

**NATIONAL SCIENCE FOUNDATION
ARLINGTON, VA 22230**

**Engineering Directorate
Division of Industrial Innovation and Partnerships**

Report of the
Advisory Committee for
Small Business Innovation Research (SBIR) and
Small Business Technology Transfer (STTR)
Programs

22 May 2009

1.0 INTRODUCTION

The National Science Foundation (NSF) Advisory Committee (AdCom) for the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs met May 21-22, 2009 in Baltimore, Maryland at Phase II Grantee Conference.

Advisory Committee members in attendance included:

Patrick Brown
Albert Johnson
Karen Kerr (May 21)
Tom Knight (Chairman)
Karthik Ramani
Winslow Sargeant
David B. Spencer
John Tao
E. Jennings Taylor
Carol Wideman

Advisory Committee members absent:

Mark Clevey
Trish Costello
Angus Livingstone
Richard Paul

NSF representatives attending all or part of the meeting included:

Kesh Narayanan, Division Director, Industrial Innovation and Partnerships (IIP)
Joseph Hennessey, Senior Advisor, IIP
Cheryl Albus, SBIR/STTR Program Director, IIP
Errol Arkilic, SBIR/STTR Program Director, IIP
James Rudd, SBIR/STTR Expert
George Vermont, SBIR/STTR Expert
James Brown, AAAS Fellow
Amanda May, TITLE
Elena
Caroline
Murali Nair
Ben

AGENDA

The agenda for the meeting is included below.

NSF SBIR/STTR Advisory Committee Agenda

Thursday, May 21, 2009

12 Noon.	Sign-in	
12:15 p.m.	Welcome & Introductions	Kesh Narayanan/ Tom Knight
12:30 p.m.	Discussion & Approval of October 2008 AdCom Meeting Minutes	Tom Knight
12:45 p.m.	Update on Congressional Testimony and ARRA	Kesh Narayanan
1:00 p.m.	Diversity/Outreach Report	Cheryl Albus / Tom Knight
2:00 p.m.	Commercialization Outcomes	George Vermont
3:00 p.m.	Break	
3:15 p.m.	Matchmaker	James Rudd
4:15 p.m.	Overview of Assessment Program	James Brown
5:00 p.m.	Adjourn	

Friday, May 22, 2009

8:00 a.m.	The Innovation Accelerator Initiative (IAI)	Murali Nair
8:45 a.m.	Potential Phase II Supplement Opportunities	Joe Hennessey
9:30 a.m.	Break	
9:45 a.m.	ADCOM Deliberations	Tom Knight AdCom Members
11:15 a.m.	Report out to NSF	Tom Knight AdCom Members
12:00 Noon	Adjourn	

COMMENTS and FEEDBACK

The AdComm considered and provided feedback on the following discussion items from the meeting agenda.

Discussion and Approval of Minutes from Prior Meeting

After a brief discussion, the AdComm approved the minutes from the previous meeting held in October 2008.

Membership of Advisory Committees

The AdComm members endorse plans to broaden the composition of the Engineering AdComm and will forward nominations for Dr. Peterson's consideration.

The AdComm congratulates past member Penny Picket and current member Winslow Sargeant on their recent/pending appointments to the Small Business Administration. The AdComm members will forward nominations for their replacements to Dr. Narayanan for his consideration.

Update on Congressional Testimony and ARRA

The AdComm congratulates the NSF SBIR/STTR leadership and staff on the positive feedback they received from Congress during recent testimony.

The AdComm is ready to assist other SBIR/STTR agencies in the event Congress determines those other agencies should form Advisory Committees.

The AdComm is also ready to collaborate, where appropriate, with other areas within NSF. In particular, we are interested in ways to collaborate across IIP and with the Engineering Directorate as those groups look to (1) expand the use of partnerships, (2) understand, assess and measure the outcomes of the investment of NSF funds (discussed in detail below), and (3) expand the participation of women, underrepresented minorities, and citizens with disabilities (discussed in detail below).

AdCom Subcommittee on Outreach Activities

The AdComm endorses the goals of increasing the participation of women, underrepresented minorities, and citizens with disabilities in NSF SBIR/STTR so they are in line with other groups. The tracking statistics showed disappointingly low participation rates and award rates for Phase I proposals from these communities. (Note: Corrections to the statistics presented during the meeting have been distributed with these minutes.)

The AdComm endorses the on-going work of its Subcommittee on Outreach Activities to increase the number of quality Phase I proposals from these communities.

The AdComm will continue its subcommittee on Outreach Activities under the leadership of its new Chairperson, Carol Wideman. The AdComm asks the subcommittee to consider the four issues and report back to the AdComm at the October meeting:

1. How to modify the Phase IIM to improve it and make it more effective? In particular, how should the Phase IIM support be structured given the limited time active grantees have to mentor others. For example, could we expand the pool of possible mentors to include (a) “graduated” grantees, particularly those that have had successful commercialization “exits” and are in a position to give back to the community, and/or (b) mentors now available from within the IAI program (discussed below)?
2. Is it possible to facilitate conversations between active grantees and prospective grantees at the annual grantees conferences, perhaps by scheduling side meetings targeted to members of various underrepresented communities?
3. The AdComm asks the Subcommittee on Outreach to review the proposed workshop and recommend if it should be pursued.
4. The AdComm asks the Subcommittee on Outreach to bring forward any suggestions they have to increase the participation of women, underrepresented minorities, and citizens with disabilities in NSF SBIR/STTR so they are in line with other groups.

The SubCommittee includes:

Cheryl Albus
Patrick Brown
Juan Figueroa
Karen Kerr
Tom Knight
Carol Wideman (Chair)

Commercialization Outcomes

The AdComm commends NSF, and in particular George Vermont, for the process in place for tracking commercialization outcomes. This data will be an excellent foundation for enhancing our assessment capabilities.

The SBIR/STTR AdComm feels that now is the time to enhance NSF methods to assess its broader impact. Not only will this allow us to further improve the return on the tax payers investment in our grantee community. This may also provide leadership to other groups within NSF, such as the Engineering Directorate, as they seek to improve the assessment of their investments.

For this reason, the AdComm has formed a SubCommittee on Assessment to provide NSF staff suggestions on how to continue to improve the measurement of the broader impact/value/return on investment of the SBIR/STTR program. This SubCommittee on Assessment is charged with reporting back at our October 2009 meeting on the following six questions:

1. How can we better communicate to Congress and the public the measurable connection between NSF SBIR/STTR funding and the resulting transformational discoveries, innovation, and the large and measurable commercialization outcomes such job creation and wealth creation?
2. How can we move beyond anecdotal “highlight” examples to a more holistic and quantitative estimation of the broader impact/value of the SBIR/STTR program using data that is already available?
3. Can we enhance the list of ten questions asked by George Vermont on his tracking surveys to better gauge Phase II commercialization outcomes?

4. How can we incorporate and enhance the taxonomy created by James Brown, AAAS Fellow to quantify the commercialization outcomes and SBIR/STTR Broader Impact/Value?
5. How can we partner with other organizations, such as the planned conversations with NIST next week, to study the data we collect on commercialization outcomes?
6. Are there any other suggestions the SubCommittee has to improve the assessment of our return on investment?

The SubCommittee includes:

Karthik Ramani
E. Jennings Taylor
Tom Knight
David Spencer (ad hoc pending completion of ACGPA role)
Al Johnson

AdComm members not present at the meeting are encouraged to contact Tom Knight if they are interested in participating on this SubCommittee.

The AdComm asks for help to this subcommittee from James Brown and George Vermont if possible.

Matchmaker

The AdComm thanks James Rudd for his presentation on existing MatchMaker mechanisms.

The AdComm endorses the plans to “integrate MatchMaker activities with new Phase II Innovation Accelerator Initiative (IAI).” We would ask for clarification on the following two topics at our next meeting:

1. How will NSF integrate Matchmaker and IAI?
2. Is it possible to provide IAI mentors with access to the MatchMaker “seekers” so that the mentors can search for potential matches, provided this presents to conflicts with other goals of the MatchMaker program?

The AdComm asks James to track the number of matches made over time and regularly report these numbers at our AdComm meetings, as well as other time-series statistics he recommends that allow us to gauge the success of MatchMaker.

The AdComm recommends that future grantee conferences include training on negotiations similar to TurboNegotiator, to help grantees prepare for partnering with large companies and other partners necessary for commercialization success. This could be similar in structure to training provided on patenting at prior grantees conferences, and perhaps offered on a rotating basis in future years.

The AdComm supports further partnering with IRI, and suggests co-locating the Phase II grantee conference with the IRI annual meeting.

Overview of Assessment Program

The AdComm enthusiastically thanks James Brown for his work as an AAAS Fellow within the SBIR program. In particular, we feel his proposed value taxonomy and lineage findings are a valuable foundation for improving our assessment of the program.

The Innovation Accelerator Initiative (IAI) for Phase II Commercialization Assistance

The AdComm endorses the creation of the Innovation Accelerator Initiative (IAI) for Phase II Commercialization Assistance and is excited by the launch of this new initiative to support our grantees. We request that Murali and our outside contractor jointly present an update on IAI and summarize their impressions and “lessons learned” at our next meeting in October 2009.

We are concerned about the legal issues involved with confidentiality of information shared by grantees with mentors. We recommend:

- NSF staff obtain a legal opinion on this topic to provide clarity to all concerned. We ask that this legal opinion be presented at our next AdComm meeting.
- NSF staff communicate clearly to grantees any risks that may occur if they choose to disclose confidential information to their mentors. For example, does this start the one year clock on the disclosure of information prior to filing a patent?

The AdComm endorses the selection criteria currently in place for selecting grantees for IAI. In particular, we endorse empowering the Program Managers to have the final decision on which grantees should be admitted to IAI. However, we recommend the SBIR program document the selection criteria Program Managers will use if the event they decide to exclude a grantee from IAI who they feel should be excluded from IAI. Having these criteria documented in advance will minimize the risk of bias in selection, making these criteria transparent to grantees will help with perceived “fairness” by grantees in the event IAI is oversubscribed in the future.

The AdComm endorses the idea of forming SWAT teams of mentors with deep domain expertise in particular areas such as Intellectual Property Production, Raising Outside Capital, Partnering with Large Companies, etc. (The Matchmaker Working Group might be the SWAT team for Partnering with Large Companies.)

The Subcommittee on Phase II Commercialization Assistance, which was formed at the October 2008 meeting, and which provided input to NSF Staff since that meeting on this topic, is being disbanded. Thanks to those who served on this Subcommittee:

Mark Clevey
Trish Costello
Tom Knight (Chair)
Angus Livingstone
Richard Paul

Potential Phase II Supplement Opportunities

We support the proposed Phase IIB Graduate supplement as presented. We also support increasing the size of Phase IIB awards.

We support the proposed Phase IIB “Post Doc” supplement as presented.

We suggest also creating a third new supplement to support active Graduate Students who could be hired part-time by grantees as interns.

In addition to the two supplement options presented by Joe Hennessey, the AdComm is concerned about the two year limit currently in place for supplements to grantees to join I/UCRCs and ERCs. We feel this two year limit needs to be extended, or the costs of participating somehow reduced, so that more grantees invest their time building relationships with I/UCRCs, ERCs, and their industrial partners.

FUTURE MEETING

The next AdComm meeting will occur at NSF starting October 19 at noon and ending October 20 at 5PM.

Proposed Agenda:

- Update from the SubCommittee on Outreach
- Update from the SubCommittee on Assessment
- Update on MatchMaker: statistics on number of matches & 2 topics above
- Update on Innovation Acceleration Initiative (IAI): Review of legal opinion regarding confidentiality, plus any “lessons learned” so far with IAI.
- Deliberations and Report Out