



***DOE's  
Small Business Innovation Research (SBIR) and Small  
Business Technology Transfer (STTR) Programs***

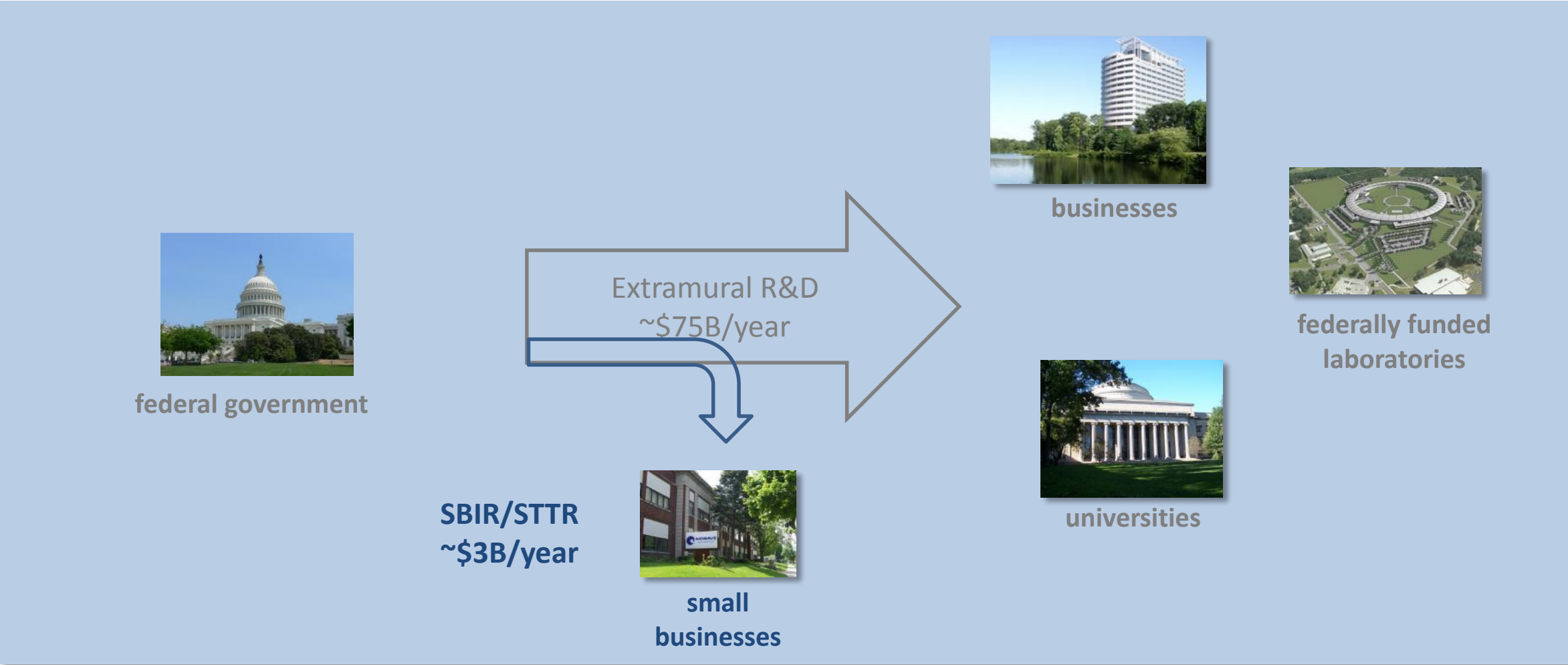
***Manny Oliver  
Director, DOE SBIR/STTR Programs Office***

***FY19 Phase I Release 1 Overview  
August 27, 2018***

# Overview of Federal SBIR/STTR Programs



# FEDERAL Extramural R&D



# Program Goals

## **Small Business Innovation Research (SBIR)** *est. 1982*

- Stimulate technological innovation
- Use small business to meet Federal R&D needs
- Foster and encourage participation by women and socially and economically disadvantaged persons in technological innovation
- Increase private-sector commercialization of innovations derived from Federal R&D

## **Small Business Technology Transfer (STTR)** *est. 1992*

- 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

*SBIR and STTR were reauthorized on December 23, 2016 (P.L. 114-840) through September 30, 2022*



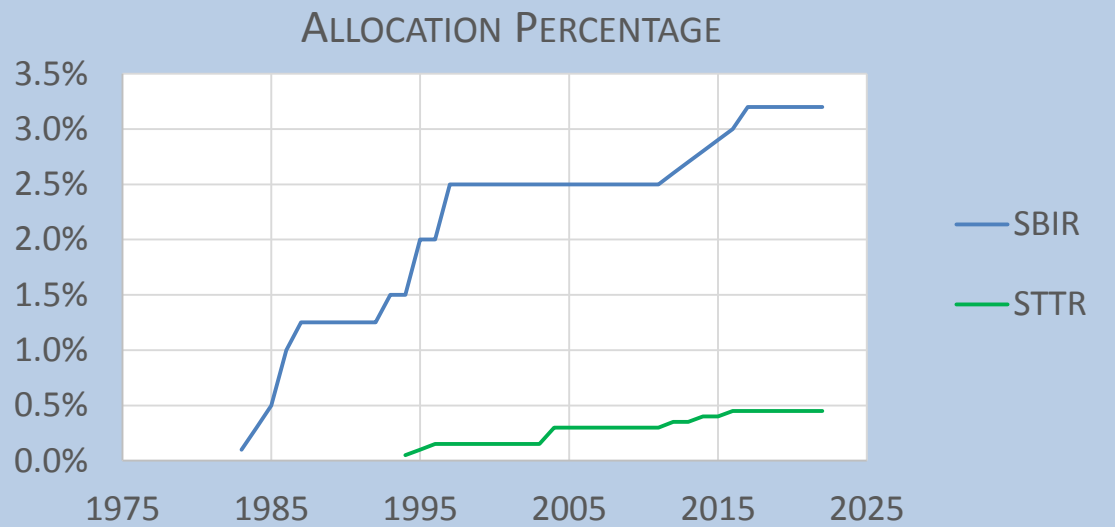
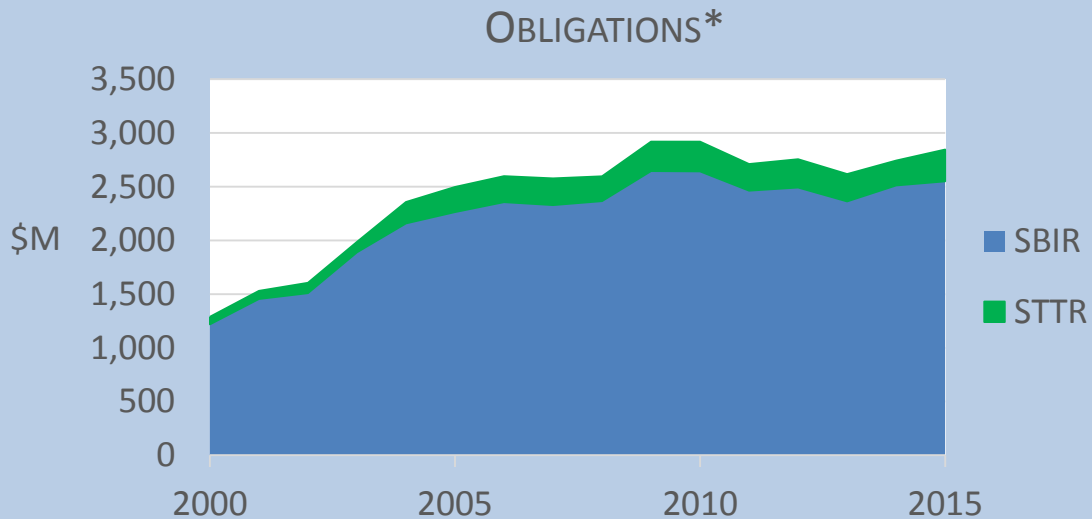
# Major Differences between SBIR & STTR

- STTR: Requires collaboration with a Research Institution
  - Research Institution
    - College, University, Federal R&D Laboratory, other non-profit research organization
- Principal Investigator primary employment
  - SBIR: employed by the small business
  - STTR: employed by the small business OR research institution
- Percentage of R/R&D conducted by the small business
  - SBIR
    - Phase I: minimum 2/3 by small business
    - Phase II: minimum 1/2 by small business
  - STTR:
    - Phase I & II: minimum 40% by small business; minimum 30% by research institution
  - Subcontracting is permitted provided the level of effort requirements above are met



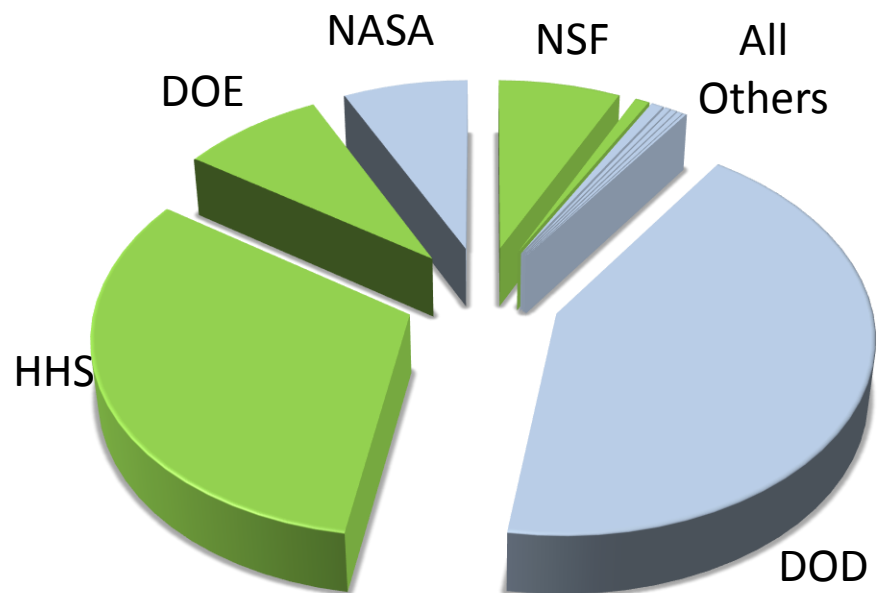
# SBIR & STTR Funding Levels

- Agencies allocate a percentage of their extramural R/R&D budgets for the SBIR & STTR programs
  - SBIR: 3.2% (FY 2019), for agencies with >\$100M in extramural R/R&D
  - STTR: 0.45% (FY 2019), for agencies with >\$1B in extramural R/R&D
- Congress has increased the allocation percentages since the programs were initiated

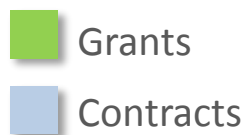


\*source: SBIR.gov, 8/22/2016

# SBIR/STTR Budgets by Agency, FY2015



~ \$2.5B in FY2015 across all agencies



Agencies with SBIR and STTR Programs	Budget
Department of Defense (DOD)	\$ 1.070 B
Department of Health and Human Services (HHS), including the National Institutes of Health (NIH)*	\$797.0 M
Department of Energy (DOE), including Advanced Research Projects Agency – Energy (ARPA-E)	\$206.1M
National Aeronautics and Space Administration (NASA)	\$ 180.1 M
National Science Foundation (NSF)	\$176.0 M
Agencies with SBIR Programs	Budget
U.S. Department of Agriculture (USDA)	\$20.3M
Department of Homeland Security (DHS): Science and Technology Directorate (S&T) and Domestic Nuclear Detection Office (DNDO)	\$17.7 M
Department of Commerce: National Oceanic and Atmospheric Administration (NOAA) and National Institute of Standards and Technology (NIST)*	\$8.4M
Department of Transportation (DOT)	\$7.9 M
Department of Education (ED)	\$7.5 M
Environmental Protection Agency (EPA)	\$4.2 M

\*NIH also issues contracts

# Small Business Eligibility for SBIR & STTR

- For-profit U.S. business
- 500 employees or fewer, including affiliates
- Ownership (*applies to all agencies*)
  - Be a concern which is more than 50% directly owned and controlled by one or more individuals (who are citizens or permanent resident aliens of the United States), other 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 United States), or any combination of these
  - Joint ventures where the entities meet the requirements above
- Portfolio Companies (*currently only NIH & ARPA-E*)
  - Be a concern which is more than 50% owned by multiple venture capital operating companies, hedge funds, private equity firms, or any combination of these. No single venture capital operating company, hedge fund, or private equity firm may own more than 50% of the concern.
- Performance of R&D
  - All R&D must be performed in the United States





# 3 Phases

## PHASE I: FEASIBILITY, PROOF OF CONCEPT

- Award Amount: \$150,000 (guideline), \$225,000 (max.)
- Project Duration: 6-12 months



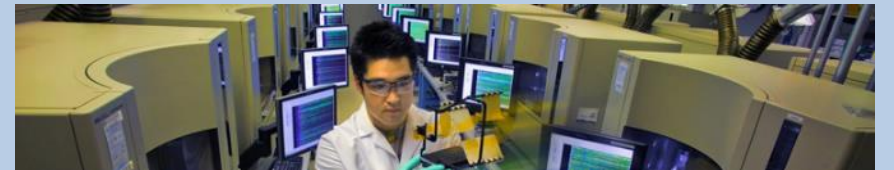
## PHASE II: CONTINUE R/R&D FOR PROTOTYPES OR PROCESSES

- Award Amount: \$1,000,000 (guideline), \$1,500,000 (max.)
- Project Duration: 2 years
- Additional Phase II awards can be made



## PHASE III: COMMERCIALIZATION

- Federal or Private Funding (non-SBIR/STTR funds)
- No dollar or time limits



# SBIR and STTR Awards

- Critical Early Stage R/R&D funding
  - The SBIR & STTR programs provide funding for innovative, early stage research
  - SBIR & STTR awards provide credibility when seeking investors or partners
- SBIR/STTR awards are executed as grants or contracts
  - No repayment
  - No dilution of company equity
  - No cost sharing is required for Phases I and II. Cost sharing may not be used as an evaluation criteria.



# Intellectual Property

- Patent rights
  - Small business concerns normally 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

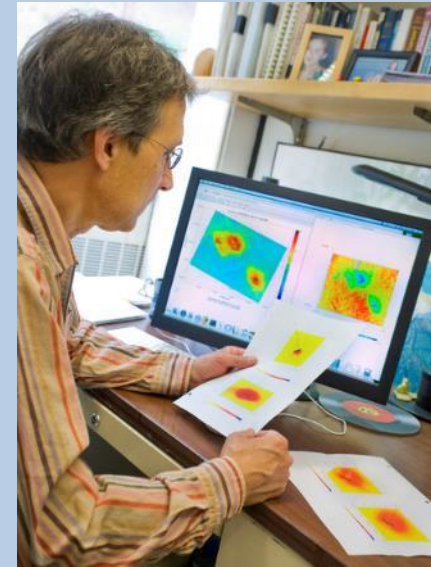


<http://www.uspto.gov/>



# Data Protection

- Protection Period
  - Data generated from your R/R&D is protected from public disclosure for a minimum of 4 years (civilian agencies) or 5 years (DoD) after the conclusion of your award (Phase I, Phase II, or federally funded Phase III)
- 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



DOE SBIR & STTR Programs: Technology Areas



# U. S. 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.

## Program Offices Participating in the DOE SBIR/STTR Programs

Cyber Security, Energy Security & Emergency Response

Electricity

Energy Efficiency & Renewable Energy

Fossil Energy

Nuclear Energy

Advanced Scientific Computing Research

Basic Energy Sciences

Biological & Environmental Research

Fusion Energy Sciences

High Energy Physics

Nuclear Physics

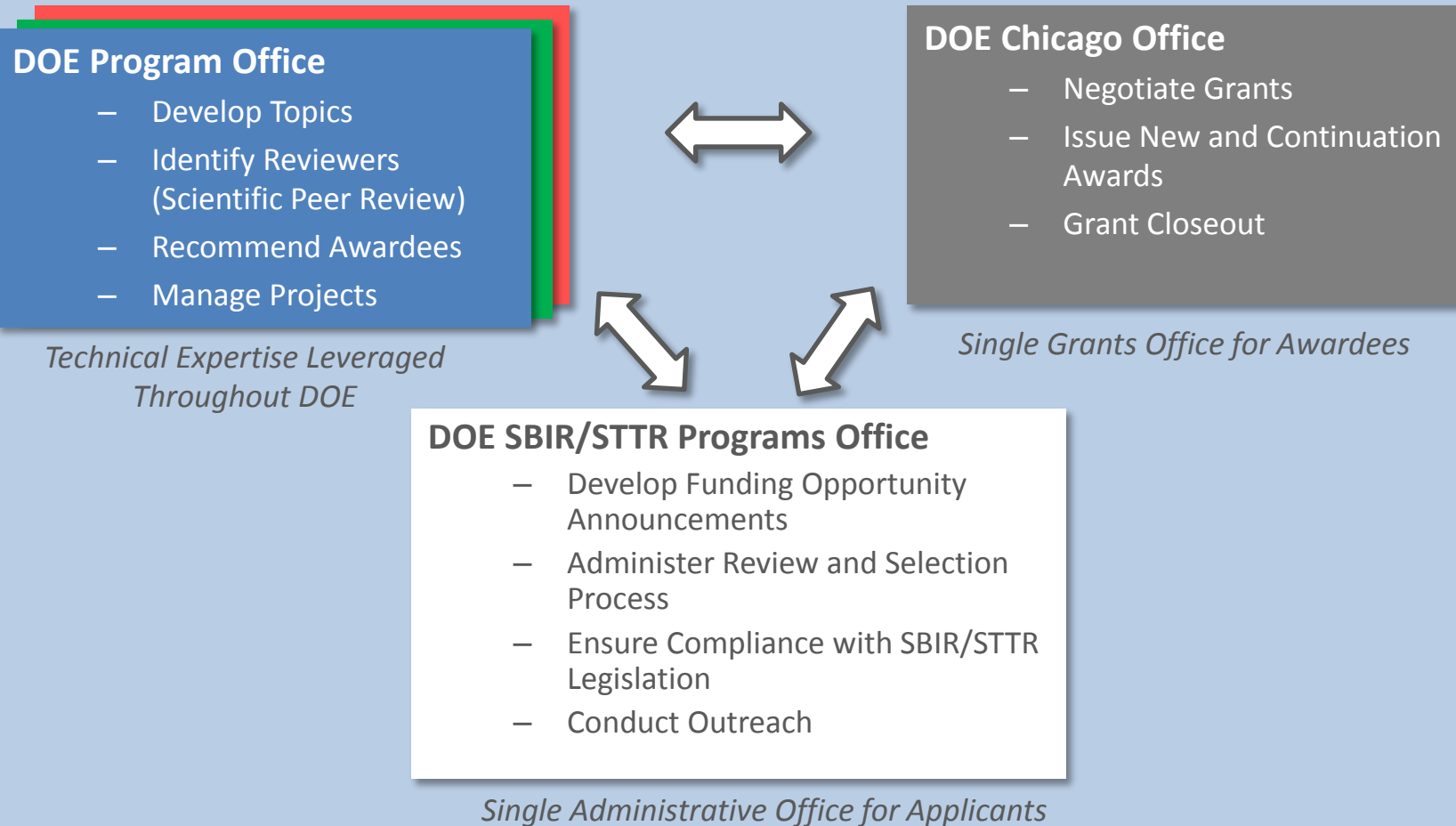
Defense Nuclear Nonproliferation

Environmental Management





# DOE SBIR and STTR Programs Operational Process



# Information Available at DOE Program Office Websites

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

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Save Energy, Save Money >

**Partnering With Small Businesses to Advance the Mission**

**Video: What is Additive Manufacturing?**

Watch and learn about additive manufacturing —a process commonly referred to as 3D printing.

[View more videos.](#)



# DOE Program Offices supporting Goal 1: Energy Technologies

- [Office of Electricity Delivery and Energy Reliability](#)
- [Office of Energy Efficiency and Renewable Energy](#)
- [Office of Fossil Energy](#)
- [Office of Nuclear Energy](#)



## R&D Topic Areas

- Clean Coal Technologies
- Advanced Turbine Technology
- Oil and Gas Technologies
- Advanced Materials and Technologies for Nuclear Energy
- Smart Grid Technologies
- Energy Storage
- Bio-energy & Biofuels
- Hydrogen & Fuel Cells
- Solar Power
- Water Power
- Wind Energy
- Advanced Manufacturing
- Efficient Buildings & Vehicles



# DOE Program Offices Supporting Goal 2: Science and Engineering Leadership

- [Advanced Scientific Computing Research](#)
- [Basic Energy Sciences](#)
- [Biological and Environmental Research](#)
- [Fusion Energy Sciences](#)
- [High Energy Physics](#)
- [Nuclear Physics](#)

## R&D Topic Areas

- Advanced Detectors
- Accelerator technology
- RF Components and Systems
- Data Acquisition, Processing and Analysis
- Fusion Energy Systems
- High Performance Computing & Networking
- Modeling and Simulation
- Atmospheric Measurement Technology
- Genomic Science and Related Biotechnologies
- Advanced Sources: neutron, x-ray, electron



# DOE Program Offices Supporting Goal 3: Nuclear Security

- [Office of Defense Nuclear Nonproliferation](#)
- [Office of Environmental Management](#)



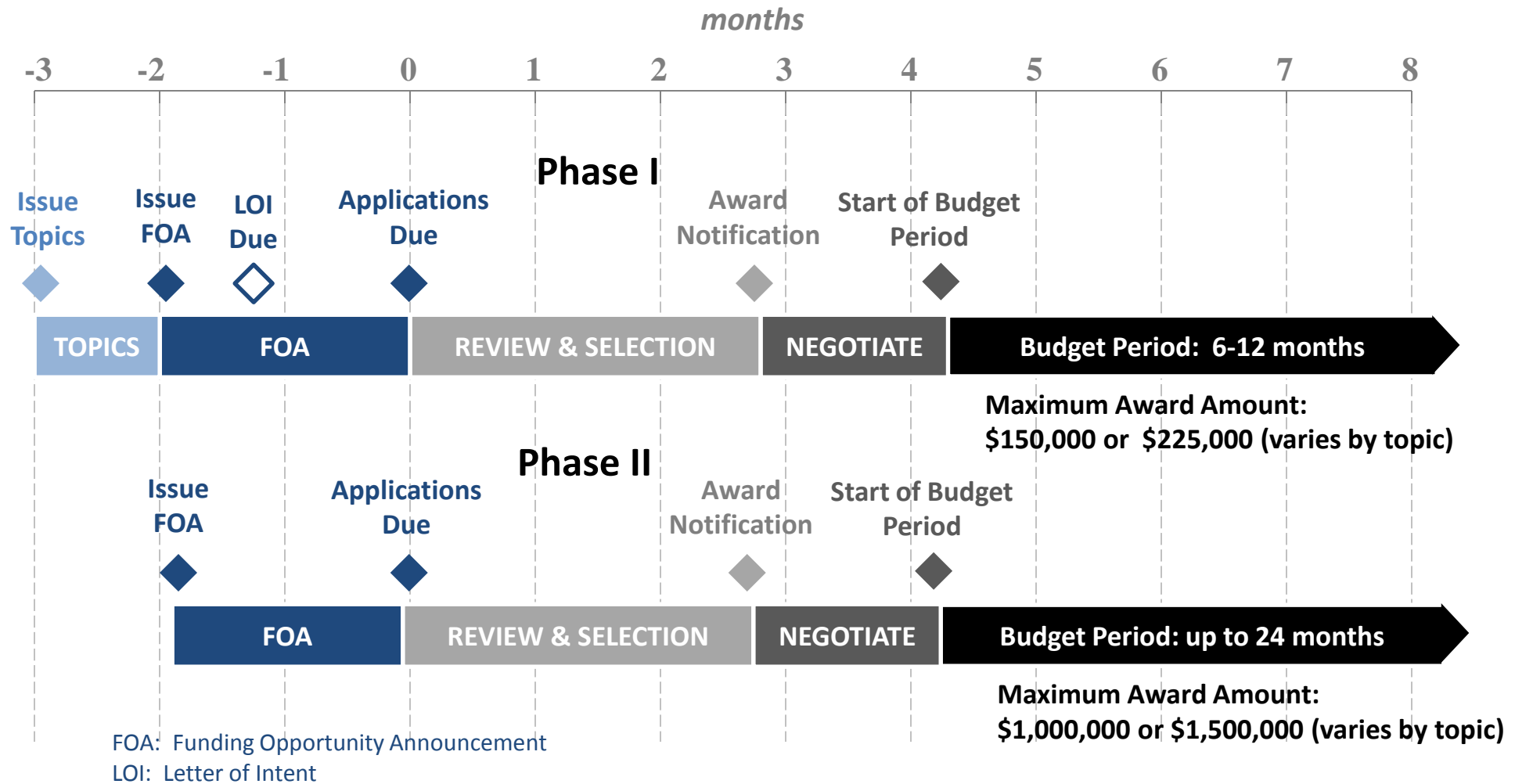
## R&D Topic Areas

- Novel Radiation Monitoring Concepts
- In Situ Remediation
- Facility Deactivation and Decommissioning
- Remote Sensing
- Global Nuclear Safeguards R&D
- Nuclear Detonation Detection

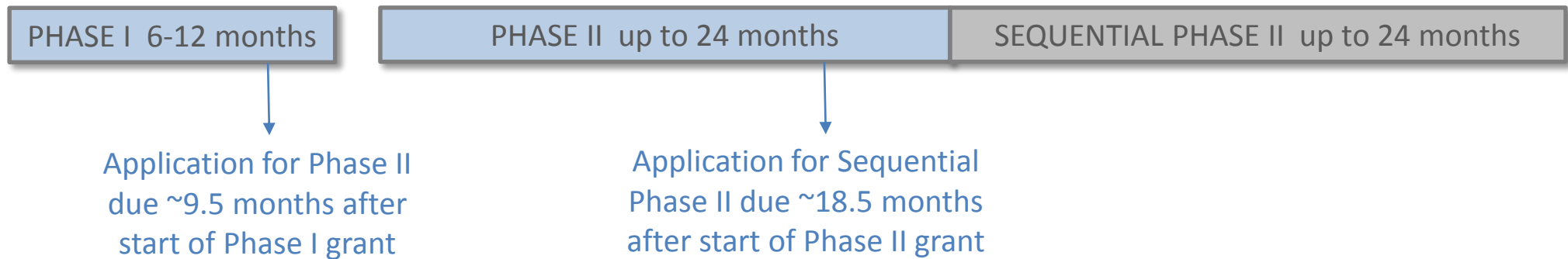
# DOE SBIR & STTR Programs: Application & Award Process



# Application & Award Timelines



# Award Sequence



## Sequential Phase II Awards (Maximum Award Amount: \$1,000,000)

- Phase IIA: For projects requiring more time and funding than available with a single Phase II award to complete prototype or process development
- Phase IIB: For projects that have successfully completed prototype or process development and require additional R&D funding to transition an innovation towards commercialization

# FY 2019 SBIR/STTR Phase I Funding Opportunity Announcements

## Phase I Release 1

- Office of Advanced Scientific Computing Research (ASCR)
- Office of Basic Energy Sciences (BES)
- Office of Biological and Environmental Research (BER)
- Office of Nuclear Physics (NP)

## Phase I Release 2

- Office of Cyber Security, Energy Security, and Emergency Response (CESER)
- Office of Defense Nuclear Nonproliferation (NA)
- Office of Electricity (OE)
- Office of Energy Efficiency and Renewable Energy (EERE)
- Office of Fossil Energy (FE)
- Office of Fusion Energy Sciences (FES)
- Office of High Energy Physics (HEP)
- Office of Nuclear Energy (NE)

# Schedule: FY 2019 Phase I, Releases 1 & 2

Phase I FOA Schedule	Release 1	Release 2
Topics Issued	Monday, July 16, 2018	Monday, October 29, 2018
Webinar(s)	Week of July 30, 2018	Week of November 05, 2018
FOA Issued	Monday, August 17, 2018	Monday, November 26, 2018
Webinar(s)	Monday, August 27, 2018	Friday, November 30, 2018
Letters of Intent (LOI) Due	Tuesday, September 04, 2018	Monday, December 17, 2018
Non-Responsive LOI Feedback Provided	Tuesday, September 25, 2018	Monday, January 07, 2019
Applications Due	Monday, October 15, 2018	Monday, February 04, 2019
Award Notification	Monday, January 07, 2019*	Monday, April 29, 2019*
Projected Grant Start Date	Tuesday, February 19, 2019	Monday, June 10, 2019

*\*preliminary dates subject to change*



# Schedule: FY 2019 Phase II, Releases 1 & 2

Phase II FOA Schedule	Release 1	Release 2
FOA Issued	Monday, December 10, 2018	Monday, March 04, 2019
Letters of Intent Due (Supplemental Phase II only)	Monday, January 07, 2019	Monday, April 01, 2019
Full Applications Due	Tuesday, January 29, 2019	Tuesday, April 23, 2019
Award Notification	Monday, April 15, 2019*	Monday, July 08, 2019*
Grant Start Date	Tuesday, May 28, 2019	Monday, August 19, 2019

*\*preliminary dates subject to change*

# Online Assistance for the Application Process

- We have an online learning system to assist new applicants:
  - <http://www.doesbirlearning.com/>
- Additional resources can be found on our website:
  - <https://science.energy.gov/sbir/applicant-resources/>



# 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 2019**  
**Phase I**  
**Release 1**

Version 2, July 24, 2018

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

# Example Topic

- Topic & Subtopic
  - You must specify the topic and subtopic in your letter of intent and application
- Topic Header
  - Lists the maximum award amounts for Phase I & Phase II and whether SBIR & STTR applications are accepted
- Program Manager
  - Each subtopic lists the responsible DOE program manager
- Other Subtopic
- References

## 7. INSTRUMENTATION FOR ADVANCED NANOMETER SCALE OPTICAL SPECTROSCOPY

Maximum Phase I Award Amount: <b>\$150,000</b>	Maximum Phase II Award Amount: <b>\$1,000,000</b>
Accepting SBIR Applications: <b>YES</b>	Accepting STTR Applications: <b>YES</b>

The Department of Energy seeks to advance optical nanoprobe technologies that facilitate fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels. The Department is particularly interested in forefront advances in imaging and analysis techniques that combine nanometer-scale through micron-scale spatial resolution, optical excitation and spectroscopic detection over a large wavelength range. Time-dependent phenomena at nanoscale dimensions are important and tools are needed to explore energy flow, exciton dynamics and charge transport in nanoscale materials, nanostructures and assemblies of nanostructures for use in present and future energy applications. Grant applications that do not fall within the topic will not be considered.

Grant applications are sought in the following subtopics:

- a. High Spatial Resolution Nanometer Scale Optical Spectroscopy**  
Information on carrier transport and dynamics phenomena associated with materials and nanostructures is often available from optical spectroscopies involving interactions with electromagnetic radiation ranging from the infrared spectrum to ultraviolet. Fast laser technologies can provide temporally resolved chemical information via optical spectroscopy or laser-assisted mass sampling techniques. These approaches provide time resolution ranging from the breakage or formation of chemical bonds to conformational changes in nanoscale systems but generally lack the simultaneous spatial resolution required to analyze individual molecules or nanostructures.

Grant applications are sought that make significant advancements in spatial resolution towards the single-nanometer for spectroscopic imaging instrumentation available to the research scientist. The nature of the advancement may span a range of approaches including sub-diffraction limit illumination or detection, selective sampling, and coherent or holographic signal analysis. Conventional Nearfield Scanning Optical Microscopy (NSOM) probes and techniques do not have sufficient spatial resolution, spectral range and optical coupling efficiency. An optical tip technology is needed that is potentially scalable to manufacturing, and will yield low-cost, high performance, robust instruments that are affordable by the larger scientific community.

Questions – Contact: George Maracas, [george.maracas@science.doe.gov](mailto:george.maracas@science.doe.gov)

- b. Other**  
In addition to the specific subtopics listed above, the Department invites grant applications in other areas that fall within the scope of the topic description above.

Questions – Contact: George Maracas, [george.maracas@science.doe.gov](mailto:george.maracas@science.doe.gov)

### References:

1. BESAC Subcommittee, 2015, Challenges at the Frontiers of Matter and Energy: Transformative Opportunities for Discovery Science, A Report from the Basic Energy Sciences Advisory Committee. (<http://science.energy.gov/bes/community-resources/reports/>).

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# Technology Transfer Opportunities (TTOs)

- An opportunity to transfer inventions made by a DOE National Lab or university to your small business for commercialization
- Awardees receive
  - an SBIR/STTR grant and
  - an option to license the technology
- Please review TTO information section at the beginning of the topics document if you plan to submit an application to a TTO.







# Funding Opportunity Announcement (FOA)

- 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 9 weeks
- Communications with DOE program managers
  - Open communication permitted to clarify the scope of the topic and subtopic prior to submitting an application

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



**FY 2019 PHASE I RELEASE 1**

**FUNDING OPPORTUNITY ANNOUNCEMENT (FOA) NUMBER:  
DE-FOA-0001940**

**FOA TYPE: INITIAL  
CFDA NUMBER: 81.049**

FOA Issue Date:	August 17, 2018
Submission Deadline for Letters of Intent:	Tuesday, September 4, 2018 5 PM Eastern
Submission Deadline for Pre-Applications:	N/A
Pre-Application Response Date:	N/A
Submission Deadline for Applications:	Monday, October 15, 2018 11:59 PM Eastern

# Commercialization

- DOE topics are drafted by program managers who are aware of the technology roadblocks but may not be aware of the commercialization challenges
- Small business applications are expected to address the commercialization challenges and ensure that there is a profitable business opportunity
  - Phase I & II Applications must include Commercialization Plans
  - Commercialization Plans accommodate long commercialization timeframes: emphasis on first 10 years of commercialization beginning with first sale
  - Ability to leverage the technology for follow-on markets can also be included
- DOE performs follow-up surveys to track commercialization outcomes of its SBIR/STTR awards





# 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

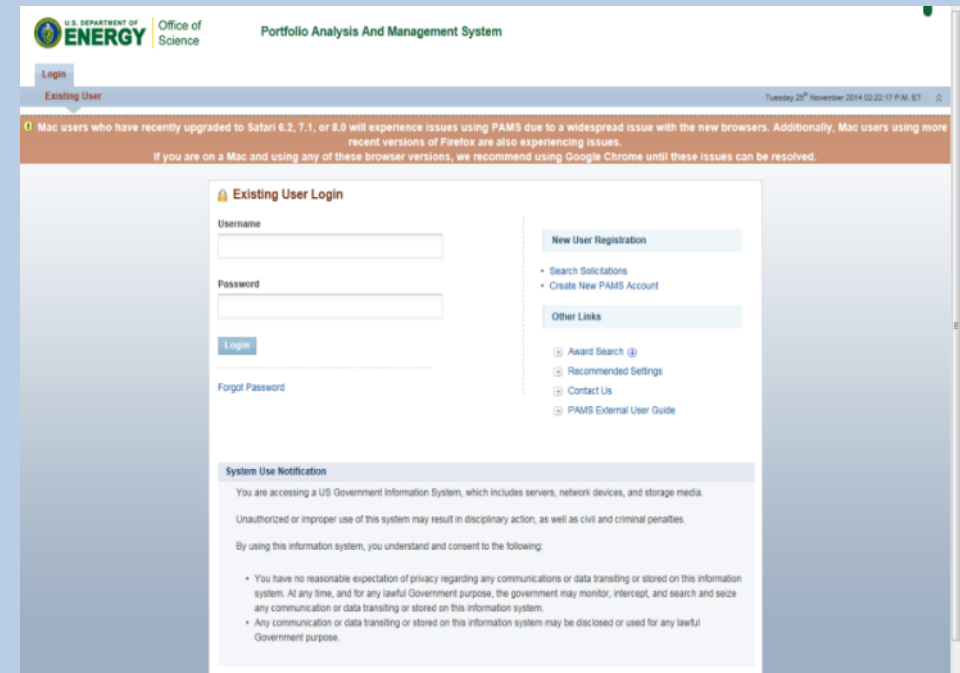
## Content of LOI

- 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

- Submit LOI online directly to the DOE Portfolio Analysis and Management System (PAMS) website:  
<https://pamspublic.science.energy.gov/>
  - Select “Create New PAMS Account” (if you do not have an account)
  - Submit your abstract as a PDF file
  - Utilize the [LOI instructions](#) available at the DOE website to ensure that you submit all the required information
  - For additional details on the LOI submission process, see the FOA



The screenshot shows the login page for the Portfolio Analysis and Management System (PAMS) on the U.S. Department of Energy website. The page header includes the DOE logo, 'Office of Science', and the system name. A navigation bar contains 'Login' and 'Existing User' links, along with a timestamp: 'Tuesday 20<sup>th</sup> November 2014 02:22:17 P.M. ET'. A warning banner at the top states: 'Mac users who have recently upgraded to Safari 6.2, 7.1, or 8.0 will experience issues using PAMS due to a widespread issue with the new browsers. Additionally, Mac users using more recent versions of Firefox are also experiencing issues. If you are on a Mac and using any of these browser versions, we recommend using Google Chrome until these issues can be resolved.' The main content area features an 'Existing User Login' form with fields for 'Username' and 'Password', a 'Login' button, and a 'Forgot Password' link. To the right, there is a 'New User Registration' section with links for 'Search Solicitations' and 'Create New PAMS Account', and an 'Other Links' section with links for 'Award Search', 'Recommended Settings', 'Contact Us', and 'PAMS External User Guide'. At the bottom, a 'System Use Notification' section provides a disclaimer: 'You are accessing a US Government Information System, which includes servers, network devices, and storage media. Unauthorized or improper use of this system may result in disciplinary action, as well as civil and criminal penalties. By using this information system, you understand and consent to the following:' followed by three bullet points regarding privacy, government monitoring, and disclosure of information.

# 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.

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

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.

*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.***



# Application Process: Registrations

- Applications must be submitted through [Grants.gov](https://www.grants.gov)
- Registration at Grants.gov is a 3 step process
  1. Obtain a DUNS number
  2. Complete a SAM registration.
    - Must be updated annually
  3. 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 (<http://www.sbir.gov/registration> ) and submit a copy of their registration with their grants.gov application

## Introduction to Grants.gov Video Series

The [Introduction to Grants.gov Video Series](#) covers the complete Grants.gov application process, from registering and creating a Grants.gov account to finding funding opportunities and completing an application package.



### Applicant Registration for Grants.gov, Part 1

Published on Aug 3, 2015

Learn how to get a DUNS number and register with the System for Award Management (SAM) before you register as an applicant on Grants.gov.



### Applicant Registration for Grants.gov, Part 2

Published on Aug 3, 2015

Learn how to complete the Grants.gov registration process after getting a DUNS number and registering with SAM.



### Understanding User Roles in Grants.gov

Updated on Feb 18, 2016

Learn about applicant user roles within the Grants.gov system and how these roles impact the application process.



### Searching for Funding Opportunities on Grants.gov

Updated on Feb 18, 2016

Learn about Grants.gov's powerful search engine, which allows users to find and apply for federal grants in a variety of ways.



### What is in a Grant Opportunity on Grants.gov?

Updated on Feb 18, 2016

Learn about the information that is included with every posting of a federal grant opportunity on Grants.gov.



### What's in an Application Package on Grants.gov?

Published on Aug 3, 2015

Learn all you need to know about filling in required fields on downloaded federal grant application packages.



### Submitting the Application Package on Grants.gov

Published on Aug 3, 2015

Learn how to submit a completed application package on Grants.gov.



### Confirmation Emails from Grants.gov

Published on Aug 3, 2015

Learn about the various confirmation emails users may receive after submitting a grant application through Grants.gov.



# Completing a Grants.gov Application

- Pdf application – Former Application Method
  - Was phased December 31, 2017
- Workspace – Current Application method
  - Online application completion and submission
  - Only option – started in 2018
  - Online tutorials are available

Package ID	Package Name	Status	Actions
10151-18-01-01	10151-18-01-01	Completed	Link Download
10151-18-01-02	10151-18-01-02	Completed	Link Download
10151-18-01-03	10151-18-01-03	Completed	Link Download
10151-18-01-04	10151-18-01-04	Completed	Link Download
10151-18-01-05	10151-18-01-05	Completed	Link Download
10151-18-01-06	10151-18-01-06	Completed	Link Download
10151-18-01-07	10151-18-01-07	Completed	Link Download
10151-18-01-08	10151-18-01-08	Completed	Link Download
10151-18-01-09	10151-18-01-09	Completed	Link Download
10151-18-01-10	10151-18-01-10	Completed	Link Download

# Completing an Application

- Important documents to assist you with completing the application package
  - Topics Document, Funding Opportunity Announcement, & Instructions are available at the [DOE SBIR/STTR website](https://www.doesbirlearning.com/)
  - Online tutorials are available at <http://www.doesbirlearning.com/>

U.S. Department of Energy

Small Business Innovation Research  
Small Business Technology Transfer

**Topics**  
FY 2019  
Phase I  
Release 1

Version 2, July 24, 2018

- Office of Advanced Scientific Computing Research
- Office of Basic Energy Sciences

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

U.S. Department of Energy (DOE)

**FY 2019 PHASE I REI**  
FUNDING OPPORTUNITY ANNOUNCEMENT  
DE-FOA-000194

FOA TYPE: INITIAL  
CFDA NUMBER: 51.102

FOA Issue Date:	August 1
Submission Deadline for Letters of Intent:	Tuesday, 5 PM EST
Submission Deadline for Pre-Applications:	N/A
Pre-Application Response Date:	N/A
Submission Deadline for Applications:	Monday, 11:59 PM

**Instructions for Completing a DOE SBIR/STTR Phase I Grant Application\***

*(For Phase II application, please refer to the respective Phase II Funding Opportunity Announcement)*

\*The current Funding Opportunity Announcement instructions always supersede these instructions.

Updated August 7, 2017



# Important Elements of Your Application

- Project Narrative
  - Page and word limits
    - Phase I: 15 pages, 7,500 words
    - Phase II: 20 pages, 10,000 words
- Budget & Budget Justification
- Key Personnel
- Commercialization Plans
  - Phase I commercialization plan
    - an example can be found here at <https://science.energy.gov/sbir/applicant-resources/grant-application/>
  - Phase II commercialization plan
- SBIR/STTR Information form
- Data Management Plan

## YOUR APPLICATION MUST INCLUDE THE FOLLOWING DOCUMENTS:

Name of Document	Format	Attach to
Application for Federal Assistance, SF 424 Form	PDF	
SF-LLL, Disclosure of Lobbying Activities, if applicable	PDF	Field 18
Research and Related: Budget Form	PDF	
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	
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	
Project Summary/Abstract	PDF	Field 7
Project Narrative	PDF	Field 8
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—Level of Effort 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

# 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.





# Top Application Errors

- Serious Errors (Applications Ineligible for Review or Administratively Declined)
  - *Failed to update SAM registration early—unable to submit application to Grants.gov by deadline*
  - *Failed to submit a Phase I Commercialization Plan*
    - Submit in Field 12 of the Research & Related : Other Project Information Form
- Other Errors (may limit funding eligibility or delay award processing, if recommended for award)
  - *Failed to accurately calculate level of effort (for SBIR and/or STTR)*
    - Use [Level-of-Effort worksheet](#) to assist you with the calculation
  - *Failed to properly mark proprietary data*
    - See FOA for instructions
  - *Attached Subaward Budget improperly*
    - Attach to R&R Subaward Budget Attachment form (this is an optional form); Do not attach to Field 12 “Other Attachments” in the Research and Related Other Project Information form.



# SBIR vs. STTR

- DOE uses the same topics for SBIR & STTR
  - All topics accept SBIR applications; some topics may not accept STTR applications so please check the topic header prior to submission
- Applicants can apply to either or both SBIR & STTR programs with a single application
  - If you apply to both programs, you must meet the requirements for both

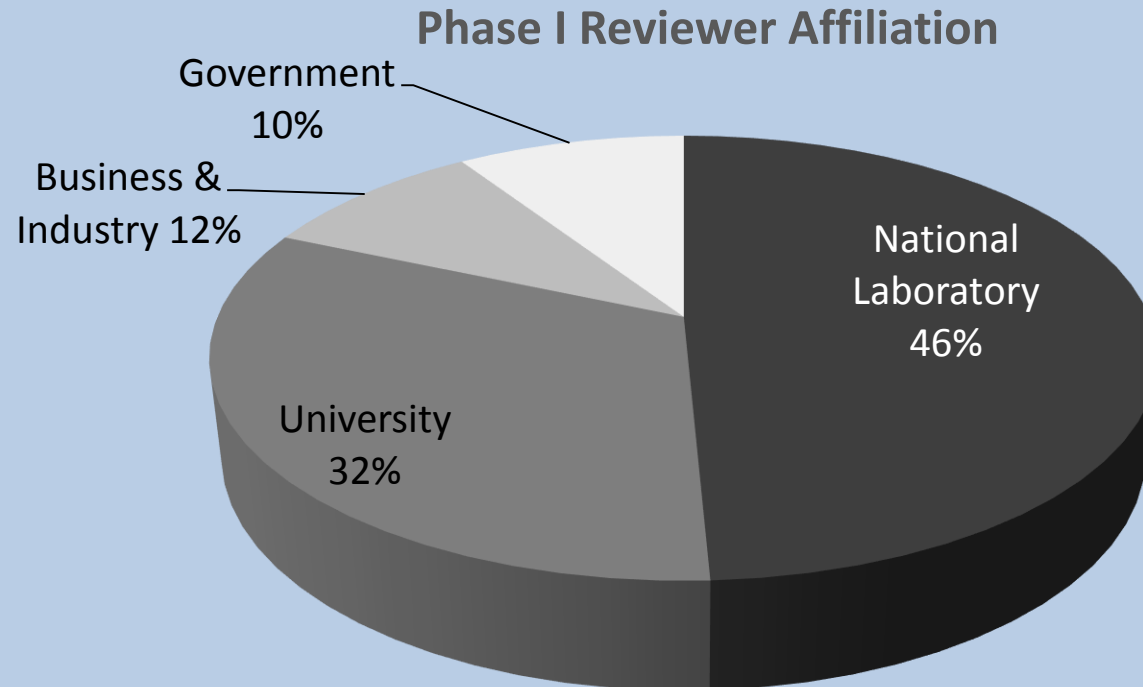


# Review and Selection of Applications

- DOE primarily uses external peer review to evaluate your applications
  - Typically at least 3 technical reviewers
  - 1 reviewer for the Phase II commercialization plan
- Review Criteria (equally weighted)
  - Strength of the Scientific/Technical Approach
  - Ability to Carry Out the Project
  - Impact
- 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



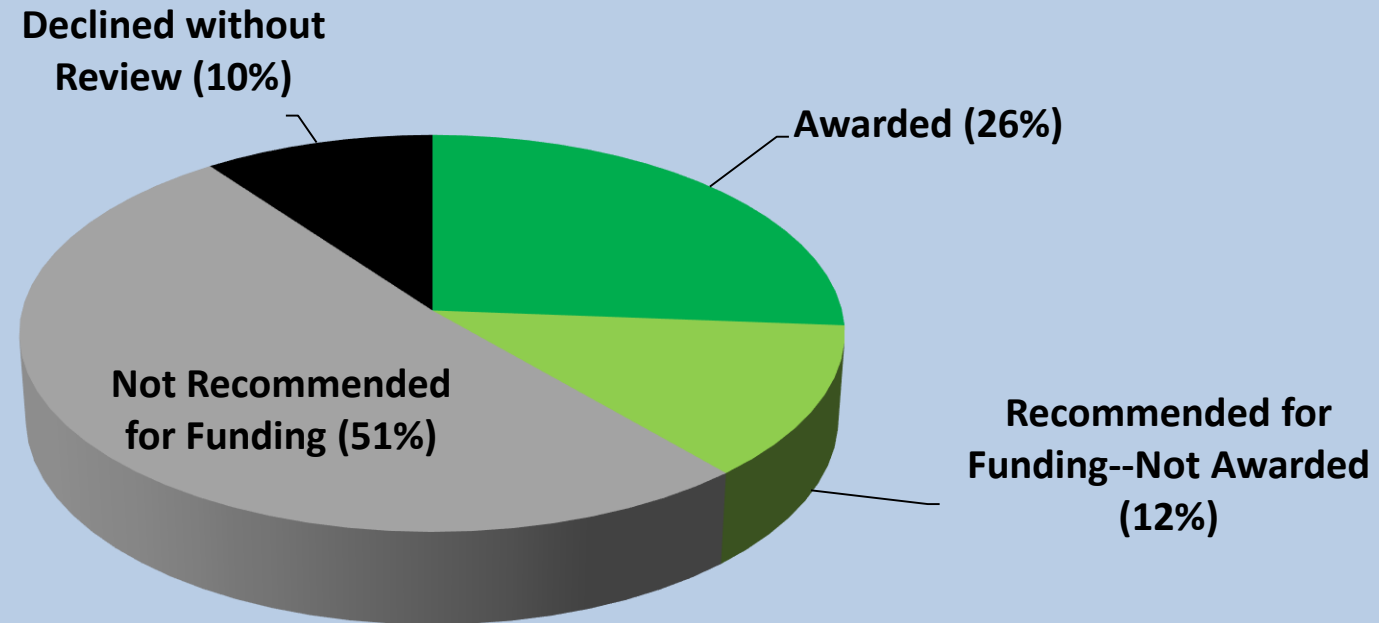
# Technical Reviewer Affiliation



- Reviewers agree that (1) they will keep application information confidential and (2) they do not have a conflict of interest in reviewing the application.

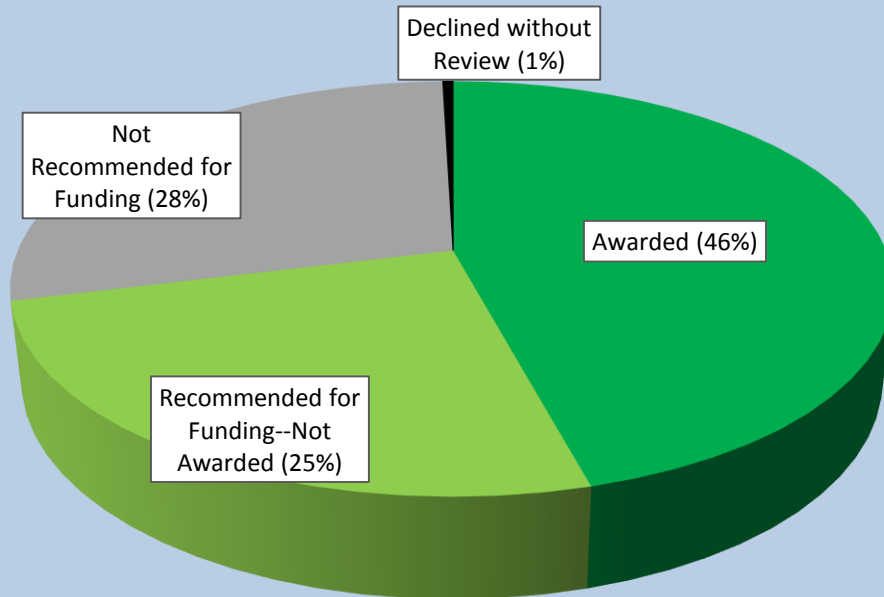
# Phase I Application & Award Statistics for FY 2018

- Phase I
  - 1,546 applications
  - 402 awards

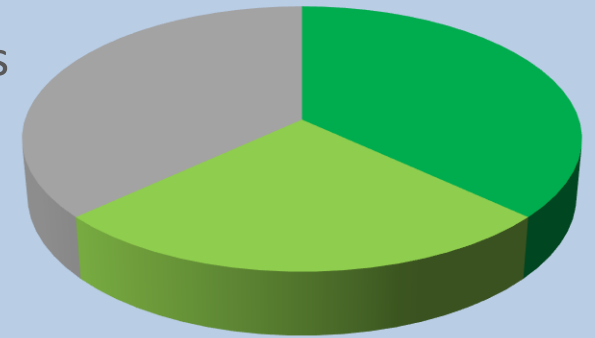


# Phase II Application & Award Statistics for FY 2018

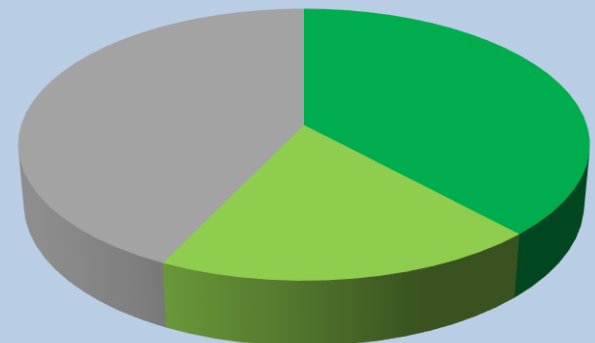
- Phase II
  - 391 applications
  - 180 awards



- Phase IIA
  - 38 applications
  - 14 awards



- Phase IIB
  - 42 applications
  - 16 awards



# Commercialization Assistance



U.S. DEPARTMENT OF ENERGY  
SBIR/STTR COMMERCIALIZATION ASSISTANCE PROGRAM

- DOE Commercialization Assistance
  - Phase I assistance
    - Assistance with development of Phase II commercialization plans
    - Or, Industry-specific business consultant
  - Phase II assistance
    - Flexible offerings to meet a variety of commercialization needs
    - Or, Industry-specific business consultant
  - Vendor website: <http://www.larta.org/doecap>
- Company-selected commercialization assistance vendor
  - Companies may select their own vendors to provide commercialization assistance
  - Company must include this vendor as a subcontractor or consultant in their Phase I or II application
  - Up to \$5,000 for Phase I; up to \$5,000/year in Phase II





# Phase I Principal Investigator Meeting

- Phase I Principal Investigators are expected to attend the 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 providers
  - Presentations relating to Phase II and Commercialization
  - Small business networking
- You may include the cost for the PI (registration, travel) for this trip 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



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.



# Recent Prosecution

Friday, September 11, 2015

## **Scientists Sentenced To Prison For Defrauding The Small Business Innovation Research Program**

Tampa, Florida – U.S. District Judge Virginia Hernandez Covington has sentenced Mahmoud Aldissi (a/k/a Matt) and Anastassia Bogomolova (a/k/a Anastasia) for conspiracy to commit wire fraud, wire fraud, aggravated identity theft, and falsification of records. Aldissi was sentenced to 15 years in federal prison and Bogomolova was sentenced to a term of 13 years. As part of their sentences, the court entered a money judgment in the amount of \$10.6 million, representing the proceeds of the crime, and ordered them to pay \$10.6 million in restitution. Aldissi and Bogomolova were found guilty on March 20, 2015.

According to testimony and evidence presented during the month-long trial, through their two companies, Fractal Systems, Inc., and Smart Polymers Research Corp., Aldissi and Bogomolova fraudulently obtained approximately \$10.5 million of small business research awards from the federal government. In order to be awarded contracts, they submitted proposals using the stolen identities of real people to create false endorsements of and for their proposed contracts. In the proposals, they also lied about their facilities, costs, the principal investigator on some of the contracts, and certifications in the proposals.

<https://www.justice.gov/usao-mdfl/pr/scientists-sentenced-prison-defrauding-small-business-innovation-research-program>



# 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**



Questions?

*Please submit any question you may have via the Q&A box, center bottom of you screen.*

### **Contact information:**

- DOE SBIR/STTR Operations: 301-903-5707
- DOE SBIR/STTR Email: [sbir-sttr@science.doe.gov](mailto:sbir-sttr@science.doe.gov)

### **Our Website:**

- DOE SBIR/STTR main website: [www.science.energy.gov/sbir](http://www.science.energy.gov/sbir)

### **Join our Mailing List:**

- Join our Mailing List: <https://bit.ly/1X3NH4>

### **Provide Feedback**

- Submit suggestions for improving the SBIR & STTR Programs: <https://go.usa.gov/xnWCH>

## Resources



# DOE SBIR webpage

<http://science.energy.gov/sbir/>

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U.S. DEPARTMENT OF ENERGY Office of Science

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Programs Laboratories User Facilities Universities Funding Opportunities News About

You are here: SC Home » Programs » SBIR/STTR Home

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

**SBIR/STTR Home**

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**Funding Opportunity Announcements (FOAs)**

**Applicant Resources**

Awardee Resources

Frequently Asked Questions

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Reporting Fraud

**DOE National Labs, Profiles, and Contacts**

Harness the world-class resources of DOE national labs and research facilities.

Visit here to learn more about these resources and to explore collaborative SBIR/STTR opportunities

**Read More »**

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### The SBIR & STTR Programs at the U.S. Department of Energy

Welcome to the Department of Energy's (DOE) SBIR & STTR Programs website. The purpose of this website is to provide information to small businesses interested in applying for DOE SBIR & STTR grants. If you cannot find the information you need, please contact us by phone or email using the information provided in the lower left tab.

#### New to the DOE SBIR & STTR Programs?

We strongly encourage all to start by watching the Overview Webinar in the banner above. The overview is about 1 hour and provides an in-depth understanding of the purpose of the programs, the technology areas covered, and the grant application process. To just view the presentation slides, click here (375KB) and in PDF here (910KB).

#### Interested in currently available funding opportunities?

The DOE SBIR/STTR Funding Opportunity Announcements (FOA) are listed on our Funding Opportunity Announcements (FOA) page. To learn about the technology areas with available DOE SBIR/STTR funding, view either the Topics documents or webinars in the Funding Opportunity Announcements FOA table.

To learn about the grant application requirements, please view the Funding Opportunity Announcement (FOA). Please note that the DOE SBIR/STTR Programs have a mandatory Letter of Intent requirement—you must submit a Letter of Intent according to the FOA requirements to be eligible to submit a full application.

Last modified: 11/21/2017 5:54:13 PM

Funding Opportunities

Applicant Resources

# DOE Funding Opportunities Tab

You are here: [SC Home](#) » [Programs](#) » [SBIR/STTR Home](#) » [Funding Opportunity Announcements \(FOAs\)](#)

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

[SBIR/STTR Home](#)

[About](#)

**Funding Opportunity Announcements (FOAs)**

[Closed FOAs](#)

[Applicant Resources](#)

[Awardee Resources](#)

[Frequently Asked Questions](#)

[Awards](#)

[Outreach & Events](#)

[SBIR/STTR Highlights](#)

[Reporting Fraud](#)

### CONTACT INFORMATION

#### Small Business Innovation Research and Small Business Technology Transfer

U.S. Department of Energy  
SC-29/Germantown Building  
1000 Independence Ave., SW  
Washington, DC 20585  
P: (301) 903-5707  
F: (301) 903-5488  
E: [Email Us](#)

### Join Mailing List

Enter your email address below to subscribe to email updates from the SBIR & STTR Programs:

### Provide Feedback

Submit suggestions for improving the SBIR & STTR Programs [here](#)

[More Information »](#)

## Funding Opportunity Announcements (FOAs)

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Fiscal Year: [FY 19 \(Future\)](#), [FY18 \(current\)](#), [FY17 \(closed\)](#)

2018

Phase I

	Release 1	Release 2
<b>Topics Issued</b>	Monday, July 17, 2017	Friday, November 3, 2017
Document	<a href="#">Phase I Release 1 Topics</a> (1.5MB)	<a href="#">Phase I Release 2 Topics</a> (1.5MB)
Webinar(s)	<a href="#">Webinar 1: Topics 07-21</a> <a href="#">Webinar 2: Topics 27-31, 22-25, 02-06 &amp; 01</a>	<a href="#">Topics Webinar 01-05 &amp; 16-19</a> <a href="#">Register Here</a> <a href="#">Topics Webinar: 06-15</a> <a href="#">Register Here</a> <a href="#">Topics Webinar: 20-22 &amp; 30-32</a> <a href="#">Register Here</a> <a href="#">Topics Webinar: 23-29</a> <a href="#">Register Here</a>
<b>FOA Issued</b>	Monday, October 16, 2017	Monday, November 27, 2017
Document	<a href="#">DE-FOA-0001770</a> (1.0MB)	<a href="#">DE-FOA-0001771</a> (1.0MB)
Webinar(s)	<a href="#">Friday, October 20, 2017**</a> <a href="#">FOA Webinar</a>	<a href="#">Friday, December 01, 2017**</a> <a href="#">Register Here</a>
<b>Letters of Intent (LOI) Due</b>	Monday, October 30, 2017	Monday, January 8, 2018
<b>Non-responsive LOI Feedback Provided</b>	Monday, November 20, 2017	Monday, January 29, 2018
<b>Applications Due</b>	Monday, December 4, 2017 11:59pm ET	Monday, February 26, 2018
<b>Award Notification</b>	Monday, February 26, 2018*	Monday, May 21, 2018*
<b>Projected Grant Start Date</b>	Monday, April 9, 2018	Monday, July 2, 2018
<b>Principal Investigator Meeting</b>		

\*\*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

Phase II (only Phase I awardees are eligible to apply)

	Release 1	Release 2
<b>FOA Issued</b>	Thursday, November 09, 2017	Monday, February 12, 2018
Document	<a href="#">DE-FOA-0001794</a> (857KB)	
Webinar(s)	<a href="#">Phase II Release 1</a>	
<b>LOI (Sequential) Due</b>	Monday, December 18, 2017 5:00pm ET	<del>Wednesday, March 14, 2018 5:00pm ET</del> <b>DELAYED</b>
<b>Applications Due</b>	Tuesday, January 23, 2018 11:59pm ET	<del>Tuesday, April 03, 2018 11:59pm ET</del> <b>DELAYED</b>
<b>Award Notification</b>	Monday, April 09, 2018*	<del>Monday, June 18, 2018*</del> <b>DELAYED</b>
<b>Projected Grant Start Date</b>	Monday, May 21, 2018	<del>Monday, July 30, 2018</del> <b>DELAYED</b>

\*\*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

*Documents and Webinars for Topics and FOAs are posted here*



# Federal SBIR webpage

[sbir.gov](http://sbir.gov)

*general information for those new to SBIR*

The screenshot shows the SBIR/STTR website interface. At the top left is the logo for SBIR/STTR, America's Seed Fund, powered by SBA. A navigation bar includes links for HOME, ABOUT, FUNDING, AWARDS, NEWS, EVENTS, and RESOURCES. A large blue arrow labeled 'FIND FUNDING' points to a search bar containing the text 'Search Open Funding Topics' and a search icon. Below the search bar are three main sections: 'LEARN ABOUT' with sub-links for Overview and Policy Directive; 'I'M A(AN)...' with a sub-link for Applicant; and 'I WANT TO...' with sub-links for START A SMALL BUSINESS and REGISTER MY COMPANY. A hand is shown pointing at the search bar.

*Search topics across all federal agencies*