

Directorate for Engineering

FY2010-2012

Division of Industrial Innovation and Partnerships (IIP)

Committee of Visitors

April 24-26, 2013

Report to Engineering AdCom

October 17, 2013

9:30-10:30am



Agenda

- ❖ IIP Committee of Visitors (CoV) Overview
 - ❖ Participants
 - ❖ Process
- ❖ CoV Findings and Recommendations
- ❖ Next Steps



	Tom Knight, Co-Chair		Invistics	Georgia
	Michael Silevitch, Co-Chair		Northeastern University	Massachusetts
	Fred Cannon		Penn State	Pennsylvania
	James Kassner		Center for Innovation Management Studies	North Carolina
	Nicholas Fowler		Perpetua Power	Oregon
	Judith Giordan		ecosVC	Massachusetts
	John Huggins		Berkley Sensor & Actuator Center	California
	Martha Mitchell		New Mexico State University	New Mexico
	Sanjay Sampath		Center for Thermal Spray Research	New York
	Zak Fang		University of Utah	Utah
	Brenda J. Philips		University of Massachusetts – Amherst	Massachusetts
	Flaura Winston		Children’s Hospital of Philadelphia	Pennsylvania
	Paul Edmiston		The College of Wooster	Ohio
	Alexander N. Cartwright		University at Buffalo, SUNY	New York

IIP COV Charge

- The integrity, efficacy, and quality of the processes used to solicit, review, recommend and document proposal actions;
- The quality of project management, monitoring, and evaluation of funded proposals.
- The quality and significance of the results of the Division's programmatic investments in terms of program, division, and NSF-wide goals;
- The Division's balance, priorities, and strategies for realizing the potential of the Division, and any other issues you think are relevant to the review



IIP COV Process

- ❑ Preparations Prior to On-Site Meetings:
 - ❑ January 2013: CoV Kick-off Teleconference
 - ❑ Feb-April 2013: Monthly check-in calls
 - ❑ Read ~120 randomly selected eJackets/proposals
 - ❑ Wrote/assembled draft report sections 1-2
- ❑ April 24-26, 2013: On-Site Meetings
 - ❑ Build consensus on findings & recommendations
 - ❑ Present preliminary report to IIP Staff & Eng Dir.
- ❑ October 17, 2013: Present final report to ENG AdCom



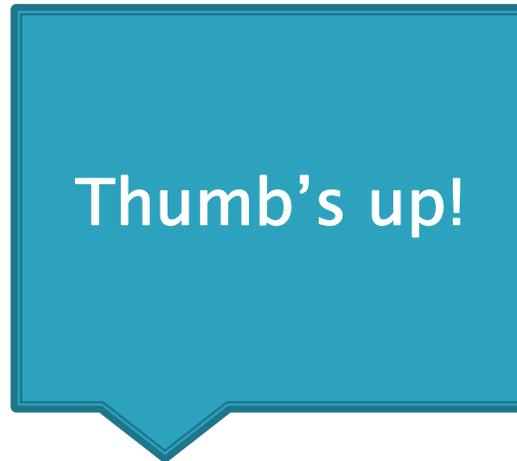
IIP COV Findings

- I. Quality of the Review Process
- II. Selection of Reviewers
- III. Management of the Program
- IV. Portfolio Review
- V. Other Topics



IIP's Vision

Driving the expansion of our
nation's innovation capacity



Grace Wang



Part I: Quality of Review Process

- Review methods appropriate
- Both merit review criteria addressed
- Individual reviews & panel summaries appropriate
- eJacket documentation provides decision rationale



Part I: Review Process Recommendations

- Strengthen Broader Impact evaluations
 - Continue to add more commercial reviewers
 - Give reviewers commercialization criteria/template
 - For example: criteria for each of the seven SBIR sections
- Add coaching from PD, especially for decline decisions
 - Append generic checklist of common weaknesses, e.g., in SBIR commercialization plans
 - Cite resources & educational materials for each
 - PD can quickly check off weaknesses of the proposal and append to the panel summary
- Continue/expand reverse site visits & virtual panels



Part II: Selection of Reviewers

- Reviewers have appropriate expertise, particularly technical expertise
- IIP recognizes and resolves reviewer conflicts of interest well, and when appropriate



Part II: Reviewer Recommendations

- Add diversity of perspectives and experience:
 - Increase participation from women & underrepresented groups
 - Continue to expand reviewers with commercial experience
- Expand pool of panelists
 - Invite qualified panelists to “self-nominate”, especially women & underrepresented groups
 - Ask existing panelists for referrals to new panelists
 - Partner with associations & societies to find new potential panelists
- Expand Panel and Reviewer Info. Mgt (PRIM) database
 - Add flags for industrial/entrepreneurial/commercial experience
 - Add brief CV or Bio
 - Have PDs “grade” reviewers and record in PRIM for future
 - Learn from (and teach, as appropriate) other NSF divisions



Part III: Management of the Program

- A bold, clear, and appropriate vision:
Driving the expansion of our nation's innovation capacity
- Overall IIP management is very effective
 - Very responsive to national needs for innovation & partnerships
 - Good program planning and prioritization
- Very responsive to some of the prior CoV recommendations:
 - Reviewer selection, e.g., PRIM
 - Assessment, e.g., DIMS for SBIR Phase 2 & I/UCRC
 - Metrics to measure broadening participation
 - Commercialization assistance
 - Pre-proposal outreach activities, e.g., webinars
- Work load quite high for limited staff



Part III: Management Recommendations

- Develop metrics and targets for key IIP improvement efforts, and present those within IIP and to key stakeholders like future CoVs.
- Expand pre-proposal outreach to new SBIR PIs, e.g., web pages & webinars targeting entrepreneurs
- Document best practices for pre-proposal coaching & proposal review. Extend these across all IIP PDs to reduce workload and improve quality.
- Reexamine the I/UCRC Evaluator role for cost effectiveness
- Several CoV recommendations to strengthen the review process were repeated from prior CoV, e.g., superficial comments from some reviewers. Study and address the root causes for these repeated recommendations.



Part IV: Portfolio of Awards

- Strong evidence that IIP's portfolio supports its mission:
 - to expand the nation's innovation capacity
 - Continue to train the next generation of innovators and entrepreneurs, e.g., SBIR commercialization assistance
 - to stimulate partnerships
 - Continue matching funds mechanisms, e.g., IUCRC, SBIR Phase 1B/2B, cost sharing...
- CoV applauds IIP for attracting/funding so many new PIs
 - In 2012, 65% (241 of 373) IIP awards were to new PIs for NSF
- CoV endorses recent program-specific changes, such as
 - I/UCRC managing director supplement
 - SBIR/STTR increased award size
 - Development of BIC and AIR, and continued GOALI



How many CoV members does it take to change a light bulb? Or calculate statistics?



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WHERE DISCOVERIES BEGIN

How many CoV members does it take to change a light bulb? Or calculate statistics?

Answer – It doesn't matter, as long as:

- Chris logs us in first, and
- Lindsay calculates the statistics!

Thank You Chris & Lindsay!



Chris T. Campbell
Einstein Educator Fellow



Lindsay D'Ambrosio
Science Assistant

Part IV: Portfolio Recommendations

- Broadening Participation:
 - The availability of metrics is much better than for prior CoV
 - Success rates for women & underrepresented comparable to others
 - But submission rates are still disappointingly low
 - So CoV recommends IIP build partnerships to attract more SBIR Phase 1 proposals from women and underrepresented PIs
- Improve outreach to PIs without prior NSF funding
- Take leading role within NSF on assessment of broader impact
- Create guidelines for navigating through the barriers to commercialization of intellectual property.
- Expand partnerships to achieve IIPs vision, e.g., community colleges, other federal agencies, professional societies, regional entrepreneurial support centers.

Part V: Other Recommendations

1. **Develop targets for key IIP objectives, and measure performance.**
2. **Improve assessment**
 - Expand quantifiable measurement of broader/economic impact
 - Continue to promote “highlights”
 - Report #1 and #2 internally, and in the 2016 CoV process
 - Continue SBIR program management enhancements to support the IIP mission:
 - Expand “Phase 0” pre-proposal support
 - Expand commercialization assistance
 - Stimulate more partnerships between SBIR grantees & universities
 - Cross-pollinate best practices across IIP programs



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