Introduction to the SBIR/STTR Program

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BBCetc
What is the SBIR/STTR Program?

- A $2 Billion+ Federal Funding Program
  - SBIR: Small Business Innovation Research
  - STTR: Small Business Technology Transfer
What is the SBIR/STTR Program?

- A federal funding mechanism to support small business to:
  - Stimulate technological innovation
  - To develop products with commercial merit
Purpose of SBIR/STTR Programs

- Develop innovative technologies
- Create jobs
- Promote small businesses
- Not an alternative source of funding basic research
Important Reminder

A good idea is necessary but not sufficient
What is Commercialization?

- Ability to provide a solution to a problem in exchange for money
  - Targeted and Differentiated Solution
  - Important Problem
  - Viable Business Model
“We don’t know why we make these, so we’re hoping to find people who don’t know why they buy them.”
The Basics of SBIR: 3 Phases

Phase I:
6 Months, $150K

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

Phase III: Commercialization (no federal $$)

2.5 Years, ~$1,150,000+
Three Phases of SBIR/STTR

Details Agency Dependent

- **Phase I – Feasibility***
  - 6 months – 1 year
  - $60k – 225k

- **Phase II - Expand results, pursue further development***
  - 2 years
  - $500k - $1.5m

- **Phase III – Commercialization**
  - Your own $$ (ie - no government $!)

*Phase I and II supplements available at some agencies
## Participating Federal Agencies*

<table>
<thead>
<tr>
<th>SBIR STTR</th>
<th>SBIR Only</th>
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<tbody>
<tr>
<td>DOD - $1,200 m</td>
<td>USDA - $19 m</td>
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<tr>
<td><strong>HHS - $690 m</strong></td>
<td>DOT - $4 m</td>
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<tr>
<td>NASA - $138 m</td>
<td>EPA - $7 m</td>
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<td>NSF - $105 m</td>
<td>DOC - $9 m</td>
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<td>DOE - $102 m</td>
<td>DoED - $8 m</td>
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<td>DHS - $30 m</td>
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**TOTAL: >$2.4 B FY 2010**

*[www.sbir.gov]*
SBIR/STTR Assessment

Learn the Rules!
Eligibility Issues

- Small business
  - < 500 employees
  - For-profit
  - Located in the U.S.
  - R&D must be performed in the U.S.

- At least 51% U.S. owned and independently operated
  - Firms more than 50% owned by corporations, VCs, institutions are not (currently) eligible for SBIR/STTR awards

- Must have company-controlled research facilities
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
## University Research vs. SBIR/STTR

<table>
<thead>
<tr>
<th>University</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open ended</td>
<td>Goal oriented</td>
</tr>
<tr>
<td>Basic Research</td>
<td>Develop product</td>
</tr>
<tr>
<td>- Unpredictable</td>
<td>- Specific objectives</td>
</tr>
<tr>
<td>- Can change direction</td>
<td>- Specific tasks</td>
</tr>
<tr>
<td>- No promises</td>
<td>- Specific end points</td>
</tr>
<tr>
<td>Long term</td>
<td>Short term</td>
</tr>
<tr>
<td>Individual control</td>
<td>Company control</td>
</tr>
<tr>
<td>Individualistic</td>
<td>Team</td>
</tr>
<tr>
<td>Publication</td>
<td>Confidentiality</td>
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<tr>
<td>Societal Responsibility</td>
<td>Proprietary responsibility</td>
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</table>
R41 SBIR Small Business Innovation Research

- Business applies for and receives award
- PI must be employed >50% by the small business
- Multiple PIs allowed
  - Primary PI must be at the company
  - Academic PI/co-investigator allowed
- Limited subcontracting allowed (<33%)
- FY2012 R43 success rate
  - 10.3% first submission
  - 18.4% resubmission
R41 STTR Small Business Technology Transfer Research

- Small business applies for and receives award
- Requires research institution partner responsible for >30% of the work (by budget)
- Small business must conduct >40% of the work
- Remaining funds can go to subcontract, business or consultants
- PI must commit >10% effort but can remain employed by the research institution
- FY2010 R41 success rate
  - 16.6% first submission
  - 22.4% resubmission
NIH SHIFT Award

Purpose
(1) foster research that is translational in nature and
(2) transform academic scientific discoveries into commercial products and services.

Features
- Investigator must be primarily employed by a U.S. research institution at the time of application and “shift” to a SBC to become primarily employed (more than 50% time) by the SBC by or at time of award.
- Enables an SBC to increase both its scientific research staff and its core competencies.

Participating Institutes/Centers (11):
- NIA, NIAAA, NIAID, NIAMS, NICHD, NIDDK, NIDA, NIGMS, NHLBI, NCCAM, NCRR

Awards: $200K/yr for 2 yrs (Phase I); $750k/yr for 3 yrs (Phase II)
SBIR SHIFT award

- PI SHIFT requirement
  - At time of application, PI must be employed at the research institution
  - At time of award, PI must be primarily employed at the small business

- Budget
  - Phase I = $200k/year for 1-2 years
  - Phase II = $750k/year for 2-3 years

- Not all NIH institutes participate
SHIFT Connector: Bringing Business Jobs to Academic Investigators

NIAD is hosting this pilot site to help investigators and businesses connect for the SHIFT SBIR program, regardless of the funding institute or center.

Businesses can post their interests and investigators can propose product-oriented research topics. After connecting, the PI usually writes the SHIFT SBIR application that the business submits to NIH for funding.

Table of Contents
- SHIFT Connector pages
  - SHIFT Connector: Academic Investigators
  - SHIFT Connector: Build a Strong Title
  - SHIFT Connector: Businesses
  - SHIFT Connector: Networking
- Instructions
  - Academic Investigators
  - Businesses
  - Networking Sponsors

How to SHIFT Into Gear

Academic Investigators

1st Gear: Decide that you would accept a job in business.

2nd Gear: Think about product-oriented research you could direct as a PI.

3rd Gear: Post a research title on SHIFT Connector: Academic Investigators by emailing deaweb@niaid.nih.gov with the following:

- small business award
- Small Business Innovation Research (SBIR) R44
SBIR vs. STTR

- The Small Business is always the applicant

- Subcontracting
  - 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

- Principal Investigator rules
  - SBIR: PI at least 51% EMPLOYED at small business
  - STTR: PI has an ‘official relationship’ with the small business and at least 10% effort on the grant but can remain at the Research Institution
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
STTR Applications - Extra Requirements

- Company & its University partner must sign intellectual property (IP) agreement
- “Budget and Certification of Research Institution” form required
- Virtual companies do not qualify
- Conflict of interest issues
How Can Academics Participate?

- Faculty member can own small company and identify someone else (well-qualified) as PI
- Faculty member can take leave of absence
- Faculty member can be PI of subcontract
- Faculty member can provide analytical and other support services
- Faculty member can be a consultant
SBIR/STTR Information (www.sbir.gov)
http://www.zyn.com/sbir/
<table>
<thead>
<tr>
<th>Solicitation</th>
<th>Released</th>
<th>Proposals Accepted</th>
<th>Proposal Deadline</th>
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<tr>
<td>DOT SBIR</td>
<td>2 Apr 2012</td>
<td>2 Apr 2012</td>
<td>5 Jun 2012</td>
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<tr>
<td>DOE SBIR/STTR Letter of Intent Due 5-1-12</td>
<td>5 Mar 2012</td>
<td>1 May 2012</td>
<td>3 Jul 2012</td>
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<td>7 Sep 2012</td>
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Federal SBIR/STTR Agencies Funding Life Sciences

- National Science Foundation
- Department of Defense
  - Army
  - Navy
  - Air Force
  - SOCOM
  - OSD
- National Institutes of Health
The DoD SBIR Program

DoD STTR 2010.2 Solicitation Topic Examples

- 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
Mission of NSF

To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.
NSF SBIR/STTR Deadlines

- **SBIR**
  - Due June 19, 2012
  - Due Dec, 2012

- **Closed solicitations**
  - **STTR**

- **Phase II Deadlines**
  - Phase I Awards Expiring on December 31, 2011 have submission opportunity dates of: January, 2012 or July, 2012
  - Phase I Awards Expiring on June 30, 2012 have submission opportunity dates of: July, 2013 or January, 2013
FY 2013 Solicitation (NSF 12-548)

Four Broad Topic Areas

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

- Focus on near-term commercialization
- Letters of support from commercialization partners are required
- Communication with Program Officer is strongly encouraged
- Provide Program Officer a 1-2 page executive summary
NIH SBIR/STTR Program
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 Solicitation

SBIR/STTR Omnibus Solicitation

Investigator Initiated Research

- 3 deadlines per year: April, August, December
- Unrestricted Grants
  - Phase I: $150k, 6 months
  - Phase II: $1 million, 2 years
  - Well justified deviations from guidelines allowed
NIH SBIR Success Rates 2010

FY2010 $690 M SBIR/STTR

<table>
<thead>
<tr>
<th></th>
<th>Phase I</th>
<th>Phase II</th>
<th>Fast-Track</th>
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<tr>
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<td>13.7</td>
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<td>15.6</td>
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<tr>
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<td>20.2</td>
<td>34.8</td>
<td>23.4</td>
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Developing the Business of Science
### NIH: Peer 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>
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</thead>
<tbody>
<tr>
<td>April 5</td>
<td>June/July</td>
<td>Sept/Oct</td>
<td>November</td>
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<td>August 5</td>
<td>Oct/Nov</td>
<td>Jan/Feb</td>
<td>March</td>
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<tr>
<td>December 5</td>
<td>Feb/March</td>
<td>May/June</td>
<td>July</td>
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Review Criteria

- Significance
  - Technical merit
  - Commercial value
- Investigators
- Innovation
- Approach
- Environment
Overview of Electronic Application @ NIH

PI downloads announcement, instructions & forms

PI completes application & sends to company AOR who submits to Grants.gov

eRA retrieves application from Grants.gov, checks for compliance

PI and AOR/SO track status & view assembled application in eRA Commons.
SBIR/STTR: Why?

- Non-dilutive capital (i.e. – its free)
- Peer Review
- Validation of Technology
- Commercialization focus
- Funds technology risk
- Enables early transfer of technology and establishment of start-up companies
Why apply for an SBIR/STTR?

- Over $100 million awarded to MI client companies since 2002
Understand the problem

... as well as you understand your solution

- Market size and growth
- Customer profile
- Competitors
- Sales and market share projections
- Pricing and margin analysis
- Market trends
Know Your Customer

- The Federal Government
  - NIH, NSF, DoD
    - CSR, TPOC -- Reviewers
    - Institute – TPOC, Program Manager
- The Target Market / End Users
- Other Investors
MI SBIR/STTR ASSISTANCE PROGRAM

GOALS

- Increase the number of applications from Michigan
- Increase the quality of applications from Michigan

PROGRAM COMPONENTS

- Training
- One-on-one Proposal Assistance
- Outreach
One-on-one Assistance: Eligibility

- Located in Michigan
- Focused on commercialization of technology
- Meet requirements of an SBIR/STTR solicitation
- Must attend agency specific proposal preparation SBIR/STTR Training
- Must have qualified PI and project
- Must have sufficient time prior to deadline
  - Fees – only due if SBIR/STTR is funded:
    - $1500 Funded Phase I
    - $5000 Funded Phase II
Primary Training

- SBIR/STTR 101: ½ day ($50)
- Agency Specific Proposal Preparation:
  - NIH: 2 days ($125)
  - NSF, DoE, or DoD: 1 day ($75)

Other Training

- Commercialization Plan Development: ½ day ($50)
- Electronic Submission: webinar ($25)
- Accounting/Grants Mgmt: webinar series ($25 ea)

http://www.bbcetc.com/training.html
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
Michigan Resources

Welcome to the Michigan Emerging Technologies Fund web site!

The Michigan Emerging Technologies Fund (Michigan ETF) is designed to expand funding opportunities for Michigan technology based companies in the federal innovation research and development arena. The Michigan Small Business and Technology Development Center (MI-SBTDC) in partnership with the Michigan Economic Development Corporation (MEDC), dedicated $1.4 million per year in 2008 through 2011 to match federal SBIR/STTR funding opportunities for exceptional research and technical innovation generated in Michigan. The fund will match both Phase I and Phase II SBIR/STTR awards until funds are exhausted.

For a complete list of our award recipients view this page.

Effective 4/16/09 – the MIETF guidelines have been updated and will apply to all new applications. Please review the new Program Guidelines here before submitting new applications.

The purpose of the Michigan Emerging Technologies Fund is to:

- Encourage companies to pursue SBIR/STTR grants and contracts
- Increase Michigan's competitiveness in obtaining SBIR/STTR funds
- Increase commercial success of Michigan SBIR/STTR projects
- Stimulate early stage technology investing activity in Michigan

SBIR/STTR proposal writing training available.

http://www.mietf.org/
SBIR/STTR Matching funds in Michigan

- Match up to $25k for Phase I, $125k Phase II
- Requires third party match
- MUST APPLY PRIOR TO SBIR SUBMISSION

[www.mietf.org](http://www.mietf.org)
Lisa M. Kurek, MS – Managing Partner
Michael P. Kurek, PhD, MBA – Partner
Andrea Johanson, PhD – Principal Consultant
Bhramara Tirupati, PhD – Principal Consultant
Kris Bergman – Consultant, Grants and Contract Management
Jayne Berkaw – Director, Marketing and Outreach
Marilyn (Mickey) Katz-Pek – Partner Emerita & Founder

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