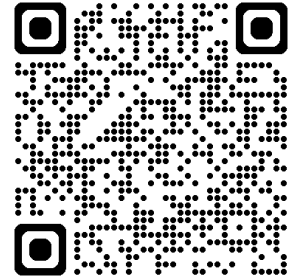


# The DOE SBIR/STTR Webinar will begin at 2:00 p.m. ET



- Will DOE provide access to the recorded webinar after the meeting?
  - Yes, we will post the slides and the recorded webinar on the DOE SBIR/STTR web site [here](#).
- Where can I find the FOA being discussed today?
  - Click [here](#) for the FY 2025 Phase I Release 1 FOA:
- What if my question was not answered at today's webinar?
  - If you have a question about the grant application process, please send us an email at: [sbir-sttr@science.doe.gov](mailto:sbir-sttr@science.doe.gov)
  - or call us at (301) 903-5707
- How do I find a list of the topics associated with this FOA?
  - Click [here](#) for the FY 2024 Phase I Release 2 topics document
  - Reminder! You must find a topic that you can be responsive to as a basis for developing a competitive application.





Department of Energy  
Small Business Innovation Research (SBIR) &  
Small Business Technology Transfer (STTR) Programs  
FY 2025 Phase I Release 1 Funding Opportunity Webinar

Eileen Chant, Outreach Program Manager

[eileen.chant@science.doe.gov](mailto:eileen.chant@science.doe.gov)

(301) 578-2386

August 8, 2024

# What is the Federal SBIR/STTR Program?



- A >\$4 Billion early stage nondilutive R&D fund for small businesses
- A mechanism to fund best early-stage high-risk innovation ideas
- Funds ideas that are too high risk for the private sector
- Stimulates technological innovation

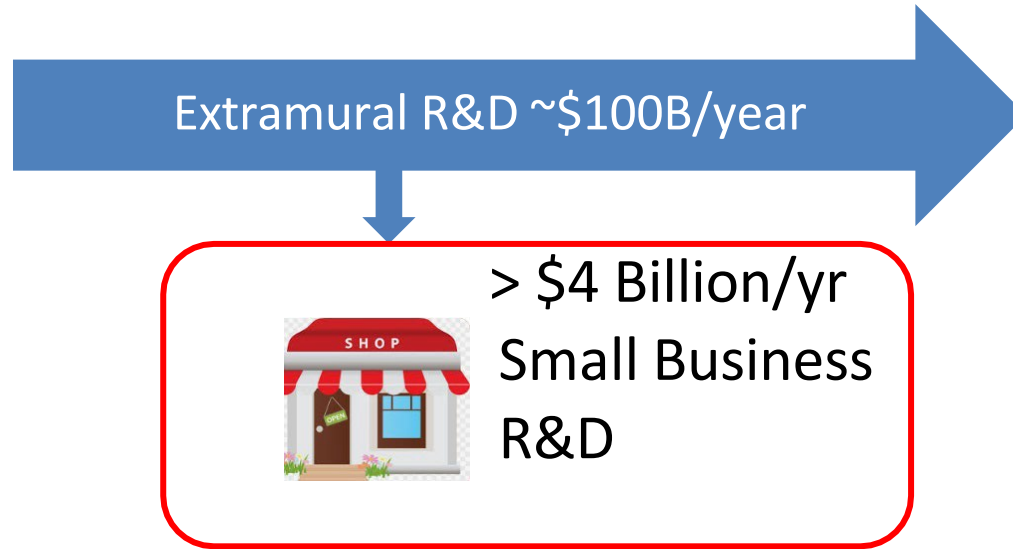
## Federally Funded Laboratories



## Large & Small Businesses



## Universities



# America's Seed Fund Program Goals

## **SBIR**

- Stimulate technological innovation using small business concerns.
- Meet Federal research and development needs.
- Foster and encourage participation in innovation and entrepreneurship by women and socially or economically disadvantaged persons.
- Increase private-sector commercialization of innovations derived from Federal research and development funding.

## **STTR**

- Stimulate and foster scientific and technological innovation through cooperative research and development carried out between small business concerns and research institutions
- Foster technology transfer between small business concerns and research institutions



# FY 2022 SBIR/STTR Budgets by Agency

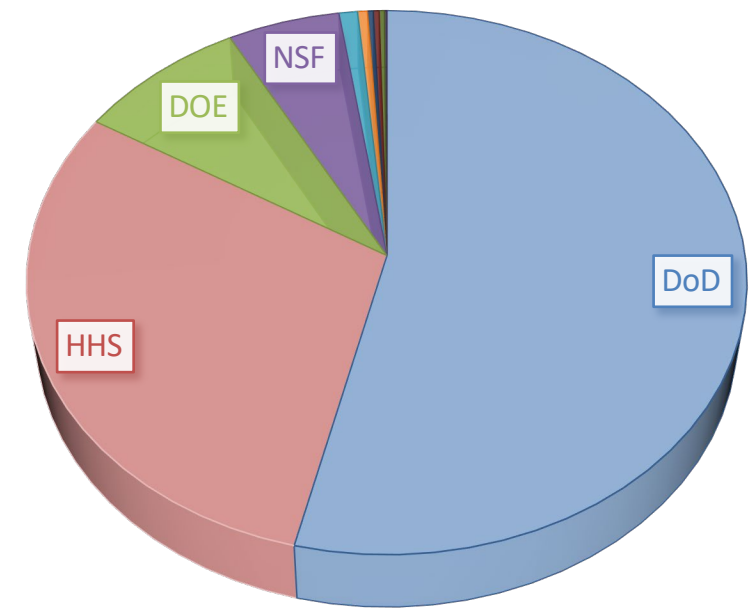


Agency	Budget (Millions)
Department of Defense (DoD)	\$ 2,240
Department of Health and Human Services (HHS), incl. National Institute of Health (NIH)	\$ 1,250
Department of Energy (DOE), incl. Advanced Research Projects Agency (ARPA -E)	\$ 348
National Science Foundation (NSF)	\$ 231
National Aeronautics and Space Administration (NASA)	\$ 215
Department of Agriculture (USDA)	\$ 38
Department of Homeland Security (DHS)	\$ 20
Department of Commerce: National Oceanic and Atmospheric Administration (NOAA), National Institute of Standards and Technology (NIST)	\$ 12
Department of Education (ED)	\$ 12
Department of Transportation (DOT)*	\$ 11
Environmental Protection Agency (EPA)	\$ 5

SBIR & STTR (> \$1B in extramural R&D)

SBIR only (> \$100M in extramural R&D)

## 2022 BUDGETS



SBIR: \$3.85 Billion  
STTR: \$532 Million

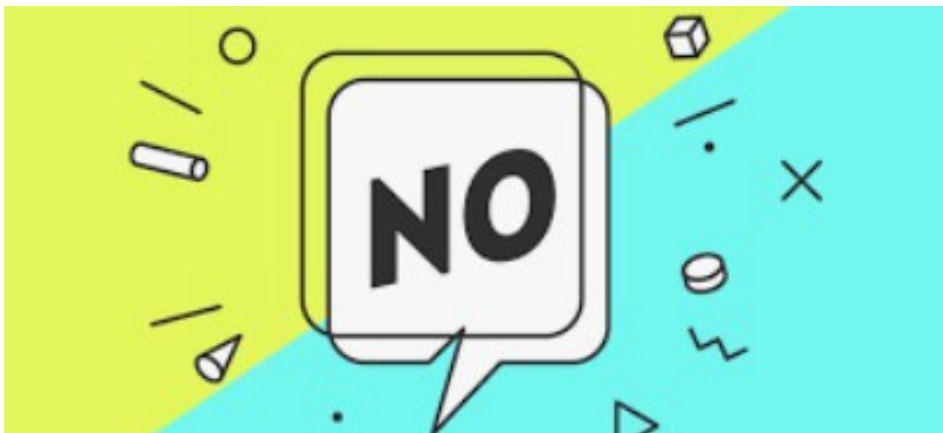


U.S. DEPARTMENT OF ENERGY

Office of SBIR/STTR Programs

Contracting agency
Granting agency
Both

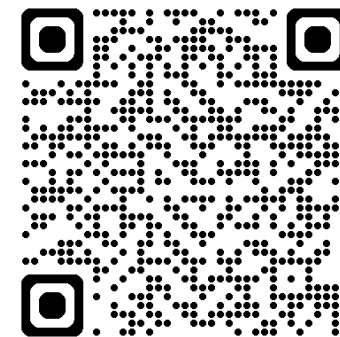
# Are Agencies' Programs all the Same?



- There are lots of differences!
- Grants (**DOE**) vs Contracts
- Focused topics (e.g. DOE), to no topics (e.g. NSF)
- Who will be your customer? Not likely to be DOE, maybe DoD
- Application processes, systems and deadlines are all different

Search [SBIR.gov awards](https://www.sbir.gov/awards) to understand what agencies are most likely to fund your technology. Focus on a limited set of agencies.

*Select and get to know the agencies you are interested in.*





# United States Department of Energy Mission



DOE's Mission is to ensure America's security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions.

- **Goal 1:** Catalyze the timely, material, and efficient transformation of the nation's energy system and secure **U.S. leadership in energy technologies.**
- **Goal 2:** Maintain a **vibrant U.S. effort in science and engineering** as a cornerstone of our economic prosperity, with clear leadership in strategic areas.
- **Goal 3:** Enhance **nuclear security** through defense, nonproliferation, and environmental efforts.

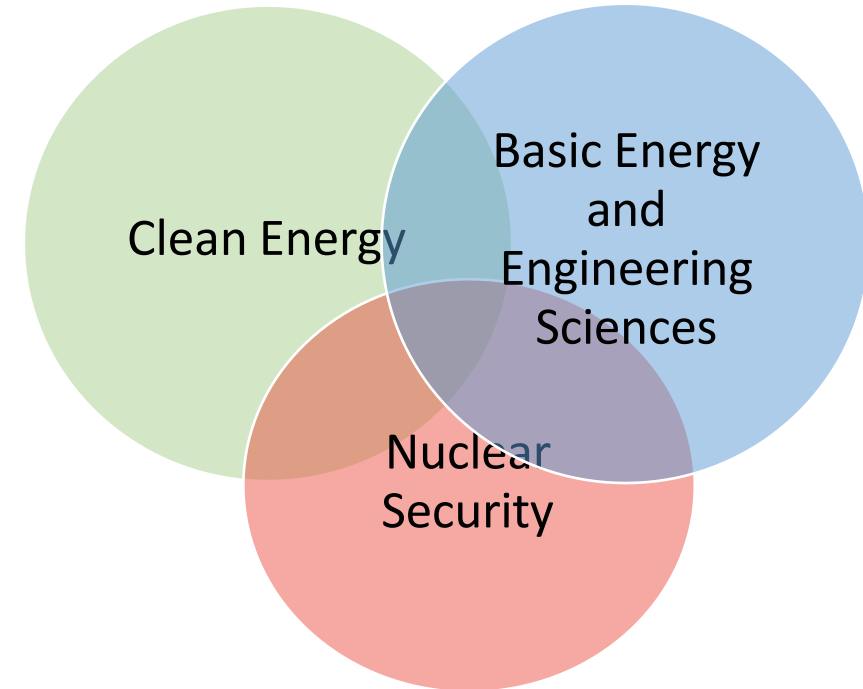


# DOE SBIR/STTR Programs – The Specifics



- Historically awards in excess of \$300 Million per year
- Grants not contracts – your idea & your execution
- DOE unlikely to be your customer, so understand the marketplace.
- Focused topics are aligned with DOE Mission
- Topics are more wide ranging than most expect!
- Two Phase I solicitations per year (Topics in July & November)
- Letter of Intent is required
- We offer an expansive application assistance program “Phase 0”. It opens for an application cycle when the topics document are released <https://doephase0.dawnbreaker.com/>

## DOE Mission





# SBIR vs STTR?

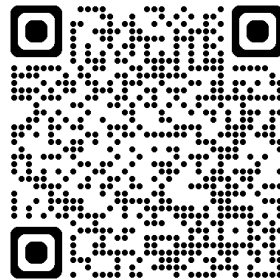
Small Business Innovation Research (SBIR) est. 1982	Small Business Technology Transfer (STTR) est. 1992
<ul style="list-style-type: none"> <li>• Allows non-profit research institution partner</li> <li>• Principal Investigator (PI) employee of small business</li> </ul>	<ul style="list-style-type: none"> <li>• Foster technology transfer between small business concerns and research institutions</li> <li>• Requires non-profit research institution (RI) partner</li> <li>• PI can be employee of either small business or RI</li> </ul>

*There are different level of effort requirements to meet [use our workbook to check compliance!](#)*

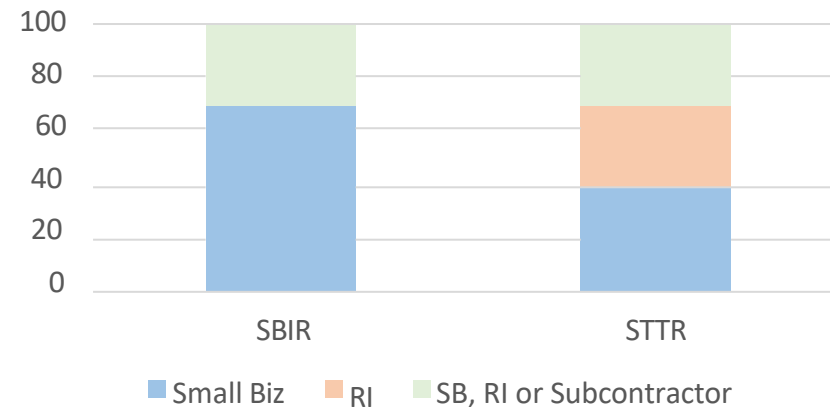
*Award always goes to the Small Business*

*They are two pots of funding*

*If you fulfill requirements of SBIR & STTR you can submit the same application to both programs*



Phase I – R&D Requirements



*SBIR and STTR were reauthorized on September 30, 2022*



# Small Business Eligibility for SBIR & STTR

- For-profit U.S. business with 500 employees or fewer, including affiliates
- More than 50% of your company's equity (e.g., stock) must be directly owned and controlled by one of the following:
  - (1) One or more individuals who are citizens or permanent resident aliens of the U.S. Each individual included as part of the eligible majority ownership of your company must be either a citizen or permanent resident alien of the U.S. The term “individual” refers only to actual people—it does not refer to companies or other legal entities of any sort.
  - (2) Other for-profit small business concerns (each of which is more than 50% directly owned and controlled by individuals who are citizens or permanent resident aliens of the U.S.); or
  - A combination of (1) and (2)
- All R&D must be performed in the United States



# Small Business Eligibility for SBIR & STTR

- The small business can be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, or joint venture. In the case of joint venture, there can be no more than 49% participation by foreign business entities.
- The small business may be owned by venture capital operating companies, hedge funds, or private equity firms only under the following circumstances:
  - An SBC may be majority owned by one or more other concerns (including a venture capital operating company, hedge fund, or private equity firm) that qualify as a small business that is majority owned and controlled by individuals who are citizens or resident aliens of the U.S.
  - Any firm may own 50% or less of an SBC so long as it does not have the power to control the SBC.

# Principal Investigator (PI) Requirements



- PI is the key individual designated by the applicant to direct the project
- Only one PI per project. Co-PIs are **NOT** allowed
- PI must be identified by name at time of application, but does not need to be primarily employed by either the small business (SBIR or STTR) or Research Institution (STTR only) until the project start date
- PI changes after award selection are strongly discouraged and require DOE approval
- During Phase I, the PI is required to devote a minimum average of three hours/week for the duration of the project



# Additional PI Restrictions

When submitting to SBIR Program Only, the PI's primary employment must be with the applicant organization at the time of award and throughout the project.

- *Primary employment means that no less than 20 hours/week is spent in the employment of the applicant organization during the project and no more than 19 hours/week is spent in the employment of another organization.*

When submitting to STTR Program Only, the PI's primary employment may be with the applicant organization **or** the research institution.

- If the PI is employed by the research institution, his or her primary employment (at least 20 hours per week) must be with the research institution in order to qualify under STTR and the research institution must provide at least 30% of the research effort.
- The PI's hours must be budgeted under the organization of his or her primary employment.

When Submitting to BOTH (SBIR & STTR), PIs must adhere to both sets of restrictions



# SBIR and STTR Awards



## Critical, Early-Stage R/R&D funding

- The SBIR & STTR programs provide funding for innovative, early-stage research
- Awards process is competitive, i.e. high quality and aligned applications are funded
- More meritorious applications than funding available
- SBIR & STTR awards provide credibility when seeking investors or partners

## DOE SBIR/STTR awards are executed as grants

- No repayment
- No dilution of company equity
- No cost sharing is required for Phases I and II/IIA/IIB





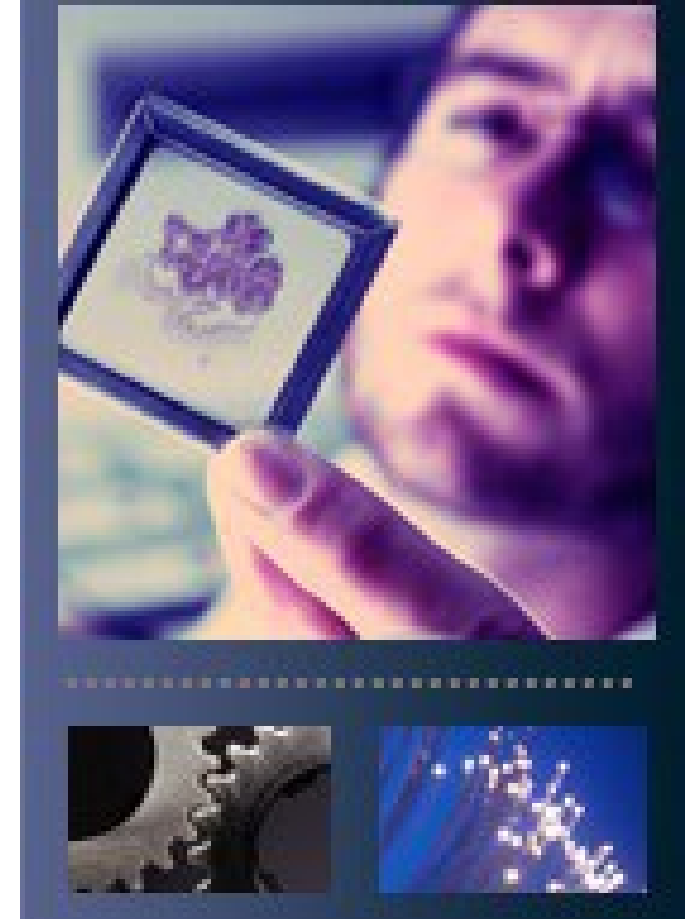
# Intellectual Property

## Patent rights

- Small business concerns retain the principal worldwide patent rights to any invention developed with Government support

## Government Use

- The Federal Government receives a royalty-free license for Federal Government use



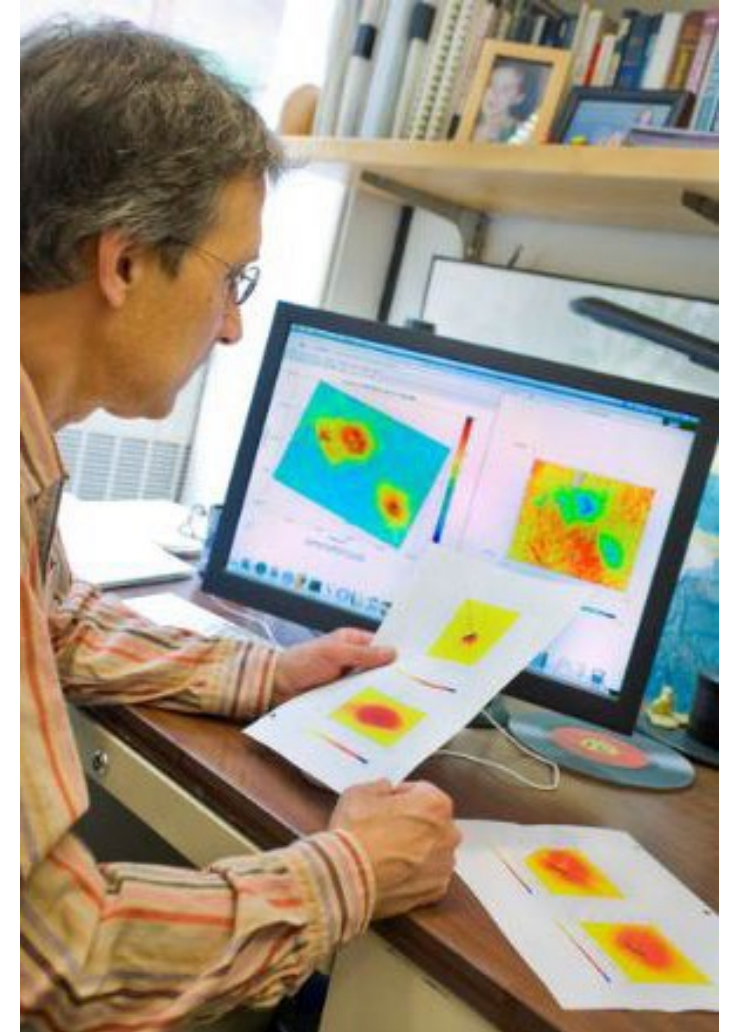
# Data Protection

## Protection Period

- Data generated from Phase I and II awards is protected from public disclosure for a minimum of 20 years from the start of your award. New policy change implemented in 2019.

## Government Use

- The Government retains a royalty-free license for Government use of any technical data delivered under an SBIR award, whether patented or not



# Participating DOE Program Offices – 2 Releases/year

Release 1 – July 8, 2024

Advanced Scientific  
Computing Research  
(ASCR)

Fusion Energy Sciences  
(FES)

Basic Energy Sciences  
(BES)

High Energy Physics  
(HEP)

Biological & Environmental  
Research (BER)

Nuclear Physics  
(NP)

Release 2 – November 12, 2024

Nuclear Nonproliferation  
(NNSA)

Cybersecurity, Energy  
Security & Emergency  
Response (CESER)

Energy Efficiency &  
Renewable Energy (EERE)

Electricity  
(OE)

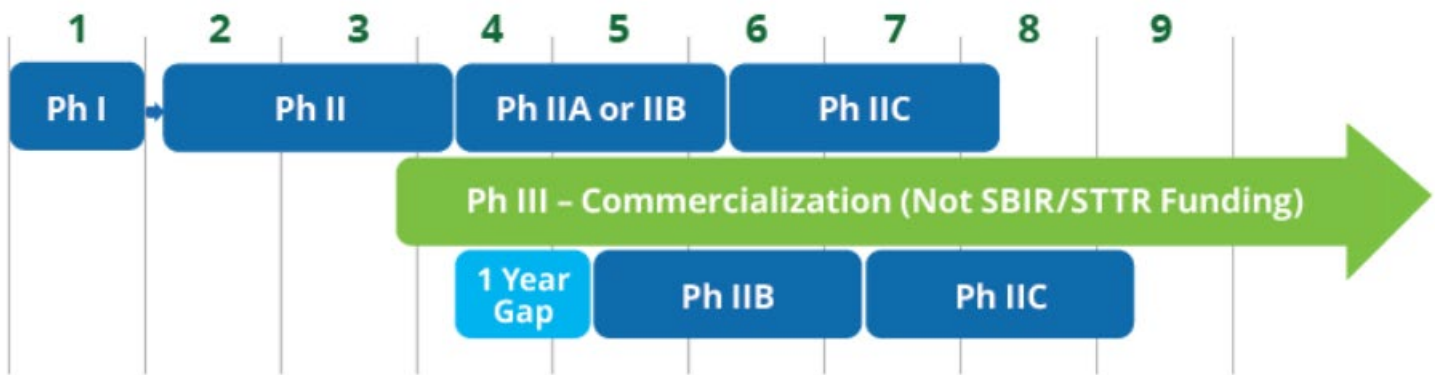
Nuclear Energy  
(NE)

Environmental  
Management (EM)

Fossil Energy & Carbon  
Management (FECM)



# About our Grants



Phase I	Phase II	Phase IIA/IIB	Phase IIC
<ul style="list-style-type: none"> <li>• Focused, mission-aligned topics</li> <li>• Proof of feasibility</li> <li>• Feedback provided on letters of intent</li> <li>• \$200,000/\$250,000</li> <li>• 6 - 12 months duration</li> <li>• ~ 350-400 awards per year</li> </ul>	<ul style="list-style-type: none"> <li>• Phase I awardees apply for Phase II the following year</li> <li>• Focus on prototype, demonstration and commercialization</li> <li>• \$1,100,000/\$1,600,000</li> <li>• 2 years duration</li> <li>• ~ 160 awards per year</li> </ul>	<ul style="list-style-type: none"> <li>• For projects that require additional R&amp;D funding for commercialization</li> <li>• \$1,100,000</li> <li>• 2 years duration</li> <li>• ~30 awards per year</li> </ul>	<ul style="list-style-type: none"> <li>• Pilot program to leverage 1:1 matching funds for commercialization</li> <li>• \$1,100,000</li> <li>• 2 years duration</li> </ul>

The background of the slide is a vibrant blue. It features several 3D molecular models composed of red, green, and yellow spheres connected by thin lines, representing atomic structures. In the upper right quadrant, a bright, multi-colored laser beam (ranging from red to green) is shown pointing downwards and to the left.

Release 1 Technology Areas  
Topics Released: July 8, 2024

DOE SBIR & STTR Programs: Technology Areas



U.S. DEPARTMENT OF  
**ENERGY**

Office of SBIR/STTR  
Programs



# Advanced Scientific Computing Research



Website: [Advanced Scientific Computing Research](#)

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World's fastest supercomputer  
at ORNL





# Basic Energy Sciences



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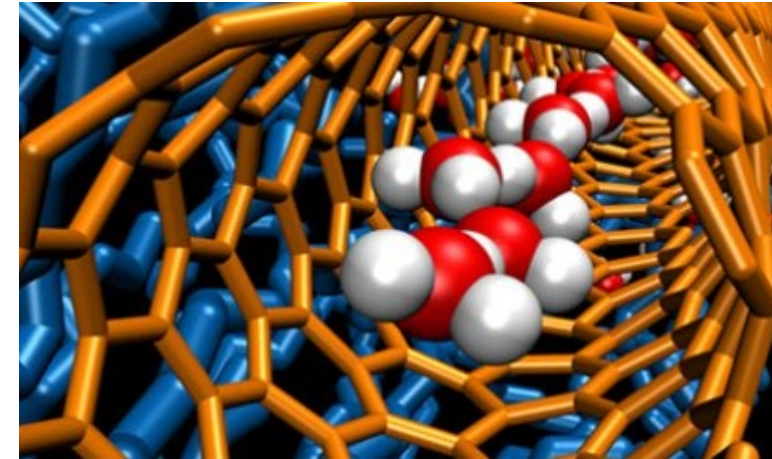
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Website: [Basic Energy Sciences](#)



# Biological and Environmental Research



Website: [Biological and Environmental Research](#)



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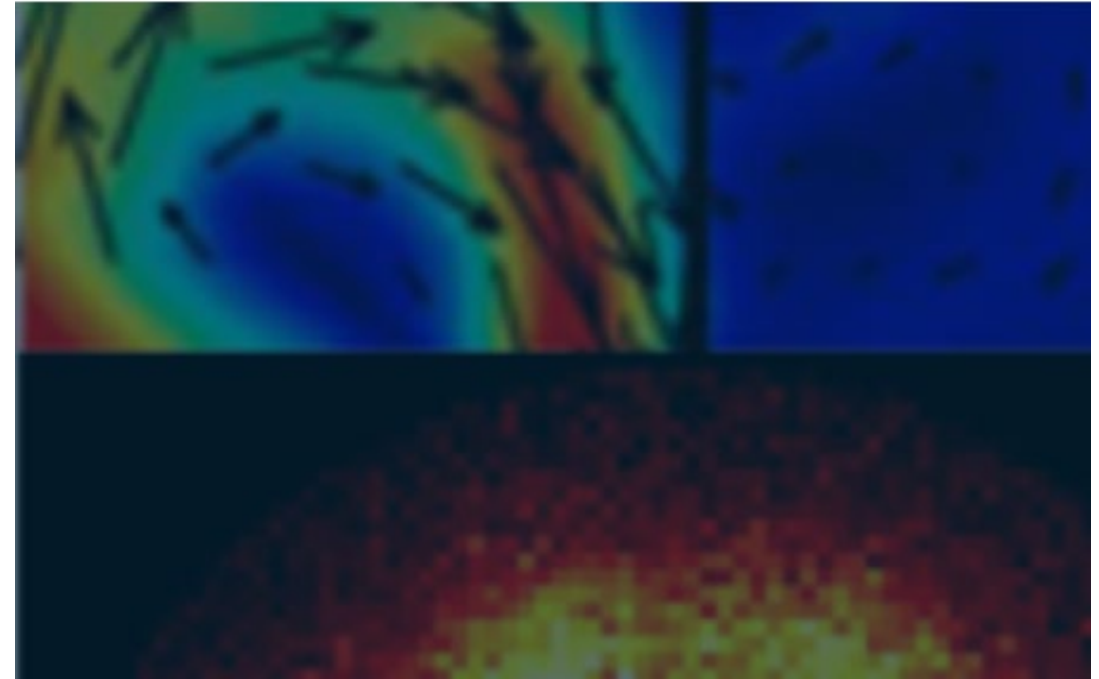
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# Fusion Energy Sciences



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Website: [Fusion Energy Sciences](#)



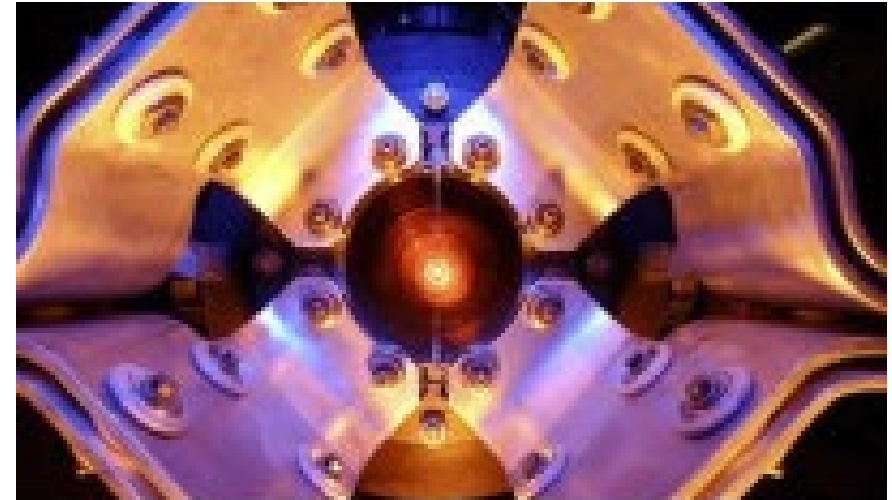


# High Energy Physics



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Website: [High Energy Physics](#)

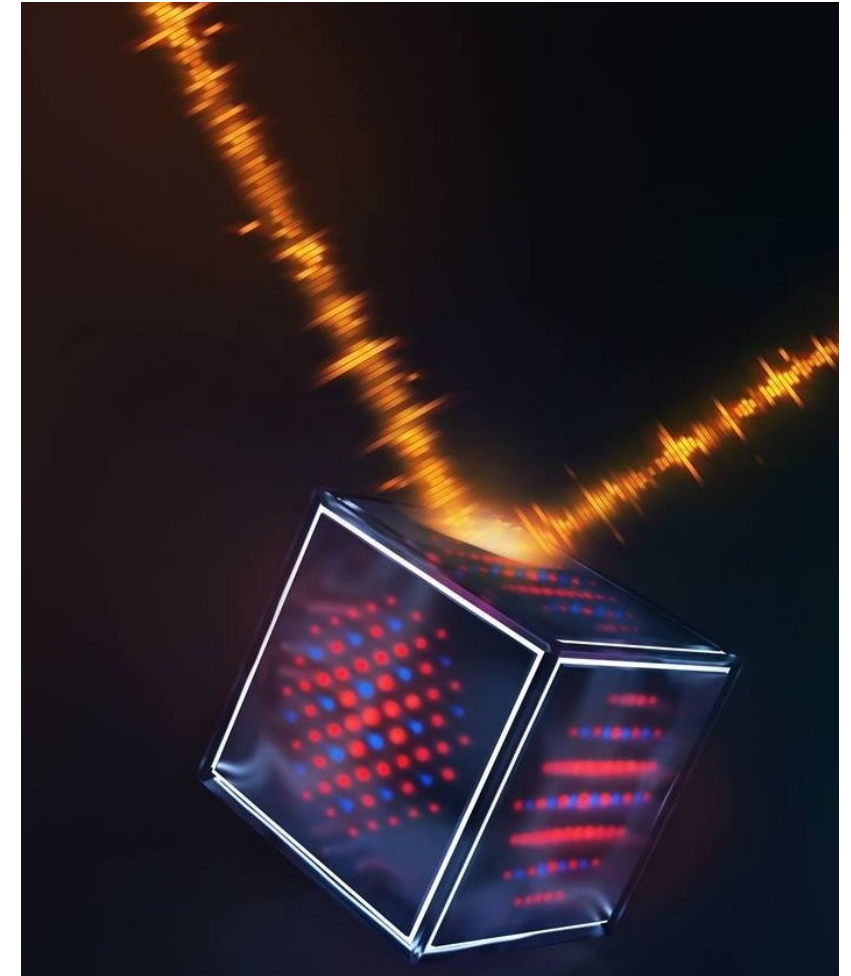


# Nuclear Physics



Website: [Nuclear Physics](#)

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# DOE Program Office Websites



Review the following:

- Mission
- Funding Priorities and Announcements (non-SBIR)
- Technical Reference Data and Reports
- Workshop & Conference Proceedings
- Contact Information



The Biological and Environmental Research (BER) program supports scientific research and facilities to achieve a predictive understanding of complex biological, earth, and environmental systems with the aim of advancing the nation's energy and infrastructure security. The program seeks to discover the underlying biology of plants and microbes as they respond to and modify their environments. This knowledge enables the reengineering of microbes and plants for energy and other applications. BER research also advances understanding of the dynamic processes needed to model the Earth system, including atmospheric, land masses, ocean, sea ice, and subsurface processes.



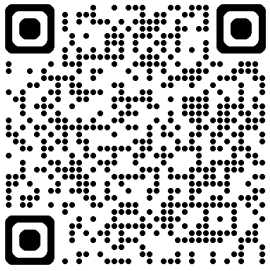
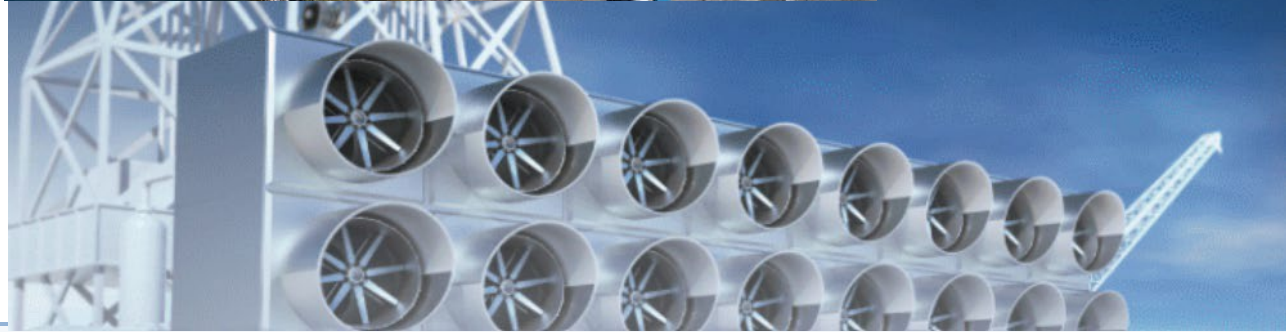




# FY 24 Release 2 Technology Areas Topics Released



These topics are closed, but it is recommended that you review to understand the flavor of this release



# FY2025 Phase I Release 2 Program Offices



## Release 2

**November 12 (topics) → February 26 (applications due)**

Looking Ahead  
Mark your  
calendar for  
November 12,  
2024!

- [Cyber Security, Energy Security, and Emergency Response](#)
- [Defense Nuclear Nonproliferation](#)
- [Electricity](#)
- [Energy Efficiency and Renewable Energy](#)
  - Solar Energy
  - Wind Energy
  - Geothermal
  - Hydrogen & Fuel Cells
  - Advanced Manufacturing
  - Building Technologies
  - Water Power
  - Vehicles
  - Bioenergy
  - Industrial Efficiency & Decarbonization
- [Fossil Energy and Carbon Management](#)
- [Nuclear Energy](#)
- [Environment Management](#)







# DOE SBIR & STTR Programs: Application & Award Process



# Schedule: FY 2025 Phase I Release 1



Phase I	Release 1	Release 2
<b>Topics Issued</b>	Monday, July 8, 2024	Tuesday, November 12, 2024
Document	<a href="#">Phase I Release 1 Topics</a>	
Phase 0 Application Assistance (free for first time applicants) starts	Monday, July 8, 2024	Tuesday, November 12, 2024
Topic Webinar, week of	<a href="#">Webinar 1: Topics 1-11</a> <a href="#">Slides</a> <a href="#">Webinar 2: Topics 12-22</a> <a href="#">Slides</a> <a href="#">Webinar 3: Topics 23-33</a> <a href="#">Slides</a>	Monday, November 18, 2024
<b>FOA Issued</b>	Monday, August 5, 2024	Monday, December 2, 2024
Document	<a href="#">DE-FOA-0003417</a>	
FOA Webinar	Thursday, August 8, 2024 (Webinar) <a href="#">Register</a> Friday, August 9, 2024 (Q&A) <a href="#">Register</a>	Thursday, December 5, 2024 (Webinar) Friday, December 6, 2024 (Q&A)
<b>Letters of Intent (LOI) Due</b>	Tuesday, August 27, 2024 5:00pm ET	Tuesday, January 7, 2025 5:00pm ET
<b>Non-responsive LOI Feedback Provided</b>	Tuesday, September 16, 2024	Monday, January 13, 2025
<b>Full Applications Due</b>	Tuesday, October 8, 2024 11:59pm ET	Wednesday, February 26, 2025 11:59pm ET
Award Notification	Monday, January 6, 2025	Tuesday, May 27, 2025
Projected Grant Start Date	Tuesday, February 18, 2025	Tuesday, July 8, 2025
Awardee Webinar, week of	March 10, 2025	July 21, 2025
Phase Shift I Kick-off (formerly I-Corps)	April 2025	September 2025
Principal Investigator Meeting	June 2025	October 2025

Go back and listen to your topic info

Required or your Phase I application will be declined!

Don't wait till last minute

Award Notification

Grant Start

\*Registration link will be posted here, one week prior to the webinars. To receive this link automatically via email, please join our Mail List.

\*\*Preliminary dates subject to change

# Topics

- Topics Document
  - DOE primarily uses focused topics
  - Issued 4 weeks prior to the FOA
- Communication with DOE program managers
  - Open communication *permitted about topic scope*
- Webinar
  - DOE program managers discuss their topics
  - Applicants submit questions in advance or during the webinar
  - *Webinars are recorded and available at our website*



## U.S. Department of Energy

Small Business Innovation Research (SBIR) and  
Small Business Technology Transfer (STTR) Program

### Topics

FY 2025

Phase I

Release 1

Version 2, July 12, 2024

- Office of Advanced Scientific Computing Research
- Office of Basic Energy Sciences
- Office of Biological and Environmental Research
- Office of Fusion Energy Sciences
- Office of High Energy Physics
- Office of Nuclear Physics



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Programs



# More about Topics

- DOE Mission-Focused Specific Topics
- R&D funding limits and type of applications accepted are specified
- At Topic Webinar (recorded and available [here](#)), DOE Program Managers discuss the topic then Q&A
- Letter of Intent and Application must specify same Topic and Subtopic

## C59-12. ATMOSPHERIC MEASUREMENT TECHNOLOGY

Maximum Phase I Award Amount: \$250,000	Maximum Phase II Award Amount: \$1,600,000
Accepting SBIR Phase I Applications: YES	Accepting STTR Phase I Applications: YES

The mission of the Biological and Environmental Research (BER) program is to support transformative science and scientific user facilities to achieve a predictive understanding of complex biological, earth, and environmental systems for energy and infrastructure security, independence, and prosperity. The mission of the Earth and Environmental Systems Sciences Division (EESSD) within BER is to enhance the sub-seasonal to centennial predictability of the Earth system using long term field experiments, DOE user facilities, modeling and simulation, uncertainty characterization, best-in-class computing, process research, and data analytics and management (Reference 1). EESSD scientific grand challenges include the integrated water cycle, biogeochemistry, high latitudes, drivers and responses in the earth system, and data-model integration (Reference 1).

To address these scientific grand challenges, data from field campaigns and long-term observations of atmospheric properties are needed to quantify atmospheric variables and study processes that are important to climate such as aerosol, cloud, and precipitation formation; boundary layer processes that affect aerosol and cloud formation and properties; and aerosol-cloud-precipitation-radiation interactions and feedbacks.

This topic is specifically focused on developing technologies for robust and well-characterized measurements of: downwelling radiation; aerosol size distribution, chemical composition, and optical properties; cloud and precipitation microphysical, macrophysical, and optical properties; column water vapor or liquid water path; and details of atmospheric structure and variability including vertical profiles of turbulence, temperature, trace gas, wind, vertical velocity, cloud liquid or ice, and water vapor. These data are necessary both for fundamental process understanding and for evaluation of numerical models that are used to assess the predicted impacts of climate change on global and regional systems (References 2-7).

Proposed technologies must be suitable for deployment under realistic operating conditions at long-term ground-based measurement sites such as those operated by the Atmospheric Radiation Measurement (ARM) user facility ([www.arm.gov](http://www.arm.gov) and Reference 6) and the Ameriflux program (<https://ameriflux.lbl.gov/>), on airborne research platforms (<https://arm.gov/capabilities/observatories/aaf/>; Reference 8), or on ship-based platforms. Therefore, applications must consider and discuss factors such as the size, weight, and power; data logging; calibration procedures; maintenance requirements; ability for autonomous or remote operation; motion stabilization; and/or other factors critical to successful operation of the proposed technology in realistic field conditions.

# Subtopics



- Open communication permitted about the **topic scope** with DOE Technical Topic Managers
- Letter of Intent and Application must specify same Topic and Subtopic
- **Reading references is recommended**
- You are expected to be highly knowledgeable in your technology area, latest developments, what are the barriers, what are the competing technologies.

## b. Biological Aerosol Instruments

Perhaps more challenging than coarse mode aerosols in general are bioaerosols, which can swell and shatter into fragments that are themselves capable of nucleating cloud and ice particles and may no longer be coarse mode particles. Existing techniques offer minimal species information or may require well trained specialists analyzing particles collected over long time intervals to determine biological or chemical species. Other techniques measure particle fluorescence, requiring additional instrumentation to assess whether particles are truly biological in origin or simply nonbiological particles that fluoresce.

Continuous, real-time measurements of particular interest time are:

- Biological species of atmospheric bioaerosols,
- Size spectra of bioaerosols up to 30  $\mu\text{m}$ , and
- Composition of bioaerosols, especially as a function of size.

Questions – Contact: Jeff Stehr [Jeff.Stehr@science.doe.gov](mailto:Jeff.Stehr@science.doe.gov)

## References:

1. U.S. Department of Energy, 2018, Earth and Environmental Systems Sciences Division, Strategic Plan, DOE/SC-0192, [https://science.osti.gov/-/media/ber/pdf/workshop-reports/2018\\_CESD\\_Strategic\\_Plan.pdf](https://science.osti.gov/-/media/ber/pdf/workshop-reports/2018_CESD_Strategic_Plan.pdf), (June 24, 2024)
2. Stith, J. L., et al., 2018, “100 Years of Progress in Atmospheric Observing Systems”, A Century of Progress in Atmospheric and Related Sciences: Celebrating the American Meteorological Society Centennial, Meteor. Monogr., No. 59, Amer. Meteor. Soc., <https://doi.org/10.1175/AMSMONOGRAPHS-D-18-0006.1>, (June 24, 2024)
3. Kreidenweis, S., Petters, M., and Lohmann, U., 2019, “100 Years of Progress in Cloud Physics, Aerosols, and Aerosol Chemistry Research”, A Century of Progress in Atmospheric and Related Sciences: Celebrating the American Meteorological Society Centennial, Meteor. Monogr., No. 59, Amer. Meteor. Soc. <https://doi.org/10.1175/AMSMONOGRAPHS-D-18-0024.1>, (June 24, 2024)
4. Wood R., Jensen, M. P., Wang, J., Bretherton, C. S., et al., 2016, “Planning the Next Decade of Coordinated Research to Better Understand and Simulate Marine Low Clouds”, Bulletin of the American Meteorological



# Funding Opportunity Announcement (FOA)

Available at the [DOE SBIR website](#) or [Grants.gov](#) and includes information on:

- Anticipated number of awards and funding available
- Eligibility
- Application Requirements
- Review Criteria
- Award Administration
- Open for approximately 8 weeks

DEPARTMENT OF ENERGY (DOE)  
SMALL BUSINESS INNOVATION RESEARCH (SBIR)  
SMALL BUSINESS TECHNOLOGY TRANSFER (STTR)



FY 2025 PHASE I RELEASE 1

FUNDING OPPORTUNITY ANNOUNCEMENT (FOA) NUMBER:  
DE-FOA-0003417

CFDA NUMBER: 81.049

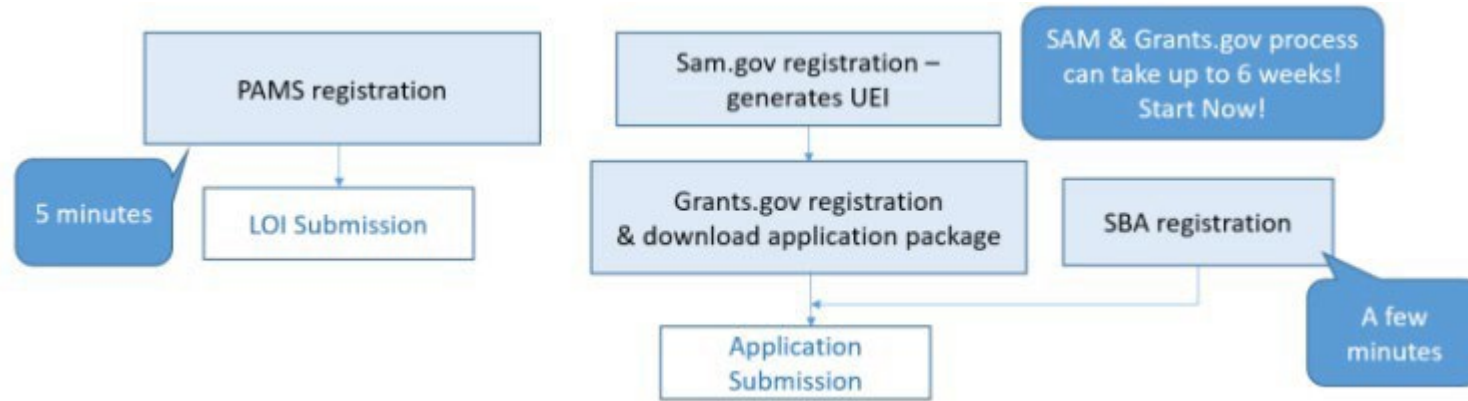
FOA Issue Date:	August 5, 2024
Submission Deadline for Letters of Intent:	August 27, 2024 5:00 PM Eastern Time
Submission Deadline for Applications:	October 8, 2024 11:59 PM Eastern Time



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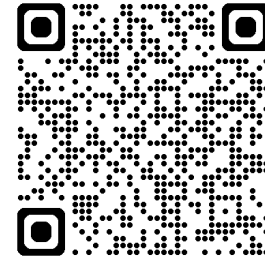
Office of SBIR/STTR  
Programs

# Application Process: Registrations



- **Applications must be submitted through [Grants.gov](https://www.grants.gov)**
- Registration at Grants.gov is a 3 step process
  - Applicants must register with [SAM](https://sam.gov) at and obtain a Unique Entity Identifier (UEI)\*
    - Complete a SAM registration. **Can take 8 weeks!**
    - Must be updated annually
  - Complete Grants.gov registration
    - Start this process as early as possible!
    - See the Grants.gov website for instructions
  - Small Business Administration (SBA) company registry
    - Small businesses must register at the [SBA company registry](https://www.sba.gov) and submit a copy of their registration with their grants.gov application

## [Registration Guidance](#)

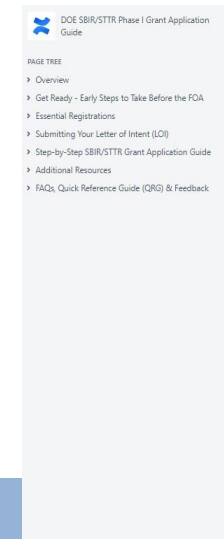
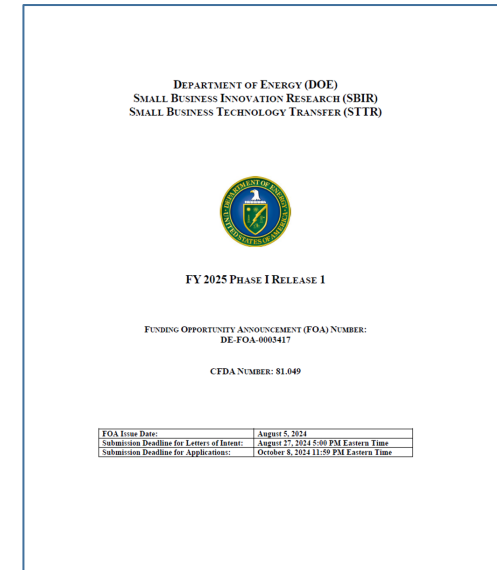
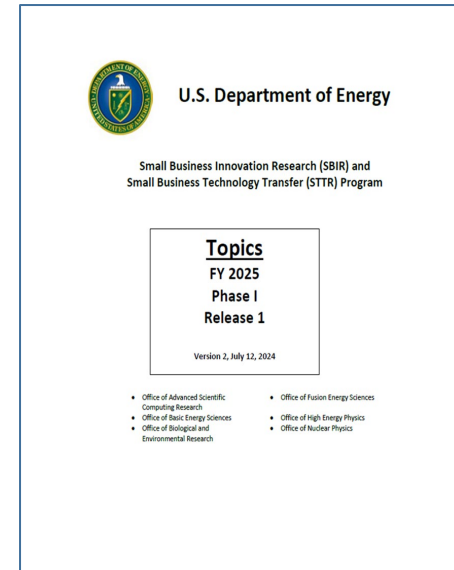




# Completing an Application

“Toolkit” to assist in completing the application package:

- [Topics Document & Funding Opportunity Announcement, & New Application Guide Instructions](#) are available
- Online tutorials: <https://doetutorials.dawnbreaker.com/>





# Letters of Intent (LOI)



- Requirement
  - You must submit an LOI by the due date to be eligible to submit an application
- Primary purpose
  - begin reviewer assignment to reduce award selection time
  - due 3 weeks after FOA is issued
- Secondary purpose
  - provide email notification to applicants who appear to be non-responsive; you may submit an application if you receive this notification
  - Applicants whose LOI appears responsive will NOT receive a notification
- Limits
  - Small businesses may submit only 10 letters of intent (and 10 applications) per solicitation
  - Each letter of intent and application must be unique

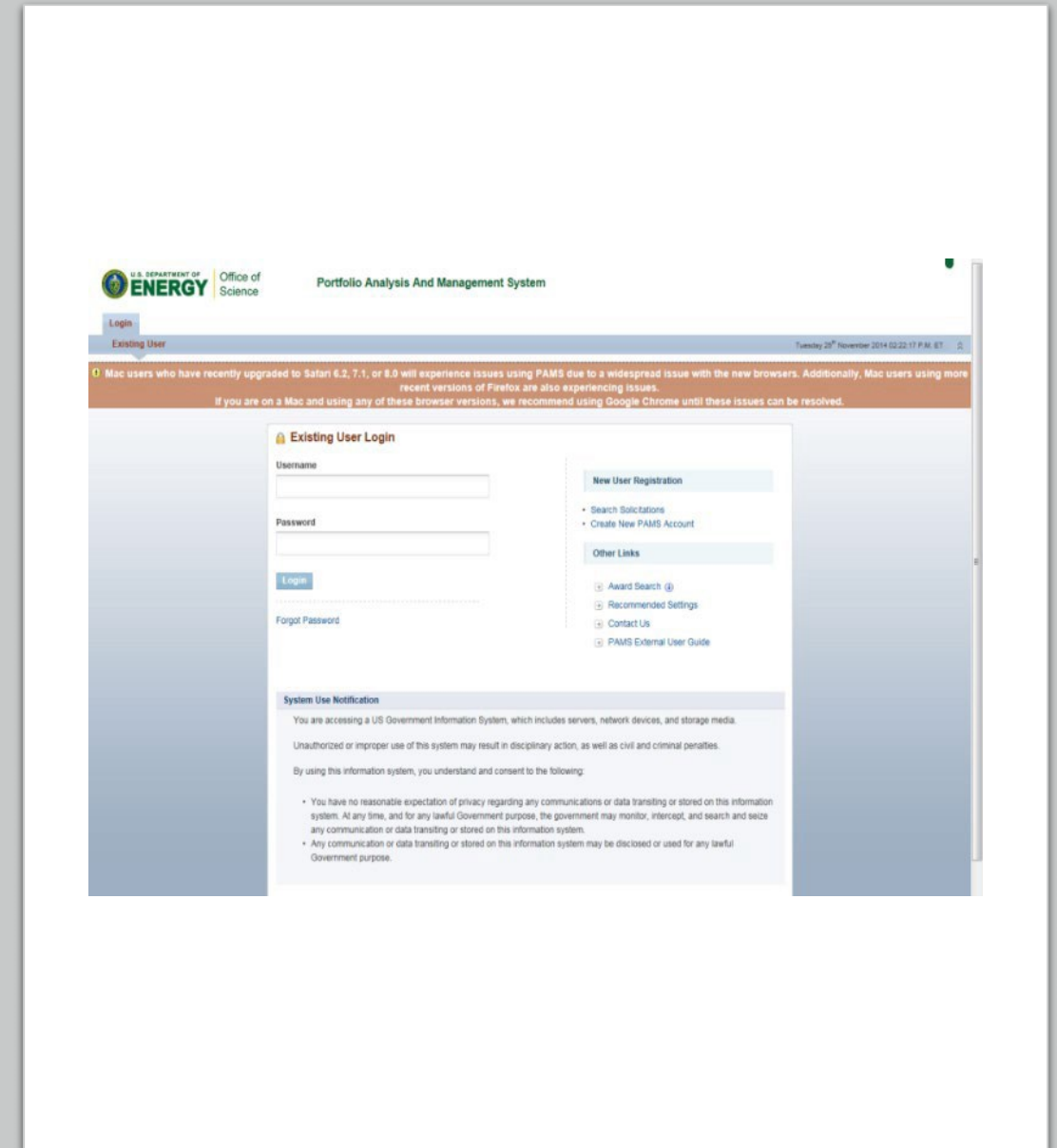
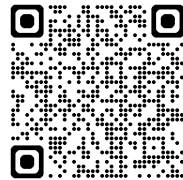
## Content of LOI

- Title
- Topic and Subtopic
- Abstract (<500 words)
  - ***Provide sufficient technical detail to enable reviewer assignment***
  - Non-proprietary
- List of Collaborators
- Small Business Information
  - Name, address
  - Business Official and contact information
  - Principal Investigator



# Letter of Intent (LOI) Submission is Required

- Submit LOI online directly to the DOE Portfolio Analysis and Management System (PAMS) website: <https://pamspublic.science.energy.gov/>
  - Due Tuesday, August 27, 2024 by 5 PM EDT
  - Select “Create New PAMS Account” (if you do not have an account)
    - No prior registrations (SAM, etc.) are required to submit a LOI
  - Submit your abstract as a PDF file
  - [Utilize the LOI instructions and sample LOI](#) to ensure that you submit all the required information
  - For additional details on the LOI submission process, see the FOA



# Letter of Intent: Sample Abstract

ABC LLC will develop a new class of low cost battery separator materials for lithium ion batteries. It is anticipated that the cost of this separator will be 70% lower than separator materials available today and will be a critical factor in reaching the \$150/kWh cost target specified in topic 4b for lithium ion batteries for electric vehicle applications.

These separators will utilize a new optically-activated method of producing pores in nano-structured polyolefin films. This optical pore formation method results in a 10x increase in the speed of creating porous films. During Phase I, ABC LLC will (1) develop the compositions and methodology for formulating the dense nano-structured polyolefin films and (2) carry out preliminary feasibility studies to characterize the appropriate optical intensities and wavelengths to achieve uniform, high speed, pore formation. It is anticipated that multiple iterations will be required to optimize the composition and nanostructure of the precursor films to achieve the desired porosity and process speeds. All processing work will be carried out at ABC LLC but polymer characterization will leverage capabilities of the Polymer Lab at State University to evaluate the structure, porosity, tortuosity, and thermal properties of the polymer films. In addition we will be collaborating with Lion Battery Inc. who will do preliminary battery testing of our separator materials to identify any manufacturing or performance issues of the separators.

*Clearly explain why the proposed R&D is responsive to the subtopic*

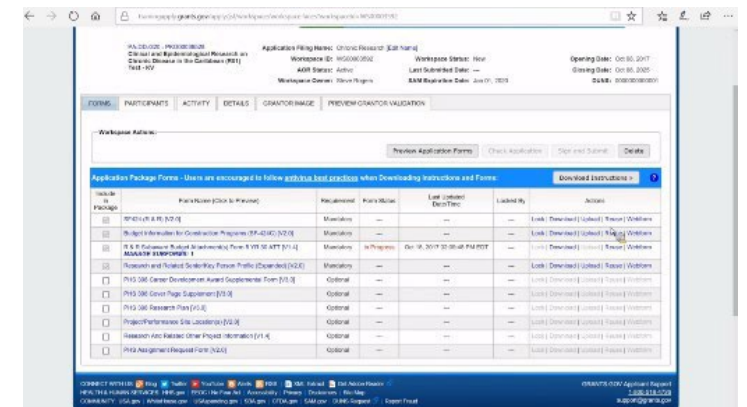
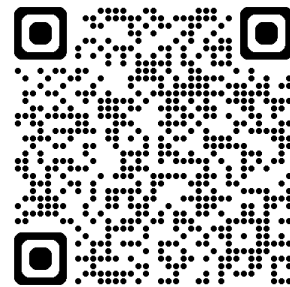
*Provide sufficient technical detail about the R&D so that DOE program managers can select reviewers with appropriate technical expertise.*

***Do not include proprietary information in a letter of intent.***

# Completing a Grants.gov Application



- Workspace
  - Online application completion and submission
  - Online tutorials are available
  - <https://www.grants.gov/applicants/workspace-overview.html>



# Elements of Your Phase I Application

- Project Narrative
  - Guidance [here](#)
  - Page and word limits
    - Phase I: 15 pages, 7,500 words
    - ***New Requirement - PIER Plan***
- ***Foreign Relationship Disclosure***
- Budget & Budget Justification
- Key Personnel
  - Provide a resume for each person listed on the budget form
- Commercialization Plans
  - Phase I commercialization plan (4, pages 2000 words)
  - [Detailed instructions and sample plan](#)
- SBIR/STTR Information form
- Data Management Plan

Phase I Application Checklist

Name of Document	Format	Attach to
Application for Federal Assistance, SF-424 Form	PDF	N/A
Research and Related: Budget Form	PDF	N/A
Additional Senior Key Persons, if applicable	PDF	Field A. 9
Additional Equipment, if applicable	PDF	Field C. 11
Budget Justification	PDF	Field K
Research and Related: Senior/Key Person Profile Form	PDF	N/A
Biographical Sketch for each person	PDF	Appropriate Block
Current & Pending Support for each person, if applicable	PDF	Appropriate Block
Research and Related: Other Project Information Form	PDF	N/A
Project Abstract and Summary	PDF	Field 7
Project Narrative (PN) <b>New – Promoting Inclusive and Equitable Research (PIER) Plan</b>	PDF	Field 8 PIER Plan is included as an appendix to PN
Bibliography and References Cited, if applicable	PDF	Include in Project Narrative
Facilities and Other Resources, if applicable	PDF	Include in Project Narrative
Equipment, if applicable	PDF	Include in Project Narrative
Other— Data Management Plan	PDF	Field 12
Other— Disclosure of Foreign Relationships	PDF	Field 12
Other—Level of Effort & Max Funding Worksheet	PDF	Field 12
Other—Letter of Commitment for consultant, sub-award, or research institution, if applicable	PDF	Field 12
Other—Letters of Support, if applicable	PDF	Field 12
Other—SBA Company Registration	PDF	Field 12
Other – Company Commercialization Report from SBIR.gov for STTR-Only applications, if applicable	PDF	Field 12
Authorization for non-DOE/NNSA FFRDCs, if applicable	PDF	Field 12
Authorization for DOE/NNSA FFRDC, if applicable and if available	PDF	Field 12
Research and Related: Sub-award Budget Form, if applicable	PDF	N/A
Budget Justification for each Sub-award	PDF	Appropriate Block
SF-LLL, Disclosure of Lobbying Activities, if applicable	PDF	N/A
Project/Performance Site Location(s)	PDF	N/A
SBIR/STTR Information Form	PDF	N/A
Phase I Commercialization Plan	PDF	Field 8
Company Commercialization Report from SBIR.gov for SBIR or Both SBIR/STTR applications, if applicable	PDF	Field 9

Note: N/A is for a Grants.gov supported form





# Application Assistance



[Phase 0 application assistance](#) for first-time DOE applicants  
(open now for Phase I Release 1!)

Email us!

General questions: [sbir-sttr@science.doe.gov](mailto:sbir-sttr@science.doe.gov)

Get Connected!

Subscribe to our mailing list: <https://science.osti.gov/sbir>

Stay Connected!



Recorded Topic and FOA Webinars

Ask-Us Anything During the Application Process

Check your email next week!



Being on our mailing list is the most important way to stay up to date on our funding opportunities!



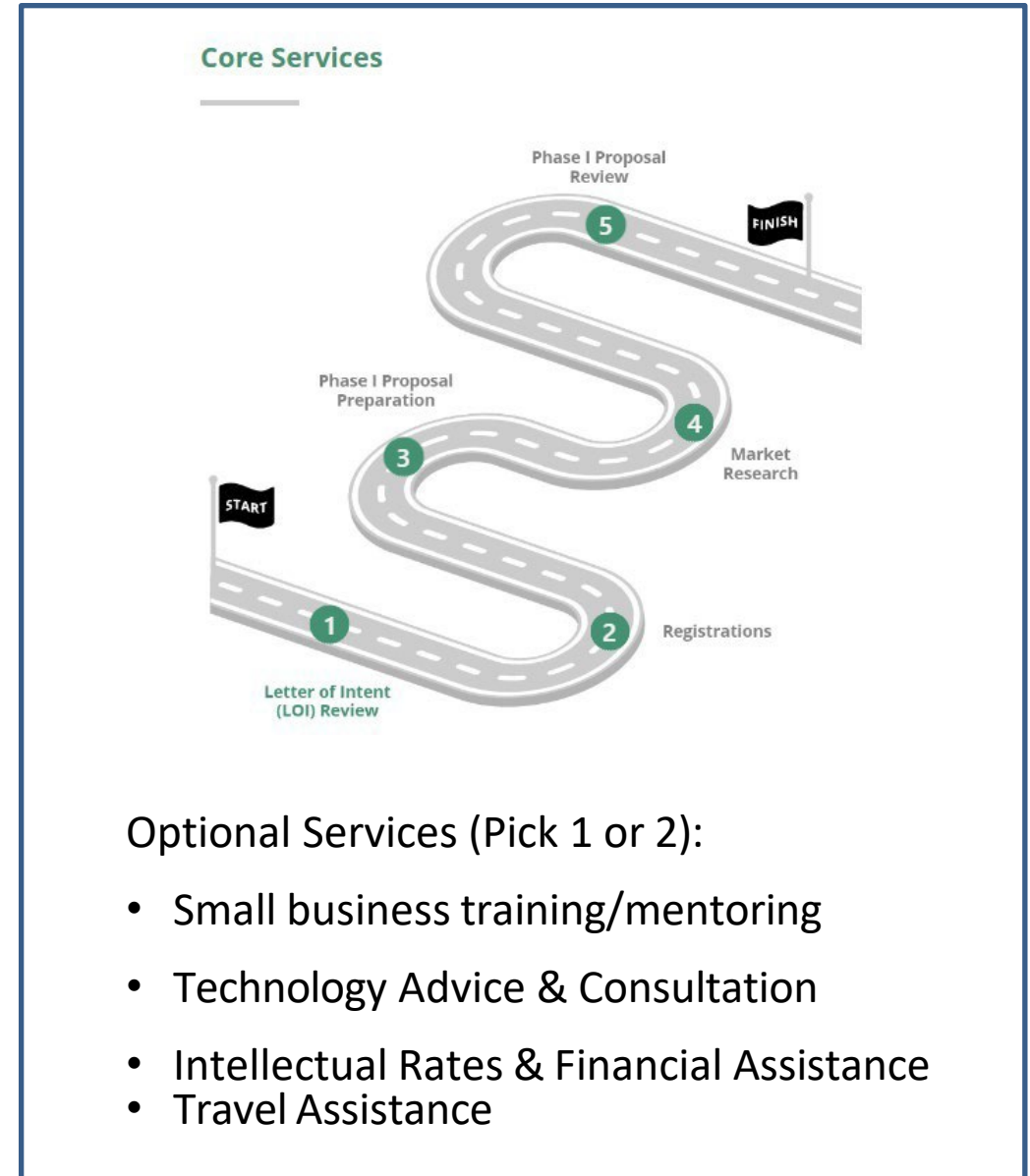
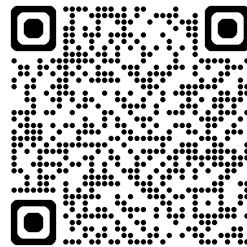
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# Phase 0 Application Assistance



- Do you need help preparing your first DOE SBIR/STTR Phase I application?
- All first-timers are eligible (first come-first serve)
- Go/No-go discussion and decision:
  - Responsive to topic
  - Novel idea
  - Ability to conduct the proposed R&D
- [Apply portal](#) is open
- “Ample” space available right now
- [Signup for Phase 0 mailing list](#)



## Optional Services (Pick 1 or 2):

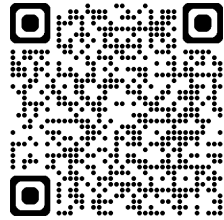
- Small business training/mentoring
- Technology Advice & Consultation
- Intellectual Rates & Financial Assistance
- Travel Assistance



# New Phase I Grant Online Application Guide



## [DOE SBIR/STTR Phase I Online Application Guide](#)



- Fully replaces the former PDF document
- Houses all our application resources:
  - 8 week planner
  - Preparing an LOI
  - PIER Plan
  - Tutorials
  - Examples
  - & More...



 Overview	 Get Ready	 Registration	 Letter of Intent (LOI)	 Step-by-Step Guide	 Additional Resources	 FAQs
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# Operation of the DOE SBIR and STTR Programs



## *Technical Expertise Leveraged Throughout DOE*

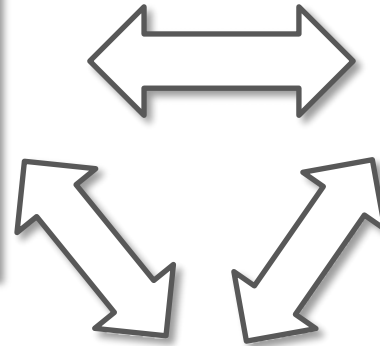
### **DOE Program Office**

- Develop Topics
- Identify Reviewers (Scientific Peer Review)
- Recommend Awardees
- Oversee Projects

## *Single Grants Office for Awardees*

### **DOE Chicago Office**

- Negotiate Grants
- Issue New and Continuation Awards
- Grant Closeout



## *Single Administrative Office for Applicants*

### **DOE SBIR/STTR Programs Office**

- Develop Funding Opportunity Announcements
- Administer Review and Selection Process
- Ensure Compliance with SBIR/STTR Legislation
- Conduct Outreach



# What makes a competitive application?



## Application Review Criteria

Technical Merit

Ability to Carry Out the Project

Impact

PIER Plan

- ***Responsiveness to the topic & subtopic***
- Must be technology development R&D!
- Idea is novel
- Solid work plan to prove feasibility
- Your team is composed of the right expertise
- Potential impact if R&D is successful
- *The first three review criteria are equally weighted and of greater weight than the fourth criterion*





# Review and Selection of Applications

DOE primarily uses external peer review to evaluate your applications:

- Typically at least 3 technical reviewers

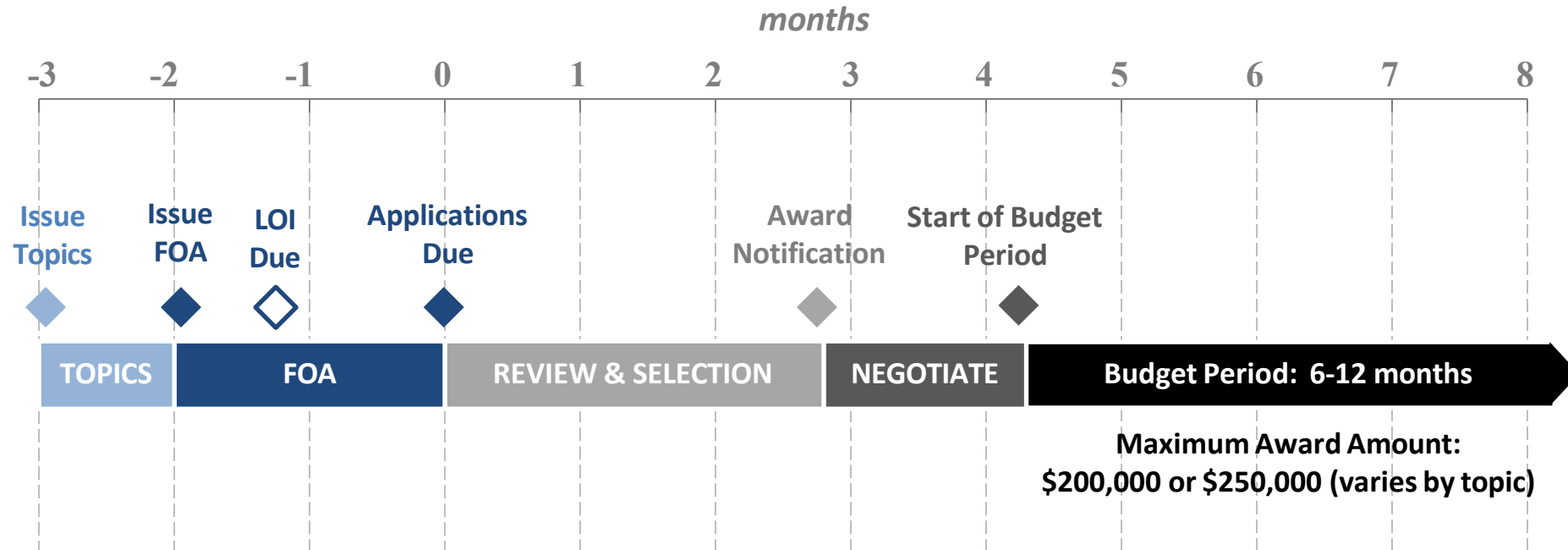
Selection:

- **DOE ranks the most meritorious applications—award selections are made based on available funding**

You will be notified of the decision on your application within 90 days of the application deadline

- Reviewer comments will be made available to you through PAMS. Use this feedback constructively to improve future applications

# Phase I Application & Award Timelines





## DOE SBIR & STTR Programs: More on Applications...



# Data Management Plan



- Purpose – Disseminate, as widely as possible, data generated with public funding
- Requirement – All SBIR and STTR applications must select one of the two Data Management Plan (DMP) options below:
  - Option 1
    - The Option 1 DMP is: “It is anticipated that all generated digital data will be protected as SBIR/STTR data and therefore will not be publicly shared during the applicable SBIR/STTR data protection period.” If any data generated under this award are published, an effort will be made to also release any related digital data that is not protected SBIR/STTR data.”
    - Please note that if you do not include a DMP with your application, Option 1 for the DMP will be assumed for your application. However, if you plan to publicly disclose generated digital data, you must provide a DMP under Option 2.
  - Option 2
    - If you plan to publicly disclose technical data during the data protection period or, for data not expected to be asserted as protected SBIR/STTR rights data, please submit a DMP. Use the DMP requirements outlined in the FOA.



# Foreign Relationships Disclosure Form



- Per the SBIR/STTR Extension Act of 2022, you are now **required** to submit a Disclosure of Foreign Relationships using the form on: <https://science.osti.gov/sbir/Applicant-Resources/Grant-Application>
- You are required to utilize the latest form
- Your application may be declined if the form is not included
- The disclosure is attached to Field 12 of the Research and Related Other Project Information Form
- Even if your small business has no foreign relationships, you must complete the form *and sign it* to certify

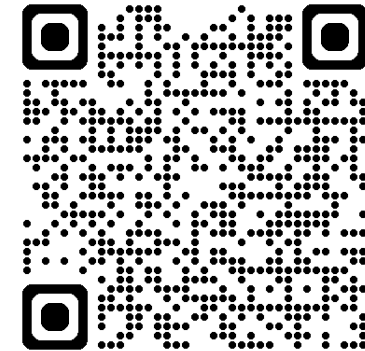
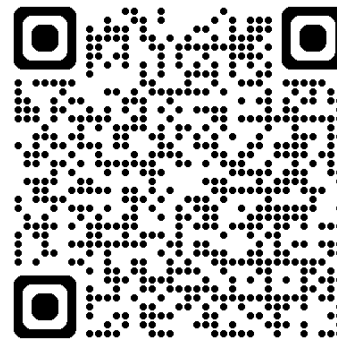




# Biosketches and Current and Pending Support



- Biographical Sketches (biosketches) and Current and Pending Support (CPS) must be provided for the PI and all persons included in the Key/Senior Person section of the grant application
- DOE strongly recommends that applicants use the SciENCv format approved by the National Science Foundation (NSF)
- Visit these links for instructions on your preparing [biosketches](#) and [CPS](#)



# Promoting Inclusive and Equitable Research (PIER) Plan



All applications must include a Promoting Inclusive and Equitable Research (PIER) Plan as an appendix to the research project narrative. The PIER Plan will be evaluated as part of the overall technical merit review.

The PIER plan should describe the strategies and activities of the applicant to promote equity and inclusion as an integrated element of the research and development project within the proposing small business concern.

Plans may include, but are not limited to:

- Plans of your small business concern and collaborating institutions (if applicable) to recruit individuals from diverse backgrounds and groups historically underrepresented (UR) in the research community;
- Plans to contribute to a research and development environment that fosters a safe, positive, and inclusive workplace, a sense of belonging among all personnel; and/or
- Supporting training, mentoring, and partnering with UR staff and or/ UR communities. Plans may leverage existing diversity, equity, accessibility, and inclusion efforts of the applicant small business concern, but should not be a statement of broad principles.



# Promoting Inclusive and Equitable Research (PIER) Plan



Applicants are encouraged to focus on areas, including but not limited to:

- The composition of the project team and partnering institutions
- The research environment—cultivating respectful, professional and accessible environments
- Equitable and inclusive implementation of the research project
- Partnering with underrepresented institutions and/or underserved communities

PIER Plan Requirements:

- Provided as an Appendix to the Project Narrative and 1-3 pages in length.
- May leverage existing Diversity, Equity, Inclusivity and Accessibility (DEIA) plans, but the plan should be tailored to and integral to the proposed project.
- Should include at least one specific, measurable, attainable, realistic and time-bound (SMART) milestone.
- The progress relative to the milestone will be a reporting requirement.
- The complexity and detail of PIER Plans are expected to increase with the size of the small business and the number of personnel supported.
- Funds may be requested for execution of PIER Plan consistent with allowable cost guidelines for financial assistance.



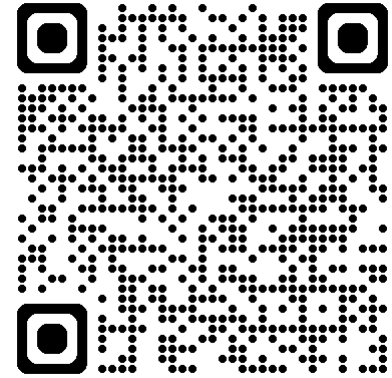
# Promoting Inclusive and Equitable Research (PIER) Plan



## Phase I Note:

Since the Phase I award is of limited duration (6 – 12 months) and the award size is \$200,000 to \$250,000, it is expected that, one-page PIER Plans are suitable and will be most typical. The PIER Plan should be simple, focused, and relevant to the scope and duration of the award.

Visit our guidance on the [PIER Plan](#)



*Genuine PIER plans are sought!*



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# Proprietary Data



An application may include technical data and other data, including trade secrets and commercial or financial information that are privileged or confidential, which the applicant does not want disclosed to the public or used by the Government for any purpose other than application evaluation.

Certain documents may contain proprietary information.





# Proprietary Data



To protect such data, the following guidelines must be followed:

The following legend must appear on the title page of the document:

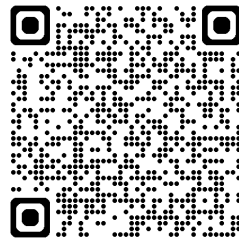
*This proposal contains information that shall not be disclosed outside the Federal Government and shall not be duplicated, used, or disclosed in whole or in part for any purpose other than evaluation of this proposal, unless authorized by law. The Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract if award is made as a result of the submission of this proposal. The information subject to these restrictions are contained on all pages of the proposal except for pages **[insert page numbers or other identification of pages that contain no restricted information.]***

The following legend must appear on each page of the proposal that contains information the Applicant wishes to protect:

*Use or disclosure of information contained on this sheet is subject to the restriction on the title page of this proposal.*

There are no longer marking requirements (highlight, asterisks, brackets) of specific text containing protected information.

[Instructions & Example](#)



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# Top Application Errors



Updating SAM registration at the last minute – and unable to submit on Grants.gov

Fail to submit letter of intent by the deadline

Fail to check level of effort is compliant (see slide 9)

Fail to meet PI effort requirements (a minimum of 3 hours/week on average)

Incorrect/missing marking of proprietary data. Instructions in FOA

Missing letters of commitment, required for each consultant and subaward

Proposing a technology that is not new

**Unresponsive to the subtopic/ Not clearly addressing technology need**

Not including the required documents

Proposal reflects unfamiliarity with the current literature

Budget form and budget justification are not in complete agreement. Subawards too!

**Not fully reading the FOA!!**

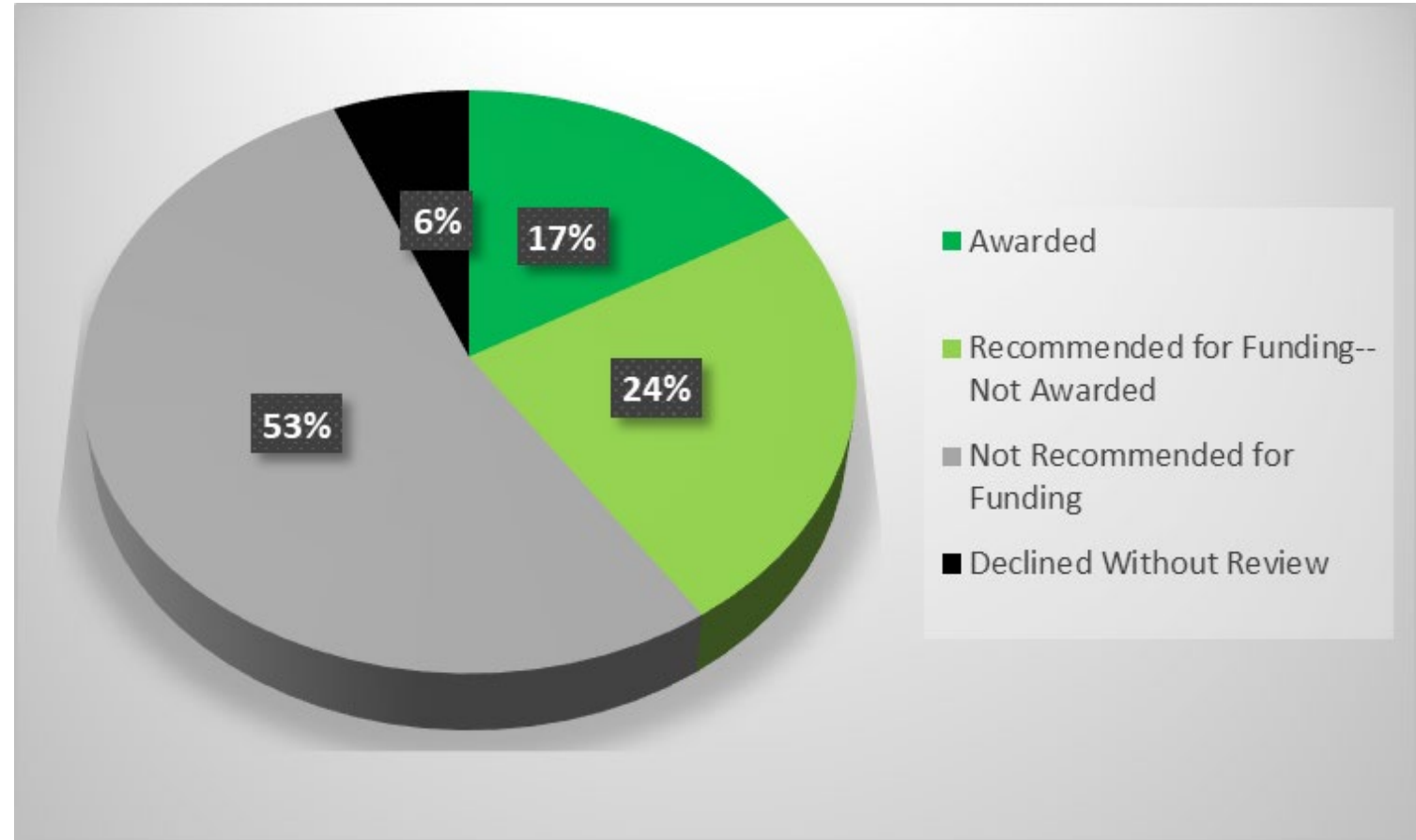


# Phase I Application & Award Statistics for FY 2024



## Phase I

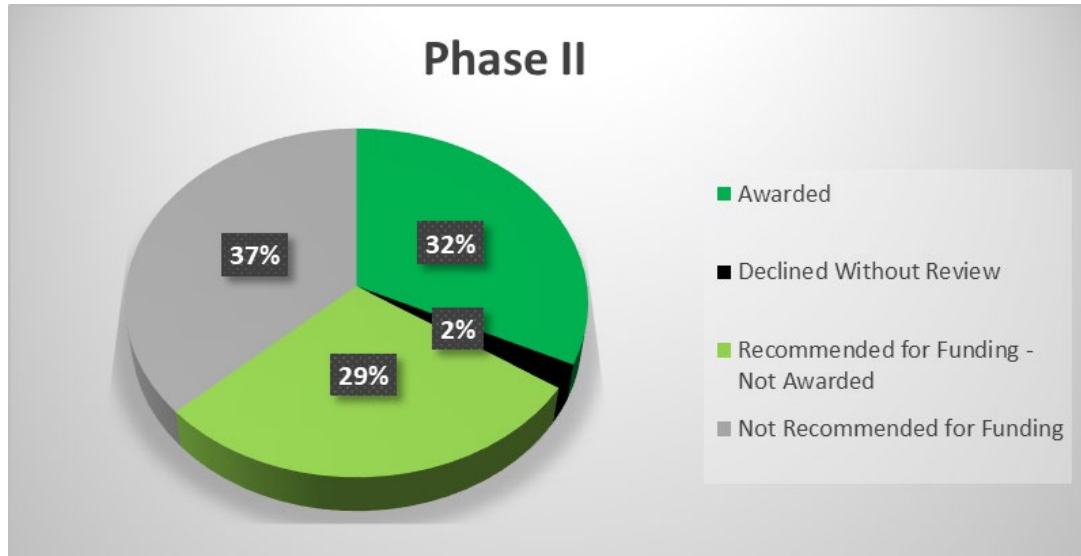
- 2088 applications
- 348 awards



# Phase II Application & Award Statistics for FY 2023

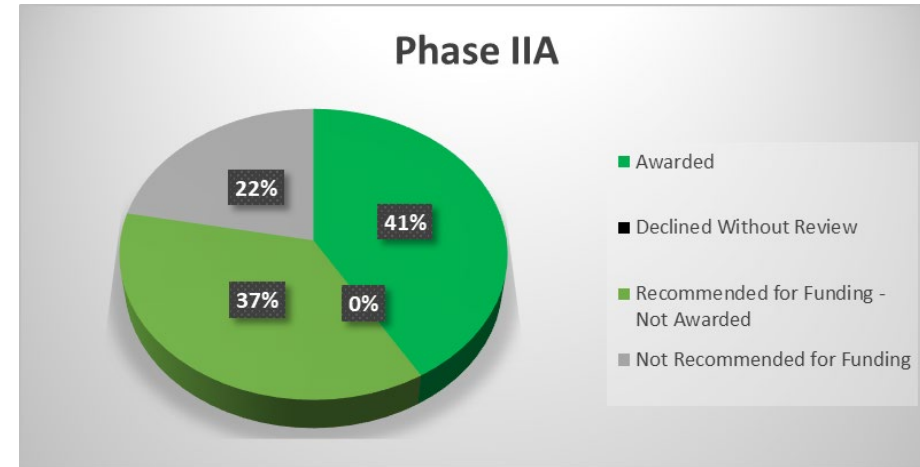
## Phase II

- 401 applications
- 129 awards



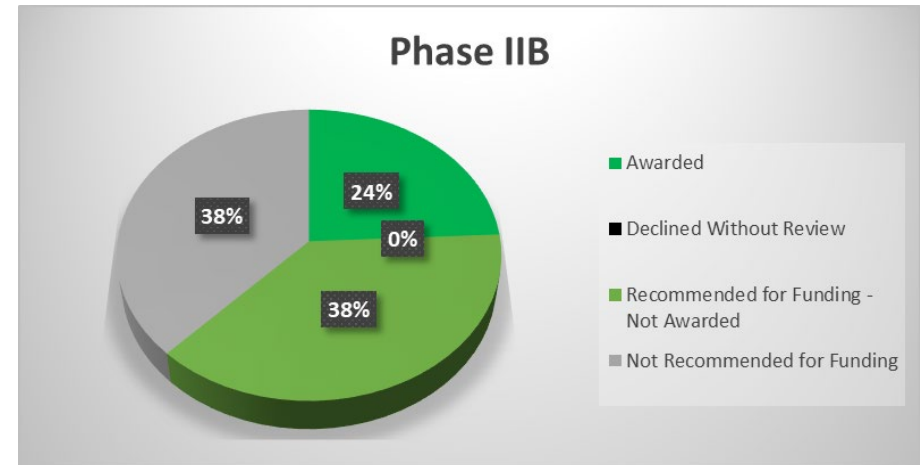
## Phase IIA

- 41 applications
- 17 awards



## Phase IIB

- 66 applications
- 16 awards





## DOE SBIR & STTR Programs: Applicant & Awardee Resources





# Phase I Principal Investigator Meeting



- Phase I Principal Investigators are expected to attend a two-day DOE SBIR/STTR Principal Investigator Meeting held in the DC area
  - **Release 1: June**
  - Release 2: October
- Objectives
  - In-person meetings with DOE program managers and DOE Commercialization Assistance provider
  - Presentations relating to Phase II application and Commercialization
  - Small business networking
- You may include the cost for the trip (registration, travel) in your Phase I budget
- Exceptions
  - If the DOE program office that funds your topic has a separate principal investigator meeting, you will be notified that your participation in the Phase I PI meeting is optional



# Commercialization Assistance



## Technical and Business Assistance (TABA)

\$6,500 above maximum award amount in Phase I

- a) Select your own vendor
- b) Use DOE vendor

\$50,000 above maximum award for Phase II

Current vendor: <http://www.larta.org/doecap>

## Phase Shift I (formerly Energy I-Corps)

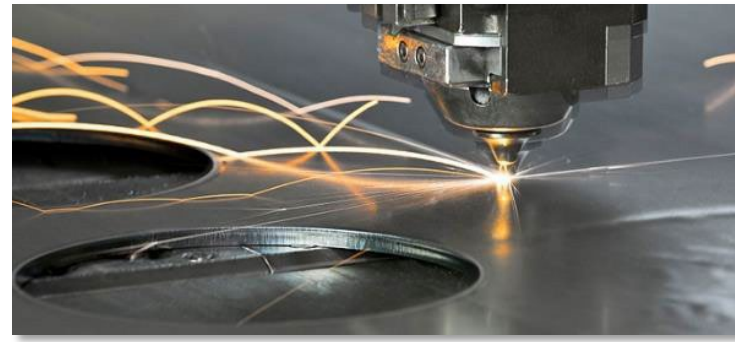
- Selected applicants participate in a 2-month training program
- Designed to educate on entrepreneurial concepts
- 30 customer interviews



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# Commercialization



- DOE topics are drafted by program managers who are aware of the important technology roadblocks that are preventing progress in their mission areas.
- Small business applicants are expected to address the commercialization challenges and ensure that there is a profitable, self-sustaining, business opportunity
  - Phase I Applications must include Commercialization Plans
  - Commercialization Plans can accommodate long commercialization timeframes
  - Ability to address adjacent markets can also be included in your commercialization plan
- DOE performs follow-up surveys to track commercialization outcomes of its SBIR/STTR awards.



# Partnering Resources for Phase I Applicants



- Looking to partner with a national lab – check out the [Lab Partnering site](#) to find relevant SME and facilities. The site is easily searchable by key word, industry, and technology areas.
  - [Find SBIR contacts for each National Lab](#)
  - [Learn about Lab-Entrepreneurial Embedded Program](#)
  - [Learn about a program offering commercialization support at NREL](#)
- **New [SBIR Partnering Platform](#)** provides searchable database where SBIR/STTR applicants (**INNOVATORS**) can find potential **PARTNERS** and network with other **INNOVATORS** to complete your team through collaboration and/or subcontract



<https://www.sbirpartnering.com/>



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<https://science.osti.gov/sbir/Partnering-Resources>

# SBIR Partnering Platform



- Features:
  - Find PARTNERS using keyword and AI searching; myriad of filtering options
  - Find SBIR funding opportunities **across all agencies**
  - Bookmark favorites; Confidential messaging
  - Network with other **INNOVATORS** on the **Community Page** to collaborate/subcontract with other **INNOVATORS** to complete your team or add SMEs
  - Newsfeed for applicable industry/stakeholder news
- As a DOE SBIR/STTR applicant, register as an **INNOVATOR**; check out the [Platform Overview for Innovators](#) webinar
- Reach out to [Carol Rabke](#) with any questions

The screenshot shows the 'Community Social Feed' interface. At the top, there is a navigation bar with 'My Dashboard / Community' and a 'Create Post' button. Below this is a header for the 'Community Social Feed' with a sub-header: 'This community is meant to foster collaboration and partnering among innovators. Posts containing excessive business sales/solicitation information will be removed.' There are two dropdown menus: 'Filter by' (set to 'All') and 'Sort by' (set to 'Recent'). The main content area displays three posts. The first post is by Gilberto D. (January 23) titled 'Battery and Solar Panel Sourcing.' The second post is by Michael F. (January 19) titled 'NGA - Boosting Innovative GEOINT - Science & Technology Broad Agency Announcement'. The third post is also by Michael F. (January 19) titled 'DOE - Data Reduction for Science Funding Opportunity - DE-FOA-0003266'. To the right, there is an 'Announcements' section for the past 30 days, including 'America's Seed Fund Week Virtual Road Tour' and 'Now Accepting Applications for the DOE SBIR/STTR FY24 virtual Partner Pitch Program'. A note at the bottom of the announcements section says: 'To see older announcements, set the filter in the social feed to "Admin announcements"'. Each post in the feed includes a profile picture, name, date, and a 'Looking to collaborate/subcontract on a particular topic and/or project' tag.



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**DOE Disclaimer:** By enabling and publishing the DOE SBIR Partnering Platform, DOE is not endorsing, sponsoring, or otherwise evaluating the qualifications of the individuals and organizations that appear on this platform as partners, resources, awardees or innovators.



# DOE Office of Inspector General: Fraud, Waste & Abuse



# DOE Office of Inspector General

## Combating Fraud



- *What types of fraud are found in the SBIR Program?*
- Application Process
  - submitting a plagiarized proposal
  - providing false information regarding the company, the Principal Investigator (PI), or work to be performed
  - seeking funding for work that has already been completed
- During Award
  - using award funds for personal use or for any use other than the proposed activities
  - submitting plagiarized reports or reports falsely claiming work has been completed
  - claiming results for an award that were funded by a different source



# DOE Office of Inspector General

## Knowing the Rules



- ***Which SBIR rules should you be particularly familiar with?***
  - Duplicate or overlapping proposals may not be submitted to multiple agencies without full disclosure to all agencies.
  - The company must meet SBA's requirements for a small business, including being majority American owned and have 500 employees or fewer.
  - For SBIR: The PI's primary employment must be with the company during the grant period. The PI may not be employed full time elsewhere.
  - For SBIR: For Phase I, a minimum of two thirds of the research effort must be performed by the grantee company; for Phase II, a minimum of one-half of the research effort must be performed by the grantee company. Work performed by a university research lab is NOT work completed by the grantee company.
  - University employees participating on an SBIR award should disclose their involvement to the university as well as their use of university facilities.
  - R&D must be performed in the United States.



# DOE Office of Inspector General

## Consequences



- ***What Happens If You Break the Rules?***
  - If you commit fraud or other wrongdoing in applying for or carrying out an SBIR award, we will investigate.
  - We refer violations of civil or criminal law to the Department of Justice (DOJ). If DOJ prosecutes you for fraud or false statements, you may be sentenced to prison and required to pay full restitution. If DOJ pursues a civil action under the False Claims Act, you may have to pay treble damages and \$11,000 for each false claim. In addition, DOE may terminate your awards and debar you from receiving grants or contracts from any federal agency.



October 4, 2022

# Recent Prosecution



## Lexington Woman Sentenced for Wire Fraud and Money Laundering

The United States District Court, Eastern District of Kentucky, sentenced Jyoti Agrawal (Agrawal) to **42 months in federal prison** for conspiracy to commit wire fraud, wire fraud, and money laundering.

According to evidence at her trial, Agrawal was a co-owner of the company ScienceTomorrow, with Subhadarshi Nayak. In December 2013, Agrawal agreed with Nayak to electronically submit a proposal containing a fabricated letter of support from a key subcontractor, in order to increase their chances of receiving a Phase II SBIR grant from the Department of Energy (DOE), in the amount of \$999,266.00, to research and develop a scanning electron microscope detector. Agrawal knew the fake letter inflated the budget an out-of-state university had provisionally authorized in support of the project.

In 2014, the DOE awarded the Phase II grant to ScienceTomorrow, in part relying on this misrepresentation. Agrawal ultimately received more than a million dollars for the project from DOE, and **\$500,000** from Kentucky's state matching funds program, which depends on the lawful receipt of a federal grant award.

The evidence further showed that Agrawal had controlled the money and that Nayak left the project early on. Ultimately, the out-of-state university did not work on the project, as proposed, and received no payments. Bank records established Agrawal had personally accumulated over \$440,000 of DOE grant funds during the two-year performance period. Agrawal also spent an additional \$146,000 of the DOE Phase II funds on an MBA degree in Chicago, during this time, partially supporting her money laundering conviction. Subsequently, Agrawal submitted false certifications to the DOE, stating all funds had been expended in accordance with DOE terms/conditions; however, the evidence at trial revealed she had unlawfully retained over \$300,000 of the DOE funds she certified she had spent on the project.

**Nayak was also convicted and sentenced in December 2021.**

As part of her sentencing, Agrawal was ordered to pay restitution in the amount of **\$1,048,255.00 to DOE and \$500,000 to Kentucky**. Nayak was also assigned restitution in conjunction with Agrawal.



# DOE Office of Inspector General

## Reporting Fraud



- The Department of Energy's Office of Inspector General (OIG) promotes the effective, efficient, and economical operation of DOE's programs and operations through audits, inspections, investigations, and other reviews.
- Within DOE OIG, the Office of Investigations is responsible for investigating any fraudulent acts involving DOE, its contractors or subcontractors, or any crime affecting the programs, operations, Government funds, or employees of those entities.
- ***If you want additional information or to report wrongdoing:***

**Internet:** [ig.energy.gov](http://ig.energy.gov)

**E-mail:** [ighotline@hq.doe.gov](mailto:ighotline@hq.doe.gov)

**Telephone:** 202-586-4073

**Hotline:** 800-541-1625

**Fax:** 202-586-5697

U.S. DEPARTMENT OF ENERGY  
OFFICE OF INSPECTOR GENERAL  
ATTN: OFFICE OF INSPECTIONS  
1000 INDEPENDENCE AVENUE,  
SW MAIL STOP 5D-031  
WASHINGTON, DC 20585



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# DOE SBIR/STTR Summary of Resources



Early-Stage  
Innovation  
SBIR & STTR

Commercialization  
Private Funding



Applicant Resources

Phase 0 Application Assistance

Free for first-time applicants

Phase Shift I & Phase Shift II (formerly I-Corps)

TABA funds (\$6,500 Ph I and \$50,000 Ph II)

Partnering Resources and Phase II Workshops

NERSC Computing Resources

Diversity Supplement for Phase II Awardees

Awardee resources



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# Thank you!



## Get organized!

- Take advantage of [Phase 0](#) and other resources if you are a first-timer!

Reach out to us:

- [sbir-sttr@science.doe.gov](mailto:sbir-sttr@science.doe.gov)
- [eileen.chant@science.doe.gov](mailto:eileen.chant@science.doe.gov)



Read our many [Phase III success stories](#), which contain a wealth of case studies on successful startups!



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