

Directorate for Engineering

Division of Industrial Innovation and Partnerships (IIP)

Report of the Committee of Visitors (2004 – 2006)

23-25JAN2007

NSF

Arlington, VA

APRIL 2007

Division of Industrial Innovation and Partnerships (IIP)

Charge:

- ❖ **Small Business Innovation Research (SBIR)**
 - ❖ **Small Business technology Transfer (STTR)**
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Comment:

- ❖ Industry/University Cooperative research Centers (I/UCRC)
- ❖ Partnerships for Innovation (PFI)
- ❖ Grant Opportunities for Academic Liaison with Industry (GOALI)

IIP Presents Unique Challenges

❖ Unique Emphasis

- ✓ Commercialization
- ✓ Innovation
- ✓ Partnering

❖ “Innovative” Approach

- ✓ Commercialization Models
- ✓ Definition of Innovation
- ✓ Facilitating Partnering

❖ Unique Opportunities

IIP COV Members

- Dr. Mark Clevey, Michigan Entrepreneurial Development Center
- Dr. Albert Johnson, Corning Inc.
- Prof. Angus Livingston, University of British Columbia
- Dr. Walt Plosila, Battelle Memorial Institute
- Dr. John Pyrovolakis, Venture Capital Firms
- Prof. Karthik Ramani, Purdue University
- Prof. Brent Stucker, Utah State University
- Prof. Meg Wilson (Vice-Chair), University Texas Austin
- Dr. Janet Yancey-Wrona, AIKO Biotechnology
- Dr. E.J. Taylor (Chair), Faraday Technology Inc.

Providing a Representative Sample for COV

- Assemble Collection by award year: '04, '05, '06
- Within each year, collect by proposal Group
 - (10 Groups)
- For each selected proposal,
 - provide cascade of previous awards
 - e.g., Selected Phase IIB > Phase II > Phase I
 - Selected Phase II > Phase I
- Due to Cascade, there will be a few proposals from '03, '02, '01
- Proposal selection is random within Group
 - Excel random function generation

Group Descriptions

Year 2004 + cascade, Subtotal = 27

1.	PhIIB SBIR + cascade ('03 to '02):	1 + 1 + 1
2.	PhIIB STTR + cascade ('03 to '02):	1 + 1 + 1
3.	PhII Award SBIR + cascade ('03 to '02)	2 + 2
4.	PhII Award STTR + cascade ('03 to '02)	1 + 1
5.	PhII Dec. SBIR + cascade ('03 to '02)	2 + 2
6.	PhII Dec. STTR + cascade ('03 to '02)	1 + 1
7.	PhI Award, No Phase II submitted SBIR	1
8.	PhI Award, No Phase II submitted STTR	0 (None Chosen)
9.	PhI Dec. SBIR	7
10.	PhI Dec. STTR	1

- 2005 + cascade, Subtotal = 27
- 2006 + cascade, Subtotal = 27
- 2006 Special Set, Subtotal = 13 (see next slide)

2006 Special Set

FY 2006 Special Set (13 proposals)

EPSCOR PII Award + cascade	(1 + 1)
EPSCOR PII Dec + cascade	(1 + 1)
EPSCOR PI Dec	(1)
PIIA + cascade	(1 + 1 + 1)
PIICC + cascade	(1 + 1 + 1)
EO PI Awd	(1)
EO PI Dec	(1)

Proposal Assignment

- Maintain Year-to-Year continuity
 - e.g., Group X '04, 05, '06 assigned COV member
- Try to establish equitable load among members
- Proposal loads not equal but equitable

Prior (2004) COV Summary of Highlights

- ❖ Reorganization to IIP was proposed, but not approved or implemented.
- ❖ Substantial improvement in commercial review process vis-à-vis 2001 COV and trending favorably during the three years of the 2004 COV.
- ❖ Suggested commercial review in Phase I proposals.
- ❖ Suggested combine technical and commercial review panels.

Prior (2004) COV Summary of Highlights

(continued)

- ❖ Improve “breadth of business experience” of commercial reviewers.
- ❖ Increase contract support and travel expenses for Program Officers.
- ❖ Broader collaboration between SBIR/STTR and other Directorates within Engineering.

Prior (2004) COV Summary of Highlights

(continued)

Improvements to COV process itself

- ❖ Use eJackets in future COVs.
- ❖ Better summary data regarding makeup and distribution of reviewers.
- ❖ Better summary data regarding makeup and distribution of PIs and companies.
- ❖ Separate STTR Phase I and Phase II statistical data.
- ❖ Improve quality and quantity of commercialization data.

COV Endorses

Grantees Conferences Promote a Variety of Commercialization Pathways;

- MatchMaker for Venture Capital Financing Model
- MatchMaker for Strategic Partner Alliance Model
- “Simple” Out-License Model
- Organic Growth Model

Commercialization/Innovation/Partnering unique to IIP in general and SBIR/STTR in particular.

COV Endorses

Grantees Conferences Promote a Variety of Innovation Models;

- New Product/Process for New Market
- New Product/Process for Existing Market
- Existing Product/Process for New Market

From Technology Perspective:

Incremental & Breakthrough (Portfolio Balance)

Commercialization/Innovation/Partnering unique to IIP in general and SBIR/STTR in particular.

COV Endorses

Supplements for the Integration of Research & Education via Partnering;

- Community Colleges Phase IICC
- Undergraduate Students RETs
- K-12 Teachers REUs
- Underrepresented Institutions Phase IIA, RAHSS
- Small Business Memberships I/UCRCs

*Commercialization/Innovation/Partnering unique to IIP in general and
SBIR/STTR in particular.*

COV Endorses

Supplements for Accelerating Commercialization and Promoting Partnerships;

- Increased Funding for STTR Phase I Grants from \$100K to \$150K to Encourage University-Small Business Collaborations
- \$1 NSF for \$2 “Outside” Investment Phase IIB

**Commercialization Itself is a
Broader Impact**

Commercialization/Innovation/Partnering unique to IIP in general and SBIR/STTR in particular.

COV Endorses

Promoting Partnerships via Phase IIB Supplements;

Year	\$ (Million)	Venture Capital	Strategic Partner
2004	\$10	4%	39%
2005	\$43	5%	18%
2006	\$57	29%	19%

Commercialization/Innovation/Partnering unique to IIP in general and SBIR/STTR in particular.

COV Endorses

Promoting Innovation via;

- ❖ Intellectual Property Workshops at Grantees Conferences
- ❖ Collaboration with Kauffman Foundation
- ❖ Conducting Topic Selection/Prioritization Workshops
- ❖ Aligning Topics with National Priorities
 - ✓ Manufacturing Innovation
 - ✓ Homeland Security

Commercialization/Innovation/Partnering unique to IIP in general and SBIR/STTR in particular.

Topical Groups

A. Program Impact

2. Analysis Evaluation

11. Portfolio Balance – Risk/Reward

7. Clarification of Broader Impacts

Topical Groups

B. Panels/Panel Training

4. Reviewer Commercialization Models

5. Commercialization Path definition

7. Clarification of Broader Impacts for Reviewers

8.9. Commercial Reviewers Earlier

Topical Groups

C. Grantee Support

1. Sufficient Program Officer Funds
10. Grant Contractor Effectiveness

Topical Groups

D. Internal Program Management

3. Process Documentation/Standardization

6. Development of New Management Approaches -
Interdisciplinary

12 University Involvement in STTR