NSF PFI Grantees workshop

March 31-April 1, 2008

Westin Arlington Gateway Hotel

SBIR/STTR Applications & Collaborations

Moderators

Errol Arkilic – NSF, Div of Industrial Innovation & Partnerships, SBIR/STTR Program

Karthik Ramani – Purdue University, Mechanical Engineering

Greg Salamo – University of Arkansas, Physics

OBJECTIVE

(1) Discussion of SBIR/STTR

(2) Discussion of PFI - SBIR/STTR Partnerships in terms of:

- ❖Impact of PFI on SBIR/STTR Awards
- ❖Impact of SBIR/STTR Awards on PFI

Q1: Describe SBIR/STTR Programs

- *SBIR Phase I & II support small business innovations and may include a university – Phase I = 6 months @ 100K*
- *STTR Phase I & II support small business innovations and **must** include a university – Phase I = 12 months @ 150K*
- *2.5% of NSF research budget allocated for SBIR and 0.3% for STTR (total program >2.5 billion across 11 Federal agencies)*
- *NSF SBIR/STTR programs are flagship programs – not just a tax!*

Q2: $110 Million go for NSF SBIR/STTR but how much towards manufacturing?

Phase $1 - $30 million was for manufacturing driven proposals or about ¼ had some component of manufacturing.

Q3: Can we apply for SBIR at different
a) agencies simultaneously or for
b) SBIR and STTR simultaneously at NSF ?

- a) Yes, but you should acknowledge that you have submitted to more than one agency. You cannot receive support from more than one agency for similar work (if you do/or try to, you can go to jail!)
- b) No. Not at NSF. You must choose which route to go. But ok, for example, at DOE; check each participating agency for policy.
- While you may submit more than one proposal to NSF; in general, it is probably better to focus on one idea and develop it well. .

Q4: Do SBIR awards favor university associated grants?

- This is not the case
- But - 60% of projects that resulted in a product had deep connections with universities somewhere during the process of evolution.
- SBIR company must be for profit

Q5: Suppose we have an innovation involving a bullet proof vest. Who and how should we go about seeking funds for proof-of-concept research?

Do not seek funds too soon.

- Make sure you have a customer
- Evidence you can pull it off
- Well-qualified team
- What is the Technology Risk?

Q6: When comparing "Ideas" to "Innovation" Do Ideas = Innovation ?

- Answer – No. Ideas may be novel or *innovative*; innovation is where the rubber meets the road
- Converting ideas to knowledge is research
- Converting knowledge to money is innovation.

Q7: Topics for NSF SBIR/STTR?

- Bio-chemical technology,
- Software and services-next generation network architecture,
- Electronic components & systems-hardware
- To decide where and whether you fit:

You should contact the program manager before submitting or, as one participant noted, you may just get a letter back which says that you wasted time since your proposal does not fit into these 3 very broad topics

Q8: How can smaller schools get to win PFI and other grants?

- Ask some passionate and successful professors to take the lead and write the proposal.
- Build on your strengths
- Remember the power of one successful example
- Ideas from this conference

Q9: How does PFI Promote Innovation through SBIR/STTR Partnerships

- PFI can support research teams to develop “proof-of-principle” or prototype of an innovative idea as preparation for SBIR/STTR proposal
- Connect the two very different worlds of academics to small business (watch out for different clock speeds – maybe use post-doctoral students)
- Can develop Technology core which is central to successful business.

Q10 How can PFI Enhance University or College SBIR/STTR Partnerships

- PFI can support Faculty/Student teams to develop innovative ideas in partnership with local industry.
- PFI prepares students with a mindset or culture to Innovate.
- PFI can prepare research team with the flexibility to change research directions

Q11: Examples of Success of PFI leading to SBIR/STTR Awards

PFI Acted as foundation for other resources and commitment from university to build an innovation culture

RESULTS: ARKANSAS NSF SBIR & STTR PHASE 2 AWARDS			
Year	**SBIR/STTR Phase I Awards**	**SBIR/STTR Phase II Awards**	**Total**
1983-1999	3	0	3
1999	1	1	2
2000	1	0	1
2001	2	0	2
2002	7	0	7
2003	10	1	11
2004	11	5	15
2005	11	7	18
2006	10	6	16

Accomplished using “Innovation Table”- MS and PhD students, faculty and industry experienced mentor

Q12: Have PFI-SBIR/STTR Partnerships Promoted Innovation in Education & Research?

- New courses and different attitude to focus on developing entrepreneurial knowledge and skills
- Students “think Innovation”
- Hands on Lab for SBIR/STTR
- Opens minds to Innovate

Partnership for Educational Value Addition

Ms. Arpana Verma

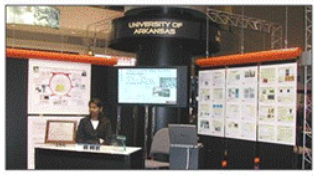
Specialization in science of nanomaterials, engineering of manufacturing

Ph.D

(Mechanical Engineer)

Entrepreneur

(Product Engineer)



NanoMech™

Commercialization of innovation from doctoral research & create knowledge-based jobs

Educational background

Experience and Training

Q13: Role of PFI-SBIR/STTR Partnerships in Education & Research Goals of NSF

- Action to maintain our National and Global leadership position on innovation
- Prepare next generation of integrated entrepreneurs – immersed in both fundamental science and cutting edge engineering.

Q14: In what ways can PFI be the Driver of Campus Cultural Change

- The Power of one example!
- The University of Arkansas received 17 patents in FY07, many licensed, the largest number in nine years. 20 invention disclosures and 24 patent applications filed. Gross licensing income rose 1.8% in FY07 to $404,378.
- Arkansas now maintains a submission level of about 80 SBIR/STTR proposals annually, up from less then 10 before PFI
- A new 35,000 sq. ft. Innovation Center driven by the University of Arkansas Foundation is now fully leased to client companies.

Questions not discussed

1. Can small business interaction with potential customers and base provide new research ideas and funding?

Summary

- Topic seemed very interesting to the breakout group. There was a never ending source of questions
- There were about 30 participants
- There was strong interest in the SBIR/STTR program
- Need to understand innovation scientifically


NEED CASH
For
Innovation
RESEARCH