

# Broader Impacts

## IEEE Global Virtual Mini-Conference on Early Career Faculty Development: Creating a Research Program

Diane Rover

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# Broader Impacts Panel

- **Diane Rover (Moderator)**
  - Iowa State University
- **Vijay Kumar**
  - University of Pennsylvania
- **Ada Poon**
  - Stanford University
- **Tony Kolenic**
  - University of Michigan

# Session Objectives

- **Improve awareness and understanding of broader impacts (BI) and available resources for researchers**
- **Share advice from researchers about planning and implementing BI activities**
- **Provide strategies for early career faculty to enhance successful research programs with BI**
- **Recognize opportunities for interdisciplinary collaboration on BI**

# What are NSF Broader Impacts (BI)?

**In addition to Intellectual Merit, NSF evaluates proposals for their potential to achieve BI.**

## **BI Themes:**

- **Advancing discovery while promoting teaching, training and learning**
- **Broadening participation of underrepresented groups**
- **Enhancing research and education infrastructure**
- **Broadly disseminating results**
- **Providing benefits to society**

# Societally Relevant Outcomes of BI

- Full participation of women, persons with disabilities, and underrepresented minorities STEM
- Improved STEM education and educator development at any level
- Increased public scientific literacy and public engagement with science and technology
- Improved well-being of individuals in society
- Development of a diverse, globally competitive STEM workforce
- Increased partnerships between academia, industry, and others
- Improved national security
- Increased economic competitiveness of the U.S.
- Enhanced infrastructure for research and education

# Importance of BI in NSF Proposals

- **NSF press release in November and new BI webpage and brochure**
  - <http://www.nsf.gov/od/ia/special/broaderimpacts/>



# Importance of BI in NSF Proposals

**Remarks from NSF  
Director Dr. France  
Cordova at the BI  
Infrastructure  
Summit, Arlington,  
VA, April 2014:**



“As a federal agency, we need to stay relevant with those who entrust us with taxpayer funds. We need to reach out to Congress and other stakeholders and be proactive in explaining what NSF is about and why we are vital to the nation’s future... Not enough of our fellow citizens understand how relevant the research... conducted is to their daily lives... In both formal and informal venues, **we need to engage the public in order to help improve understanding of the value of basic research and why our projects are worthy of investment.**”

# Other Agencies & BI

- **US Department of Agriculture**
- **National Institutes of Health**
- **Other federal agencies**
- **State agencies**
  - **For example: Department of Transportation**



# Writing Effective BI Plans

- **Emphasize BI activities that complement or leverage the research.**
- **Take advantage of your local strengths.**
  - Partner with existing programs.
  - Delineate your contributions/innovations.
- **Don't just list activities.**
  - Include details, as in the research plan; e.g., describe the problem, audience, strategy, and expected results.
  - Include a budget.
  - Address evaluation of BI activities.

# Resources for Researchers

- **NSF Perspectives on Broader Impacts brochure**
  - [http://www.nsf.gov/od/ia/publications/Broader\\_Impacts.pdf](http://www.nsf.gov/od/ia/publications/Broader_Impacts.pdf)
- **NSF CISE Broader Impacts**
  - <http://cisebroaderimpacts.org>
- **Network for Broader Impacts (N4BI)**
  - <http://broaderimpacts.net>
- **MU Broader Impacts Network**
  - <http://broaderimpacts.missouri.edu>
- **SP@ISU Program**
  - <http://www.spisu.iastate.edu>

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# Q&A with Panelists



# Question

**How have BI plans in your grant proposals and research programs changed over the years?**



# Question

**How do you see BI activities continuing to change in the coming years?**



# Question

**What type of assistance or partnering do you use on your campus or in your community to plan, implement and/or evaluate your BI work?**

# Question

**Describe your campus culture in relation to BI.**

- How does a supportive culture help you?**
- How do you overcome a lack of support?**



# Question

**How have you maximized BI work in your career advancement?**



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