Developing the Business of Technology
Technology Grants for Small Business

- F.A.S.T. - Federal State Technology Partnership
- SBIR - Small Business Innovative Research
- STTR – Small Business Technology Transfer

Part I: The ABCs of SBIR/STTR
Part II – Walk Through The Application Process

May 29, 2013
Lisa M. Kurek
Managing Partner
lisa@bbcetc.com

www.bbcetc.com
734.930.9741
Outline for Today…

- Part I: The ABCs of SBIR/STTR
  - Program Overview
  - Eligibility
  - SBIR vs. STTR
  - Reauthorization
  - Registrations

- Part II: A Walk Through the Application Process
  - National Science Foundation (NSF)
  - National Institutes of Health (NIH)
  - Dept. of Defense (DoD)
  - Department of Energy (DOE)

- Wrap up: Commercialization
BBC Team

- **Lisa M. Kurek**, MS – Managing Partner
- **Michael P. Kurek**, PhD, MBA – Partner
- **Andrea Johanson**, PhD – Principal Consultant
- **Becky Aistrup**, – Principal Consultant
- **Kris Bergman** – Consultant, Grants and Contract Management
- **Kristin Burgard**, Principal Consultant
- **Jayne Berkaw** – Director, Marketing and Outreach
BBC works with technology-based entrepreneurs and companies on strategies to advance R&D efforts to commercialization. Through training courses and one-on-one counseling, the BBC team coaches clients in:

- Technology Assessment
- Commercialization Planning
- SBIR/STTR/Other Research Grant Assistance
- Entrepreneurial Training
- Grant/Contract Management
- Tech-Based Economic Development Programs

The BBC team is nationally recognized for its success in helping clients win federal funding through the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, and use it tactically to propel growth.
Now about you…

- Where are you from…?
  - University? Industry? Government? Other?
- What is your technology?
- How will your technology become a product?
- Who will purchase this product when commercialized?
- Already submitted grants or contracts
  - SBIR/STTR? R01? NIH, NSF, Other?
- Planning to submit?
Why SBIR/STTR?

"I just need help getting started. A little seed money."
Type of Funding

$ Debt

$ Equity

$ Non-Dilutive
What are SBIR* and STTR**?

$2.5 billion of federal funding to:

- Support **small business** to:
  - Stimulate **technological innovation** to
    - Develop **products** with **commercial merit**

* – Small Business Innovation Research
** – Small Business Technology Transfer

Developing the Business of Technology
Purpose of SBIR/STTR Programs

- Develop innovative technologies
- Create jobs
- Promote small businesses
- **Not** an alternative source of funding basic research
  - But a very compelling source of funds when basic/applied research leads to technologies based **products** with strong commercial potential…. 
What is SBIR/STTR….

- Mandated by legislation (NDAA FY2012)
  - Current authorization for 6 years through 2017
  - Separate legislation for SBIR and STTR
- Applies to agencies with extramural research budgets that exceed certain thresholds
  - SBIR applicable to 11 Agencies
  - STTR applicable to 5 of the 11 SBIR agencies
  - Participation mandatory
- SBA “oversees” program implementation and compliance
  - SBIR/STTR Policy Directive
  - Small Business Size Regulations

Developing the Business of Technology
Goal of SBIR/STTR Programs

Why “I simply can’t…”

- Not enough money
- The chances of getting funded are too low
- It takes too long to get funded
- I don’t have the time to write the grant
Which Would You Choose?

**SBIR / STTR**
- 9 months to funding
- 10% - 37% probability at NIH SBIR
- Don’t need to know anyone
- Will fund early stage
- Don’t take equity
- Don’t take board seat
- $2 billion per year available
- Peer review

**Venture Capital**
- 6-12 months to funding
- <1% probability
- Need to know someone
- Unlikely to fund early stage
- Take equity (sometimes lots)
- Take a board seat (and sometimes control)

Developing the Business of Technology
Participating Federal Agencies*

TOTAL: >$2.4 B FY 2011

<table>
<thead>
<tr>
<th>SBIR and STTR</th>
<th>SBIR Only</th>
</tr>
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<tbody>
<tr>
<td>DOD - $1,200 m</td>
<td>USDA - $19 m</td>
</tr>
<tr>
<td>HHS - $690 m</td>
<td>DOT - $4 m</td>
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<td>NASA - $204 m</td>
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<td>NSF - $124 m</td>
<td>DoED - $8 m</td>
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<td>DHS - $23 m</td>
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Developing the Business of Technology
Key Questions…

- **The Project**
  - What do you need the money for?

- **The Company** *(there has to be one…)*
  - Who owns it?
  - What resources does it have?
    - Facilities
    - People
  - Where will it get what it needs?
The Project: What Does SBIR/STTR Fund?

- **PRODUCT Development**

- Based on “technological innovation”
  - “high risk”

- Credible Commercialization Strategy
The Project – QUESTIONS:

- $ for PRODUCT Development

  - What is the intended product?
  - What applications will it be used for?
  - What has been done to date?
  - How much is left to do?
The Basics of SBIR: 3 Phases

3 Years, ~$1,150,000+

Phase I: 6 Months, $150K

Phase II: 2 Years, ~$1,000 K+

Phase III: Commercialization (no federal SBIR/STTR $$)

Developing the Business of Technology
Three Phases of SBIR/STTR

- Details Agency Dependent
- Phase I – Feasibility*
  - 6 months – 1 year
  - $80k – 225k
- Phase II - Expand results, pursue further development*
  - 2 years
  - $750k - $1.5m
- Phase III – Commercialization
  - Your own $$ (ie - no government $$)
- *Phase I and II supplements available at some agencies
The Project – QUESTIONS:

- Based on “technological innovation”
  - What is the technological innovation that will enable the product to achieve the desired performance?
  - How certain are you that it will work?
  - Is there risk of failure?
  - Will the product be revolutionary or evolutionary?
Commercialization

There is no such thing as the “Build it and they will come” Business Model
The Project – QUESTIONS:

- Credible Commercialization Strategy
  - Is there a market identified?
  - Has a competitive analysis been done?
  - How will the company generate revenue?
  - What additional resources will be required to achieve commercialization?
  - Have sources of those resources been identified?
    - Strategic Partners
    - Sources of capital
Learn the Rules!
The Company – QUESTIONS:

- A for-profit entity?
- Who owns the company?
  - May need to refer to cap table
- Who controls the company?
- Does the company have its own research facilities?
- Is there a qualified PI with primary employment at the company?
Small Business Size Regulations

- Final Rule
- Published 12/27/2012
- Effective Jan 28, 2013
Eligibility for Funding

- Small business
  - For-profit
  - U. S. owned and controlled
  - < 500 employees
  - Located in the U.S.
  - R&D must be performed in the U.S.
SBIR & STTR Size Regulations

For solicitations issued after to Jan 28, 2013:

Ownership and Control

- >50% owned and controlled by:
  
  i. **US citizens, permanent resident aliens** and/or one or more **domestic business concerns** which themselves are >50% owned and controlled by US Citizens or permanent resident aliens

  ........................................or........................................

  ii. **Multiple** domestic VCOCs, HFs, or PEFs, provided that no single such investor owns more than 50%  *(SBIR ONLY)*
SBIR & STTR Size Regulations

Size and Affiliation

- Under 500 employees for SBIR applicant and its affiliates including:
  - Full-time, part-time or other basis
  - Employees obtained from a temporary employee agency, PEO or leasing concern

- Based on average of number of employees for each pay period in the preceding 12 months
Affiliation exists when one business controls or has the power to control another or when a third party controls or has the power to control both businesses.
SBIR & STTR Size Regulations

Timing of Size Certifications

- Size and eligibility certified at the time of award
- If awardee grows to > 500 employees during the time of the award it may continue to perform activities covered by the award
- If awardee merges or is acquired it may only continue for the current funding period and then will have to recertify
Company-controlled research facilities

"Good afternoon, gentlemen, and welcome to multi.global.industries.com... otherwise known as my basement."

"We’ve rented the kitchen to an internet startup. Want to eat out?"

**Documentation Required!** **Access to special facilities is permitted**
SBIR vs. STTR

- SBIR and STTR are two separate programs
- Federal set asides with different funding requirements

Not all agencies required to participate in the SBIR program are required to participate in the STTR program
SBIR vs. STTR

Not all agencies with both SBIR and STTR programs give YOU the choice of mechanism.
SBIR vs. STTR

Primary difference is in the relationship with a non-profit research institution:

- **SBIR** allows but does not require the involvement of a non-profit research institution
- **STTR** requires the involvement of a non-profit research institution

However – in either case:

The Applicant Organization is always the Small Business!
SBIR vs. STTR: Who does the work?

**APPLICANT IS ALWAYS THE SMALL BUSINESS**

- **Subcontract percentages**
  - **SBIR**: no more than 33% in a Phase I and 50% in a Phase II
  - **STTR**: at least 40% at small business and at least 30% at partner non-profit research institution
SBIR vs. STTR: Where is the PI?

** APPLICANT IS ALWAYS THE SMALL BUSINESS**

Principal Investigator rules

- **SBIR:** PI at least 51% EMPLOYED at small business
- **STTR:** At small business or non-profit research partner. Must have an ‘official relationship’ with the small business and at least 10% effort on the project (except for NSF)
Company & its University partner must sign intellectual property (IP) agreement (JIT)

“Budget and Certification of Research Institution” form required

Virtual companies do not qualify

Be conscious of conflict of interest issues

(Both of the above apply equally to SBIRs that include a subcontract to a non-profit research institution)
How do you choose?

- Does the agency offer STTR?
- Is the relevant technology area/specific topic offered under both mechanisms?

If yes to both above:

- Do a resource inventory – people and facilities
  - What do I have
  - What do I need
  - Where will I fill the gaps?

- Talk to the Agency
Advantages of SBIR over STTR

- No academic partner necessary
  - Fewer agreements, fewer lawyers, less cost
  - Control of funds
  - Less or no academic/institutional indirect costs

- More funds available
  - Set-aside $$ higher

- Payments to academic consultant
  - Earn $$ from grant in consulting fees
Advantages of STTR over SBIR

- Company lacks credible PI (>50% employed)
  - No scientists employed by company
  - Not ready to leave the University

- Access to superior academic facilities
  - Institutional Review Board (IRB)
  - Animal Welfare Committee
  - Lab space/Equipment

- Higher percent subcontract possible
University Participation

Faculty Roles*

- Faculty member can own small company & identify someone else (well-qualified) as PI
- Faculty member can be PI (i.e., with appropriate leave of absence)
- Subcontracts to academic institution
  - Faculty member can be PI’s of subcontracts
  - Faculty member can provide analytical and other support services
- Faculty member can be a consultant

*subject to institution-specific policies
Common Misconceptions

- Universities can apply for STTRs
- If a University is involved you have to do an STTR
- If the IP comes from a University you have to do an STTR
- If the inventor and/or key scientist is faculty you have to do an STTR
- If the PI of an STTR is at the University it is the University’s grant/contract
- All of the work of an STTR can be done at the University
Critical “watch-outs”

Make sure that:

- The company has company-controlled research facilities
- If the PI of an SBIR also maintains a faculty appointment that they reduce their effort appropriately
- You accurately represent the company’s resources
SBIR/STTR Reauthorization

Developing the Business of Technology
Reauthorization Process

- Congress → Pass Legislation
- SBA → Draft rules/regulations
- Agencies → Implement changes

STATUS:
- Policy directive released and effective August 6, 2012
- Agencies implement changes as 2013 solicitations released
2012 Reauthorization SBA Documents

SBIR and STTR Policy Directive

- Final Policy Directive with Request for Comments
- Published Aug 6, 2012
  https://www.federalregister.gov/articles/2012/08/06/2012-18119/small-business-innovation-research-program-policy-directive
  - Effective upon publication
  - Public comments due on or before Oct 5, 2012
- Updated Policy Directive to be published Q1 2013?
Increased set aside over 6 years
- SBIR 2.6% FY2012 up to 3.2% FY 2017
- STTR 0.35% FY2012 up to 0.45% FY2017

Increased funding “caps”**
- Guidelines $150k Phase I; $1 million Phase II
- Caps up to 150% of guidelines
  - $225k Phase I
  - $1.5 million Phase II

**Refer to individual agency solicitations for specific funding guidelines and limits
Policy Directive

- **Streamline award process**
  - 90 days to a decision, 180 days to funding
    - NSF and NIH up to 1 year

- **Increased outreach**
  - Goal to increase participation by minority and women owned firms
    - Women-owned ~13% of FY2011
    - Minority-owned ~7%
    - 26 states combined ~8%
Policy Directive

- “Invitation Only” Phase II no longer allowed
  - Applies to new Phase I awardees
  - Check with agency if prior Phase I awardee

- Can switch from SBIR to STTR or vice versa between Phase I and II
  - At agency discretion
Policy Directive

VC/PEF/HF “Quotas”

- Multiple VCOC/PEF/HF owned companies eligible to compete (Size Rules)
- Funding limited by “quota”
  - < 25% NIH, NSF, DoE
  - <15% all other agencies
- Agencies “opt in”
- Agencies can refuse to accept proposals
Other Reauthorization Items

**Focus on Commercialization**

- Establish commercialization benchmarks (mandated by statute)
  - Will only apply to frequent winners (e.g., >20 Phase I, >15 Phase II)
    - Phase I to II to be implemented January 2013
    - Phase II to III to be implemented October 2013
  - If don’t make benchmarks may not qualify for awards for 12 months

- Increase technical assistance (e.g., ‘commercialization’ assistance)
  - $5,000/award/year with potential to identify service provider

- Administrative funding to agencies to support new initiatives

- Sharing best practices between agencies

Developing the Business of Technology
Other Reauthorization Items

Reduce Fraud, Waste and Abuse

- Eligibility
  - “Life cycle” certifications
- Performance
  - Location
  - PI employment
  - Subcontracting guidelines
  - “Double dipping”
Other Reauthorization Items

Acquisition Preference

- Federal agencies and prime contractors, *to the greatest extent practicable*, shall issue Phase III awards to the SBIR Phase I or Phase II awardee.

- Agencies may issue sole source Phase II awards to the SBIR Phase I or Phase II awardee.

- Not all contracting officers are up to date on these changes to the law.

  - “The law trumps the FAR”
Other Reauthorization Items

**Data and Reporting**

- Impact primarily at agency level
- Small business will have to:
  - Register at sbir.gov
  - Provide additional commercialization information
  - Additional information may be required from VC funded companies
- Commercialization database
  - Based on DoD commercialization index
  - Information will be confidential
DO YOUR HOMEWORK
SBIR/STTR Terminology

“Solicitation”
- Funding Opportunity Announcement (FOA)
- Request for Proposal (RFP); Request for Application (RFA)

“Submission”
- Proposal
- Application

“Award”
- Grant
- Contract
- Award mechanism
SBIR Information: SBIR.gov

- Links to all 11 agencies
- Search past awards
- Current/past solicitations

www.sbir.gov
SBIR Information:

- Solicitation deadlines
- Search past solicitations
- Subscribe to SBIR Insider Newsletter

www.zyn.com/sbir
Agency Differences

- Receipt dates, number & timing of solicitations
- Type of award (grant or contract)
- Proposal review process
- R&D topic areas
- $ of award (both Phase I and II’s)
- Proposal success rates
- Profit or fee allowed
- Gap funding provided (competing continuation grants)
- Payment types & schedules
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<tr>
<th>Agency/Program</th>
<th>Release</th>
<th>Open</th>
<th>Close</th>
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<tr>
<td>Health &amp; Human Services (NIH/CDC/FDA/ACF)</td>
<td>25-Jan ‘13</td>
<td>5-Mar ‘13</td>
<td>5-Aug ‘13</td>
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<td>PHS 2013-2 Omnibus SBIR/STTR</td>
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<td>5-Dec ‘13</td>
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<td>National Science Foundation Ph 1 SBIR FY-2013-546</td>
<td>6-Mar ‘13</td>
<td>11-May ‘13</td>
<td>11-Jun ‘13</td>
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<td>National Science Foundation Ph 1 STTR FY-2013-547</td>
<td>6-Mar ‘13</td>
<td>13-May ‘13</td>
<td>13-Jun ‘13</td>
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<td>Dept. of Homeland Security Ph 1 SBIR FY 13.12</td>
<td>2-Apr ‘13</td>
<td>18-Apr ‘13</td>
<td>22-May ‘13</td>
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<td>24-Apr ‘13</td>
<td>24-May ‘13</td>
<td>26-Jun ‘13</td>
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<td>Environmental Protection Agency Ph 1 SBIR 2014</td>
<td>9-May ‘13</td>
<td>5 Jun ‘13</td>
<td>17-Jul ‘13</td>
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</table>

Open = Earliest Submission Date  
Close = Final Submission Date
Agency Differences -- Grants vs. Contracts

**Grants**
- Assistance
- Project/proposal is well-defined, but no formal agreement
- Progress/final reports
- Broad topics funded
- Agency contact unlimited
- No Phase III opportunities

**Contracts**
- Procurement
- Well-defined, legally binding statement of work, obligations, responsibilities
- Specific deliverables defined
- Topic Specific Response
- Agency contact limited
- Phase III opportunities

Developing the Business of Technology
Agency Differences -- Grants vs. Contracts

- **Grants – Investigated Initiated Topics**
  - HHS (95% $$), NSF, USDA, DOE, ED
  - Some agencies might have topic areas (aka “buckets”)
  - Open communications
  - External peer review

- **Contracts – Agency-specified topics**
  - DoD, NASA, DHS, EPA, DOT, DOC, ED, HHS (5% $$)
  - Must respond to a topic
  - Limited time to prepare (8-12 weeks)
  - Limited communications during open solicitation
  - Internal review

Developing the Business of Technology
Agency Differences -- Review Process

- **Internal Review**
  - DoD, NASA, DHS
  - Review panels composed of Agency personnel

- **External Review**
  - NIH, NSF
  - Review panels composed of leading experts in the field
  - Agency personnel do not score/rank applications, but manage the process
REGISTRATIONS

This way To Registration
All organizations submitting SBIR/STTR proposals must have the following:

- EIN – Employee Identification Number (IRS)
- DUNS – Data Universal Number (D&B)
- Bank Account
- SAM – System for Award Management *
- SBIR.gov – Company registry (new 2013)

  - DoD requires SAM at time of award
Registrations – DUNS #

- What is it?
  - Data Universal Number System (DUNS)

- Where do I get it?
  - Dun & Bradstreet at [http://fedgov.dnb.com/webform](http://fedgov.dnb.com/webform)
  - Use the page for US Federal Government Contractors and Grantees

- Why?
  - The federal government has adopted the use of DUNS numbers to track how federal grant money is allocated.

- How long will it take?
  - Same Day. You will receive DUNS # information online.

Developing the Business of Technology
What is SAM?

SAM is a federal government owned and operated free web site that combines several procurement systems and the Catalog of Federal Domestic Assistance into one common system.

- Central Contractor Register (CCR)
- Federal Agency Registration (Fedreg)
- Online Representation and Certifications Application (ORCA)
- Excluded Parties List System (EPLS)
Registrations – System for Award Management (SAM)

- You need a DUNS number to register at SAM.
  - www.sam.gov.
  - Designate an E-Business Point of Contact (E-Biz POC).

- How long will it take?
  - Three to five days.

- SAM registration must be renewed annually.
Registrations – SAM.gov

Information needed to register:

- DUNS number
- EIN/TIN number
- CAGE code (if you don’t have one it will be assigned to you)
- General business information (address, org structure, etc)
- Business financial information (bank acct no, EFT info)
- Executive Compensation (estimates if no history)
NEW – SBIR.gov

Company Registry

http://sbir.gov/registration

<table>
<thead>
<tr>
<th>Who needs to register?</th>
<th><strong>ALL</strong> applicants must register in the Company Registry and submit a .pdf document of the registration with its application.</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do I need to register?</td>
<td>At least a DUNS number or EIN. Once registered, your company will be assigned a unique SBC Control ID and .pdf file to be used for the application process.</td>
</tr>
<tr>
<td>When should I register?</td>
<td>Prior to submitting an application.</td>
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<tr>
<td>How long will this take to complete?</td>
<td>Less than 15 mins for most companies.</td>
</tr>
</tbody>
</table>
How To Register

1. Enter company name and/or EIN
2. New and existing firms
3. Basic Information Form
4. Eligibility Statement
5. PDF Copy
Company Registry - Enter company name and/or EIN

Enter company name and/or EIN at [http://sbir.gov/registration](http://sbir.gov/registration)
Company Registry - New or Existing

1 - You are a new firm, then Register as a New Company
2 - You are an existing firm, then Register as your company in the search results

[Image of a webpage showing registration options for companies]
Company Registration – cont.

Provide basic information including:

1. Company Name
2. Mailing address
3. DUNS number
4. EIN number
5. Ownership information
6. No. of employees
7. Point of contact information (the email address provided should match one of the POC at SAM)
How to be Competitive in SBIR/STTR

- Understand the philosophy of the Agency
- Understand the review process
- Understand the psychology of the reviewers
- Develop and follow a strategic plan
- Follow the rules
- Complete your registrations
- Submit Early!

Developing the Business of Technology
NSF SBIR Program
The mission of The National Science Foundation is to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.
What Does NSF SBIR Fund?

- We fund **high-risk, high-payback** innovations
  - With the potential for commercialization
  - That demonstrate strategic partnerships with research collaborators, customers, industry partners, and equity investors

- We do NOT fund
  - Basic research
  - *Evolutionary* optimization of existing products and processes or modifications to broaden the scope of an existing product, process or application
  - Analytical or “market” studies of technologies
NSF SBIR Program Interests

Projects Considered Non-Responsive

- Demonstrations of technology
- Technical assistance
- Literature surveys
- Market research
- Patent application or patent litigation costs
NSF SBIR/STTR Deadlines

- **SBIR Deadlines:**
  - December 3, 2012 (NSF 12-605)
  - June 11, 2013 (NSF 13-546)

- **STTR Deadline**
  - December 20, 2012 (NSF 12-592)
  - June 13, 2013 (NSF 13-547)

- **Phase II Deadlines**
  - Phase I Awards Expiring in December have submission opportunity dates of: January or July
  - Phase I Awards Expiring on June have submission opportunity dates of July or January

Developing the Business of Technology
**Small Business Innovation Research (SBIR) & Small Business Technology Transfer (STTR) Program**

### Funding Opportunities

**SBIR Solicitations**
- [Click here to be taken to the latest SBIR Solicitation (13-546)]

**STTR Solicitations**
- [Click here to be taken to the latest STTR Solicitation (13-547)]

### Program Information & Requirements
- Program Description
- Program Definitions
- Evaluation & Selection Criteria

### Phase I Program
- NSF SBIR/STTR Philosophy and General Information
- [SBIR Program](#)
- [STTR Program](#)

### Phase II Program
- Only Phase I Grantees can apply!
- [Phase II Information](#)

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[More...](#)
Four Broad Topic Areas

- Biological and Chemical Technologies (BC)
- Education Applications (EA)
- Electronics, Information and Communication Technologies (EI)
- Nanotechnology, Advanced Materials, and Manufacturing (NM)
NSF Subtopics

**Biological Technologies**

**BT1 - Sustainable Biotechnology Applications:** New approaches for meeting the world's future nutritional needs. Target areas for improvement may include (but are not limited to) drought tolerance, improved nutritional value, enhanced disease resistance, and higher crop yield. Proposers should give consideration to technologies that enhance biodiversity, produce less carbon dioxide, and use less water and fertilizer. (Cognizant Program Officers: Ruth Shuman; rshuman@nsf.gov, and Jesus Soriano; jsoriano@nsf.gov).

**BT2 - Biosensors:** Biosensors are sensors that contain a biologically-based sensing element. Proposed projects might include but are not limited to real-time sensors, microbial component-based sensors, sensors for monitoring fluxes of metabolites, nanobiotechnology-based sensors, biomedical sensors, micro- or nano-fluidic-based sensors, and disease and toxin monitoring. Other types of sensors should refer to the EI topic. (Cognizant Program Officer: Jesus Soriano; jsoriano@nsf.gov).

**BT3 - Life Sciences Research Tools:** Developing novel technologies that will advance scientific research across the biological spectrum. This may include enabling technologies for drug discovery (high-throughput screening assays and platforms), and novel tools for the characterization of physical properties. Proposals should focus primarily on the development of instruments and techniques where there is significant market opportunity. (Cognizant Program Officer: Ruth Shuman; rshuman@nsf.gov).

**Biomedical Technologies**

**BM1 - Materials for Biomedical Applications:** Proposed projects might include but are not limited to biomaterials, bio-mimetic and bio-inspired materials, improved implants, bio-device coatings and anti-microbial coatings. Development of new nanomaterials should refer to the NM topic. (Cognizant Program Officer: Ruth Shuman; rshuman@nsf.gov).

**BM2 - Diagnostic Assays and Platforms:** Proposed projects should focus on transformational diagnostic technologies. Proposed projects might include but are not limited to non- or minimally-invasive disease diagnosis, detection, and monitoring, biomarker development, disease-specific assays, and point-of-care testing for diseases. (Cognizant Program Officer: Ruth Shuman; rshuman@nsf.gov).

**BM3 - Drug Delivery:** Proposed projects might include but are not limited to new formulations, devices or methodology for the delivery of genes, biologics or small molecule drugs. Development of new nanomaterials for drug delivery should refer to the NM topic. (Cognizant Program Officer: Jesus Soriano; jsoriano@nsf.gov).
Communicate with Program Officer

Biological and Chemical Technologies (BC)
Proposal Due Date: December 03, 2012

Prakash Balan (pbalan@nsf.gov)
Ruth Shuman (rshuman@nsf.gov)
Jesus Soriano (jsoriano@nsf.gov)

Importance of Communication with Program Officer
A company considering a proposal submission is encouraged to communicate (via email) with the cognizant program officer to help gauge the responsiveness to the solicitation (see below for contact information). When contacting the cognizant program officer, please provide a brief 2-3 page executive summary with background on: 1) company/team including experience with previous SBIR awards, 2) market opportunity, 3) technology/innovation, and 4) competition. You may contact the program officer via email at any time before the submission deadline. Note, however, that communication with the program officer will become increasingly difficult as the deadline nears.
Planning a June 2013 Submission?

**Priority Tasks**

- Read solicitation and the subtopic description
- Contact appropriate NSF Program Manager
  - 1-2 page Executive Summary of project
- Register in FastLane and with SBA
- Develop a preliminary project budget

http://www.sbir.gov/
http://www.zyn.com/sbir/
NSF SBIR Project Attributes

- **Proposers must:**
  - Provide evidence of a commercially viable product, process, or system
  - Meet an important social or commercial need

- **Projects must:**
  - Show high potential commercial payback
  - Show high risk effort

- **Projects may also address:**
  - Research tools which meet significant commercial market needs
  - Applications that result in multipurpose commercially viable functions

Developing the Business of Technology
Executive Summary: *Components*

1 to 2 pages via email to program officer:

1) **Company/Team**
   - Include experience with previous SBIR awards
   - Emphasize commercialization experience

2) **Market Opportunity**

3) **Technology/Innovation**

4) **Competition**
   - Alternative approaches
   - Products & companies
NSF Executive Summary

Company/Team

- What are the origins of the company/team?
- How many current employees are there?
- What is the revenue history, if any, for the past three years?
- Has the team previously taken similar products/services to market?
- How does the proposed research mesh with company objectives?
- Experience with previous SBIR awards?
NSF Executive Summary

Market Opportunity

- Describe the anticipated target market or market segments
- Provide a brief profile of the potential customer
- What customer needs will be addressed with the innovation?
- What is the estimated size of the market being addressed?

Developing the Business of Technology
NSF Executive Summary

Technology/Innovation

- What is the technological innovation?
- Brief explanation of how the innovation is relevant to meeting a need described in the subtopic narrative
- Problem to be solved and its magnitude
- Gap in knowledge that your technology will fill
- What is the product?
Competition

- How does your product or service sit within the competitive landscape?
- What is the main competition?
NSF SBIR/STTR proposals

PLEASE NOTE…

- Focus on near-term commercialization
- Letters of support from commercialization partners are required
- Communication with Program Officer is strongly encouraged
  - Provide a brief 1-2 page **executive summary** with background on the:
    - Company/team including experience with previous SBIR awards,
    - Market opportunity,
    - Technology/innovation and
    - Competition
NSF SBIR/STTR Proposal Required Format

1) Cover Sheet and Certification
2) Project Summary (2 x 200 word paragraphs)
3) Table of Contents (automatically generated by FastLane)
4) Project Description (maximum 15 pages)
5) References Cited
6) Biographical Sketches
7) Budget and Budget Justification (also for each subaward)
8) Current and Pending Support of Principal Investigator and Senior Personnel
9) Facilities, Equipment and Other Resources
10) Supplementary Docs
   1) Letters of Support for Technology (3 max – indicate market validation!)
   2) Company Commercialization History
   3) Cooperative Research Agreement (STTR only)
   4) Data Management Plan
NSF Project Description

Limited to 15 pages

1) Identification and Significance of the Innovation
2) Background and Phase I Technical Objectives
3) Phase I Research Plan
4) Commercial Potential (3-5 pages)
   - Market Opportunity
   - Company/Team
   - Product or Technology and Competition
   - Financing and Revenue Model
5) Consultants and Subawards/Subcontracts
6) Equivalent or Overlapping Proposals to Other Federal Agencies
7) Lineage of the Innovation
NSF Application Review Process
NSF Application Review Process

Submission Date
Jun xx, 2013

Recruit “expert” reviewers
4-5 reviewers per proposal

Project Start Date
Jan 1, 2014

Compliance Review → Merit Review → Programmatic Review → Funding Recommendation & Decision → Funding Commitment
NSF Review Process

Program Officers oversee the review process

- Program Officer recruits peer reviewers
- Applicants can suggest names of well-qualified reviewers
- Applicants can suggest names of persons they prefer not to review the proposal
- Suggestions are adopted at discretion of Program Officer
NSF Review Process

Program Officers oversee the review process

- Compliance Review (program officer + senior advisor)
  - Sufficient technical and commercial potential to justify a review?
  - Falls within the scope of the solicitation topic?
  - Proposes research in science, engineering or education?

- Merit Review (peer reviewers)
NSF Review Process

**Program Officers oversee the review process**

- **Programmatic Review**
  - Program Officer formulates a recommendation after consideration of the scientific, technical, and other “appropriate factors”
  - Division Director accepts or declines the recommendation

- **Proposals Recommended for Funding**
  - Forwarded to Division of Grants and Agreements (DGA) for review of business, financial, and policy implications
  - Only DGA can make funding commitments for NSF
NSF Review Process

Merit Review Criteria

- What is the intellectual merit of the proposed activity?
- What are the broader impacts of the proposed activity?
Intellectual Merit – Reviewer Instructions

- Does the plan establish a sound approach for establishing technical and commercial feasibility?
- To what extent are unique or ingenious concepts or applications explored?
- How well-qualified is the team to conduct the project?
- Is there sufficient access to needed resources?
- Is state-of-the-art reflected in the proposed activities? Are advancements in state-of-the-art likely?
NSF Review Process

**Broader Impacts – Reviewer Instructions**

- What **may be** the commercial and societal benefits?
- Does the proposal lead to **enabling technologies** for further discoveries?
- Will the outcome lead to a **marketable product**?
- Evaluate the **competitive advantage** vs. alternative technologies.
- Is the project positioned to attract further non-SBIR funding?
- Has the Company successfully commercialized previous SBIR technology?
Proposal Scoring

An Overall Rating from Each Reviewer

- **Excellent** – outstanding in all respects; highest priority for support
- **Very Good** – high quality in nearly all respects; support if at all possible
- **Good** – quality proposal; worthy of support
- **Fair** – lacks one or more critical aspects; issues need to be addressed
- **Poor** – has serious deficiencies
Do Your Homework @NSF

http://www.nsf.gov/awardsearch/
NSF Registration
NSF Electronic Submission

- **Required** to prepare/submit all proposals through FastLane
- Instructions for FastLane
  - [http://www.fastlane.nsf.gov/a1/newstan.htm](http://www.fastlane.nsf.gov/a1/newstan.htm)
- Submission of Electronically Signed Cover Sheets
  - No paper copy necessary
- Submission by 5 p.m. (your time) on deadline date
www.fastlane.nsf.gov

Proposals, Awards and Status
Proposal Review | Panelist Functions | Research Administration | Financial Functions

Quick Link
- Special Exceptions to the NSF Deadline Date Policy Due to Natural or Anthropogenic Events
- Registration Information
- Award Search and Funding Trends
- FastLane FAQs (Opens new Browser Window)
- Grants.gov FAQ (Opens new Browser Window)

Advisories

01/14/13 - Attention FastLane users trying to submit proposals with a Project Summary prepared prior to Jan 11th, 2013.

01/04/13 - Attention FastLane Users: As part of the transition of project reports to Research.gov, you must stop submitting project reports in FastLane starting February 1, 2013.

12/07/12 - FastLane Related FAQs for the Proposal & Award Policies & Procedures Guide (PAPPG). For proposals submitted or due on or after January 14, 2013 (Opens new browser window)
New Organization and FastLane Contact Registration

This application allows you to apply to register a new organization and its FastLane Contact.

Before registering a new organization you must see if it already exists. Please enter your organization name in the text box and click the organization search button.

**Organization Name:** [Contains] [ ]

[Organization Search]
FastLane Registration

Registration Information

- Organization info (e.g., Name, Address, EIN, DUNS)
- Authorized Representative
- FastLane contact
- Principal Investigator

Submission Process

- Print & sign completed form
- Fax or email to NSF
Department of Defense
SBIR/STTR Contracts

Developing the Business of Technology
Get Started Now!

Learn how to submit a proposal and receive R&D funding for your innovation ideas that support the Warfighter.

DoD SBIR/STTR Awards by State – 2011

This graphic shows SBIR/STTR program results. Click on the tabs at the bottom of the graphic to view total Awards, Commercialization or Socioeconomic results by State or by Component. Commercialization results are the combined value of sales and additional non-SBIR investments, from either a federal or private entity, which result from, extend, or logically conclude any Phase II project. Click here to download the data for these graphics for FY 2009–2011.

http://www.acq.osd.mil/osbp/sbir/
Objectives of DoD SBIR Program

- Stimulate technological innovation in DoD's Critical Technology Areas,
- Strengthen role of small business in meeting DoD R&D needs,
- Encourage participation by minority and disadvantaged persons in technological innovation,
- Increase commercial application of DoD-supported R&D results.
DoD Critical Technology Areas

- Air Platforms
- Chemical/Biological Defense
- Information Systems Technology
- Ground & Sea Vehicles Technology
- Materials / Processes
- Biomedical
- Sensors, Electronics, Electronic Warfare
- Space Platforms Technology
- Human Systems
- Weapons (Conventional, Directed Energy)
- Nuclear Technology
- Battlespace Environments
DoD Solicitation Schedule

<table>
<thead>
<tr>
<th>Solicitation</th>
<th>Pre-Release</th>
<th>Open</th>
<th>Close</th>
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<td>16 Nov 2012</td>
<td>17 Dec 2012</td>
<td>16 Jan 2013</td>
</tr>
<tr>
<td>DoD SBIR 2013.2</td>
<td>24 Apr 2013</td>
<td>24 May 2013</td>
<td>26 Jun 2013</td>
</tr>
</tbody>
</table>

You may communicate directly with the Topic Author or TPOC (Technical Point of Contact) ONLY during this window. After that, questions must be posted to DoD’s SBIR/STTR Interactive Topic Information System (SITIS).

www.dodsbir.net/sitis
Army

- A10-115 Manufacturing Development of Biomimetic Tissue Engineering Scaffolds
- A10-116 Miniaturized Fluidic Chip for Impedance Monitoring of Vertebrate Cells
- A10-119 Ultrafast Fiber Lasers Smart Surgical Tool Development
- A09A-T030: Incremental Learning for Robot Sensing and Control
- A10-074 Universal Bio-Sample Preparation Module
## Participation At a Glance

<table>
<thead>
<tr>
<th>Component</th>
<th>SBIR Est. Budget</th>
<th>STTR Est. Budget</th>
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<tr>
<td>Other*</td>
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</tr>
</tbody>
</table>

*Other includes DTRA, SOCOM, CBD, NGA, DLA and DMEA

## DoD Annual SBIR Budget Exceeds $1B

- Army: 22%
- Navy: 28%
- Air Force: 27%
- DARPA: 6%
- MDA: 9%
- OSD: 6%
- Other*: 3%

DoD Three Phase Program

- Phase I awards (+ Phase I option)
  - Typically $100,000 - $150,000
  - 6 to 12 months

- Phase II awards (*Reauthorization Change - used to be by invitation)
  - Awarded on the basis of
    - results of Phase I
    - scientific, technical, and commercial merit of Phase II proposal
  - Typically $1,000,000
  - Generally < 24 months (subject to negotiation)
  - Expected to produce well-defined deliverable prototype

- Each Awarding Component Has Unique Guidelines & Rules!!
Phase III

- Obtain funding from the private sector and/or non-SBIR Government
- Develop prototype into viable product/service for sale in military and/or private sector markets
- DoD helps with commercialization
DoD SBIR Solicitation Topic Examples

DoD SBIR / STTR
DETAILS - Topics Search Results

Proposals Accepted: August 27, 2012 - September 26, 2012 (3:00 AM ET)
Program: SBIR
Topic Number: MDA12-030 (MDA)
Title: Detailed Lethality Assessments for Flight Test Events
Research & Technical Areas: Sensors, Electronics, Weapons

Topic Author: William Moore, Phone: 256-450-3675, Email: william.moore@mda.mil
Acquisition Program: MDA/DEF

The technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), which controls the export and import of defense-related material and services. Offerors must disclose any proposed use of foreign nationals, their country of origin, and what tasks each would accomplish in the statement of work in accordance with section 3.5.b.(7) of the solicitation.

Objective: Develop in situ detectors for MDA flight test targets to directly record physical properties in and around the expected warhead location to provide a more definitive measure of interceptor lethality.

Description: MDA has the responsibility to test new and improved interceptor missiles against new and evolving threats. To accomplish this, MDA must constantly upgrade the capability of missile targets to (1) be more threat representative and (2) provide as much physical information as possible about what happens during the "end game", which is characterized by a time period of no more than 100 microseconds. The purpose of this topic is to solicit concepts and system designs that will go beyond the establishment of a hit point on a target and will provide useful information on the sequential destructive processes after the initial impact. Classically, hit detectors have been comprised of XY grids of sensing elements that when broken by the initial impact yielded a localized first point of impact. Recently techniques
DoD SBIR Solicitation Topic Examples

PHASE I: Through high-fidelity analysis, investigate projected damage production on a representative, unclassified target. The number and type of physical measurements that would be needed to provide improved situational awareness within seconds after the intercept would be investigated and a prototype system designed. The Phase 1 design would also be required to show, by analysis or experiment, that it would satisfy the speed and extreme environmental chaos that dominates a hit-to-kill intercept.

PHASE II: Realize a design of a prototype system that could be included on typical MDA target missiles. Component testing should be conducted to verify modeling and simulation results. Further analysis of the proposed flight test system design should be conducted. Component/sub-system testing using high-velocity impact ranges should be conducted to verify performance.

PHASE III: Mature the prototype system toward flight-ready status and integration within MDA flight test articles. Full and sub-scale system tests should be conducted via ground (e.g., light gas gun, sled, etc.) and/or flight tests. Integration with existing MDA flight test articles should be pursued.

COMMERCIALIZATION: The contractor will pursue commercialization of the various technologies developed in Phase II for additional DoD or commercial applications. Such applications could include weapons and armor development testing (i.e., lethality), rocket motor safety testing, and in-flight monitoring of debris or other impact events for satellites and other orbiting spacecraft.

References:


3. Doup, P.W., "Endgame Analyses Against a Ballistic Missile: A
DoD Solicitation Topics

- Only proposals submitted in response to topics in solicitation accepted!
- DoD scientists and engineers author solicitation topics
- Awarding Component
  - Component-specific instructions
  - Unique topics
Communicating with DoD TPOCs

TPOC = Technical Point of Contact

- Develop a brief nonproprietary white paper or quad chart that can be emailed to contacts that conveys the story
- Capture their interest because you can solve THEIR problem.
DoD – Influencing Topics

- Search past solicitation topics
  - www.sbir.gov or www.zyn.com/sbir
  - Locate topics in your space
- Call the topic author
  - Discuss your idea
  - Gauge DoD interest
  - Ask if accepting topic suggestions
    - Some awarding components have web links to submit ideas online
Electronic Submission @ DoD

http://www.dodsbir.net/submission/SignIn.asp

Check the current solicitation for submission deadline!

Each proposal submission must include:

- Proposal cover sheets
- Technical Proposal
- Cost Proposal
- Company Commercialization Report
Register your firm online: http://www.dodsbir.net/submission/SignIn.asp

Other items:

- Federal Tax ID
- DUNS Number
- CAGE Code (CCR)

NOTE: these three items are needed at time of award; NOT to submit a proposal

Designate a Point of Contact (POC) for your firm

Upon completion of the registration form, you will receive an on-line confirmation page:
DOD SBIR Updates

- Subscribe to the DOD SBIR/STTR Listserv
- Send an email to:
  - sbirlist@listserv.dodsbir.net
- Put “SUBSCRIBE” in the subject line
NIH Institutes Differ in Funding

20 institutes & 7 centers at NIH

- 24 of 27 make SBIR awards*
  - Separate budgets (extramural funding)
  - Do your intelligence work first!
  - Target the $
NIH is organized into:

- 27 Separate Institutes & Centers (IC) each with different:
  - missions & priorities
  - budgets
  - ways of deciding which grants to fund

Institutes and Centers include:

- National Human Genome Research Institute
- National Institute of Mental Health
- NLM
- NIGMS
- NIAAA (National Institute on Alcohol Abuse and Alcoholism)
- NIAID (National Institute of Allergy and Infectious Diseases)
- NIBIB (National Institute of Biomedical Imaging and Bioengineering)
- NIAMS (National Institute of Arthritis and Musculoskeletal and Skin Diseases)
- NIDCD (National Institute on Deafness and Other Communication Disorders)
- NIDDK (National Institute of Diabetes and Digestive and Kidney Diseases)
- NIDA (National Institute on Drug Abuse)
- NCRR (National Center for Research Resources)
- NCCAM (National Center for Complementary and Alternative Medicine)
- National Institute on Aging
- Clinical Center
- Fogarty International Center
- National Institute of Neurological Disorders and Stroke
- CIT (Center for Information Technology)
- NICHD (National Institute of Child Health and Human Development)
- NCMHD (National Center for Minority Health and Health Disparities)
Strategic Planning

BEFORE you start to write your proposal:

- Understand NIH Structure
- Find a Solicitation
- Understand the Review Process
- Define your project
- Understand how to work with NIH
Purpose of NIH SBIR/STTR Program

- Stimulate technological innovation
  - New technologies
  - Refinement of existing technologies
  - New applications for existing technologies
- Increase the commercial application of NIH supported research
  - New medical or biological products
    - Improved value
    - Improved efficiency
    - Improved costs
NIH SBIR/STTR: 3 Phases

- **Phase I (Feasibility Study)**
  - Guideline = $150k; Cap (NEW) = $225k

- **Phase II (Full Research R&D)**
  - Guideline = $1mil; Cap (NEW) = $1.5mil

- **PHASE II+ (Competing Renewal/R&D)**
  - Clinical R&D; Complex Instrumentation/Tools
  - Many, but not all, ICs participate
  - $1M/year; 3 years

- **Phase III (Commercialization)**
Research Portfolio Online Reporting Tools (RePORT)

In addition to carrying out its scientific mission, the NIH exemplifies and promotes the highest level of public accountability. To that end, the Research Portfolio Online Reporting Tools provides access to reports, data, and analyses of NIH research activities, including information on NIH expenditures and the results of NIH supported research.

News Updates

Biomedical Workforce Task Force Data is available.
Thursday, June 14, 2012
Read More

FY2012 Grants Subject to Executive Level I Salary Cap
Read More...
SBIR grants, Phase I
Applications, awards and success rates
NIH SBIR/STTR OMNIBUS Solicitation
NIH SBIR/STTR Solicitation

SBIR/STTR *Omnibus* Solicitation

- Investigator Initiated Research
- 3 deadlines per year: April, August, December
- Unrestricted Grants
  - Phase I: $150k - $225k, 6 months
  - Phase II: $1 - $1.5 million, 2 years
### NIH Review Process

<table>
<thead>
<tr>
<th>Application Receipt Dates*</th>
<th>National Technical Merit Review</th>
<th>Advisory Council Board Review</th>
<th>Estimated Award Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 5</td>
<td>June/July</td>
<td>Sept/Oct</td>
<td>November</td>
</tr>
<tr>
<td>August 5</td>
<td>Oct/Nov</td>
<td>Jan/Feb</td>
<td>March</td>
</tr>
<tr>
<td>December 5</td>
<td>Feb/March</td>
<td>May/June</td>
<td>July</td>
</tr>
</tbody>
</table>
Components of an NIH SBIR/STTR

- 1. Introduction to Application (1 pg)
- 2. Specific Aims (1 pg)
- 3. Research Strategy (6 or 12 pg)
  - Significance
  - Innovation
  - Approach
- 4. Inclusion Enrollment Report
- 5. Progress report/Publication List (Phase II proposals only)
- 6. Protection of Human Subjects
- 7. Inclusion of Women and Minorities
- 8. Targeted/Planned Enrollment Table
- 9. Inclusion of Children
- 10. Vertebrate Animals
- 11. Select Agents
- 12. Multiple PD/PI Plan
- 13. Consortium/Contractual Arrangements
- 14. Letters of Support
- 16. Appendix
- Bibliography and Refs Cited
- Project Summary/Abstract (30 lines)
- Public Health Relevance Statement/Narrative
- Senior/Key Person Profiles
- Biographical Sketches (4 pg ea.)
- Facilities & Other Resources
- Equipment
- Project Budget
- Subaward Budget
- Cover Letter
- Commercialization Plan (12 pg; Ph II & Fast Track only)
- Forms
Commercialization Plan Elements

**NIH Proposed Layout**
- Value of SBIR/STTR project
- Company information
- Market, Customer, Competition
- Intellectual Property Protection
- Finance Plan
- Production and Marketing Plan
- Revenue Stream

No more than 12 pages
Center for Scientific Review

- Single receiving point for all NIH applications
- Assigns applications to the Scientific Review Groups (aka Study Section)
- Assigns applications to the Institute/Center that is the potential funding component
NIH Peer Review Process Revealed

The Center for Scientific Review (CSR) is the portal for NIH grant applications and their review for scientific merit. We receive all research grant applications sent to NIH and handle the review of more than 70% of those by organizing peer review groups (study sections) to evaluate research grant applications. Our mission is to see that NIH grant applications receive fair, independent, expert, and timely reviews - free from inappropriate influences - so NIH can fund the most promising.
CSR – SBIR /STTR Study Sections

Find a Study Section (Scientific Review Group)
Applications are reviewed in Study Sections. Integrated Review Groups (IRGs) are clusters of Study Sections based on scientific discipline.

Search Integrated Review Group (IRG) / Study Group Using Keywords

Show Descriptions

View Study Section Descriptions by Integrated Review Group (IRG)

AARR - AIDS and Related Research
Show Descriptions

SBIR/STTR Study Sections
Recurring special emphasis panels (SEPs) review Small Business Innovation Research (SBIR) and Technology Transfer Research applications (STTR). They include only temporary members.

Fellowship Study Sections
Recurring special emphasis panels (SEPs) review individual fellowship grant applications - F30, F31, F32, F33. Temporary members are recruited based on expertise needed for each meeting.

All Other CSR Study Sections
Other one-time or recurring "Special Emphasis Panels" (SEPs) are held to review applications on special topics and members conflict applications. They include only temporary members.

Other NIH Study Sections
NIH Institutes and Centers also manage many study sections that evaluate applications submitted in response to special solicitations and for unique programs.
Who Are the NIH Reviewers?

Review panels are assembled on an ad hoc basis for each meeting; therefore designations and scientific emphasis may change with each review cycle.
Review Criteria

- Significance
  - Technical merit
  - Commercial value
- Investigators
- Innovation
- Approach
- Environment

Developing the Business of Technology
Do your homework @NIH (Reporter)

projectreporter.nih.gov/reporter.cfm
NIH -- Get Connected

NIH Extramural Nexus (News) & Rock Talk (Blog)
- Updates on grants policies and activities at the NIH

Workshops & Training
- Webinars: Sponsored by the Office of Extramural Research
- Seminars: Sponsored by OER Offices
  - NIH Regional Seminar on Program Funding and Grants Administration
  - NIH Small Business Research Conferences
  - NIH Animal Welfare Workshops
- Professional and Scientific Meetings
  - OER Exhibit Locations
  - Presentation Information
- Related Seminars: Sponsored by HHS
  - Office for Human Research Protections (OHRRP) Workshops
  - Office of Research Integrity (ORI) Conferences
- What's Happening Elsewhere at NIH?
  - NIH Calendar of Events
  - NIH Institutes, Centers and Offices - Event Links

Listservs & Feeds
- Podcasts
  - All About Grants
- Listservs
  - Office of Laboratory Animal Welfare (OLAW)
  - eRA Commons News
  - NIH Guide for Grants and Contracts
  - SBIR/STTR (Small Business-Related)
- RSS
  - Rock Talk (Blog) (RSS)
  - NIH Extramural Nexus (News) (RSS)
  - hESC Stem Cell Registry (RSS)
  - NIH Guide for Grants and Contracts (RSS)
  - OLAW News (Office of Laboratory Animal Welfare) (RSS)
- Twitter
  - @NIH_OER (OER Communications Office)
  - @RockTalking (Tweets from the OER Director)
  - @NIHforFunding (NIH Guide for Grants and Contracts)
  - @NIH_LRP (NIH Loan Repayment Program)
- Facebook
  - facebook.com/nihlrp (NIH Loan Repayment Program)
  - facebook.com/NIHAreaProgram (Academic Research Enhancement Award R15)
Know your role - @ Grants.gov

- **E-Business Point of Contact (POC)**
  - responsible for the administration and management of grant activities in the organization.

- **Authorized Organization Representative (AOR)**
  - submits a grant application to Grants.gov on behalf of a company, or institution.
  - Authority to sign grant applications and the required certifications and/or assurances.
  - Equivalent to the Signing Official in eRACommons.
Registrations – Grants.gov

- Organizational AOR must register with Grants.gov
  - This requires the SAM ‘M-PIN’ password
- Why?
  - This creates an account on Grants.gov that allows AORs to submit applications on behalf of the organization and track the status of submitted applications.
- How long will it take?
  - Same Day. AORs will be registered when they submit the information.
Registrations – Grants.gov

- **AOR Authorization**
  - The E-Business Point of Contact (E-Biz POC) at your organization **must** respond to the registration email from Grants.gov and login at Grants.gov to authorize **you** as an Authorized Organization Representative (AOR).

- **Track AOR Status**
  - Track your AOR status at the Applicant home page of Grants.gov.
eRA systems provide applicants, grantees and federal staff the tools necessary for electronic processing of grants. Used by NIH, AHRQ, CDC, FDA, SAMHSA and the VA, the eRA Commons and IMPAC II systems support the full grants life cycle from receipt to award to closeout.

Applicants (Pre-Award)

- Registration/Account Creation
- Fill Out Personal Profile
- Manage Your Professional Bibliography (My NCBI)
- Manage Institutional Profile

Grantees (Post-Award)

- View Notice of Award
- Manage Your Professional Bibliography (My NCBI)
- Submit Electronic Streamlined Non-competing Award Process (eSNAP)
- Submit Financial Conflict of Interest
- Submit No-Cost Extension
- Close Out Your Grant

About eRA

- Overview of eRA
- Services for Applicants/Grantees
- Services for NIH Staff and Agency Partners

Partnering with Other Agencies

- Overview of eRA Partnerships
- Benefits of Partnering with eRA (PDF - 282 KB)
- Where to Start

Help

- eRA Commons Help Desk
  Web: http://era.nih.gov/help/
  Toll-free: 1-866-504-9552
  Phone: 301-402-7469
  TTY: 301-451-5939
  Hours: Mon-Fri, 7a.m. to 8 p.m. Eastern Time

- Find NIH Contacts
  ◦ NIH Enterprise Directory (NED) - E-mail and Telephone Directory for All NIH Staff
  ◦ NIH Grants Administration Information Sources

Latest News

NIH eRA eSubmission Items of Interest
(November 16, 2012)
New Help Desk Ticketing Service Available Monday, Oct. 29
(October 28, 2012)
NIH - Know your role - @ eRACommons

- **The PI/Principal Investigator (PI)**
  - Directs the project or activity being supported by the grant.
  - Accountable to the grantee for the conduct of the project or activity.
  - Can view information for all their applications at NIH

- **The SI/Signing Official**
  - Authority to legally bind the institution in grants administration matters.
  - May have any number of titles in the grantee organization.
  - Can register the institution, and create and modify the institutional profile and user accounts.
SO creates or affiliates the PI's Commons account

- Only a signing official (SO) can create principal investigator accounts in NIH Commons.
- For PIs new to the institution, the SO registers them.
- For PIs registered at another institution, the SO must affiliate them with the SO's organization.

Note: If you are both the SO and a PI, you need a separate Commons account for each role.
Subscribe to the SBIR/STTR Listserv:
Send an e-mail to:
LISTSERV@LIST.NIH.GOV
in the message body type
“subscribe SBIR-STTR <your name>”

Subscribe to the NIH Guide to Grants and Contracts Listserv:
Send an e-mail to:
listserv@list.nih.gov
in the message body type
“subscribe NIHTOC-L <your name>”
DoE SBIR/STTR Program

Developing the Business of Technology
Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)

DOE SBIR/STTR Webinar – The Basics

Join DOE SBIR/STTR Programs Director, Manny Oliver as he provides an overview of the Department’s SBIR and STTR programs.

SBIR & STTR Information

SBIR/STTR Phase I (Release 3) Topics

SBIR/STTR Phase I (Release 3) Funding Opportunity Announcement (FOA) research topics for clean energy R&D technologies that reduce the cost and enable the efficient use of energy and/or the generation...
Phase I: Feasibility of Idea
- 9 month duration, up to $150,000
- On average, DoE funds 1 out of 10 proposals

Phase II: Principal R&D Effort
- 2 years, up to $1,000,000
- Odds of winning: 1 out of every 2 to 3
- Only DoE Phase I awardees may apply
## FY 2014 DoE Solicitation Schedule

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Release 1</th>
<th>Release 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics Issued</td>
<td>Monday, July 15, 2013</td>
<td>Monday, October 28, 2013</td>
</tr>
<tr>
<td>Webinar(s)</td>
<td>Week of July 22, 2013</td>
<td>Week of November 4, 2013</td>
</tr>
<tr>
<td>FOA Issued</td>
<td>Monday, August 12, 2013</td>
<td>Monday, November 25, 2013</td>
</tr>
<tr>
<td>Webinar(s)</td>
<td>Friday, August 16, 2013</td>
<td>Tuesday, December 3, 2013</td>
</tr>
<tr>
<td>Letters of Intent (LOI) Due</td>
<td>Tuesday, September 3, 2013</td>
<td>Monday, December 16, 2013</td>
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<tr>
<td>Applications Due</td>
<td>Tuesday, October 15, 2013</td>
<td>Tuesday, February 4, 2014</td>
</tr>
<tr>
<td>Award Notification</td>
<td>Early January, 2014*</td>
<td>Late April, 2014*</td>
</tr>
<tr>
<td>Grant Start Date</td>
<td>Late February, 2014*</td>
<td>Early June, 2014*</td>
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*Preliminary dates subject to change
Phase I & Phase II Timelines

- Issue Topics
- Issue FOA
- LOI Due
- Applications Due
- Phase I:
  - Award Notification
  - Start of Budget Period
- Phase I Budget Period—9 months
- Negotiate
- Phase II:
  - Award Notification
  - Start of Budget Period
- Phase II Budget Period—24 months
- FOA: Funding Opportunity Announcement
- LOI: Letter of Intent
You must select a Topic and a sub-topic:

**Topics**

### Program Area Overview: Office of Biological and Environmental Research

#### 17. Atmospheric Measurement Technology (Phase I, $150,000/Phase II, $1,000,000)
   - a. Instrument Package for Characterization of Aerosols, Turbulence, and Surface Characteristics in the Arctic...
   - b. Greenhouse Gas and Carbon Isotope Measurements from UAVs...
   - c. Measurements of the Chemical Composition of Atmospheric Aerosols...
   - d. Measurements of the Chemical Composition of Atmospheric Aerosol Precursors...
   - e. Aerosol Size Distributions...
   - f. Aerosol Scattering and Absorption (in situ)...
   - g. Other...

#### 18. Carbon Cycle Measurements of Processes in The Atmosphere and Biosphere (Phase I, $150,000/Phase II, $1,000,000)
   - a. Novel Measurements of Carbon, CO₂, and Trace Greenhouse Gas Constituents of Terrestrial and Atmospheric Media...
   - b. Portable Technologies for Fast and Precise Measurements of Atmospheric Nitrogen, Argon, or Oxygen...
   - c. Innovation and Improvement for In Situ Fine Root Measurements...
   - d. Other...

#### 19. Enhanced Availability of Climate Model Output (Phase I, $150,000/Phase II, $1,000,000)
   - a. Accessibility of Climate Model Data to Non-Researchers...
   - b. Develop Modeling Capabilities and Tools that will Facilitate a Better Linkage Between Global and Regional Climate Model Output and Wind-Energy Stakeholders...
   - c. Other...

#### 20. Technologies For Subsurface Characterization And Monitoring (Phase I, $150,000/Phase II, $1,000,000)
   - a. Mapping and Monitoring of Hydrogeologic Processes...
   - b. Real-Time, In Situ Measurements of Geochemical, Biogeochemical and Microbial Processes in the Subsurface...
   - c. Other...
19. ENHANCED AVAILABILITY OF CLIMATE MODEL OUTPUT (PHASE I, $150,000/PHASE II, $1,000,000)

Much of the nearly $2 billion annual research budget for the U.S. Global Change Research Program supports research from the Department of Energy, National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), and National Science Foundation (NSF). Studies supported by this research, include modeling and simulation of long-term climate change. Model output resulting from climate change projections is a valuable resource and the DOE has played a crucial role in providing such datasets to the research community. For example, the Program for Climate Model Diagnosis and Intercomparison (PCMDI) (http://www-pcmdi.llnl.gov/ipcc/about_ipcc.php) makes available a subset of multi-model output from the Intergovernmental Panel for Climate Change (IPCC) Fourth Assessment Report to researchers for non-commercial purposes only. However, other users, particularly non-researchers that intend to use the data for commercial purposes, have been requesting access to the multi-model output. As the temporal and spatial resolution of models increase, vast amount of climate model output are generated; access and analysis of such data by non-researchers is a daunting challenge.

Grant applications are sought only in the following subtopics:

a. Accessibility of Climate Model Data to Non-Researchers

The purpose of this subtopic is to broaden the usage of federally-funded, long-term climate change simulations of high-end climate models, such as the Community Climate System Model, the NOAA Geophysical Fluid Dynamics Laboratory model, and the NASA Goddard Institute for Space Studies model.

Therefore, grant applications are sought to develop technology for making the output of these models more accessible to a variety of users. Approaches of interest include the development of (1) preferred data formats for users of climate model output in particular applications (e.g., agriculture, water resources, energy); (2) methods for converting the data from existing data formats to formats required by users in the application communities; and (3) improved software frameworks and prototypes for data access by distinct application communities. Applicants are expected to document lessons learned in the experience of providing climate model output data to the non-research community.

Questions – contact rick.petty@science.doe.gov
Do Your Homework

[science.energy.gov/sbir/awards-and-general-stats]
DoE Phase I

Letters of Intent (Release 1 & 2)

- **Primary purpose**
  - Begin reviewer assignment to reduce award cycle time

- **Secondary purpose**
  - Provide notification to applicants who appear to non-responsive; you may submit a formal application if you receive this notification

- **Limits**
  - Small businesses may submit only 10 letters of intent per solicitation

- **Content:**
  - Title
  - Topic and subtopic
  - Abstract (<500 words)
  - List of collaborators
  - Small business information
    - Name, address
    - Business official and contact information
    - Principal investigator
Merit Review Criteria

Equal weight to:

1. Scientific/Technical Approach
   a. Innovativeness of the approach
   b. Significance of the scientific challenge
   c. Thoroughness of the presentation
2. Ability to Carry out the Project
   a. Qualifications of PI and team
   b. Soundness of work plan
   c. Justification for DoE investment
3. Impact
   a. Significance of the potential benefits
   b. Likelihood of a marketable product
   c. Potential for third-party funding
Make-up of Review Panel

- Government: 10%
- Private Sector: 9%
- University: 32%
- National Laboratory: 49%
Project Summary (1-page maximum)

- Company Name
- Project Title
- Principal Investigator
- Topic Number / Subtopic Letter (example: Topic 11, Subtopic b)
- **Statement of the Problem or Situation that is Being Addressed** – The DOE’s and public’s interest in the problem should be clearly stated (typically one to three sentences).
- **Statement of How this Problem or Situation is Being Addressed** – The overall objective or approach of the combined Phase I and Phase II projects should be clearly stated (typically one to two sentences).
- **Commercial Applications and Other Benefits** – Summarize the future applications and/or public benefits if the project is carried over into Phase II and beyond.
- **Key Words** – Provide listing of Key Words that describe this effort.
DoE Proposal

Project Summary

- **Summary for Members of Congress** – The DoE notifies members of Congress of awards in their respective districts. Therefore, please provide in clear and concise non-technical language, a very brief summary of the project, suitable for a press release from a Congressional office. (This summary should be a maximum of two (2) sentences and no more than 50 words.)

- As noted above, do not include proprietary, confidential information or trade secrets in the description section. If the application is funded, the Project Description will be entered into a DoE database and made available on the DoE public web site at www.science.doe.gov/sbir and will become public information.

- The attachment must be in PDF format.

Developing the Business of Technology
DoE Proposal

Project Narrative
Limited to 15 pages; 7,500 words of text

a. Cover Page
b. Proprietary Data Legend
c. Identification and Significance of the Problem
d. Anticipated Public Benefits
e. Technical Objectives
f. Phase I Work Plan
g. Phase I Performance Schedule
h. Related Research or R&D
i. Principal Investigator and Other Key Personnel
j. Facilities/Equipment
k. Consultants and Subcontractors

Developing the Business of Technology
DoE Proposal

Commercialization Plan

- Market Opportunity:
  - Must include expected revenues
- Intellectual Property (IP):
  - Describe status of patents, trade secrets, plans to protect IP
- Company/Team
  - Include current team’s capabilities
  - Mention future additions

Developing the Business of Technology
“ABC LLC estimates sales revenues of $________ and licensing revenues of $________ during the first 10 years of commercialization.”
1. Company Information – Describe core competencies, size, specialization areas, products with significant sales, and history of previous Federal and non-Federal funding, regulatory experience, or subsequent commercialization (see question 8 for specific information requested on the “SBIR/STTR Information” form).

2. Market – Analyses of market size and estimated market share after first year sales and after 5 years. We want to see if a small business applicant is aware of the general market characteristics for which its innovation or technology may apply.

3. Intellectual Property (IP) – Patent status, technology lead, trade secrets, or other demonstration of a plan to achieve sufficient protection to realize the commercialization stage. We want to see if a small business applicant is taking steps to protect its IP.
What is SBIR/STTR?

SBIR/STTR is federal funding mechanism to support small business to:

- Stimulate *technological innovation*
- To develop products with *commercial merit*
How to be successful in SBIR/STTR

- **The Project**
  - Innovation
  - Commercial potential

- **The Company**
  - Eligible
  - Qualified PI
  - Excellent team
  - Suitable facilities
“There is no grantsmanship that will turn a bad idea into a good one, but there are many ways to disguise a good one.”
Read the Solicitation
The quick brown fox jumps over the lazy dog is a pangram that has been used to test typewriters and computer keyboards because it is coherent, short, and contains all the letters of the English alphabet. It was often used for testing the teletype services (a procedure known as "fixing") when these machines were still used. The phrase is frequently misquoted as "The quick brown fox jumps over the lazy dog," which does not contain all the letters of the alphabet since it lacks the letter "s." For this reason, the word "slow" or "sleeping" is sometimes inserted into the phrase, or the word "dog" is made plural. The quick brown fox jumps over the lazy dog is a pangram that has been used to test typewriters and computer keyboards because it is coherent, short, and contains all the letters of the English alphabet. It was often used for testing the teletype services (a procedure known as "fixing") when these machines were still used. 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Style tips…

- Be concise & precise
- No emotion or exaggeration
- Use proper technical writing
- Provide necessary detail
- Avoid jargon & abbreviations
- Keep it simple
“If you can’t explain it simply, you don’t understand it well enough”

- Albert Einstein
Get Help

- Get someone else to:
  - Read for grammar
  - Read for content

- Make sure you have answered the following two questions:
  - Technology: *How?*
  - Commercialization: *So what?*
Deadline – definition

Dictionary.com Unabridged (v 1.1)

dead·line
—noun

1. the time by which something must be finished or submitted; the latest time for finishing something: a five o'clock deadline.

2. a line or limit that must not be passed.

3. (formerly) a boundary around a military prison beyond which a prisoner could not venture without risk of being shot by the guards.

[Origin: 1855–60; dead + line1]

Dictionary.com Unabridged (v 1.1)
DO YOU HAVE AN IDEA FOR YOUR GRANT YET?

NO, I'M WAITING FOR INSPIRATION.

YOU CAN'T JUST TURN ON CREATIVITY LIKE A FAUCET. YOU HAVE TO BE IN THE RIGHT MOOD.
WHAT MOOD IS THAT?

LAST-MINUTE PANIC.
For More Agency Information

- **Attend the National Spring 2013 SBIR Conference**
  - Washington DC area, May 14-16, 2013
  - Co-located with TechConnect World & National Innovation Summit

- **Attend the NIH SBIR/STTR Conference**
  - October 28-30, 2013
  - Sioux Falls, SD
SBIR/STTR Grants: Commercialization Plans
Assumption #1: A good idea is necessary... but not sufficient.
Assumption #2:

SBIR/STTR does **not** fund “science fair projects”
Assumption #3

You will need a combination of technical AND business expertise

(e.g., “You can not possibly know everything”)
Assumptions #4a and 4b:

A Market Analysis is NOT a Commercialization Plan

Large Market ≠ Commercialization
Assumption #5:

There is no such thing as the “Build it and they will come” Business Model
Assumption # 6:

This is *NOT* a feasible business model:

Technology
What is Commercialization?

- Ability to provide a solution to a problem in exchange for money
  - Targeted and Differentiated Solution
  - Important Problem
  - Viable Business Model
Most Common Pitfalls

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Development</td>
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<td>Business Development</td>
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Naïve Planning process

Product Development and Business Development go hand in hand

Knowing your customer helps develop both simultaneously
BBC’s Grant Assistance

- Assessment of competencies and capabilities
- Strategic planning
- Grant sourcing
- Training on all aspects of the process including in-depth proposal preparation
- Pre-submission review and editing
- Assistance with revision and resubmission
- Post-award administrative assistance and grant management
Developing the Business of Technology

Part I: The ABCs of SBIR/STTR

Part II – Walk Through The Application Process

May 29, 2013
Lisa M. Kurek
Managing Partner
lisa@bbcetc.com

www.bbcetc.com
734.930.9741