



STAR Science Forum

Small Business Innovation Research Program

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- What is the Small Business Innovation Research (SBIR) Program?
- What are the SBIR Phases and timeline?
- What is the benefit to NESDIS and STAR?



SBIR History

- Small Business Innovation Development Act (1982)
- Small Business Research and Development Enhancement Act (1992)
- Small Business Innovation Research Program Reauthorization Act (2000)
- Federal SBIR program has been extended to September 30, 2011
- At NOAA, the SBIR is managed by the Office of Research and Technology (ORTA)



SBIR Purpose

- Stimulate technological innovation
- Encourage small businesses to meet Federal R&D needs by exploring their technological potential
- Encourage participation of disadvantaged and minority persons in technological innovation
- Increase private sector commercialization derived from Federal R&D
- Provide private and public sectors joint venture opportunities
- At NOAA, the SBIR Program provides scientists and managers with the opportunity to have the private sector develop new, innovative tools for specific NOAA requirements



SBIR Program Requirements

SBIR participants must:

- be American-owned (>50%) and independently operated in the U.S.
- be for-profit.
- employ the principal researcher at least half-time.
- have no more than 500 employees.



SBIR Program Participants

Departments

- Agriculture
- **Commerce**
- Defense
- Education
- Energy
- Health and Human Services (includes NIH)
- Homeland Security
- Transportation

Agencies

- EPA
- NASA
- NSF
- NRC



SBIR Program Management and Phases

- Overall cross Agency/Department Program management by the Office of Technology in the Small Business Administration
- Occurs in 3 phases:
 - Phase 1 – Feasibility Study
 - Phase 2 – Prototype Development
 - Phase 3 - Commercialization



SBIR Program – Phase I

- Allows proposing business to show that it can do high quality R&D.
- Explore technical merit/feasibility of idea/technology.
- Federal SBIR program allows for Phase I awards of up to \$100K (~6 months support).
- NOAA Program awards up to \$95K for Phase I
- At least 2/3 of analytical effort must be performed by the proposing firm; rest can be contracted out.



SBIR Program – Phase II

- Only completed Phase 1 projects may compete for Phase 2 funding.
- Expansion of Phase 1 work to proof of concept stage.
- Up to \$750K (up to 2 years support).
- NOAA Program awards up to \$400K for Phase II
- For proposals of near equal merit, commitments for follow-on funding from non-federal sources are given special consideration.



SBIR Program – Phase III

- Innovation moves from the lab to the marketplace.
- Funding comes from private sector or other non-SBIR federal agency.



NOAA's SBIR – Functional Overview

- Managed by Kelly Wright, ORTA, Silver Spring
- The NOAA SBIR Cycle occur from January to June of each year and it includes:
 - Phase I selections – Feasibility Research
 - Phase II selections – Research and Development
 - Development of Subtopics for next fiscal year
 - Phase III selections – Commercialization



NOAA's SBIR – Functional Overview (continued)

- Manage proposal process (through peer review, selection, and award phases)
- Monitor Phase 1 and Phase 2 review process
- De-brief offerors; and chair meetings of the NOAA/SBIR Working Group.
- ORTA also oversees the NOAA selection process
 - Acts as Contracting Officer's Technical Representative for Phase 1 and Phase 2 contracts and
 - Maintains SBIR data base and represents DOC at National SBIR conferences.
- Obtain research topics from NOAA scientists
- Prepare and disseminate annual NOAA solicitation



NOAA Phase I – Feasibility Research

- Phase I determines technical feasibility of proposed research and quality of performance of small business concern receiving award. Therefore, proposal should concentrate on research that will significantly contribute to proving feasibility of proposed research, prerequisite to further support in Phase II.
- Timeline:
 - Call for Proposals: 10/14/09 -01/14/2010
 - Proposal Reviews: 01/21/10 -03/17/2010
 - NESDIS Selection: 1/21/10 – 03/17/2010
 - Awards Announced: Confidential
- Each year, each LO typically gets its top rated proposal funded as a new Phase I start: NESDIS is guaranteed one new start each year



FY 2009 NOAA SBIR Phase I Award Selections

COMPANY	PROPOSAL #	SUBTOPIC #	PROJECT TITLE	NOAA TECH. REP
Desert Star Systems	09-1-71	8.1.4 R/F	APA: Air Pressure Alert Device	Gene Smith OAR/OOER/URP
Haereticus Environmental Laboratory	09-1-66	8.1.2 N	Coral Tissue Engineering for Mass-Production of Coral for the Recreational Marine Aquaculture Trade	Dr. Cheryl Woodley NOS/CDEHBR
Troutlodge, Inc.	09-1-32	8.1.10 SG	Induction of Triploidy and Gynogenesis in Cobia (<i>Rachycentron canadum</i>)	Gene Kim OAR/SGCP
International Met Systems	09-1-17	8.3.1 W	GPS Reference for Radiosonde Validation	Joseph Facundo NWS/OOS/ FSOC/OSB
Physical Sciences, Inc.	09-1-7	8.3.2 W	Near-IR Differential Absorption Lidar for Automated Water Vapor Profiling	Joseph Facundo NWS/OOS/FSOC/OSB
Bennett Aerospace, LLC	09-1-69	8.3.2 W	Ground-Based Water Vapor Profiling Lidar	Joseph Facundo NWS/OOS/FSOC/OSB
Argos Intelligence	09-1-31	8.2.3 C	A Stochastic Integration Toolkit for Comprehensive Global Weather and Climate Models	Cecile Penland OAR/ESRL
Boulder Nonlinear Systems, Inc.	09-1-18	8.2.5.D	Hyperspectral Imaging Projector Based on Liquid Crystal on Silivon Displays	Xiangqian Wu NSDIS/ORA
W = NWS N = NOS R = OAR D = NESDIS F = NMFS SG = Sea Grant C = Climate				



FY 2009 NOAA SBIR Phase I Award Selections

COMPANY	PROPOSAL #	SUBTOPIC #	PROJECT TITLE	NOAA TECH. REP
FreEnt Technologies (Herbert U. Fluhler)	09-1-47	8.3.3 R	A Superior Lower-Cost Dual-Polarized MPAR Array Antenna	Michael Jain OAR/NSSL
Aerial Imaging Solutions (Don Leroi)	09-1-28	8.1.7 F	Multiple Digital Camera Mount with FMC	Wayne Perryman NMFS/SWFSC
Picarro, Inc	09-1-55	8.2.2 C	Isotopic Carbon Dioxide Analyzer for Atmospheric Studies	Ed Dunlea OAR/CPO/RPD
Optechnology, Inc.	09-1-43	8.1.9 SG	Development of Resilient Structures and Infrastructure Systems using Advanced Building Technologies	Michael Liffmann OAR/SGCP
W = NWS N = NOS R = OAR D = NESDIS F = NMFS SG = Sea Grant C = Climate				



NESDIS FY 2009 PHASE I AWARD WINNER

- Firm: Boulder Nonlinear Systems, Inc.
- Award: \$94,995
- Technical Monitor – Fred Wu
- Technical Abstract: Novel architecture for hyperspectral imaging projector based on liquid crystal on silicon micro-displays.
- Summary of Anticipated Results: Result will be visible-infrared hip system capable of producing realistic images with excellent spatial and spectral resolution.



NOAA Phase II – Research and Development

- NOAA Program awards up to \$400K for Phase II
- FY2010 Timeline
 - Proposal Reviews: 03/08/10 – 04/08/10
 - NOAA Selection Panel: 1/21/10 - 3/17/10
 - Awards announced: Confidential



NOAA FY 2009 PHASE II AWARD WINNER

COMPANY	PROPOSAL #	SUBTOPIC #	PROJECT TITLE	NOAA TECH. REP
Intelligent Optical Systems, Inc.	08-2-48	8.1.3R	High Fidelity, Low Power, Omnidirectional Hydrophone	Gene Smith OAR
Techshot, Inc.	08-2-75	8.1.4R	High Pressure Specimen Chamber (HPSC)	Gene Smith OAR
GINER, Inc.	08-2-66	8.1.9SG	A Miniaturized Carbon Dioxide Detector	Gene Smith OAR
Applied Mathematics, Inc.		8.1.9F	Acoustic Propagation Analysis Program for Marine Scientists	
HLS Research, Inc	08-2-3	8.1.9F	A Simplified Sound Propagation Tool	Leila Hatch NMFS
Ocean Farm Technologies, Inc.	08-2-9	8.1.14SG	Wave Energy Conversion to Power Offshore Aquaculture Operations	Gene Kim OAR/SGCP
Riverside Technology, Inc.	08-2-16	8.2.3C	A Web-based Climate Change Drought Decision Support System (C2D2S2)	Sarah Abdelrahim CPO
Airborne Technologies, Inc.	08-2-76	8.4.3D	Vessel Launched Unmanned Aircraft System for Marine Debris Detection and Tracking	Dr. William Pichel NESDIS



New SBIR NESDIS Topic for FY2010

- Topic: WEATHER AND WATER
 - Subtopic: Use of Emerging Satellite-derived Products to Support Weather Forecasts
 - Purpose to develop necessary data streams and formats within private vendor satellite displays used by broadcasters to allow for use of new and emerging satellite products
 - Polar satellite products
 - “Blended” satellite products
- Timeline for FY2011 subtopics:
 - Call for Subtopics: March 01, 2010, due June 01, 2010
 - NESDIS Review: TBD



Recent NOAA Funding History

- **FY 2009 PHASE I AWARD WINNERS: 12 for ~1.1 million dollars**
 - Examples: Corals, Carbon Dioxide Analyzer
- **FY 2009 PHASE II AWARD WINNERS: 8 for ~3.2 million dollars**
 - Examples: High Pressure Specimen Chamber, Acoustic Propagation Analysis, Wave Energy Conversion
 - FY2002-FY2009: At URL: <http://www.oar.noaa.gov/orta/>
- **NOAA Selection Panel**
 - Phase III – Commercialization: NESDIS not involved

We need your help!

- The SBIR Program is a good way to accelerate the development of NOAA tasks!





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- NOAA SBIR Program run by Kelly Wright
- SBIR Office located (<http://www.oar.noaa.gov/orta/>).
- If questions about ORTA or SBIR, please contact:
- DOC NOAA SBIR Program Manager
 - 1335 East West Highway
 - Silver Spring, MD 20910-3284
 - phone: (301) 713-3565
 - e-mail: Kelly.Wright@noaa.gov



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- Thank you for your attention, and I look forward to working with you as NOAA moves forward with the meritorious SBIR Program!
- Are there any questions on the NESDIS SBIR Program?