



EPA's Small Business Innovation Research (SBIR) Program

April Richards, Program Manager

Water Technologies

August 25, 2022

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Mission

EPA:

Protect human health and the environment

SBIR:

Seed technology innovations to meet Agency's mission



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EPA SBIR Funding

- Budget: ~\$5.0 M
- One funding cycle per year
 - Phase I proof of concept = \$100,000 for 6 months
 - Phase II development & commercialization = \$400,000 for 2 years
 - Commercialization Option = \$100,000 supplement to match 3rd party investment
- Projects awarded as contracts

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EPA SBIR Program

- Applying...
 - Have fairly specific topics – proposals should be responsive
- Funded...
 - Provide companies with EPA technical connection
 - Provide commercialization support
 - Communicate successful projects
- Help to protect the planet

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Annual Solicitation

closed August 23rd

Information at: <https://www.epa.gov/sbir/sbir-funding-opportunities>
Apply at: FedConnect
Subscribe to SBIR listserv:
<https://www.epa.gov/sbir/sbir-listserv>

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EPA SBIR Topics

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Solicitation- Broad Focus Areas

- Clean and Safe Water
- Air Quality & Climate
- Homeland Security
- Sustainable Materials/Circular Economy
- Safer Chemicals
- Risk Assessment



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All Topics

CLEAN AND SAFE WATER

- Decentralized wastewater treatment (septic system) technologies for non-potable reuse
- Technologies to process, sort and identify microplastics
- In-stream aquatic trash capture technologies
- Sensors to detect high priority contaminants of emerging concern (inc. PFAS)

AIR QUALITY & CLIMATE

- Ambient air monitoring technology for air toxics
- Continuous Emission Monitoring System for metal HAPs
- Air monitoring technology for methane emissions from fugitive sources
- Technologies that reduce exposure to radon in buildings
- Technologies for improved recovery of refrigerant from air conditioning (AC) and refrigeration equipment

HOMELAND SECURITY

- Innovative technology solutions that build community resilience to disasters
- Miniaturized oil spill droplet size sensor for emergency response underwater vehicles

CIRCULAR ECONOMY/SUSTAINABLE MATERIALS

- Innovative technologies that help consumers prevent food waste in the acquisition, preparation, and storage of food
- Innovative technologies or materials that will improve the U.S. recycling system
- Innovative reduction, reuse, and recycling solutions to advance plastic circularity

SAFER CHEMICALS

- PCB-free color
- Rubber anti-degradant technologies that do not contain 6PPD-quinone
- Innovative enhanced efficiency fertilizers

RISK ASSESSMENT

- Software tools and machine-learning applications for systematic review in science assessment for chemical evaluation

Solicitation is official word....

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Clean and Safe Water (2022)

- Decentralized wastewater treatment (septic system) technologies for intentional non-potable reuse
- Technologies to process, sort and identify microplastics
- In-stream aquatic trash capture technologies
- Sensors to detect high priority contaminants of emerging concern (inc. PFAS)

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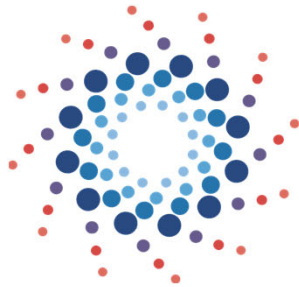
Clean and Safe Water (2021)

- Modular Decentralized Non-Potable Water Reuse for Urban Applications
- Low-Input Decentralized Non-Potable Water Reuse for Irrigation Applications
- Detection of lead service lines
- Retrofit technologies to improve operation of stormwater management infrastructure
- Technologies to process environmental samples of microplastics
- Technologies to remove microplastics from wastewater or stormwater

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How to Apply

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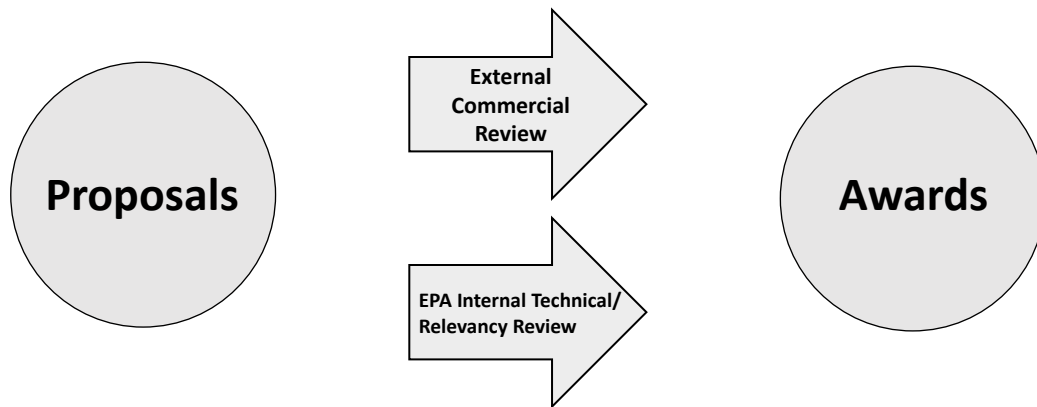
Selecting a Research Topic

- EPA budget is modest, so program is competitive
- Proposals must be responsive to specific topics
- Program manager can provide general advice on your proposed technology



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Proposal Evaluation & Selection



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Proposal Evaluation Criteria

Technical Review	Relevancy Review	Commercial Review
<ul style="list-style-type: none"> • Technical Approach • Company/Team (Technical) 	<ul style="list-style-type: none"> • Impact/Relevance to topic 	<ul style="list-style-type: none"> • Innovation/IP • Market Opportunity • Company/Team (Commercial) • Commercialization Approach

(1/3 of overall score)

(1/3 of overall score)

(1/3 of overall score)

Solicitation is official word....

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Required Registrations

- [SBA Company Registry](#): Register at SBIR.gov to obtain an “SBC Control ID”. See solicitation for instructions on how to register and how to **indicate proof of registration** in your proposal.
- [System for Award Management \(SAM\)](#): Applicants must complete and maintain an active SAM registration, **which requires renewal at least annually**. The renewal process may require as much time as the initial registration.
- [Unique Entity Identifier Number \(UEI\)](#): As of April 4, 2022, the federal government has stopped using DUNS numbers to identify entities. All small businesses are now required to use the UEI assigned by the System for Award Management (SAM.gov). All current SAM.gov registrants have been assigned their UEI and can view them on SAM.gov. Click [here](#) for more info.
- [FedConnect](#): FedConnect is a web portal that connects agencies and vendors and is the platform EPA uses for posting solicitation and proposal submission. Companies must be registered with FedConnect to submit a proposal.

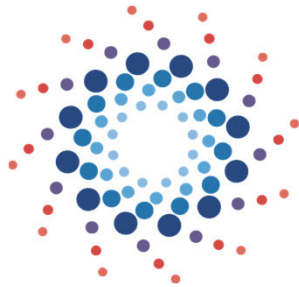
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Take Home Messages

- Make sure your technology fits one of the specified topic areas
- Read solicitation carefully
- Start your registrations early
- Develop a strong, readable proposal
- Address all review criteria
- Please do not wait until the last minute--submit your proposal before the deadline



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Success Stories

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NanoAffix Science Milwaukee, Wisconsin

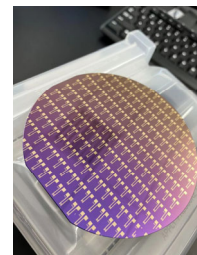
A Low-cost Handheld Sulfur Dioxide Tester with a Hybrid Nanomaterials-based Sensor Chip

James Hill, PhD, Research Director

- **Problem:** Sulfur dioxide exposure causes health issues and current testing methods are expensive and stationary
- **Solution:** NanoAffix graphene-based sensors provide real-time onsite results with an inexpensive portable device
- **Market:** Widespread industrial use and vehicle emissions
- **Goals:**
 - 1 ppb limit of detection
 - Continuous monitoring under real world conditions
 - Update prototype
 - Obtain first sales

NANOAFFIX


Accurate Affordable Analysis



**Si wafer with many
gas sensors**

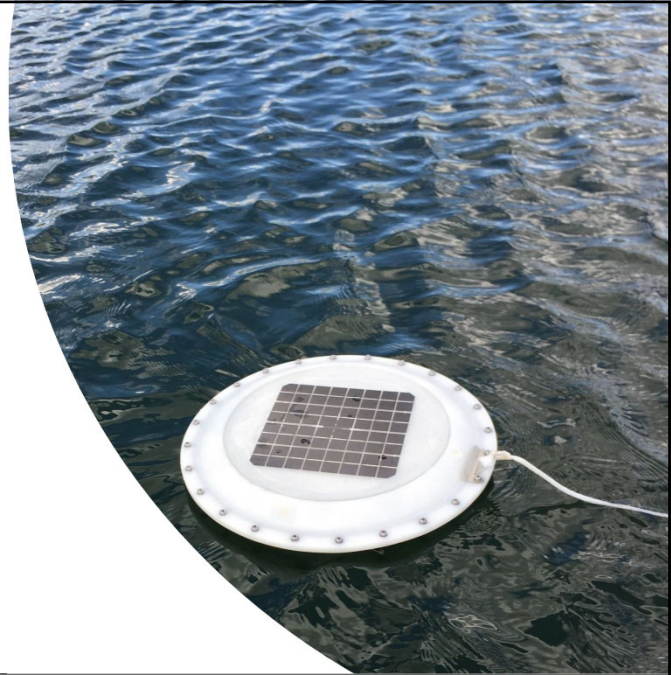


Latest Prototype

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AquaRealTime, Inc.: Boulder, CO

- Developed AlgaeTracker™, an early detection system for water contamination (including harmful algal blooms (HABs))
 - Reduces closures, expenses and health hazards leveraging Internet of Things (IOT) sensors and data analytics
- Network of floating HABs sensor buoys
- SBIR funding allowed AquaRealTime to pilot AlgaeTracker™ across the US
- Currently sell data to multiple government clients



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For More Information

EPA SBIR Program Manager:

April Richards richards.april@epa.gov

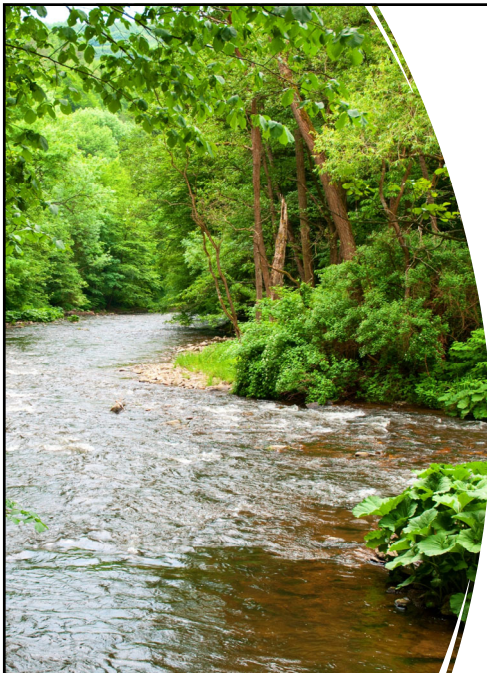
Website: www.epa.gov/sbir

Listserv: <https://www.epa.gov/sbir/sbir-listserv>

Program Overview:

<https://www.epa.gov/sbir/sbir-program-overview>

SBA SBIR website: www.SBIR.gov



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EPA Summary Table	
Program name	EPA SBIR
URL	www.epa.gov/sbir
Contact information	Richards.April@epa.gov
Next deadline	Next year! (~8/2023)
Mechanisms funded	SBIR (contracts)
Amount awarded	Phase I \$100K (6 months) Phase II \$400 K (2 years)