U.S. Small Business Administration

WEBINAR

Qualifying for the SBIR/STTR Proposal Lab 2023 to Win Non-Dilutive NSF Seed Money

SBIR · STTR
America's Seed Fund

All opinions, conclusions, and/or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the SBA

TEDCO
LEADING INNOVATION TO MARKET

GovCon Incubator

America's SBDC
Accredited Member
Maryland

Funded in part through a Cooperative Agreement with the U.S. Small Business Administration (SBA)

SBIR/STTR: America's Seed Fund

- More than $200M in NSF annual funding
- Over 400 new grant awards annually
- Stimulate technological innovation, use small business to meet Federal R&D needs
- Encourage participation by the socially and economically disadvantaged small businesses and women owned businesses in technological innovation
- Increase private sector commercialization of innovations derived from Federal R&D, thereby increasing competition, productivity, and economic growth
- Foster technology transfer through cooperative R&D between small businesses and research institutions (STTR)
- The awards are comparable in size to angel investments in the private sector and indicate the acceptance of greater risk in support of agency missions
- **Except – NSF doesn't take a portion of your company and you don't have to repay the money**

SBIR · STTR
America's Seed Fund

All opinions, conclusions, and/or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the SBA

SBIR Program Quick Overview

- **Phase I is the concept phase. Lasts 6-12 months and supports exploration of the technical merit or feasibility of an idea or technology**
  - You retain the rights to the intellectual property
  - Opportunity to obtain additional funding to continue technology development
  - **NSF currently funds up to $275,000 for 6 months – 1 year**
- Phase II awards may last for up to 2 years and expand upon the Phase I results; Prototype development; up to $1.5M, 24 months
- Phase III is the period during which Phase II innovation moves from the laboratory into the marketplace (commercialization)
  - No SBIR funds support this phase
  - The small business must find funding in the private sector or secure it from other non-SBIR Federal Agency funds that can fund continued development

U.S. Small Business Administration

All opinions, conclusions, and/or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the SBA

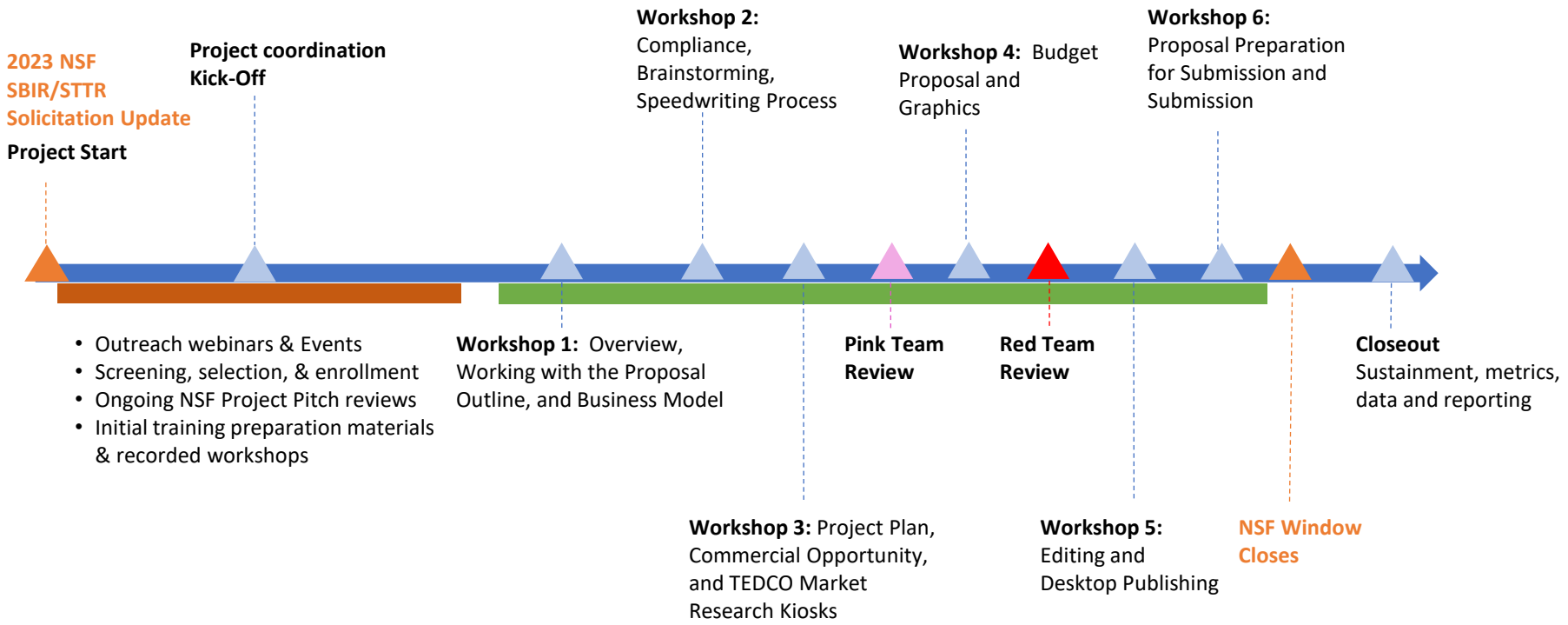
Why the Lab is Focused on NSF?

- Grant, not contract awards:
  - Principal Investigator initiates approach vs. agency establishing plans, protocols and requirements
  - Less-specific topics vs. highly focused ones
  - Assistance mechanism vs. procurement one
  - More flexibility vs. stringent fiscal requirements
  - Allows upfront payment vs. being invoiced on progress and having to get financing
  - Funds support a public purpose, best efforts in research vs. binding agreements for goods/services
- Topics are incredibly broad, covering most areas other than drug development
- Phase II can be awarded at another agency
- The largest awards in SBIR/STTR arena

What is the SBIR/STTR Proposal Lab?

- TEDCO, Maryland government's investment arm, was awarded SBA's FAST Grant together with the team of:
  - GovCon Incubator (OST Global Solutions, Inc.)
  - Maryland Small Business Development Center (SBDC)
- The Lab has been running annually since 2018, and has achieved 2.6 times the national win rate for SBIR/STTR proposals, and 5.8 times the national win rate for women-owned small businesses
- Focused on Maryland small businesses, especially women-owned, socioeconomically disadvantaged, and rural businesses
- In addition to SBA's funds, the team contributes its own time and resources to develop and conduct the SBIR/STTR Proposal Lab, allowing for a low participant payment

Combination of Training, Hands-On Support and Reviews



U.S. Small Business Administration

All opinions, conclusions, and/or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the SBA

Project Pitch Review

- NSF requires a project pitch prior to the invitation to submit a full proposal
- Can be submitted any time
- Typically, it takes about one month to get an official response from NSF staff
- See the pitch format here: https://seedfund.nsf.gov/apply/project-pitch/
- The SBIR/STTR Proposal Lab will review your pitch prior to submission to NSF

1. The Technology Innovation. (Up to 500 words)
Describe the technical innovation that would be the focus of a Phase I project, including a brief discussion of the origins of the innovation as well as explanation as to why it meets the program's mandate to focus on supporting research and development (R&D) of unproven, high-impact innovations.

2. The Technical Objectives and Challenges. (Up to 500 words)
Describe the R&D or technical work to be done in a Phase I project, including a discussion of how and why the proposed work will help prove that the product or service is technically feasible and/or will significantly reduce technical risk. Discuss how, ultimately, this work could contribute to making the new product, service, or process commercially viable and impactful. This section should also convey that the proposed work meets the definition of R&D, rather than straightforward engineering or incremental product development tasks.

3. The Market Opportunity. (Up to 250 words)
Describe the customer profile and pain point(s) that will be the near-term commercial focus related to this technical project.

4. The Company and Team. (Up to 250 words)
Describe the background and current status of the applicant small business, including key team members who will lead the technical and/or commercial efforts discussed in this Project Pitch.

Workshop 1: SBIR/STTR Proposal Lab Kickoff, Outline Content, and Business Model

- **January 11, 2023**
- Content:
  - Cohort Introductions
  - Project Pitch and Proposal Status Check (review progress on early preparation efforts)
  - Primer on the NSF SBIR/STTR Program
  - Overview of the SBIR/STTR Proposal Lab program
  - How to win an NSF grant
  - Outline walk-through and content requirements
  - Business Model Development
  - Time management
  - Proposal Virtual Portals
  - Expected deliverables and assignments prior to next workshop

U.S. Small Business Administration

All opinions, conclusions, and/or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the SBA

Workshop 2: Compliance, Brainstorming, Speed-Writing Process

- **February 1, 2023**
- Content:
  - Proposal Status Check
  - Foundations of writing faster and better
  - The psychology of writing
  - The correct writing process
  - Group brainstorming on section content
  - Individual brainstorming on section content
  - Speed writing proposal sections
  - Using tools to help write better and faster
  - Path to the Pink Team ‘Pens Down’

Workshop 3: Project Plan, Commercialization, and TEDCO Market Research Kiosks

- **February 22, 2023**
- Content:
  - Proposal Status Check
  - Commercial opportunity section requirements
  - Commercial Opportunity section drafting
  - Project planning
  - Developing timelines and Gantt charts
  - Consulting TEDCO's Market Research Kiosk or working on your commercial opportunity section
  - Getting Ready for the Pink Team ‘Pens Down’

Pink Team Review

- **Review starts on March 22, 2023**
- Lab participants submit their proposals to 2 reviewers each, matched to the participant's topic
- Review lasts 1 week
- Reviewers provide group and individual feedback on participant's proposal content and quality up to date
- Reviewers also offer recommendations for improvement
- The standard for Pink Team is that the proposal draft is 60% NSF-ready and is compliant

Workshop 4: Budget Proposal and Graphics

- **April 5, 2023**
- Content:
  - Proposal Status Check
  - NSF Budget proposal walk-through (hands-on)
  - Proposal graphics and visuals, and principles of the design
  - Preparation for the Red Team ‘Pens Down’

Workshop 5: Editing and Desktop Publishing (DTP)

- **April 26, 2023**
- Content:
  - Proposal status discussion
  - Proposal editing
  - Desktop publishing
  - Assignments review
  - Upcoming deliverable dates

Red Team Review

- **Review starts on May 24, 2023**
- Lab participants submit their proposals to 2 reviewers each, matched to the participant's topic
- Review lasts 1.5 weeks
- Reviewers provide group and individual feedback on proposal's compliance and competitiveness
- The review includes full proposal including technical narrative, budget, resumes, and letters of support
- Reviewers offer recommendations for improvement
- The standard is that the proposal is 90% NSF-ready, within 10% of the page count, and compliant and compelling

Workshop 6: Proposal Preparation for Submission and Submission

- **June 14, 2023**
- Content:
  - Proposal Status Check
  - “Proposal wall” reviews to catch the last issues
  - Loading proposals in the portal
  - Hitting the “submit” button
  - Submission Confirmation planning and process

Eligibility: U.S. Small Business

- Applicant small business must be U.S. owned
  - U.S. Citizen
  - U.S. Permanent Resident
- Under 500 people
- Research must be done in the U.S.
- R&D-focused – not buying equipment, commercializing already developed technology, or very low risk technology that only needs capital
- Investors can't own majority of the business; and for STTR there can be no investors

U.S. Small Business Administration

All opinions, conclusions, and/or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the SBA

Eligibility: Maryland Small Business

- **Must be a for-profit small business.** The definition of SB for the SBIR program is one which, including its affiliates, has a number of employees not exceeding 500.
- **SBA's Women Owned Small Business (WOSB)** definition is a company at least 51% owned and controlled by a female U.S. citizen.
- **SBA's Small Disadvantaged Business (SDB)** definition is a small business that is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged. SBA's identified socially disadvantaged groups include: African Americans, Asian Pacific Americans, Hispanic Americans, Native Americans and Subcontinent Asian Americans. Economically disadvantaged individuals are defined as those for whom impaired access to financial opportunities has hampered the ability to compete in the free enterprise system, in contrast to people in similar businesses who are not identified as socially disadvantaged.
- **Rural Maryland Small Business** is a small business located in Talbot, Caroline, Dorchester, Wicomico, Somerset, Worcester, Cecil, Harford, Kent, Queen Anne's, N. Baltimore, Frederick, Washington, Allegany, Garrett, Carroll, Charles, Calvert, or St. Mary's County.
- TEDCO will check with Maryland tax authorities on your registration and status – you must be current or quickly correct the issue
- If you don't have a company yet, you must reside and work in Maryland, and register your business ASAP

U.S. Small Business Administration

All opinions, conclusions, and/or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the SBA

Eligibility: New Idea

- Can you apply if you have already developed a solution?
  - No – SBIR/STTR program funds innovative research and development – the purpose is not to retroactively pay a company for development that they may have already accomplished
  - It is okay to have done related work
  - You can investigate application of an existing or even patented technology to new uses
- Expectation: good research that will lead to a commercial product that will also benefit the nation

All opinions, conclusions, and/or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the SBA

Eligibility: The PI

- A single individual who will serve as the principal investigator
  - Overall responsibility for the project
  - Credible in terms of their education, work and project management experience
- Must be “primarily employed” by the applicant small business during the SBIR award period
  - PI cannot be full time employed elsewhere during the SBIR award period
- PI can be employed by the educational institution or small business if it’s an STTR

SBIR and STTR Program Particulars

TEDCO
LEADING INNOVATION TO MARKET

GovCon Incubator

America's SBDC
ACCREDITED MEMBER
MARYLAND

Differences Between SBIR and STTR

	SBIR	STTR
Partnering Requirement	Permits partnering	Requires a non-profit research institution partner
Principal Investigator	Primary employment (>50%) must be with the small business	PI may be employed by either the research institution partner or small business (check solicitation)
Work Requirement	May subcontract up to: 33% (Phase I) 50% (Phase II)	Minimum: 40% Small Business 30% Research Institution Partner
Program Size	3.2% (FY19 - $3.28B)	0.45% (FY19 - $453M)
Majority VC ownership	Allowed by some agencies	Not allowed
Participating Agencies	11 agencies (extramural R&D budget > $100M)	5 agencies (extramural R&D budget > $1B)

Matching of the Ideas to the Topics

- If you can match your interests and talents with the specific needs of a Federal agency you may be able to secure funding to conduct research and development with no strings attached
- Topics are here: https://seedfund.nsf.gov/apply/the-basics/
- Search the past awards here: https://seedfund.nsf.gov/awardees/history/

ADVANCED ANALYTICS (AA)	ADVANCED MANUFACTURING (M)	ADVANCED MATERIALS (AM)	ARTIFICIAL INTELLIGENCE (AI)	AUGMENTED AND VIRTUAL REALITY (AV)	BIOLOGICAL TECHNOLOGIES (BT)
BIOMEDICAL TECHNOLOGIES (BM)	CHEMICAL TECHNOLOGIES (CT)	CLOUD AND HIGH-PERFORMANCE COMPUTING (CH)	CYBERSECURITY AND AUTHENTICATION (CA)	DIGITAL HEALTH (DH)	DISTRIBUTED LEDGER (DL)
ENERGY TECHNOLOGIES (EN)	ENVIRONMENTAL TECHNOLOGIES (ET)	HUMAN-COMPUTER INTERACTION (HC)	INSTRUMENTATION AND HARDWARE SYSTEMS (IH)	INTERNET OF THINGS (I)	LEARNING AND COGNITION TECHNOLOGIES (LC)
MEDICAL DEVICES (MD)	MOBILITY (MO)	NANOTECHNOLOGY (N)	OTHER TOPICS (OT)	PHARMACEUTICAL TECHNOLOGIES (PT)	PHOTONICS (PH)
POWER MANAGEMENT (PM)	QUANTUM INFORMATION TECHNOLOGIES (QT)	ROBOTICS (R)	SEMICONDUCTORS (S)	SPACE (SP)	WIRELESS TECHNOLOGIES (W)

Some Questions to Consider for Proposal Success

- Have you participated in an I-Corps program?
- What related work have your PI and team done in this area?
- Do you know of any Conflicts of Interest that may prevent you from bidding on an SBIR/STTR proposal?
- Do you have prior, current, or pending support of similar proposals or awards?
- Is there any peer reviewed research regarding feasibility of what you are thinking of proposing?
- Do you think there could be any patents resulting from your participation in the SBIR/STTR Program?
- Do you require, and therefore have the right facilities and equipment lined up for research?
- Have you thought of how you would commercialize this technology – and what would be the commercial benefits?
- Will you be able to gather Letters of Support from any participating organizations?

U.S. Small Business Administration

All opinions, conclusions, and/or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the SBA

What's Important in the SBIR/STTR Proposal

- The emphasis on innovation is important in SBIR/STTR and means that you are proposing a novel approach to pressing problems
- The approach proposed should be unproven and involve an element of technical risk
- Must clearly identify the innovation in your proposal
- Must not leave the recognition of your innovation to the imagination of the reviewers
- The SBIR/STTR Proposal Lab will help you articulate that

Your Commitment

- Attend 100% of all the workshops (no excuses other than extenuating circumstances)
  - A business meeting or customer work is NOT a good excuse
  - We will offer your spot to someone else on the waiting list
- Complete all assignments 100% on time
  - This keeps the entire cohort at the same pace, without holding back others
  - Enables us to learn about problems and correct them early
  - Helps you submit a winning proposal, so that all your work is not in vain, and your great idea gets funded
  - Keeps stress level down for everyone involved

U.S. Small Business Administration

All opinions, conclusions, and/or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the SBA

Where to Apply and Deadline

- Currently Interviewing applicants to ensure you have a good chance of a winning proposal
- Apply for the SBIR/STTR Proposal Lab at:
  - https://www.tedcomd.com/funding/tech-transfer/federal-tech-transfer/sbirproposal
- Deadline: December 31, 2022
  - The lab is filling up quickly, we may not have time to interview those who apply closer to the application close date if all the seats are filled

U.S. Small Business Administration

All opinions, conclusions, and/or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the SBA