Understanding SBIRs for Researchers

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Session 2 – Getting a Good Start
Outline For Today’s Class

- Reminder – Potential benefits for researchers?
- Homework 1 Discussion
- Getting a company started
  - Required Registrations
  - Starting a Company
- Conflict of Interest Reminders
- Getting Your Summary Written
- Writing your Objectives
- TIPS of winning
- Business Plan
Potential Benefits to the Researcher

- Can provide financial rewards for the researcher.
- Can strengthen researcher’s lab program and reputation.
- Can attract innovative employees.
- Can support university research program.
- Can strengthens industry relations.
- Company can fund research, therefore the need to rely on getting grants is less.
- Can strength local technology community.
- Can obtain recognition – US Patent, Copyright
- Can fulfill university tech-transfer charter
Homework 1
Discussion
Need a Good Start

Research Your Employer

- **Review your employment agreement and keep a copy.**
  - Did you assign your rights?
  - Is your idea based on Federal Grants you received?
  - Read University Policy on Intellectual Property.
  - Talk to your Department Head and Dean.
  - Visit your tech transfer office.
  - Visit your incubator if your campus has one.
  - Are you represented by a faculty union?
- Your employer may already own the idea.
Tenure Status

- Will this effort (SBIR) hurt your ability to get tenure or promotion?
- Do you have the time to be the PI and still work at the university?
- Must be working for the company 51% of the time.
  - Must be able to document work status.
- Are you willing to build collaborations with other professionals?
Starting a Company Basics

Determination of Business Name & then register the name with your Secretary of State for the State in which your business is located or the State you want to incorporating in (Delaware is an example).
Business Structure

- Sole Proprietorship, Partnership general and limited, C-Corp, S-Corp, Limited Liability Company
- Should consider:
  - Formation requirements,
  - ease of formation,
  - period of existence,
  - liability,
  - Taxes
  - Dissolution
- State require annual payment for corporations.
- If a corporation – must have an agent in the State – therefore must have an agent in Delaware if located in California.
## Choosing The Legal Structure For Your Business

### Table Comparing the Different Forms of Business

<table>
<thead>
<tr>
<th>Type of Business</th>
<th>Sole Proprietorship</th>
<th>Partnerships</th>
<th>Corporations</th>
<th>Limited Liability Company</th>
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</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>A business owned and operated by one person for profit.</td>
<td>Two or more people who jointly own or operate a business for profit.</td>
<td>An organization formed under state or federal law, an artificial entity separate from its owners.</td>
<td>A business entity created by statute. The owners are called members, it is taxed like a partnership or an S corp, if it has limited liability like corporations.</td>
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<tr>
<td><strong>Ease of Formation</strong></td>
<td>Easiest form of business to set up, if necessary, acquire licenses and permits, register fictitious name, and obtain taxpayer identification.</td>
<td>Easy to set up and operate. A written partnership agreement is highly recommended. Must acquire an Employer ID number. If necessary, register fictitious name.</td>
<td>File articles of incorporation and other required reports with the Secretary of State. Prepare bylaws and follow corporate formalities.</td>
<td>File articles of organization with the Secretary of State. Adopt operating agreement, and file necessary reports with Secretary of State. The name must show it is a limited liability company.</td>
</tr>
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<td><strong>Period of Existence</strong></td>
<td>Terminates at will or on the death of the owner.</td>
<td>Terminates by agreement, or by death or withdrawal of partner, unless there is a partnership agreement to the contrary.</td>
<td>Continues until formal dissolution. Most stable form of business. Not affected by death or disqualification of shareholder.</td>
<td>May terminate by agreement, or withdrawal of a member, depending upon operating agreement.</td>
</tr>
<tr>
<td><strong>Taxes</strong></td>
<td>Profits are taxed once. Profit and loss are reported on the owner’s individual state and federal income tax return.</td>
<td>Profits are taxed once. Each partner reports his or her share of the profit and loss on his or her individual state and federal income tax returns. Partnership files an information return.</td>
<td>Profits are subject to double taxation, once at the corporate level, and again at the shareholder level.</td>
<td>Profits are taxed once. Each shareholder reports his or her share of profit and loss on individual income tax returns. S corporation does not pay tax, with some exceptions.</td>
</tr>
<tr>
<td><strong>Liability</strong></td>
<td>The owner’s personal assets are at risk.</td>
<td>Each partner’s personal assets are at risk.</td>
<td>General partners’ personal assets are at risk. A limited partner is liable only to the extent of his or her investment.</td>
<td>Limited to corporate assets, except:</td>
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<td>1. Personally guaranteed business debts;</td>
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<td>2. Personal negligence or fault; or</td>
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<td>3. Corporate form is found to be a sham.</td>
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<tr>
<td><strong>Dissolution</strong></td>
<td>Easiest form of business to dissolve. Pay debts, taxes, and claims against business.</td>
<td>Pay debts, taxes, and claims against business. Settle partnership accounts.</td>
<td>Obtain shareholder approval to dissolve. File statement of intent to dissolve with the Secretary of State. Pay debts, taxes, and claims against business. Distribute corporate assets to shareholders.</td>
<td>Pay debts, taxes, and claims against business. Distribute remaining assets to members. File articles of dissolution with the Secretary of State.</td>
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<td>Gain on distribution of assets is subject to double taxation.</td>
</tr>
</tbody>
</table>
Company Tips

- Generally VCs will not invest in LLC – limit on number of investors.
- LLCs are easy but do have their problems.
- Most closely held companies do not pay taxes.
- There are accounting costs.
- Do not want to commingle funds – pierce the corporate veil.
- Open a business bank account – needed for CCR registration
The SBIR programs require registrations and they all take time to get. Plan to start early.

If a corporation needs an EIN number:

DUNS numbers are free for Government Grants.
http://fedgov.dnb.com/webform/pages/CCRSearch.jsp

CCR – register for grants and contracts.
https://www.bpn.gov/ccr/NewRegistration.aspx

If you are going to apply to NSF – register with FastLane.
https://www.fastlane.nsf.gov/n1/N1AddInst.html

The PI must also be registered at FastLane.

Can register trademark with USPTO – Cost $275.
www.uspto.gov
All businesses should contact the municipality and county in which the business is located to determine if there are any local regulations to which the business must adhere. Also check whether any permits are required for your business to operate.

Business Licenses and Certification

Incubators can be very helpful

- Internet
- Conference rooms
- Networking
Employee Related Issues

- If you have at least one employee, you are required to address the issue of employer insurance.
  - Unemployment insurance
  - Worker’s compensation insurance
- Independent Contractors
  - Must follow IRS rules
- Should have employment – contractor’s agreements
  - Who owns the IP? (see example)
  - Should be assigned to small business.
Non Disclosure Agreements (NDAs) are hard for big companies to sign. They delay negotiations.

Recommend using them prior to filing a provisional patent.

See example of NDAs.

NDAs are expensive to enforce.

Provisional Patents are easy.

- Not expensive – $110.
- USA is the only country where it is the first to invent.
- USPTO will declare an interference.
Provisional Patents

- Can use the term patent pending.
- [www.uspto.gov](http://www.uspto.gov)
- Requires drawings, abstract, and specification.
- No claims required (legal language).
- See guideline in document section.
- Commercial reviewers generally like the IP being protected.
Starting to Write the Proposal

- Tips on writing and winning – Examples
- Proposal Summary
- Proposal Objectives
Top 10 Reasons Proposals are Rejected

1. Lack of technical detail in the work plan
2. Do not adhere to proposal guidelines
3. Perceived lack of innovation
4. Too ambitious
5. Lack of knowledge of prior work or state-of-the-art
6. Lack of credibility
7. Poorly written
8. Missed deadline
9. Not “responsive” to topic
10. Inadequate Phase II or Phase III potential
Tips – The 3 P’s for Writing a Good SBIR/STTR Proposal

1. Professionalism
2. Planning
3. Partnering
Failure is the usual result of a half-hearted effort?

1. SBIR & STTR are the **only** sources of high-risk capital that **does not** have to be repaid or cost you equity.

2. SBIR & STTR are highly competitive programs

To consistently win SBIR & STTR funding you must:

1. Make it part of your Strategic Planning
2. Commit necessary time & resources to write competitive proposals
3. Build critical partnerships
4. Review agency critiques to learn from your mistakes
Mistake #1: Not doing your “homework”

- SBIR Solicitation – read it!
- Competition? Yes you do have it and you should tell them in the proposal about your competition
- Current research – prove you are leading-edge
- Understand your customer
  - Federal agency
  - End user/purchaser
Proposal Debriefing Comment:

“Overall the work plan is well thought out and offers a detailed resource and schedule. This proposed effort would have benefited from the principle investigator conducting a basic web search to sites offered in the subtopic to become familiar with current NASA mission and unfolding results available to researchers.”
Mistake #2: Failure to communicate with agency

- Related to not doing your homework
- Know whether solicitation is released or “pre-released”: may not be able to contact directly
- Have defined objectives for communication
  - Get feedback on your idea ("responsiveness", innovation)
  - Familiarize the agency with your company (build credibility)
  - Have questions answered or clarifications made (strategic, not those that are obvious in the solicitation)

- Communication prior to solicitation release provides more time to build credibility
  - Network at conferences, industry days or by direct contact
  - An opportunity to submit ideas and topics to agency
Mistake #3: Underestimating commercialization

- Lack of commercial potential can doom your proposal in Phase I
- You need to have a plan for commercialization before you start your Phase I application
- You need to demonstrate pull for your technology
- You need to demonstrate you understand the market space and have realistic expectations for sales and growth
- You need to know how your technology fits into a larger system
- You will need resources beyond SBIR to finance commercialization
Mistake #4: Lack of credibility

- No business expertise in the company or no scientific collaborators to round out the team
- No letters from collaborators or consultants
- Facilities are inadequate
- “While the researchers appear to have good engineering experience for tackling the design challenges presented by this project, a major weakness of the proposal is that the company lacks expertise in manufacturing, sales, and marketing…”
Mistake #5: Lack of attention to detail

- Have someone proofread your proposal before you submit.
- Do you know what counts towards the page limits, and do you know what the page limits are?
- Did you address all the items specified in the solicitation?
- Did you submit on time?
Planning

Once you identify long-term market opportunities or technological challenges for your industry

Ask the question

Can SBIR or STTR provide early stage R&D funding?

- 3 to 5 years from product launch
- High level of innovation (Potential for failure)
- In-house capabilities
- Build relations with university researchers, Potential customers, Federal Labs, Tier One DOD Suppliers
Occasionally you can win going in “cold”, but……

• You vastly increase your odds by establishing customer relationships

• Who are the customers?
  • Federal agencies
    - Have mission to accomplish
    - Have SBIR funds
  • End users/purchasers
Partnering can seem overwhelming

Small companies can feel intimidated about approaching big companies or universities.

- SBIR National Conference is a great place to start.
- ONR – Opportunity Forum June 7-9, 2010 Arlington Va. – DOD contractors
- Instructor partnered with Dupont because of NCET2.
  - Open Innovation -IBM, Boeing, Procter & Gamble
  - Small businesses are good at Innovation.
  - Need Letters of Support - NSF
Partnering to Commercialize Innovation

- Network – Network – Network
- University Alumni
- SBA’s Small Business Development Centers
- Chamber of Commerce
- Linkedin Social Networking
- Professional Societies – Instructor’s experience with Society of Rheology
TIPs – Partnering

- Senior Faculty have connections in companies.
- TT Offices often have relationships with companies.
- Big Companies have experience doing this – Instructor’s experience with Ball Aerospace.
- Universities need Small Businesses to get the award.
Industrial Partners

Must Have....

- 3 Minute "elevator pitch"
- One Page Summary (see Angelsoft website)
- Multiple Page Detailed Executive Summary
- PowerPoint presentation
- A Business Plan (for YOU)
- A Website (for your customers not investors)
- Social Media (Youtube/Video demos, Twitter, Facebook, Linkedin etc.)
The Pitch for Partners

- My company is __________ (Name Name)
- • We (Have/Do What?) that (Solves what?).
- • We are located (Where?)
- • Our customers are (Who?)
- • We currently have (How many out of how many?)
- • If Management is a strength… (Who are you?). Our CEO comes from Johnson & Johnson.
- • We are seeking (How much?) (For What?)
- • Repeat your name and your company name.
Tip - become actively involved in the NCET2 - SBIR webinars. These webinars are really valuable and keep you up to date.

1. Consider NCET2 – additional 200 series classes for the agency you are most interested in.
2. Contact your state SBIR service provider.
3. Start going to SBIR workshops.
4. Start building relations with university researchers and potential customers. ONR’s June meeting important for DOD, and DHS.
5. Submitting SBIR & STTR proposals.
6. Ask for agency debriefings if you do not win.
7. Be willing to try again. *If you don’t submit, you can’t win*
Most states have active Innovation Initiatives

- Google Search (name of state + SBIR)
Another Source for Finding State Resources

State Resources

Alabama Small Business Development Center (ASBDC)
1500 1st Ave North, Suite R118
Birmingham, AL 35203
(205) 307-6510 phone
(205) 307-6511 fax
www.asbdc.org
Incubators or Accelerators

Over the past twenty years, CTEK has done much and accomplished more. CTEK was formed to develop, support and serve the entrepreneurial community (History). However, times have changed and CTEK must also change if we are to advance and further our mission: Helping Entrepreneurs Build Profitable and Sustainable Businesses.
Examples – DOE, EPA, DHS, DOD, NSF

Know your agency:
- EPA – White paper announced building green builds in a priority. It is one topic only.
- DOE – has a priority – renewable energy. They have 100s of topics.
- In a NCET 2 webinar – 50% of the winners of DOE SBIR’s have a relationship with a DOE lab.
- DOD and DHS like companies that “know their business”.
- NSF uses university researchers as reviewers.

Valuable insights.
Examples – NIH and NIST

- Programs are constantly changing – NCET2 is a way to stay updated:
  - NIST new TT program will give your company an SBIR if you take their patents out of the lab. They had spend years developing the technology. Looking for a commercialization partner.
  - NIH’s new SHIFT program for postdoc shifting from academia to business.
**Tips – Proposal Summary**

- Be cautious not to exceed page/working limit.
- Must have key words.
- If responding to particular topic – list in the summary. (Example this proposal is responding to ----.)
- Use Header – with the topic and company name – make it easy for the PD to get your proposal reviewer by the right people.
- NSF – must address intellectual merit and broader impact. Recommend using these terms.
- NIH – TIP – be specific – not broad
Searching for Topics

- Must respond to a specific solicitation and research topic to apply for SBIR or STTR funding
- Can find topics by searching:
  - Solicitations posted on individual agency websites
  - SBIR.gov
  - SBIR Gateway
Searching for Topics

http://www.zyn.com/sbir/

The Most Comprehensive and Easy to Use SBIR Information Site

Resources
- SBIR Insider Newsletter
- Solicitation Dates
- SBIR Agency Links
- SBIR Events Calendar
- State Newsletters
- About SBIR Funding
- Federal Laboratories
- F SYNC Program
- Other Grant Info
- SBIR Policy Directive
- Contact Us

News Items
- View Latest Solicitation News
  News Updated 4/29/10
- Congress Passes Bill to Extend SBIR/STTR
  Extension to 7/31/10 for all but DoD
- DHS S&T Issues FY-10.2 SBIR
  Opens 3/10/10 Closes 6/10/10
- DoD Issues FY-10.2 SBIR
  Opens 5/7/10 Closes 8/22/10
- NIH Honors New SBIR Award Amounts
  Will accept with the April 5, 2010
- SBA Releases SBIR Award Amounts
  Phase I $45M – Phase II $1M
- SBA FAST Released
  Grant Program for States
  Opens 3/25/10 Closes 5/10/10
- NSF Releases FY-2011 SBIR
  Opens 5/8/10 Closes 5/9/10
- DoD SBIR/STTR Extended Through Sep 30, 2010
  DoD Only, 1 Year Reauthorization

National / Regional Conferences
- 12th Annual NIH SBIR/STTR Conference
  Raleigh, NC * June 2 – 3, 2010
  Registration Now Open

Search Services
- Open SBIR/STTR Solicitation Topics
  Selected on Agency’s Open SBIR Topics
- Closed SBIR/STTR Solicitation Topics
  Topics often recycled for future solicitations
- Past SBIR/STTR Awards
  SBIR/STTR Awards Databases
- Federal Laboratory RAD Resources
  Keyword search for federal tech resources

Help & Assistance Services
- State & Local Assistance Services
  They’re here to help you
- 3rd Party Assistance Services

NCET2 - 200 Understanding SBIR’s
For Researchers
A quality proposal has three generic components each targeted towards addressing one of the following questions:

1. What is the significance of the problem? What problem are you going to solve (or what are you going to produce) and what difference will your efforts make?
2. How you are going to go about resolving the issue identified in component 1? What are your specific technical objectives and what are their roles in proving of feasibility? What are the details the work plan for accomplishing the objectives?
3. Why you are the right firm to perform the work? What evidence can you provide to establish your firm’s credibility, including your awareness of the state-of-art, your firm’s previous experience in the conduct of related R&D, and the qualifications of key personnel, of consultants, and of your facilities.
Homework 2

Discussion

See Example Project Summary and Objective Statement
Business Plan

- Needs to be your plan – 5 years
- Helps with financial projects in SBIR grant
- MBA students can help
- Market analysis – important element in the proposal.
  - Do not say 5% of 4 billion dollar industry – be credible.
  - Need references to support claim.
  - No competitors not believable.
- Lots of resources on the web.
Example of Business Elements

- [http://www.state.nj.us/njbusiness/starting/basics/sample_business_plan.shtml](http://www.state.nj.us/njbusiness/starting/basics/sample_business_plan.shtml)
- A good business plan will help in writing a convincing SBIR/STRR proposal.
- Marketing databases are available at university libraries. (Most State Universities are free to use).
- Local librarians can be helpful if not located near a university
Questions?