



Strategic Research Groups

Partnerships In Innovation

Request for Proposals

SUBMISSION DEADLINES:

Pre-Proposal

**By 5:00PM on:
February 5, 2009
April 2, 2009
July 2, 2009
October 1, 2009**

Proposal

By Invitation

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Science Foundation Arizona

STRATEGIC RESEARCH GROUPS

INTRODUCTION

Science Foundation Arizona (SFAz) will invest¹ in Strategic Research Groups (SRGs) to facilitate the collaboration of outstanding researchers at Arizona's Research Performing Institutions (RPIs)² with industry³ and investors. The goal is to cultivate strong partnerships that will inform and enhance the State's existing research programs, help attract and retain new industry research to Arizona, and create both research and economic advantages for the partners and consequently, for Arizona.

This SRG competition will make strategic, industry matched investments in innovative research through the funding of 1) Research Institutes, 2) Research Partnerships and 3) Research Alliances.

- 1) **Research Institute** funding is intended to catalyze collaboration between academic researchers and an industry consortium intended to drive a pre-competitive research agenda to advance the needs of its partners and bring value to the state of Arizona. The proposed institute research must be transformational and internationally competitive with strategic importance for wealth creation for the state of Arizona.
Funding Level: \$1M-\$2M/yr for up to 4 years. Required 1:1 industry match.
- 2) **Research Partnership** funding is intended to build research capabilities of Arizona research performing institutions (RPI's) while promoting strong research ties to an industry partner(s). The joint research project should be driven by the needs of the industrial partner and is intended to strengthen Arizona industry through job creation, increased manufacturing capabilities and enhanced innovation. The proposed research partnership must demonstrate a strong commitment to RPI-industry collaboration and added value for both partners in areas of strategic importance to the state of Arizona.
Funding Level: \$250K to \$1M/yr for up to 2 years. Required 1:1 industry match.
- 3) **Research Alliance** product driven funding is intended to drive innovation by investing in research critical to startup, small or medium size companies. This program replaces the SFAz Small Business Catalytic Program. The research should reflect the need of companies to create novel products that will benefit the state economy.
Funding Level: \$100K-\$500K/yr for up to 2 years. Awards must be matched 1:1 by the company or investors and SFAz may require a negotiated interest in newly created companies or products.

PROGRAM OBJECTIVES

The Strategic Research Groups investment is intended to:

- Create a competitive advantage in Arizona by providing incentives to develop new or expand existing R&D activities by industry with the goal of producing useful and competitive products;

¹ Awards made by SFAz must be to nonprofit research host institution.

² Research Performing Institutions (RPI) includes not-for-profit research laboratories, not-for-profit hospitals and not-for-profit academic institutions located in Arizona.

³ Industry means a for-profit company that has adequate annual income to invest in R&D; it is not a grant-funded company.

- Promote linkages within and among RPI's and industry, other research bodies, private-sector research laboratories and national and/ or federal laboratories;
- Create centers of excellence formed by nationally competitive researchers from Arizona Research Performing Institutions (RPI) and Industry, including the federal laboratories in Arizona;
- Exploit opportunities in science, engineering and technology where the complexity of the research agenda requires the advantages of scope, scale, dynamism, synergy, duration, equipment and facilities.
- Bridge the transition between pre-college and post-graduate through programs tied to workforce-focused technology and manufacturing through involvement of Arizona community colleges.

ELIGIBILITY

- Proposals must be submitted through Arizona's RPI's with significant research programs in one or more of the strategic research areas Sustainability (SUS), Information and Communications Technologies (ICT) or Bioscience (BIO) that are essential to develop a more robust R&D sector;
- Research Institutes must involve multiple RPIs and community colleges and should be distributed throughout the state to take advantage of the best talent in Arizona;
- Proposal goals must be driven by industry R&D needs and are encouraged to focus on use inspired research that will create a competitive advantage for Arizona through critical opportunities.
- Proposals are encouraged that focus on use inspired research that will create a competitive advantage for Arizona through critical opportunities in such areas as but not limited to:
 - Brain Disorders (e.g. Alzheimer's, Autism, Parkinson's)
 - Software Engineering (e.g. modeling, simulation, information systems, artificial intelligence)
 - Advanced Composite Materials (e.g. medical devices, energy storage/batteries)
 - Smart Integrated Systems (e.g. sensors, wireless technology)
 - 21st Century Manufacturing (e.g. green and sustainable manufacturing)
 - Personalized Medicine (e.g. predictive testing and disease prevention)

INTELLECTUAL PROPERTY (IP) MANAGEMENT

SFAz expects institutions to streamline the IP process, establishing agreements that intend to exploit the IP to benefit Arizona. RPI-industry partners should strive to manage intellectual property to encourage free flow of information between RPI and industry partners in a way that ensures an advantage to the respective partners. IP agreement executed by all parties must be in place prior to the investment of SFAz funds.

FUNDING

Under the 2009 Strategic Research Group activity, SFAz may invest in up to 3 Research Institutes. The number of Research Partnerships and Alliances funded is dependent on the quality of proposals and available funds. SRG grants intend to seed the success of highly competitive programs that have strong and significant industry partnerships. The connection to industry must be substantive and verifiable. Industry researchers must be actively involved with researcher movement back and forth between the respective labs encouraged.

SFAz does not fund clinical trials for the purpose of product development or optimization including trials designed to test the safety and/or effectiveness of drugs, devices or treatments.

Costs that SFAz will fund include:

- Relevant research expenses, including personnel, equipment, consumables, and travel;
- Access to necessary specialized facilities (e.g., synchrotron beam lines or high-speed computing);
- Sub-contracts to industry in support of research that do not constitute the industry match.
- The match must be real and verifiable.

In addition to the direct costs, an institutional allowance to the research performing institution (RPI) may be included as part of the grant. The Institutional allowance is defined as 10% of total costs minus costs of any equipment/instrumentation as a contribution for the development of internationally competitive research infrastructure and related services. The institutional allowance must be included in the total grant amount and not exceed the maximum permissible dollars allowed. **The RPI can elect to invest all of the institutional allowance in the research activity as one mechanism to demonstrate the importance of the research to the institution's priorities.** Institutional indirect costs are not allowed on industry matching funds.

*SFAz is restricted by legislation to invest a single year at a time. Future funding is subject to legislative decisions and annual **clear progress** of the Research Partnership, as well as strong review from the industry partners.*

PARTNER(S) AND COST SHARING

SFAz expects researchers to attract complementary support from industry partners. Cost sharing must include at least a 1:1 match by the partner(s) and the nature of the match should be guided by the following:

SFAz is obligated by the State of Arizona to raise matching funds to draw down the state's annual appropriation to SFAz. The matches can come 1 of 2 ways:

1. Cash directly to SFAz, which will be part of the total award to the institution.
2. Auditable Cash Equivalent Contributions ("in-kind") as an industry partner matching cost share to the SFAz-sponsored project.
 - a. Auditable means the industry partner keeps a record of its in-kind contributions (employee hours provided to project, supplies provided, equipment, etc.) so that a periodic report can be provided to SFAz documenting industry in-kind matches to the project.
 - b. The industry partner(s) must provide a letter from one of its cognizant officers to SFAz stating that the company is prohibited from giving SFAz cash. The letter must provide justification as to why the company is prohibited from giving SFAz cash. "Prohibited" and "why" are key to the letter. Examples of citations of prohibition are government regulations, tax laws, corporate policy/by laws.
 - c. For any contribution of equipment by an industry partner, a company procurement officer must attest to the value of the equipment provided (SFAz template).

Proposals that involve industrial participants from outside Arizona will need to make a strategic case in the proposal for their involvement to demonstrate the potential benefit to

Arizona and, preferably, indicate that the company is actively considering a future R&D investment in Arizona.

PRE-PROPOSAL APPLICATION PROCEDURE

Pre-Proposal Review

A pre-proposal is required to be considered for an invited full proposal submission. **Full proposals received without invitation will be returned without review.** Peer assessment will determine which application(s) will be called for Full Proposal. The following criteria will be used:

- Responsiveness to the objectives of the RFP;
- Potential impact on the academic institution, industry partner and the economic development of the state of Arizona;
- Scientific rationale for the proposed study;
- Strength of the academic-industry collaboration;
- Does the industry match fit the cost sharing criteria a stated in the RFP.

Pre-Proposal Content

1. Introductory Information
 - 1.1 Signed SFAz pre-proposal cover sheet (template provided)
2. Description of research and project plan
 - 2.1 Non-confidential abstract (300 word max)
 - 2.2 Describe the specific goal(s) of the project and present a task plan that specifically addresses the path to achieving the project goal(s). What is innovative, what is the proposed solution and how does it advance the current state of the art in the field? (2 pg max)
3. Industry Partner
 - 3.1 Description of the industry partner, nature of the partnership and nature of the matching funds (1/2 pg max). If an auditable cash contribution, a letter must be included as described in the Partnering and Cost Sharing section.
4. Value to Arizona
 - 4.1 Impact on the economic development of Arizona (1/2 pg max)
5. Preliminary budget and duration (1/2 pg max)
6. Management structure
 - 6.1 Provide a clear substantive project management plan that includes an overview of the vision of the management and organization of the proposed project and describe the means of providing oversight and guidance to insure cost and performance targets are met on time and within budgets. (1/2pg)
7. Director (Research Institutes only)
 - 7.1 Identify the potential director and describe their qualifications (1/2pg)

Pre-Proposal Submission

One (1) signed original (clearly mark “ORIGINAL”) and 2 Paper Copies:

- Twelve point font, single spaced with 1” margins all around
- Bind original and two copies with rubber band and staple rest
- Do not use divider pages or bound jackets or covers
- Mail to: **Strategic Research Groups**

Science Foundation Arizona
400 E. Van Buren Street
Suite 200
Phoenix, AZ 85004

AND

One (1) Electronic submission

- Application in one PDF document should be uploaded to the SFAz FTP server at <http://sfoaxserve.sfaz.org/> (to bypass the certificate notification, press continue). Type in **srgdropbox** for username. Ignore prompt.
- Title file according to applicants last name and name of institution (e.g. LAST NAME_INSTITUTION)

FULL PROPOSAL

Full Proposal Review

Scientific experts will be selected from peers with expertise in the substantive areas of the proposed SRG. Each proposal will be reviewed by a number of experts. Proposals will be assessed as noted above. The applicant may provide up to 6 companies from which reviewers will not be solicited. **This list must be submitted as a separate document to the rest of the proposal.**

Science Foundation Arizona will assess proposals based upon the following:

- Quality, significance, and relevance of the research;
- Quality of the industry partnerships, the cost sharing commitment and IP agreement;
- Potential for additional funding from federal agencies or industry and a clear plan to strengthen the economy of Arizona through exploitation of IP and product commercialization and added jobs;
- Quality, significance and relevance of the recent research record of the proposed investigators;
- Modern, interdisciplinary education/training of graduate students and post-docs;
- The scientific and strategic merit relative to other proposals.

The final funding decision rests with SFAz.

Full Proposal Content

Please note that the proposals need to give a concise description of the research plan, yet give sufficient details to help reviewers accurately gauge the relevant expertise of the investigators and the quality of the project as a whole.

Cover Letter

A cover letter from the President, Vice President of Research or CEO of the RPI stating the Institution's commitment to using SRG funding to build a Research Partnership and an endorsement of the proposed Director (max. 2 pages).

Proposal should include the following in order:

1. **Introductory Information**

- 1.1 SFAz proposal cover sheet signed by the RFP and industry partner
- 1.2 Table of contents (max. 1 page)
- 1.3 Names and contact details of the proposed PI, Co-PI and Senior Investigators

2. **Description of Research** (For more detailed explanation go to www.sfaz.org/help)

- 2.1 Lay summary should include objective and rationale, project description, relevance and anticipated outcome (max. 300 words)
 - 2.2 Description of proposed Research Partnerships focus (max. 1/2 page)
 - 2.3 Research Plan (max. 8 pages). Proposed research program must contain sufficient technical detail for the scientific reviewers to assess the entire work plan. It should include goals, specific aims, concise background and significance of the research, research design and methods and how the results will explicitly advance the collaboration,
 - 2.4 Literature Citations (max. 2 pages)
3. Project Plan (For more detailed explanation go to www.sfaz.org/help)
Project plan and the industry partner(s) involvement and commercialization plan; define how the proposed joint research program will advance the R&D assets and/or product portfolio for the partner(s); define how the proposed research program partnership will be complementary and/or synergistic with the ongoing research conducted by the partner(s); describe how management and oversight of the Research Partnership will be handled (include an organizational chart). Incorporate time dependent milestones and deliverables for each year in bullet or table format and clearly indicate who is responsible for each milestone and deliverable. (max. 8 pages).
5. Biosketch for each senior investigator (max. 2 page each)
 6. Partners
Explanation of why the partners are necessary to the Research Partnership goals and function including the research and educational objectives, how the partners will work together effectively (max. 1 page).
 7. Value to Arizona
Include the quality, significance, and relevance of the proposed research's potential contribution to fields that underpin information and communications technology, bioscience or sustainability to the economic development of Arizona. (max. 1 page).
 8. Current or pending support for the proposed research (max. 1 page)
Current, future or applied for funding with potential to leverage or complement SFAz funding.
 9. Industry Letter
For each Industry partner, a letter from the industry partner stating their commitment to match SFAz funding within the current State fiscal year for each year of the award must be included. *An IP agreement executed by all parties must be in place prior to funding of awards.*
 10. Budget Information
 - 10.1 Detailed budget (template) and budget justification for each award year.
 - 10.2 For Industry/DOD Partners-Detailed budget for years one through four (each on separate template) and budget justification (max. 1 page).

No appendix or supplemental material is allowed. Proposals not in compliance with any details specified in this document or the SFAz Terms and Conditions will not be eligible for an award and will be returned without review. The final funding decision rests with SFAz.

Full proposal Submission

Only invited proposals will be considered. Proposals will only be accepted with a fully completed original cover sheet that has been signed by the appropriate Institutions signatory authority. Templates can be downloaded from the SFAz website: www.sfaz.org.

One (1) signed original (clearly mark “ORIGINAL”) and 2 Paper Copies:

- Twelve point font, single spaced with 1” margins all around
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Contacts

Inquiries regarding the SFAz SRG request for proposals should be sent to:

- ***Dr. Gary Greenburg, Scientific Program Officer, Science Foundation Arizona, ggreenburg@sfaz.org, 602-682-2800***