 1, 2021	November 1, 2021

2. General Eligibility Requirements

Eligible Projects	<p>This OARS Award program provides OCAST funding for projects that:</p> <ul style="list-style-type: none"> • Involve projects leading to innovation, new knowledge or technology; • Have a reasonable probability to enhance employment opportunities within Oklahoma; and • Are technically sound and will produce a measurable result. <p>Projects that focus on the following areas are not eligible for funding:</p> <ul style="list-style-type: none"> • Market surveys • Training or technical assistance for companies • Research or research activities that create fundamental or basic information but lack the potential for reasonably short-term commercialization
Eligible Organizations	<p>Eligible applicant organizations shall include Oklahoma-based companies, public or private colleges or universities, or non-profit research institutions.</p> <p>If an applicant organization is an Oklahoma company, the following items may not change between the time of application submission and the project start date:</p> <ul style="list-style-type: none"> • Business structure or entity (i.e., changing the business structure from a sole proprietor to a corporation) • Name of the company • Physical location of the primary business activity associated with the proposal
Eligible Individuals	<p>Principal Investigator/ Project Manager</p> <p>The Principal Investigator (PI) or Project Manager (PM) for this program is the person responsible for the execution of the Award and is employed by or affiliated with an eligible applicant organization. Any individual with the skills, knowledge, and resources necessary to carry out the proposed research as the PI/PM is invited to work with his/her organization to develop an application for this program. The PI/PM cannot change organizations between the time of application submission and the project start date. If the original PI/PM ceases to head the project between submission of the application and the initial contract period, the project will be ineligible for review or funding. Co-principal investigators (co-PIs) are allowed, but are not required.</p> <p>Any PI/PM who has been previously funded through an OCAST program and has a delinquent progress report or has not responded to other OCAST requests for information (e.g. impact survey data) may not be eligible to submit an application for new project funding. Any PI/PM who has a delinquent progress report at the time of review will not be eligible for review. Any PI/PM with a delinquent progress report at the time of award notification will not receive a contract until the progress report has been submitted. If the delinquent report has not been submitted within 60 days of the award date, OCAST will void the award and return the money to the OARS program.</p>
Number of Applications	<p>A PI/PM may submit more than one application at a time. Also, PIs/PMs currently funded with an OARS Award are not precluded from submitting an application.</p>

Matching Requirements

In order to qualify for funding for an OARS Award the applicant organization must provide documentation verifying that not less than 50 percent of the total direct cost of the proposed project will be provided by sources other than OCAST and other than state-appropriated money (74 O.S., Section 5060.19). In other words, for every dollar of OCAST funds requested, at least one dollar of matching funds (non-state appropriated) must be used. The chart below shows various types of matching funds that applicant organizations may use.

	Salary?	In-Kind Services?	Indirect Costs?	Non-state Grants or Contracts?	Cash?
Public Institutions of Higher Education	Yes, if salary does not originate from state funds	Yes	No	Yes	Yes
Private Institutions of Higher Education	Yes	Yes	Yes, up to 50%	Yes	Yes
Nonprofit Research Foundations	Yes	Yes	Yes, up to 50%	Yes	Yes
Private Companies	Yes	Yes, if from third party	Yes, up to 50%	Yes	Yes

Eligible matching funds may be only those monies provided specifically for the proposed project. For OARS projects, cash certified as match must be placed in an account at one of the organizations that is party to the contract.

Regulatory Requirements

If the project involves any of the following, proper documentation of regulatory review and approval must be provided to OCAST prior to contract initiation:

- **Human Subjects, Human Derived Materials, Human Data, Recombinant DNA, Vertebrate Animals**
- **Narcotics, Dangerous Drugs, Radioisotopes**
- **Biological Hazards**

Please refer to *Section 6: Regulatory Approvals and Required Certification* on page 20 if your project requires IRB approval or contains any of the aforementioned research subjects.

3. Application Submission

About OGX

Applications must be submitted through the state’s online grant management system, Oklahoma Grant Exchange (OGX), at <http://ogx.ok.gov>. The OGX system can be used for monitoring the status of application submissions, and if awarded, managing project related activities such as Requests for Payment (RFP) requests, progress report submissions, contract modification requests, reviewer evaluations, and budget revisions. Additional general information about using the OGX system can be found at <https://oklahoma.gov/content/dam/ok/en/ocast/documents/ogx/ogx-user-guide.pdf>.

Please help us improve OGX with your feedback by completing our [OGX Feedback Survey](#)

Applicant User Roles on OGX

The OGX system utilizes four user roles, each with different permissions for the application.

Role on Application	Corresponding Role on OGX
PI/PM	Authorized Official
Contract Official/Contract Administrator for Applicant Organization	Agency Administrator
Fiscal Agent / Accountant	Financial Officer
Contributor/Co-PI/Other	Writer

Only the Agency Administrator has the authority to allow/deny access of the other roles to a specific application. Additional information about these roles, along with other useful application tips can be found in the Quick Reference Guide (although for OKGrants, still applicable for OGX) at <https://oklahoma.gov/content/dam/ok/en/ocast/documents/ogx/foa/okgrants-quick-reference.pdf>

Initiating the Application on OGX

Navigate to the online grant management system, OGX, at <https://ogx.ok.gov>.

If you had a user account in OKGrants, then you may login to OGX your OKGrants User Name and Password. If you experience login problems, click on the “Forgot Username/Password?” link and the system will email you a temporary password. Please make sure to enter the temporary password in the login page with no extra spaces, especially when copying/pasting from the email, or else you will receive an error message.

If you are the PI/PM:

1. If you do not already have an account in OGX, you must first contact the Contract Official, Grant/Contract Administrator or similar individual of your organization and request to be setup in OGX. Please do not contact OCAST as they will be unable to do this for you. If you already have an account in OGX, please skip this step.

After you are set up in OGX as the Authorized Official role by your Contract Official (Agency Administrator role), a username and temporary password will be emailed to you. When you log in for the first time, the system will immediately require you to change your password in order to access the system.

2. Once logged in you will see the Dashboard page. Look for the section called My Opportunities to see all funding programs that are open and accepting applications. Scroll down to find the desired funding program and click the link. Read the agreement

Initiating the
Application on OGX,
continued

language and click “Agree”, after which a project number will be automatically assigned to your application.

Note: Only the PI/PM (Authorized Official role) may initiate the application process on OGX.

If you are the Contract Official for the Applicant Organization:

1. If your organization is NOT already registered on OGX, you will need to register by going to <https://ogx.ok.gov> and clicking on the “Agency Administrator Registration” to begin the registration process. **IMPORTANT:** In the New User Registration form, make sure to type in “OCAST” in the Notes field prior to saving.
2. Once you have received email notification that your account has been approved by OCAST, login to OGX to complete set up.
3. Next, add the PI/PM as the Authorized Official role to your organization. In OGX: click on your name in the upper right corner, Profile, Organization Members. Check to see if the PI/PM already exists in OGX by using the Members Search section, otherwise add the new PI/PM by clicking on the green “+” icon in the right corner of the section.

As the Agency Administrator, you will not be able to initiate the application. Only the PI/PM (Authorized Official role) can initiate the application.

You will be the last person to make any changes to an application and must approve the application prior to submission to OCAST.

Submitting the
Application on
OGX

Applications must be submitted on or before July 2, 2021 at 5:00 PM Central Time; the OGX system is hard coded to shut down the application submission window at precisely 5:00 PM CT.



Applicants are STRONGLY encouraged to submit applications in advance of the deadline given the anticipated high volume of applications submitted in the last few hours of the submission period window.

No corrections will be allowed or supplemental materials will be accepted after an application has been submitted, even if the request is made before the deadline. OCAST does not have authority to access and/or modify submitted application information and documents. Individuals who want to make changes to an application that has already been submitted may cancel their submitted application and submit a new application prior to the application deadline.

Failure to include all required documentation with the application at the time of submission will result in rejection of the application without review.

Please note that an application has not been submitted until confirmation is received. There are several ways to confirm successful submission of your application: by checking the status of the application in OGX (best), by receiving an e-mail from OGX indicating that your application was submitted, or by contacting OCAST to confirm that your submission was successful. When in doubt, please contact Jessica Stewart at OCAST to confirm that your application was received.

Resubmissions

Applications that have previously been submitted but have not been approved for funding or did not rank above the funding line may be resubmitted during a subsequent funding cycle. It is important that resubmissions include all required materials. A resubmission is a new proposal and is required to include the information below:

1. Indicate that the current proposal is a resubmission on the Project Information page
 - a. Include the previous project number(s)
2. Prepare a Resubmission Index, which includes the following:
 - a. Letter that responds to the most recent reviewers' comments from the previous review and notes all changes in the new research plan
 - b. All reviews of the most recently-submitted application

Format of Attachments

File Size and Uploading to OGX

Each document must be uploaded into the appropriate field in OGX. **The document file size must not be greater than 20MB.** Any submitted application that is missing a required attachment will be returned without review.

Paper Size and Margins

Use paper size no larger than standard letter paper size (8 ½" x 11"). Provide at least one-half inch margins (top, bottom, left, and right) for all pages.

Font and Line Spacing

Font size must be 11 points or larger. Smaller text in figures, graphs, diagrams and charts is acceptable as long as it is legible when the page is viewed at 100%. Line spacing must be no more than six lines per vertical inch. Text color must be in black color. Preferred fonts include Times New Roman, Arial, Georgia, Garamond, Helvetica, Verdana, or Palatino Linotype.

Page Limits

You must adhere to the page limits stated in the Required Attachments section of this FOA. Section text length page limitations include text, inserted graphs, charts and figures as part of the total section page length.

Headers and Footers

The project number and PI's/PM's last name should appear on every page of the Required Attachments documents in the upper right corner. Reviewers also appreciate page numbers in the lower right corner of every page.

Images

Digital images must only be included within the page limits of the Project Plan. Use image compression (e.g. JPEG or PNG) if possible before placement into document. Please be aware of the 20MB file size limit when working with images.

4. Application Requirements: Proof of Concept

Award Summary

Proof-of-Concept Applied Research and Development

This award supports early stage applied research and development projects such as:

- Proof-of-concept research and technical development projects
- Exploratory development
- Product definition

Funding Amount and Project Length

Applicants may request up to \$90,000 for a one or two year period.

Review Parameters

Proof-of-concept proposal evaluations are weighted 30 percent for the project’s potential for positive impact on Oklahoma’s economy and 70 percent for the project’s technical merit and the research team’s ability to achieve the goals of the project.

Application Requirements

The OGX application contains the following sections that must be completed prior to submission:

1. Principal Investigator
2. Project Information
3. Contract Official
4. Key Contacts
5. Abstract, including Benefitting Firms, Match Summary, and Layman’s Abstract
6. Budget

For a complete application, the following documents must be uploaded on the Required Attachments page in OGX as separate file attachments:

1. **Research Plan**
2. **Additional Required Attachments**
3. **Resubmission** (optional)

For each of the documents, follow the outline provided below with section headings as indicated in **boldface**:



File Upload 1: Research Plan

Research Plan (*required; 15 pages maximum for sections A-D*). The applicant must complete all of the following in this order and begin each section with the following headings:

- A. Project Description and Research Objectives:** State concisely and realistically what the project is intended to accomplish, what hypothesis is to be tested and what question is to be addressed.
- B. Significance of the Research:**
 1. Discuss the scientific background of the proposed project.
 2. Evaluate existing knowledge in this research area and identify the gaps that this project intends to fill.
 3. State the importance of this research by relating its aims to longer-term objectives.
 4. Identify related projects and demonstrate that this effort neither repeats previous studies nor infringes upon intellectual property rights granted to others.
- C. Preliminary and Related Studies:**
 1. Describe prior research that influenced the conceptualization of the project.
 2. Include any additional information that will assist reviewers in assessing the competence of the investigator(s) who will perform the project.
- D. Research Methodology and Timetable:**
 1. Describe the research design and procedures to accomplish the specific objectives of this project, and frame the sequence of activities within a calendar framework. Include a discussion of alternate paths to attain objectives if the initial procedure fails. Describe the kinds of data to be gathered and the means by which the data will be analyzed and

interpreted. The discussion should provide sufficient evidence that the specific objectives are attainable.

2. Discuss the methodologies and any potential limitations of the proposed procedures and alternative approaches that may be used to reach the objectives of this proposal. It is not necessary to include detailed methodological/technical protocols.
3. Note any procedures that may be dangerous to personnel and the precautions that will be used to mitigate such risks.
4. Prepare a timetable to illustrate research goals and alternate paths to achieving those goals, should the initial methodology fail. Include key milestones and indicators of success related to the research design and methods discussed. The timetable should be prepared in a style that will allow it to be used in the annual and final reports to readily show project progress as well as the work plan for subsequent years. The timetable should include such activity as report writing and equipment purchasing schedules.

- E. Literature Cited:** Make every effort to cite only relevant and current literature while compiling the biography. Do not scatter citations throughout the text – instead number the references in order of appearance and provide the complete citations, which correspond to the numbers, in a list at the end of the research plan section. Each citation must include the title of the journal article or specific book chapter, volume number, page numbers, and year of publication. While disciplines vary in the accepted style, the citation must be sufficient for a reviewer to readily locate the cited information.



Additional Required Attachments

1. **Budget Justification** (*required; 4 pages maximum for all budget years*)

In addition to completing the required budget information for each year of the project in OGX, for each budget year, prepare an explanation and justification for the budget in this section of the attachment. Account for all project funds – both monies requested from OCAST and the proposed matching funds. All amounts should be in whole dollars. Incomplete justifications may result in a requested item not being approved or the entire project not recommended for funding. Items that are unallowable, excessive in cost, or not appropriately justified may be removed from the budget at OCAST’s or the reviewers’ discretion. Applicants should carefully review the list of unallowable costs at <https://oklahoma.gov/content/dam/ok/en/ocast/documents/ogx/budget/indirect-costs.pdf>. **Indirect costs are not allowable as a budget item.** If an organization requires direct cost reimbursement for project-specific utility or compliance costs, these should appear as line items in the budget along with both the method of calculation and an explanation for their inclusion.

Personnel

List the names and positions of all personnel involved in the project, both professional and nonprofessional, whether salaries are requested or not. For each individual, estimate the hours per week of effort directed toward the project. In computing estimated salary charges, an individual’s base salary must represent the total authorized annual compensation that an applicant organization would be prepared to pay for a specified work period. The base salary must exclude income that an individual may be permitted to earn outside of full-time duties to the applicant organization and may not be augmented or supplemented by funds from a professional service contract. Fringe benefits may be requested to the extent that they are treated consistently by the applicant organization as a direct cost to all sponsors. Explain calculation used to determine fringe benefits requested. Include any fringe benefits in the Salary field on the OGX budget page.

When an investigator is employed by or affiliated with an institution of higher education, funds awarded from the Applied Research fund may cover either summer salary or release time during the academic year. Salaries or stipends for research professionals including technicians, postdoctoral associates, students or other staff important to the success of the research effort are allowable personnel costs. Expenses associated with ancillary personnel, such as marketing, sales, accounting, clerical and custodial staff, are neither directly related to research performance nor allowable budget items.

Travel

Describe the purpose of any travel, giving the number of trips and the professional activities involved, the destination(s) and the number of individuals for whom funds are requested. The amount requested for travel must be fully explained in the budget justification. The amount of travel approved by the reviewers cannot be increased after the award notification.

Supplies

Itemize supplies such as glassware, chemicals or animals in separate categories. If animals are involved, state how many are to be used, their unit purchase cost and their unit care cost.

Equipment

List separately each item of equipment with a unit acquisition cost of \$500 or more. When requesting funds to purchase items of equipment that appear to duplicate, or to be equivalent to, items listed under facilities, instrumentation and resources, carefully justify the reasons for the duplication. In most cases, reviewers have denied requests for computers not dedicated to the project. Computers must be used for research activities rather than for word processing or other common uses. Provide sufficient documentation for the reviewers to recognize the importance of the computers to the research effort. The amount of funds (OCAST + match) budgeted for equipment must be justified in terms of the amount of usage on the project and the residual value of the equipment after the OCAST project. Reviewers carefully consider large equipment requests when a high equipment residual value exists at the end of the project.

Contractual Services

Itemize and provide detailed description if the total amount is over \$2,000.

Patient Care Costs (if applicable)

Include inpatient and outpatient charges only if they are an integral part of the research supported by a professional service contract. Provide the names of the hospitals to be used and the amounts requested for each. Indicate in detail the basis for estimating costs in this category, including the number of patient days, estimated cost per day and the cost per test or treatment. Patient care costs do not include travel and per diem cost; request these costs in the Other Expense category.

Alterations and Renovations (if applicable)

Do not include cost of construction. If the costs of essential alterations of facilities necessary for this research project are requested, itemize such costs by category and justify each fully. When applicable, indicate the square footage involved, giving the basis of the costs, such as

an architect's or contractor's detailed estimate. When possible, submit a line drawing of the alterations being proposed.

Other Expenses

Itemize other expenses, such as publication costs, page charges or books by category and unit cost. Itemize and justify items such as patient travel and per diem costs, donor fees, rentals, leases or computer costs. Reimbursement is allowable for personal expenses incurred by human subjects participating in the project, including travel with an escort if required. This reimbursement is applicable for all classes of research subjects, including inpatients, outpatients, donors and normal volunteers regardless of employment status. OCAST cannot pay indirect costs for applicants or subcontractors. If an organization requires direct cost reimbursement for project specific utility or compliance costs, these should appear as line items in the budget along with both the method of calculation and an explanation for their inclusion.

2. **Principal Investigator/Project Manager/Key Personnel Biographical Sketches** (*required; five pages maximum for each individual*).
 - Biographical Sketch Template and Instructions:
<https://oklahoma.gov/content/dam/ok/en/ocast/documents/ogx/foa/ocastbiosketch-ar-templateguide.docx>
 - Sample Biographical Sketch:
<https://oklahoma.gov/content/dam/ok/en/ocast/documents/ogx/foa/ocastbiosketch-ar-sample.docx>
3. **Current OCAST Support** (*two pages maximum per project, if applicable*)
 - A. Current recipients of OCAST funding must include a listing of the support by the project number, the type of support (OARS Proof-of-Concept, OARS Accelerated, Intern Partnerships, Health Research, SBIR/STTR, Plant Science, Nanotechnology Applications, Alliance, TBFP, etc.), the number of years approved and the total amount of funding.
 - B. Give the date of the last annual progress report and summarize the progress since the report.
 - C. Describe any product, process or service that has been (or will be) commercialized.
 - D. Provide business and financial impacts produced and expected, such as sales, capital investments, cost-avoidance, jobs, dollar amounts of any royalties and license agreements.
 - E. Describe any economic benefits to Oklahoma that have occurred or are expected to occur.
 - F. List federal or other grant support obtained based on this OCAST support.
 - G. List collaborating organizations.
4. **Previous OCAST Support** (*two pages maximum per project, if applicable*)
 - A. Previous recipients of OCAST funding must include a listing of the support by the project number, the type of support (OARS Proof-of-Concept, OARS Accelerated, Intern Partnerships, Health Research, SBIR/STTR, Plant Science, Nanotechnology Applications, Alliance, TBFP, etc.), the number of years approved and the total amount of funding.
 - B. Give the date of the final progress report and summarize the progress since the report.
 - C. Describe any product, process or service that has been (or will be) commercialized.
 - D. Provide business and financial impacts produced and expected, such as sales, capital investments, cost-avoidance, jobs, dollar amounts of any royalties and license agreements.

- E. Describe any economic benefits to Oklahoma that have occurred or are expected to occur.
 - F. List federal or other grant support obtained based on previous OCAST support.
 - G. List any previous collaborating organizations.
- 5. Other Support** *(two pages maximum per professional, if applicable).*
For each professional involved in the project prepare a list of other support related to this proposal. Include all federal, non-federal and institutional grant and contract support.
- A. Describe any active support.
 - B. Describe pending review or funding.
 - C. Describe applications planned or being prepared for submission.
 - D. List any grants or contracts that have been received, excluding OCAST.
 - E. Include any abstracts or executive summaries for grants that are pending or have been received.
- 6. Letter of Commitment from the Applicant Organization** *(required; two pages maximum for each letter)*
A signed letter of commitment for the proposed project from each of the applicant organizations is required. An official of the applicant organization(s) must sign the letter(s) of commitment. All letters should include a statement of organizational commitment to the proposed project beyond the required matching monies and equipment. This should not be a form letter but specific to the application. It should include specific organizational commitments to the project for such items as equipment, computer services, facilities, release time for key personnel, or secretarial and technical support that the organization(s) will provide for the project.
- 7. Letters of Recommendation and Support** *(three one-page letters total, if applicable)*
In addition to the required letter of commitment from the applicant organization(s), applicants may submit up to three additional letters of support or recommendation from companies or individuals not formally involved with their project.
- 8. Facilities and Resources** *(required; two pages maximum for each facility)*
Describe the resources necessary and available for this project.
- 9. Company Profiles** *(required; two pages maximum for each company)*
Provide a profile of each company involved in the project. Each profile should include a description of the company including financials in the public domain. Provide web addresses and stock symbol if applicable.
- 10. Intellectual Property Relationships and Protection** *(required; two pages maximum)*
The OARS application requires assurance the collaborating parties have adequately addressed the ownership and disposition of patents, royalties and all other intellectual property rights related to the proposed research project. Applicants should describe the plan to protect the intellectual property generated from this research project. For collaborative proposals, e.g., subcontractors, firms and a university, university and a nonprofit research center or two firms, provide a short statement describing how the intellectual property patent and licensing agreements will be effectuated between co-investigators, applicant organizations and sponsoring entities. If all relationship and licensing agreements are in place write a short statement indicating the types of agreements that have been executed between the parties. For proposals in which only one entity is involved, a statement such as "This proposal is from a single entity and the firm owns all intellectual property generated by its employees" will suffice.

- 11. Commercialization Development Strategy of the R&D** *(required; four pages maximum)*
- A. Describe in a short sentence the product, process or service to be commercialized and its end use.
 - B. Describe the customers or clients.
 - C. Describe the domestic and global markets to be served including market size, market growth rates, number and nature of competitors and any important market information.
 - D. State the competitive advantage the project offers in the targeted markets.
 - E. Using a chart or table, describe the key steps required to commercialize the product, process or service and corresponding plan of action for successful project commercialization. This plan should include a schedule of key business milestones and the indicators of successful achievement of each milestone. Include how success is measured. The schedule should be prepared in a style where it can be used in annual and final reports to show progress.
 - F. Provide summary pro forma income statements and cash flow projections for the proposed new product, process or service.
- 12. Economic Impact Statement** *(required; four pages maximum)*
- Discuss the project's potential impact on Oklahoma's economy during the project and two and five years following the project. If the project will not be commercialized within two years of completion explain why additional time is needed. Evaluate national and international growth potential markets of this project.
- Carefully discuss under a separate heading, for each time period Items A through G during the project and at two and five years after completion, the potential regarding the following:
- A. Increase in scientific and technical staffing levels over the time periods specified above. This includes student/post-doctoral associates gaining technical expertise.
 - B. Increase in work force staff over the time periods specified above.
 - C. Productivity, profitability or cost savings over the time periods specified above.
 - D. Amount of capital investment in equipment and facilities at the organizations participating in the project over the time periods specified above.
 - E. The estimated gross sales, net sales and cost avoidance over the time periods specified above.
 - F. If applicable, describe technology transfer plans over the time periods specified above.
 - G. Other sources of funding and capital attracted to Oklahoma as a result of the project over the time periods specified above.
- 13. Matching Funds** *(required; one page maximum)*
- Submit a brief statement describing how the matching monies – industrial, private or federal – are provided under terms that explicitly encourage future commercialization.
- 14. Assessment of Potential for Attracting Future Funding** *(required; two pages maximum)*
- A. Describe the source and potential for attracting private funds.
 - B. Describe the source and potential for attracting government funds.
- 15. Collaborative Relationships** *(one page max, if applicable)*
- If there is more than one investigator, include the work statements or research obligations of each. In addition, describe and document any substantial collaboration with individuals not referred to in the budget with a letter from each collaborator.

16. Contract Documents *(no page limit, if applicable)*

For any application using a grant as matching funds, provide a copy of the official award notification letter, award face page, or contract for the grant(s) to be used.

If using in-kind services for matching funds, provide the following documentation:

- A. Valuation of the item at fair market value
- B. Name and signature of the donor
- C. Date and location of the donation
- D. Description of item/service

17. Regulatory Approvals and Required Certifications

- Please see *Section 6: Regulatory Approvals and Required Certifications* on page 20 for specific information required if your project concerns **Human Subjects, Human Derived Materials, Human Data, Recombinant DNA, Vertebrate Animals, Narcotics, Dangerous Drugs, Radioisotopes, or Biological Hazards.**



Resubmission *(if applicable)*

A resubmission must include the following:

- A. A letter responding in detail to the reviewers' comments from the previous review and noting all changes in the new internship program proposal.
- B. All reviews of the most recently submitted unfunded application.

5. Application Requirements: Accelerated

Award Summary

Accelerated Applied Research and Development

This award supports later stage research and development projects that provide a solution to an industry-defined need. Accelerated projects:

1. Must be submitted by the lead business applicant.
2. Must address an issue identified by a private sector business.
3. Require the identified business partner to certify that the issue is negatively affecting current efficiency, the potential for improving efficiency and/or impeding ability for future growth.
4. Require a commitment from the business partner to implement the results of the OARS accelerated project if those results appear to be a solution for the identified issue and the resources for implementation are available.

Accelerated OARS is targeted to innovations and advancements in three priority Oklahoma industries, specifically:

1. Biotechnology, including but not limited to animal and agricultural biotech;
2. Energy diversification, including but not limited to efficiency improvements in oil and gas; and
3. Aerospace and autonomous systems, including but not limited to advanced manufacturing and materials, cybersecurity solutions and sensors/electronic systems.

Funding Amount and Project Length

Applicants may request up to \$500,000 for a one, two, or three year period.

Review Parameters

Accelerated proposal evaluations are weighted evenly—50 percent—for economic impact and technical merit and the research team’s capabilities.

Application Requirements

The OGX application contains the following sections that must be completed prior to submission:

1. Principal Investigator
2. Project Information
3. Contract Official
4. Key Contacts
5. Abstract, including Benefitting Firms, Match Summary, and Layman’s Abstract
6. Budget

For a complete application, the following documents must be uploaded on the Required Attachments page in OGX as separate file attachments:

1. **Research Plan**
2. **Additional Required Attachments**
3. **Resubmission** (optional)

For each of the documents, follow the outline provided below with section headings as indicated in **boldface**:



**File Upload 1:
Research Plan**

Research Plan (*required; 15 pages maximum for sections A-D*). The applicant must complete the following in this order and begin each section with the following headings:

- A. Project Description and Research Objectives:** State concisely and realistically what the project is intended to accomplish, what hypothesis is to be tested and what question is to be addressed.
- B. Significance of the Research:**
 1. Discuss the scientific background of the proposed project.
 2. Evaluate existing knowledge in this research area and identify the gaps that this project intends to fill.
 3. State the importance of this research by relating its aims to longer-term objectives.
 4. Identify related projects and demonstrate that this effort neither repeats previous studies nor infringes upon intellectual property rights granted to others.
- C. Preliminary and Related Studies:**
 1. Describe prior research that influenced the conceptualization of the project.
 2. Include any additional information regarding related studies or projects that will assist reviewers in assessing the competence of the investigator(s) who will perform the project.
- D. Research Methodology and Timetable:**
 1. Describe the research design and procedures to accomplish the specific objectives of this project, and frame the sequence of activities within a calendar framework. Include a discussion of alternate paths to attain objectives if the initial procedure fails. Describe the kinds of data to be gathered and the means by which the data will be analyzed and

interpreted. The discussion should provide sufficient evidence that the specific objectives are attainable.

2. Discuss the methodologies and any potential limitations of the proposed procedures and alternative approaches that may be used to reach the objectives of this proposal. It is not necessary to include detailed methodological/technical protocols.
3. Note any procedures that may be dangerous to personnel and the precautions that will be used to mitigate such risks.
4. Prepare a timetable to illustrate research goals and alternate paths to achieving those goals, should the initial methodology fail. Include key milestones and indicators of success related to the research design and methods discussed. The timetable should be prepared in a style that will allow it to be used in the annual and final reports to readily show project progress as well as the work plan for subsequent years. The timetable should include such activity as report writing and equipment purchasing schedules.

- E. Literature Cited:** Cite only relevant and current literature while compiling the biography. Number the references in order of appearance and provide the complete citations, which correspond to the numbers, in a list at the end of the research plan section. Each citation must include the title of the journal article or specific book chapter, volume number, page numbers, and year of publication. While disciplines vary in the accepted style, the citation must be sufficient for a reviewer to readily locate the cited information.



Additional Required Attachments

1. **Budget Justification** (*required; 4 pages maximum for all budget years*)

In addition to completing the required budget information for each year of the project in OGX, for each budget year, prepare an explanation and justification for the budget in this section of the attachment. Account for all project funds – both monies requested from OCAST and the proposed matching funds. All amounts should be in whole dollars. Incomplete justifications may result in a requested item not being approved or the entire project not recommended for funding. Items that are unallowable, excessive in cost, or not appropriately justified may be removed from the budget at OCAST’s or the reviewers’ discretion. Applicants should carefully review the list of unallowable costs here:

<https://oklahoma.gov/content/dam/ok/en/ocast/documents/ogx/budget/indirect-costs.pdf>

Indirect costs are not allowable as a budget item. If an organization requires direct cost reimbursement for project-specific utility or compliance costs, these should appear as line items in the budget along with both the method of calculation and an explanation for their inclusion.

Personnel

List the names and positions of all personnel involved in the project, both professional and nonprofessional, whether salaries are requested or not. For each individual, estimate the hours per week of effort directed toward the project. In computing estimated salary charges, an individual’s base salary must represent the total authorized annual compensation that an applicant organization would be prepared to pay for a specified work period. The base salary must exclude income that an individual may be permitted to earn outside of full-time duties to the applicant organization and may not be augmented or supplemented by funds from a professional service contract. Fringe benefits may be requested to the extent that they are treated consistently by the applicant organization as a direct cost to all sponsors. Explain calculation used to determine fringe benefits requested. Include any fringe benefits in the Salary field on the OGX budget page.

When an investigator is employed by or affiliated with an institution of higher education, funds awarded from the Applied Research fund may cover either summer salary or release time during the academic year. Salaries or stipends for research professionals including technicians, postdoctoral associates, students or other staff important to the success of the research effort are allowable personnel costs. Expenses associated with ancillary personnel, such as marketing, sales, accounting, clerical and custodial staff, are neither directly related to research performance nor allowable budget items.

Travel

Describe the purpose of any travel, giving the number of trips and the professional activities involved, the destination(s) and the number of individuals for whom funds are requested. The amount requested for travel must be fully explained in the budget justification. The amount of travel approved by the reviewers cannot be increased after the award notification.

Supplies

Itemize supplies such as glassware, chemicals or animals in separate categories. If animals are involved, state how many are to be used, their unit purchase cost and their unit care cost.

Equipment

List separately each item of equipment with a unit acquisition cost of \$500 or more. When requesting funds to purchase items of equipment that appear to duplicate, or to be equivalent to, items listed under facilities, instrumentation and resources, carefully justify the reasons for the duplication. In most cases, reviewers have denied requests for computers not dedicated to the project. Computers must be used for research activities rather than for word processing or other common uses. Provide sufficient documentation for the reviewers to recognize the importance of the computers to the research effort. The amount of funds (OCAST + match) budgeted for equipment must be justified in terms of the amount of usage on the project and the residual value of the equipment after the OCAST project. Reviewers carefully consider large equipment requests when a high equipment residual value exists at the end of the project.

Contractual Services

Itemize and provide detailed description if the total amount is over \$2,000.

Patient Care Costs (if applicable)

Include inpatient and outpatient charges only if they are an integral part of the research supported by a professional service contract. Provide the names of the hospitals to be used and the amounts requested for each. Indicate in detail the basis for estimating costs in this category, including the number of patient days, estimated cost per day and the cost per test or treatment. Patient care costs do not include travel and per diem cost; request these costs in the Other Expense category.

Alterations and Renovations (if applicable)

Do not include cost of construction. If the costs of essential alterations of facilities necessary for this research project are requested, itemize such costs by category and justify each fully. When applicable, indicate the square footage involved, giving the basis of the costs, such as an architect's or contractor's detailed estimate. When possible, submit a line drawing of the alterations being proposed.

Other Expenses

Itemize other expenses, such as publication costs, page charges or books by category and unit cost. Itemize and justify items such as patient travel and per diem costs, donor fees, rentals, leases or computer costs. Reimbursement is allowable for personal expenses incurred by human subjects participating in the project, including travel with an escort if required. This reimbursement is applicable for all classes of research subjects, including inpatients, outpatients, donors and normal volunteers regardless of employment status. OCAST cannot pay indirect costs for applicants or subcontractors. If an organization requires direct cost reimbursement for project specific utility or compliance costs, these should appear as line items in the budget along with both the method of calculation and an explanation for their inclusion.

2. Principal Investigator/Project Manager/Key Personnel Biographical Sketches *(required; five pages maximum for each individual).*

- Biographical Sketch Template and Instructions:
<https://oklahoma.gov/content/dam/ok/en/ocast/documents/ogx/foa/ocastbiosketch-ar-templateguide.docx>
- Sample Biographical Sketch:
<https://oklahoma.gov/content/dam/ok/en/ocast/documents/ogx/foa/ocastbiosketch-ar-sample.docx>

3. Current OCAST Support *(two pages maximum per project, if applicable)*

- A. Current recipients of OCAST funding must include a listing of the support by the project number, the type of support (OARS Proof-of-Concept, OARS Accelerated, Intern Partnerships, Health Research, SBIR/STTR, Plant Science, Nanotechnology Applications, Alliance, TBFP, etc.), the number of years approved and the total amount of funding.
- B. Give the date of the last annual progress report and summarize the progress since the report.
- C. Describe any product, process or service that has been (or will be) commercialized.
- D. Provide business and financial impacts produced and expected, such as sales, capital investments, cost-avoidance, jobs, dollar amounts of any royalties and license agreements.
- E. Describe any economic benefits to Oklahoma that have occurred or are expected to occur.
- F. List federal or other grant support obtained based on this OCAST support.
- G. List collaborating organizations.

4. Previous OCAST Support *(two pages maximum per project, if applicable)*

- A. Previous recipients of OCAST funding must include a listing of the support by the project number, the type of support (OARS Proof-of-Concept, OARS Accelerated, Intern Partnerships, Health Research, SBIR/STTR, Plant Science, Nanotechnology Applications, Alliance, TBFP, etc.), the number of years approved and the total amount of funding.
- B. Give the date of the final progress report and summarize the progress since the report.
- C. Describe any product, process or service that has been (or will be) commercialized.
- D. Provide business and financial impacts produced and expected, such as sales, capital investments, cost-avoidance, jobs, dollar amounts of any royalties and license agreements.
- E. Describe any economic benefits to Oklahoma that have occurred or are expected to occur.
- F. List federal or other grant support obtained based on previous OCAST support.

G. List any previous collaborating organizations.

5. Other Support *(two pages maximum per professional, if applicable).*

For each professional involved in the project prepare a list of other support related to this proposal. Include all federal, non-federal and institutional grant and contract support.

- A. Describe any active support.
- B. Describe pending review or funding.
- C. Describe applications planned or being prepared for submission.
- D. List any grants or contracts that have been received, excluding OCAST.
- E. Include any abstracts or executive summaries for grants that are pending or have been received.

6. Letter of Commitment from the Applicant Organization *(required; two pages maximum for each letter)*

A signed letter of commitment for the proposed project from each of the applicant organizations is required. An official of the applicant organization(s) must sign the letter(s) of commitment. All letters should include:

- a. A statement of organizational commitment to the proposed project beyond the required matching monies and equipment.
- b. A statement of certification that the issue is negatively affecting current efficiency, the potential for improving efficiency and/or impeding ability for future growth
- c. A statement of organizational commitment to implement the results of the OARS Accelerated project if those results appear to be a solution for the identified issue and the resources for implementation are available.

This should not be a form letter but specific to the application. It should include specific organizational commitments to the project for such items as equipment, computer services, facilities, release time for key personnel, or secretarial and technical support that the organization(s) will provide for the project. It must fully address the industry issue and the organizational commitment to implementing the OARS project results as applicable.

7. Letters of Recommendation and Support *(three one-page letters total, if applicable)*

In addition to the required letter of commitment from the applicant organization(s), applicants may submit up to three additional letters of support or recommendation from companies or individuals not formally involved with their project.

8. Facilities and Resources *(required; two pages maximum for each facility)*

Describe the resources necessary and available for this project.

9. Company Profiles *(required; two pages maximum for each company)*

Provide a profile of each company involved in the project. Each profile should include a description of the company including financials in the public domain. Provide web addresses and stock symbol if applicable.

10. Intellectual Property Relationships and Protection *(required; two pages maximum)*

The OARS application requires assurance the collaborating parties have adequately addressed the ownership and disposition of patents, royalties and all other intellectual property rights related to the proposed research project. Applicants should describe the plan to protect the intellectual property generated from this research project. For collaborative proposals, e.g., subcontractors, firms and a university, university and a nonprofit research center or two firms, provide a short statement describing how the intellectual property patent and licensing agreements will be effectuated between co-

investigators, applicant organizations and sponsoring entities. If all relationship and licensing agreements are in place write a short statement indicating the types of agreements that have been executed between the parties. **For proposals in which only one entity is involved, a statement such as “This proposal is from a single entity and the firm owns all intellectual property generated by its employees” will suffice.**

11. Commercialization Development Strategy of the R&D *(required; four pages maximum)*

- A. Describe in a short sentence the product, process or service to be commercialized and its end use.
- B. Describe the customers or clients.
- C. Describe the domestic and global markets to be served including market size, market growth rates, number and nature of competitors and any important market information.
- D. State the competitive advantage the project offers in the targeted markets.
- E. Using a chart or table, describe the key steps required to commercialize the product, process or service and corresponding plan of action for successful project commercialization. This plan should include a schedule of key business milestones and the indicators of successful achievement of each milestone. Include how success is measured. The schedule should be prepared in a style where it can be used in annual and final reports to show progress.
- F. Provide summary pro forma income statements and cash flow projections for the proposed new product, process or service.

12. Economic Impact Statement *(required; four pages maximum)*

Discuss the project’s potential impact on Oklahoma’s economy during the project and two and five years following the project. If the project will not be commercialized within two years of completion explain why additional time is needed. Evaluate national and international growth potential markets of this project.

Carefully discuss under a separate heading, for each time period Items A through G during the project and at two and five years after completion, the potential regarding the following:

- A. Increase in scientific and technical staffing levels over the time periods specified above. This includes student/post-doctoral associates gaining technical expertise.
- B. Increase in work force staff over the time periods specified above.
- C. Productivity, profitability or cost savings over the time periods specified above.
- D. Amount of capital investment in equipment and facilities at the organizations participating in the project over the time periods specified above.
- E. The estimated gross sales, net sales and cost avoidance over the time periods specified above.
- F. If applicable, describe technology transfer plans over the time periods specified above.
- G. Other sources of funding and capital attracted to Oklahoma as a result of the project over the time periods specified above.

13. Matching Funds *(required; one page maximum)*

Submit a brief statement describing how the matching monies – industrial, private or federal – are provided under terms that explicitly encourage future commercialization.

14. Assessment of Potential for Attracting Future Funding *(required; two pages maximum)*

- C. Describe the source and potential for attracting private funds.
- D. Describe the source and potential for attracting government funds.

15. Collaborative Relationships *(one page max, if applicable)*

If there is more than one investigator, include the work statements or research obligations of each. In addition, describe and document any substantial collaboration with individuals not referred to in the budget with a letter from each collaborator.

16. Contract Documents *(no page limit, if applicable)*

For any application using a grant as matching funds, provide a copy of the official award notification letter, award face page, or contract for the grant(s) to be used.

If using in-kind services for matching funds, provide the following documentation:

- A. Valuation of the item at fair market value
- B. Name and signature of the donor
- C. Date and location of the donation
- D. Description of item/service

17. Regulatory Approvals and Required Certifications

- Please see *Section 6: Regulatory Approvals and Required Certifications* on page 20 for specific information required if your project concerns **Human Subjects, Human Derived Materials, Human Data, Recombinant DNA, Vertebrate Animals, Narcotics, Dangerous Drugs, Radioisotopes, or Biological Hazards.**



**File Upload 3:
Resubmission**

Resubmission *(if applicable)*

A resubmission must include the following:

- A. A letter responding in detail to the reviewers' comments from the previous review and noting all changes in the new internship program proposal.
- B. All reviews of the most recently submitted unfunded application.

6. Regulatory Approvals and Required Certifications



**File Upload 2:
Additional Required
Attachments**

If an IRB approval or certification is available it should be submitted at the time of the application. However, the approvals and certifications are not required to be included in the proposal. Following OCAST's peer review and board approval, awardees have 90 days from the date of the award letter to submit the required IRB approvals and certifications.

If possible, the information listed below should be submitted with the application with the "Required Attachments" since they are often an essential part of the experimental design.

Human subjects, human-derived materials, or human data – If human subjects, human-derived materials or human data are to be used in this project, provide the following information: The sources of the potential subjects, derived materials or data; the characteristics of the subject population, including the anticipated number, age, gender, ethnic background and state of health; the criteria for inclusion or exclusion; the rationale for the use of special classes of subjects, such as fetuses, pregnant women, children, institutionalized mentally disabled, prisoners or others, especially those whose ability to give voluntary informed consent may be in question.

The recruitment and consent procedures to be followed, including the circumstances under which consent will be solicited and obtained, who will seek it, the nature of information to be provided to prospective subjects and the methods of documenting consent should also be detailed. A copy of the consent form must be provided if requested by OCAST.

Proposals using human subjects must also identify:

- A. Any potential risks—physical, psychological, social, legal or other—and their likelihood and seriousness; any alternative methods that were considered and why they need not be used.
- B. The procedures for protecting against or minimizing any potential risks including their likely effectiveness, the confidentiality safeguards where relevant and the arrangements for providing medical treatment if needed.
- C. The potential benefits to be gained by the subjects as well as the benefits that may accrue to society in general as a result of the planned work.
- D. The risks in relation to the anticipated benefits to the subjects and to society.

Research on human subjects, derived materials or data utilizing resources awarded under OARS must follow federal guidelines as promulgated in 45 CFR except that these funds may not be used to “undertake any research which has abortion, as defined by Section 1-730 of Title 63 of the Oklahoma Statutes, as its purpose” (74 O.S., Section 5054).

The federal regulation is available from the Office of Human Research Protection, www.hhs.gov/ohrp. The regulation provides a systematic means, which is based on generally accepted ethical principles, for protecting the rights and welfare of individuals who may be exposed to the possibility of physical, psychological or social injury while they are participating as subjects in research, development or related activities. The regulation extends to the human fetus (either in utero or ex utero), the dead, organs, tissues and body fluids as well as graphic, written or recorded information derived from human sources. It covers activities which present no physical risk to the subject but which may create legal risks or expose subjects to public embarrassment or humiliation through breach of confidentiality or invasion of privacy.

The major focus of a project (for example, on a medical procedure) may not be the sole determinant of the types of risks involved or the need for additional protection. The safeguarding and confidentiality of medical records and other forms of data collected on individuals and groups, the use of such data by the Investigator conducting the original research, the concurrent uses of the data by other Investigators and the use of the data for research purposes at a later time are considered within the scope of this policy.

The regulation requires institutional assurances, including the implementation of procedures for review and the assignment of responsibilities for adequately protecting the rights and welfare of human subjects. Safeguarding the rights and welfare of human subjects is the responsibility of the applicant organization. In particular, the applicant organization is responsible for ensuring that the activity described in the application and any additional information relating to human subjects, derived materials or data are reviewed and approved by an institutional review board which is defined as “a committee composed of (at least) investigators, lay representatives and legal counsel . . . for the express purpose of determining the appropriateness of any research involving human subjects” (74 O.S., Section 5060.4).

The above-stated federal requirements have been adopted by OCAST; as stated above, none of the funds available through OCAST “shall be used to undertake any research which has abortion, as defined by Section 1-730 of Title 63 of the Oklahoma Statutes, as its purpose” (74 O.S., Section 5054). The certification of institutional review and approval regarding use of human subjects must be submitted prior to contract.

Vertebrate animals – If vertebrate laboratory animals are to be used in this research project, provide the following information:

- A. The species, strains, ages and numbers of the animals involved; the rationale for their use and their numbers if the animals are in short supply, costly or to be used in large numbers.
- B. The procedures for adequate care of any animals involved.
- C. The procedures to avoid unnecessary discomfort, pain or injury to the animals, such as surgical anesthesia, post-trauma analgesia, tranquilizing drugs and comfortable restraining devices.

As part of its compliance with these regulations, an applicant organization must duly constitute a review committee to assist in assuring humane treatment and care of animals. The certification of institutional review and approval regarding use of vertebrate animals must be submitted prior to contract.

Recombinant DNA – If recombinant DNA will be used in the project, applicants must address the level of containment to be used and why this level is appropriate for the proposed project.

Applicant organizations are required to comply with federal guidelines regarding the application of recombinant DNA technology as of the date of application submission. The certification of institutional review and approval regarding use of recombinant DNA technology must be submitted prior to contract.

Biological hazards – Identify potential biological hazards, explain the procedures to protect individuals from infection or injury, state the level of containment to be used and explain why it is appropriate.

Various barrier techniques are advised when work is performed with potentially infectious agents or with substances that may contain infectious agents. A guide to the level of containment for infectious agents based upon the recommendations of the Center for Disease Control may be obtained from the U.S. Government Printing Office, Washington, D.C. Biological hazards must be satisfactorily addressed prior to contract.

Narcotics and Dangerous Drugs – The use of narcotics and dangerous drugs is regulated by the Oklahoma State Bureau of Narcotics and Dangerous Drugs and the Drug Enforcement Administration of the U.S. Department of Justice. The individual organization under whose auspices narcotics or dangerous drugs will be used must be identified. If these substances will be used in the project, the PI/PM must: (1) check “yes” on the Narcotics/Dangerous Drugs question of the Performance Sites, Compliance page in OGX, and (2) include a letter that states the registration number with the Oklahoma State Bureau of Narcotics and Dangerous Drugs and the U.S. Drug Enforcement Administration. If the registrant is not the PI/PM, the PI/PM must (1) provide the registrant’s name, title, address and phone number in Item 20 and (2) submit a letter from the responsible individual that: (a) states the registration number with the Oklahoma Bureau of Narcotics and Dangerous Drugs and the U.S. Drug Enforcement Administration and (b) grants permission for its use in this project.

Radioisotopes – Use of radioactivity is regulated by the U.S. Nuclear Regulatory Commission. Appropriate licenses must have been obtained by the applicant organization as well as the PI/PM, his or her sponsor or a responsible colleague. If the responsible individual is someone other than the PI/PM, include a letter that grants permission for the use of radioisotopes in this project under this license.

7. Application Review and Award

Overview of the Review Process

All eligible applications are reviewed and ranked for funding by peer reviewers from outside the state of Oklahoma. Reviewers are nominated and approved by the OARS Advisory Committee. Reviewer expertise must include significant research and/or development experience in an industrial or academic setting. Project applications will be ranked for funding based on technical merit and potential for economic impact that may benefit the state of Oklahoma. Reviewer recommendations are presented to the OCAST board, which grants final approval for funding.

Evaluation Criteria

Proposals, including the budgets, are evaluated based on the value of the project's technical merit, research plans, and potential for economic development. Budgets must be accurate and must only request funds sufficient to achieve the research project goals. Peer reviewers evaluate all applications according to the following general criteria:

Technical Merit of the Research and Ability to Perform the Research

1. Creativity and innovativeness of the proposed research.
2. Degree to which state-of-the-art techniques and processes are to be used.
3. Quality of the research plan.
4. Probability of success of the research plan design.
5. Competence of investigator(s) as measured by training and research experience.
6. Competence of support personnel as measured by training and research experience.
7. Adequacy of facilities to support achieving the goals of the project.
8. Adequacy of equipment to support achieving the goals of the project.
9. Commitment of the applicant organization(s) as evidenced by resources dedicated to the project
10. Appropriateness of budget as it relates to achieving project goals.

Potential for Economic Impact

1. Potential for leading to a commercially successful product, process or service within two (2) years of project completion.
2. Potential for leading to a commercially successful product, process or service within five (5) years of project completion
3. Status of Intellectual Properties Agreement.
4. Commitment of financial resources to successfully bring product to market.
5. Availability of a viable commercialization strategy that can successfully bring the product to market.
6. National/international market growth potential.
7. Potential for creating jobs in Oklahoma, considering both the probability and number.
8. Potential of short-term impact (within 5 years of project completion) on the Oklahoma economy.
9. Potential for creating jobs that will enhance the technology base in Oklahoma.

Award Notification

Upon approval by the OSTRaD Board, all applicants will be notified of the award funding decision by e-mail from OGX. Please ensure that your email server is set up to receive emails from OGX. Once these decisions are made, evaluations will be available to view within OGX. Notice of Award Letters for funded applicants will be emailed to PIs and Contract Officials within seven business days of the award funding decision. The Notice of Award Letter will contain important information regarding any missing or incomplete documentation needed for award

contract initiation. The approved budget amount is established by the reviewers as part of the review and cannot be increased after award notification.

Contract Initiation

Prior to contract initiation of the first year of the award (and each subsequent award year), the applicant organization(s) shall:

- Submit to OCAST all required documentation and information requested in the Notice of Award Letter by the “Submission of Required Documentation Due” date on the front page of this FOA;
- Document and submit to OCAST as requested in the Notice of Award Letter compliance with state and federal requirements pertaining to human subjects, vertebrate animals, recombinant DNA, radioactive substances, and narcotics and dangerous drugs which require special approval or license. This responsibility shall also extend to any subcontract funded through this Contract;
- Have on file verification that the PI is not presently receiving funds from another source to support any portion(s) of the proposed research described in the current application that has been approved for funding;
- Assure that all project-associated state and federal regulatory requirements have been met.

Concurrent Funding

Acceptance of funding from another source—either prior to the beginning or during the period of an OCAST contract—that duplicates support for the research described in the application submitted to OCAST is considered concurrent funding. A PI shall not receive concurrent funding that duplicates support for any portion of the research described in the application.

8. Administration of Awarded Project

Contract Requirements

Oklahoma statute requires that the funding mechanism for the OARS Award is a professional services contract between OCAST, the applicant organization, and any additional applicant organizations. The Contractor is the applicant organization that: (1) employs or is affiliated with the PI/PM or co-PI, (2) provides research services and/or facilities for the funded project, and (3) executes the contract. All applicant organizations and additional applicant organizations, which shall be providing research services or facilities for the funded project, shall be signatories to the contract. The Fiscal Agent is the applicant organization that receives and accounts for all contract payments from OCAST and is designated as such in the application. The contract shall include commitments on the part of the contractor(s) to perform the activities described in the application and funded by OCAST. However, the obligations of each party to a contract shall be limited to that portion of the contract they have committed to perform.

Any applicant organization or principal investigator /project manager who, in OCAST’s judgment, has failed to correct a material breach of contract previously awarded under any of OCAST programs will not be eligible to be awarded a new funding contract.

Prior to contract initiation of the first year of the OARS Award (and each subsequent award year), the applicant organization(s) shall:

- Complete and maintain an active registration in good standing with the Oklahoma Secretary of State (<https://www.sos.ok.gov/business/>) for the duration of the Award.

Administrative Requirements

- Submit a current, properly completed and executed Vendor Form to OCAST (if applicable) at <https://oklahoma.gov/content/dam/ok/en/ocast/documents/gox/vendors/vendor-form.pdf>
- Submit to OCAST all required documentation and information requested in the Notice of Award Letter by the "Submission of Required Documentation Due" date on the front page of this FOA.
- Document compliance with state and federal requirements pertaining to human subjects, vertebrate animals, recombinant DNA, radioactive substances, and narcotics and dangerous drugs which require special approval or license. This responsibility shall also extend to any subcontract funded through this Contract

Notify OCAST of any changes to the matching funds (e.g. account numbers, account holder, matching source or matching amount).

During the performance of the contract, the Contractor (Applicant Organization) shall:

- Assure and document compliance with state and federal requirements pertaining to human subjects, vertebrate animals, recombinant DNA, radioactive substances, narcotics and dangerous drugs and/or biological hazards which require special approval or license before issuing a subcontract for any portion of the project funded by OCAST.
- Maintain records and accounts that properly document and account for the source and application of all project funds. All such records and accounts shall be made available on demand by OCAST for inspection and use in carrying out its responsibilities for administration of the funds.
- Understand and comply with all requirements of the award contract especially with regard to use of state funds in strict accordance with the budget section of the approved application.
- Be able to provide upon request specified documentation of matching expenditures to OCAST with each request for payment. At no time shall the amount invoiced from OCAST exceed the amount of documented matching funds expended. Failure to document the required matching amount could result in a decrease in the OCAST funding amount and/or a termination of all-subsequent OCAST funding.
- Comply with the audit policy of OCAST and, as OCAST deems necessary, permitting authorized representatives of OCAST and the state of Oklahoma full access and the right to fully examine all project records and accounts. The contractor or designated fiscal agent shall provide OCAST timely copies of reports on any audits that include funds received from OCAST. The contractor, at OCAST's request, shall provide OCAST with an independent audit report of all funds expended on each contract in which the amount of OCAST funds awarded. In the event an audit results in the determination that the contractor or designated fiscal agent has expended contract funds on unallowable costs, the contractor or designated fiscal agent shall reimburse OCAST in full for all such costs.

If a PI/PM under an OARS Award contract becomes unable to perform the proposed research, the applicant organization must inform OCAST within 10 days. More specifically, the contractor shall inform OCAST within 10 days of the occurrence of any of the following:

- Official notification of resignation by the PI/PM as an employee of one of the parties to the contract

- Official decision to terminate the PI/PM as an employee of one of the parties to the contract
- Inability of the PI/PM to perform the research described in the application
- Any occurrence which the contractor or fiscal agent determines will affect the successful completion of the research project
- PI/PM leaves Oklahoma
- Majority of the research will not be performed in Oklahoma
- Receipt of notification of an award from another funding agency by the PI/PM or co-PI (that is not already part of the approved matching monies requirement) that duplicates or overlaps with any portion of the OCAST award supported by OCAST funds. The areas of overlap can include scientific overlap, budget overlap, and/or commitment overlap.

Any of the conditions above may result in the termination of the contract at the discretion of OCAST. If the PI/PM is subsequently employed by another eligible applicant organization in the state of Oklahoma that agrees to support the research project, OCAST may consider issuing a new contract negotiated between OCAST and the new organization including new intellectual property agreements, if applicable. If a PI/PM cannot perform on a contract, the applicant organization may request that OCAST consider continuing the contract with a new PI/PM with sufficient skills and background.

Progress Reports

Acceptance of an OARS Award contract obligates the PI/PM to submit an annual progress report 60 days prior to the ending date of each contract period, except for the final year. For one-year projects or the final year of multiple-year projects, a final report must be submitted no later than 30 days after the end of the final contract period. Failure to meet these deadlines will result in the termination of an existing contract or in the case of the final report result in nonpayment of the final request for payment and ineligibility for future OCAST funding. In most instances, the original reviewers of the application evaluate the annual progress reports to assess project performance. Continued funding is contingent upon satisfactory annual performance evaluations that verify the PI/PM is complying with the terms of the contracts and achieving project objectives.

Information Requests

Efforts to evaluate the OARS program require periodic collection of information from investigators and contractors. The PI/PM and contractor are required to provide OCAST with the requested information during and after the funding period. This information may include, but is not limited to, impact survey information, site visits, and reverse site visits during which the PI may be required to present his or her project related information to OCAST staff, the OCAST board of directors, members of the Oklahoma legislature and other interested parties. The fiscal agent of the applicant organization is required to track the academic and employment status of interns for five years after the award ends. Anecdotal evidence is also helpful to establish program impact.

Audits

OCAST may perform compliance reviews and audits of contracts executed by the agency for all OCAST programs. The acceptance of an OCAST professional research contract obligates the contractor to permit authorized representatives of OCAST and the state of Oklahoma to have full access to, and the right to fully examine, all such records and documentation pertaining to the project.

Release of Information

OCAST is subject to the Open Meeting and Open Records Acts. OCAST may use the contents from application abstracts from OGX and summaries from annual progress reports for the required OCAST annual report or other publications without obtaining permission from the applicant or applicant organization(s). Public release of information in any proposal or application submitted will be subject to existing statutory and regulatory requirements.

9. Contact OCAST

Main Office	405-319-8400		
Director of Programs	Dan Luton	405-319-8415	Dan.Luton@ocast.ok.gov
Contract Manager	Laura Sohl-Smith	405-319-8411	Laura.Sohl-Smith@ocast.ok.gov
Program Manager	Jessica Stewart	405-319-8428	jessica.stewart@ocast.ok.gov

10. Other Information

Key Terms

Additional Applicant Organization: organization(s) providing research services and/or facilities for the funded project while collaborating with the applicant organization, and included as a party to the OCAST contract. All additional applicant organizations must be Oklahoma-based entities. Eligible additional applicant organizations include Oklahoma-based universities, colleges, and non-profit research foundations, as well as companies with their principal place of business in Oklahoma.

Applicant Organization: The organization leading the project, with which the PI/PM and fiscal agent are affiliated, and with whom OCAST goes to contract as the primary organization for the project. All applicant organizations must be Oklahoma-based entities. Eligible applicant organizations include Oklahoma-based universities, colleges, and non-profit research foundations, as well as companies with their principal place of business in Oklahoma.

Application: The complete package of information as required in the application section of this solicitation. If any required information is not supplied at the time the application is submitted the application will be returned without review.

Contract Official: The person who has the legal authority to designate funds and resources on behalf of the applicant organization. This is the person to whom OCAST will send all award or contract correspondence. If there are multiple applicant organizations, the designated contract official will be responsible for sharing contractual information with all other parties.

Contractor: The applicant organization who has been awarded by OCAST and has signed an OARS contract.

Co-Principal Investigator (co-PI): A co-PI may be designated to help the PI with the general administration of the project and can be affiliated with either the applicant organization or a collaborative organization. Co-PIs are often included on projects where interns in different locations, or on projects involving a company/university partnership.

Enterprise: A company or firm with its principal place of business in Oklahoma.

Fiscal Agent: The entity who receives and accounts for all contract payments from OCAST. If more than one applicant organization is involved in a project a fiscal agent must be designated on the application.

In-Kind Service: Payment or contribution made in the form of a good or service in lieu of cash.

Indirect Cost: Expenses that are not readily identified with a particular grant, contract, project function or activity, but are necessary for the general operation of an organization and the conduct of the activity it performs. Indirect costs include, but are not limited to, those expenditures to maintain facilities, provide utilities, acquire insurance coverage, provide computer and communications services, etc., and may be fixed or variable.

Principal Investigator (PI): The person responsible for executing the project according to the research plan (similar to the PM). Typically this person works in academia.

Professional Services Contract: The mechanism by which OCAST awards projects. Different from grants, these contracts allow OCAST to issue payments to contractors on a reimbursement basis upon receipt of satisfactorily completed requests for payment that are submitted to the agency.

Project Manager (PM): The person responsible for executing the project according to the research plan (similar to the PI). Typically this person works in the business sector.

Funding Program Background

The Economic Development Act of 1987 (H.B. 1444) authorized the creation of the Oklahoma Center for the Advancement of Science and Technology (OCAST) with the purpose of being Oklahoma's technology-based economic development agency and to oversee the programs necessary for the development, transfer, and commercialization of technology (74 O.S., Section 5060.2). OCAST's mission is to "foster innovation in existing and developing businesses by supporting basic and applied research, by facilitating technology transfer between research laboratories and firms and farms, and by providing seed-capital for new innovative firms and their products . . . [and] to foster enhanced competitiveness in the national and international markets by small and medium-sized manufacturing firms located in Oklahoma by stimulating productivity and modernization of such firms" (74 O.S., Section 5060.2).

Program Restrictions

Neither members of the OCAST board nor the advisory committee are precluded from participating directly in an OARS application. However, any director, officer, agent or employee of OCAST, including any member of an advisory committee or review panel who has any direct or indirect interest in an OARS application, may not act or vote upon, or have any official involvement in regard to such application.

Required Attachments Checklist

File #	Required?	Page Length	Done?
1 Research Plan	Yes	15 max, sections A-D	<input type="checkbox"/>
A. Project Description and Research Objectives	Yes		<input type="checkbox"/>
B. Significance of the Research	Yes		<input type="checkbox"/>
C. Preliminary and Related Studies	Yes		<input type="checkbox"/>
D. Research Methodology and Timetable	Yes		<input type="checkbox"/>
E. Literature Cited	Yes		<input type="checkbox"/>
2 Additional Required Attachments	Yes		<input type="checkbox"/>
1. Budget Justification	Yes	4 max	<input type="checkbox"/>
Personnel			
Travel			
Supplies			
Equipment (items \$500 or more)			
Contractual Services (itemize if total over \$2000)			
Patient Care Costs			
Alterations and Renovations			
Other Expenses			
2. PI/PM/Key Personnel Biographical Sketches	Yes	5 max for ea indiv.	<input type="checkbox"/>
3. Current OCAST Support	If applicable	2 max per project	<input type="checkbox"/>
4. Previous OCAST Support	If applicable	2 max per project	<input type="checkbox"/>
5. Other Support	If applicable	2 max per PI/PM	<input type="checkbox"/>
6. Letter of Commitment from the Applicant Organization	Yes	2 max per letter	<input type="checkbox"/>
7. Letters of Recommendation and Support	Optional	1 per letter; 3 letters max	<input type="checkbox"/>
8. Facilities and Resources	Yes	2 max per facility	<input type="checkbox"/>
9. Company Profiles	Yes	2 max per company	<input type="checkbox"/>
10. Intellectual Property Relationships and Protection	Yes	2 max	<input type="checkbox"/>
11. Commercialization Development Strategy of the R&D	Yes	Proof of concept= 4 max Accelerated= 10 max	<input type="checkbox"/>
12. Economic Impact Statement	Yes	4 max	<input type="checkbox"/>
13. Matching Funds	Yes	1 max	<input type="checkbox"/>
14. Assessment of Potential for Attracting Future Funding	Yes	2 max	<input type="checkbox"/>
15. Collaborative Relationships	If applicable	1 max	<input type="checkbox"/>
16. Contract Documents	If applicable	No page limit	<input type="checkbox"/>
17. Regulatory Approvals and Certification Information	If applicable	No page limit	<input type="checkbox"/>
3 Resubmission	Optional	No page limit	<input type="checkbox"/>