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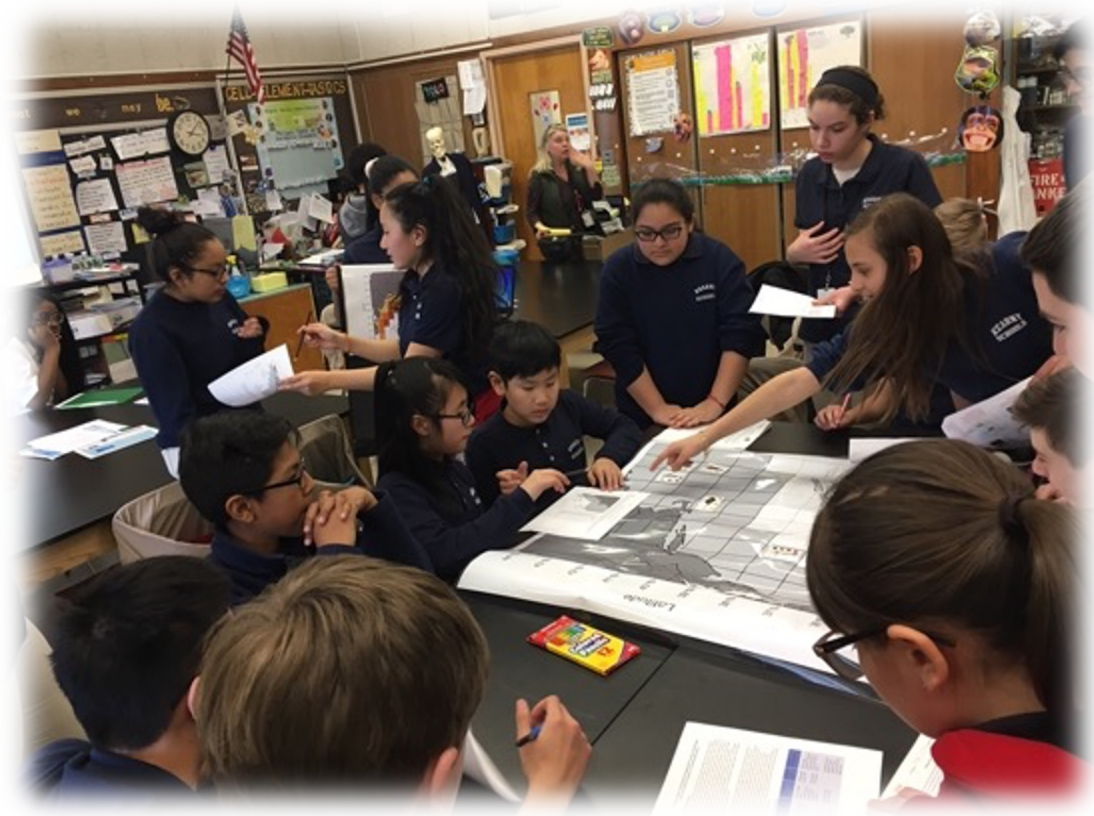


Advancing Research Impact in Society

Making the Most of NSF Broader Impacts: Five Things You Can Do to Build Effective Partnerships and Make an Impact

Objectives of this session:

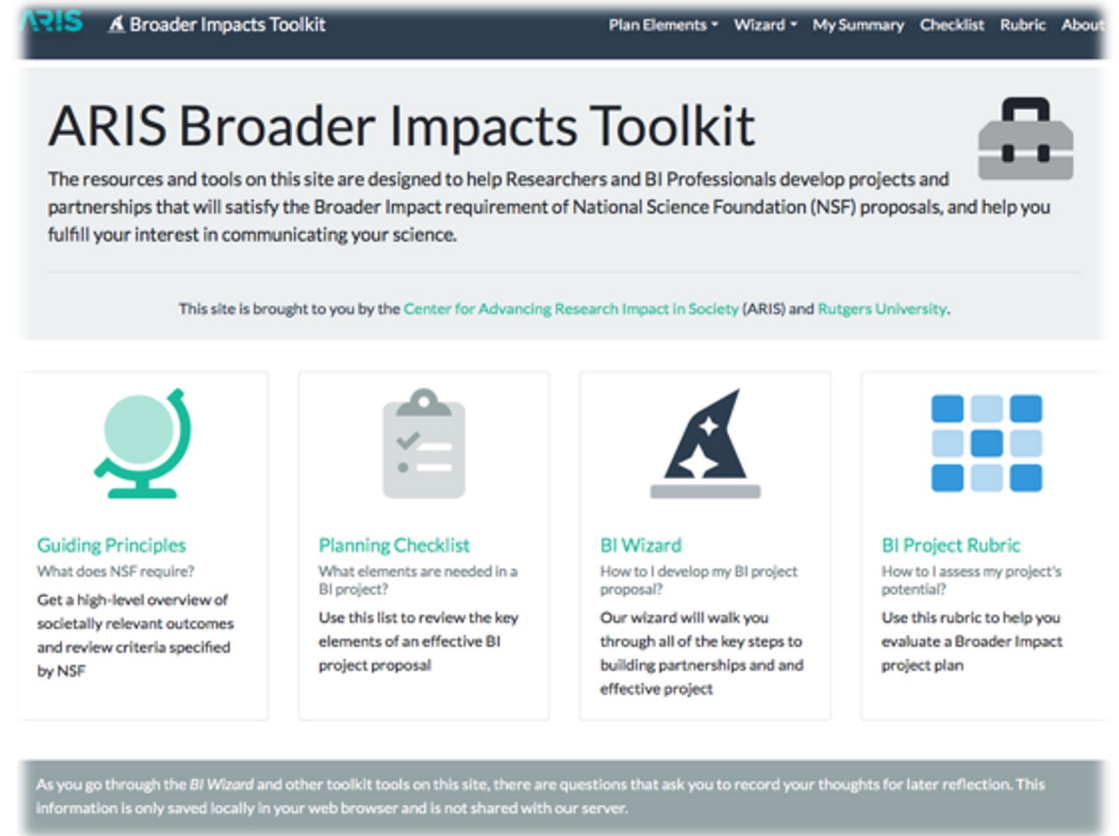
- Define the characteristics of a healthy and productive partnership
- Discuss techniques for identifying and developing partnerships
- Share our experience and goals



We work with scientists to ... Determine the Societal Relevance of their Research and Address Societal Needs

How can you convert the
scientific questions you propose
into messages relevant to your
audience (beyond your peers)?

Goal: Understand which aspects
of your research are most
relevant and what you should
prioritize as you share your
research beyond your peers.



<https://aris.marine.rutgers.edu/wizard>



NSF-Suggested Areas of Impact:

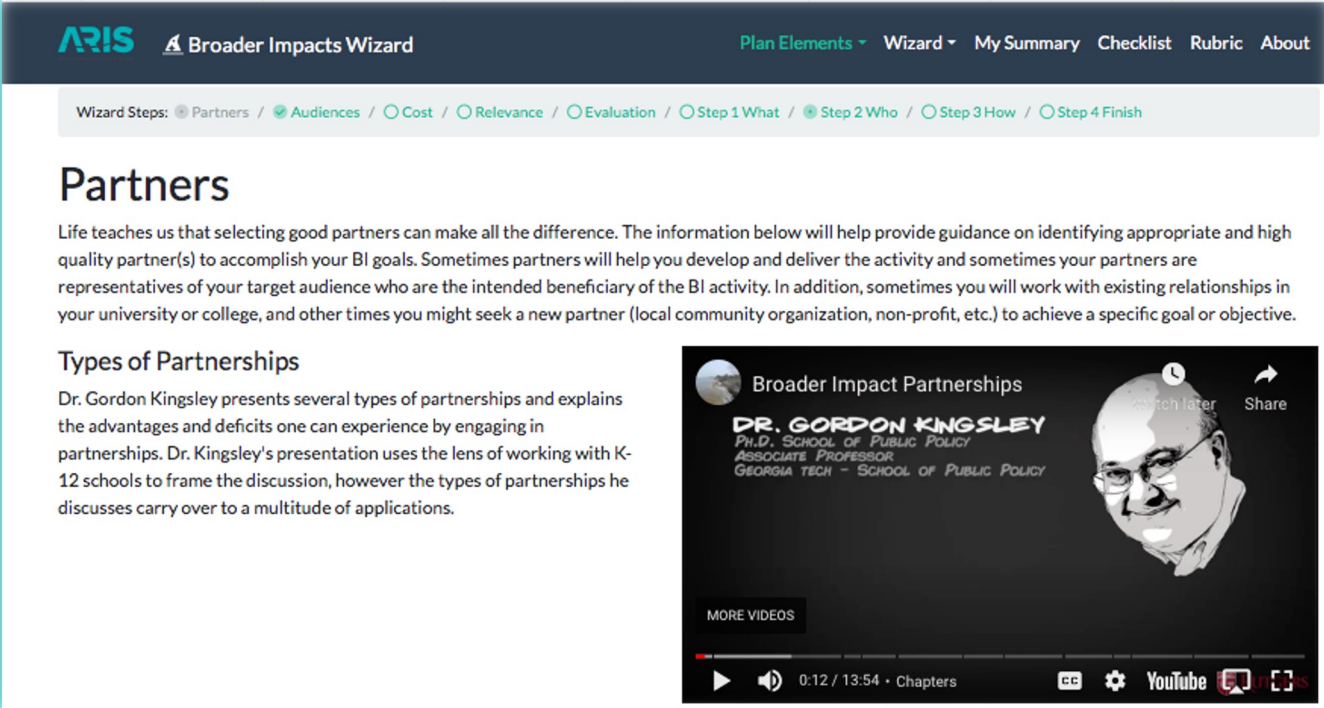
1. Full participation of women, persons with disabilities, and **underrepresented** minorities **in STEM**
2. Improved **STEM education** and **educator development** at any level
3. Increased public **scientific literacy** and **public engagement** with science and technology
4. Improved **well-being of individuals** in society
5. Development of a diverse, globally competitive STEM **workforce**
6. Increased partnerships between **academia, industry**, and others
7. Improved **national security**
8. Increased **economic competitiveness** of the United States

Researcher Tip #1 – Determine the **type of partner** you want and need for achieving the societal benefits of your work.

Partnership Definition

“A form of inter-organizational relationship where the participants engage in reciprocal patterns of **communication** for the purposes of identifying shared vulnerabilities, **developing shared goals** and a **shared understanding of how they will pursue and achieve these goals**”.

(Kingsley, 2000)



The screenshot displays the ARIS Broader Impacts Wizard interface. The top navigation bar includes the ARIS logo, the title 'Broader Impacts Wizard', and links for 'Plan Elements', 'Wizard', 'My Summary', 'Checklist', 'Rubric', and 'About'. Below this, a progress bar shows the 'Wizard Steps' with 'Partners' selected and highlighted in green. The main content area is titled 'Partners' and contains a paragraph explaining the importance of selecting good partners. Below this, a section titled 'Types of Partnerships' introduces a video by Dr. Gordon Kingsley. The video player shows a thumbnail of Dr. Kingsley, a play button, and a progress bar indicating the video is at 0:12 of 13:54. The video title is 'Broader Impact Partnerships' and the presenter is 'DR. GORDON KINGSLEY, PH.D., SCHOOL OF PUBLIC POLICY, ASSOCIATE PROFESSOR, GEORGIA TECH - SCHOOL OF PUBLIC POLICY'.

ARIS Broader Impacts Wizard

Plan Elements Wizard My Summary Checklist Rubric About

Wizard Steps: Partners / Audiences / Cost / Relevance / Evaluation / Step 1 What / Step 2 Who / Step 3 How / Step 4 Finish

Partners

Life teaches us that selecting good partners can make all the difference. The information below will help provide guidance on identifying appropriate and high quality partner(s) to accomplish your BI goals. Sometimes partners will help you develop and deliver the activity and sometimes your partners are representatives of your target audience who are the intended beneficiary of the BI activity. In addition, sometimes you will work with existing relationships in your university or college, and other times you might seek a new partner (local community organization, non-profit, etc.) to achieve a specific goal or objective.

Types of Partnerships

Dr. Gordon Kingsley presents several types of partnerships and explains the advantages and deficits one can experience by engaging in partnerships. Dr. Kingsley's presentation uses the lens of working with K-12 schools to frame the discussion, however the types of partnerships he discusses carry over to a multitude of applications.

Broader Impact Partnerships

DR. GORDON KINGSLEY
PH.D., SCHOOL OF PUBLIC POLICY
ASSOCIATE PROFESSOR
GEORGIA TECH - SCHOOL OF PUBLIC POLICY

MORE VIDEOS

0:12 / 13:54 • Chapters

CC YouTube

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Why partnerships?

Wharton Management professor Dr. Harbir Singh says..

*“By clearly identifying what you want to achieve through the partnership, and choosing the appropriate strategy, you can **stretch your innovation dollars, share in the costs of investments, better handle uncertainty, and access new resources, capabilities, and markets**”.*

THE STRATEGIC LEADER'S ROADMAP

6 Steps for Integrating
Leadership and Strategy



HARBIR SINGH & MICHAEL USEEM



Commonalities in Definitions of Partnerships

1. **Mutuality** in exchange:

What are the partners investing in each other?

2. **Enhancement** of the stand alone identity of partner:

What is in it for me?

3. **Collaborative** processes:

What am I committing to?



Purpose of Partnership- Strategic

Partners are mutually dependent on one another in some way.



- Reduce duplicative efforts for organizations, and/or their members.
- Can function with limited trust and interaction.
- Positioning to create a best-in-class advantage.



Purpose of Partnership- Learning

Organizations work well together but may not be rely on one another to achieve their goals.

- Gain new insights and knowledge from each other
- Co-produce new knowledge tools or opportunities
- Inspire each other or innovate together
- Partnership is built in service of the joint learning and development of essential skills.



THE OOI OCEAN DATA LABS PROJECT

The National Science Foundation's Ocean Observatories Initiative (OOI) is advancing our ability to understand the natural world by collecting large quantities of data to address complex oceanographic processes. This expanded access to data also provides professors in the geosciences with new opportunities to engage undergraduate students in authentic data experiences using real-world data sets to teach geoscience processes.

However, students struggle to work with data based on their limited experience and exposure to different data types and sources. Also, supporting students in engaging with the data can be challenging for professors too, as there is a lack of adequate tools to easily digest and manipulate large data sets for in-class learning experiences.

Therefore, the OOI Ocean Data Labs Project (formerly called Data Explorations), with funding from NSF, is developing, testing, refining, and disseminating easy to use, interactive Data Explorations and Data Lab Notebooks that will allow undergraduates to use authentic data in



Purpose of Partnership- Transformational

The partnership bolsters each organizations possibility of realizing their vision.

- Re-imagine a system through advocacy, capacity building, and/or providing tools
- Energizing social innovations and generative growth
- Moral dimension – community engagement and equality



Tip #2 –Be a model partner through mutuality and collaboration.

Gordon's Tips for a Good Partnership

1. Have a clear understanding for the motives for parties in the partnership- meet their needs!
2. Clarify the goals and objectives for the partnership (what we will do together – both at the individual and institutional level)
3. Research and “know” your partners (culture)
4. Make sure you manage the partnership (time and attention)
5. Listen to each others needs and goals/objectives
6. Build awareness and continuity of roles in the partnership
7. Practice equitable and fair budgeting
- 8. Keep the fun in the relationship!**

Tip #3 – Determine the metrics for success in your partnership. How will you know you are successful?

Metrics for successful partnerships

What are the impacts of the partnership? What is the ability of the partnership to produce results and add value?

It is important to:

- Articulate tangible results for the partnership.
- Have clear metrics of success.
- Strive for lasting or sustainable outcomes.
- Determine how will you sustain/adopt elements (programs, strategies, etc.) from the partnership.



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How will I know if my BI project is successful?

Metrics for Success

A truly successful BI project engages people outside your field to understand the relevance of your research. BI activities are an excellent mechanism to not only engage the public, but also to demonstrate accountability with public funds.

How do you document and tell the story of your success?

Just as you collect data in your scientific research, you need to collect data on the efficacy of your BI project which means you need to plan for a project evaluation. Depending on your needs and budget, an evaluation can be simple or sophisticated and you can do it on your own, or work with evaluation consultants within your institution (if your institution has in-house expertise), or hire a professional evaluator to help you. For your proposal, you will not need in depth detail about your evaluation plans but you should demonstrate that you have considered how you plan to evaluate the BI component of your project. The evaluation results will help you share the success and/or offer guidance for future iteration.

How much is enough evaluation for my project?

The available budget is often the driver. If you have access to "in-house expertise", that can be useful for internal dot connecting between existing efforts and partners, but also to save on overhead and/or subcontract fees. It can be a helpful exercise to conduct a survey of which metrics your institution or your partners already gather to determine if there are data already collected or adjacent to metrics you wanted to measure which can save time and money. The project evaluator can help guide this process. If you are not planning to hire an external project evaluator, perhaps a partner organization can co-develop the evaluation plan utilizing parameters of value to their organization.



Tip #4 – Be intentional about crafting a plan with your partner.

Let's go to the Wizard.....

<https://aris.marine.rutgers.edu/wizard/>



Example BI Statement:

Research has shown that early exposure to hands-on science, in both formal and informal learning settings, can enhance learner motivation, investment, and achievement in science (NRC, 2000; NRC 2009). In addition, there is a growing emphasis on having learners engage in the authentic practices of scientists, including data analysis and interpretation (NGSS Lead States, 2013).

What we will do:

BI Activity 1: Expand and contribute to middle school-aged youth STEM education and outreach initiatives by partnering with the Cherub Youth Organization (YO) .

Cherub serves over 5,000 Hispanic youth in the St. Louis metro area. During their out-of-school programming, Cherub focuses on STEM hands-on learning experiences. The Cherub Education Director, Jane Doe, will serve as a Co-PI (see Letter of Support).

Making Partnerships work:

Use this partnership worksheet to help you reflect on your BI plan (bullet points or one or two sentences for each question):

Who are your partners?

4-H Cooperative Extension

Describe how they are appropriate and qualified partners.

How will you collaborate?

We will partner with

Provide a clear plan for meeting the BI project goals and objectives, and how and why the partners are motivated to collaborate.

How will the partnership operate?

Are the partners named, are the assigned roles as a Co-PI or Key Personnel, etc?

Governance strategy for the partnership

Developing a governance strategy may include things like:

- **creating a Memorandum of Understanding (MOU) that articulates what each partner will contribute to the project and the roles and responsibilities for the partners.**
- Understanding the norms of the partners and the operating principles that the partners use to do their work.
- Developing mechanisms or strategies for building trust and resolve conflict over "turf" through communication.

Long-term....

Tip #5 - Develop a BI identity
and make a difference!



RESEARCH IDENTITY

Your unique identity in the research landscape based on your individual contributions to your field

It shapes the choices you make, the collaborations you seek out, the grants you target, the journals in which you seek to publish, etc.

VS.

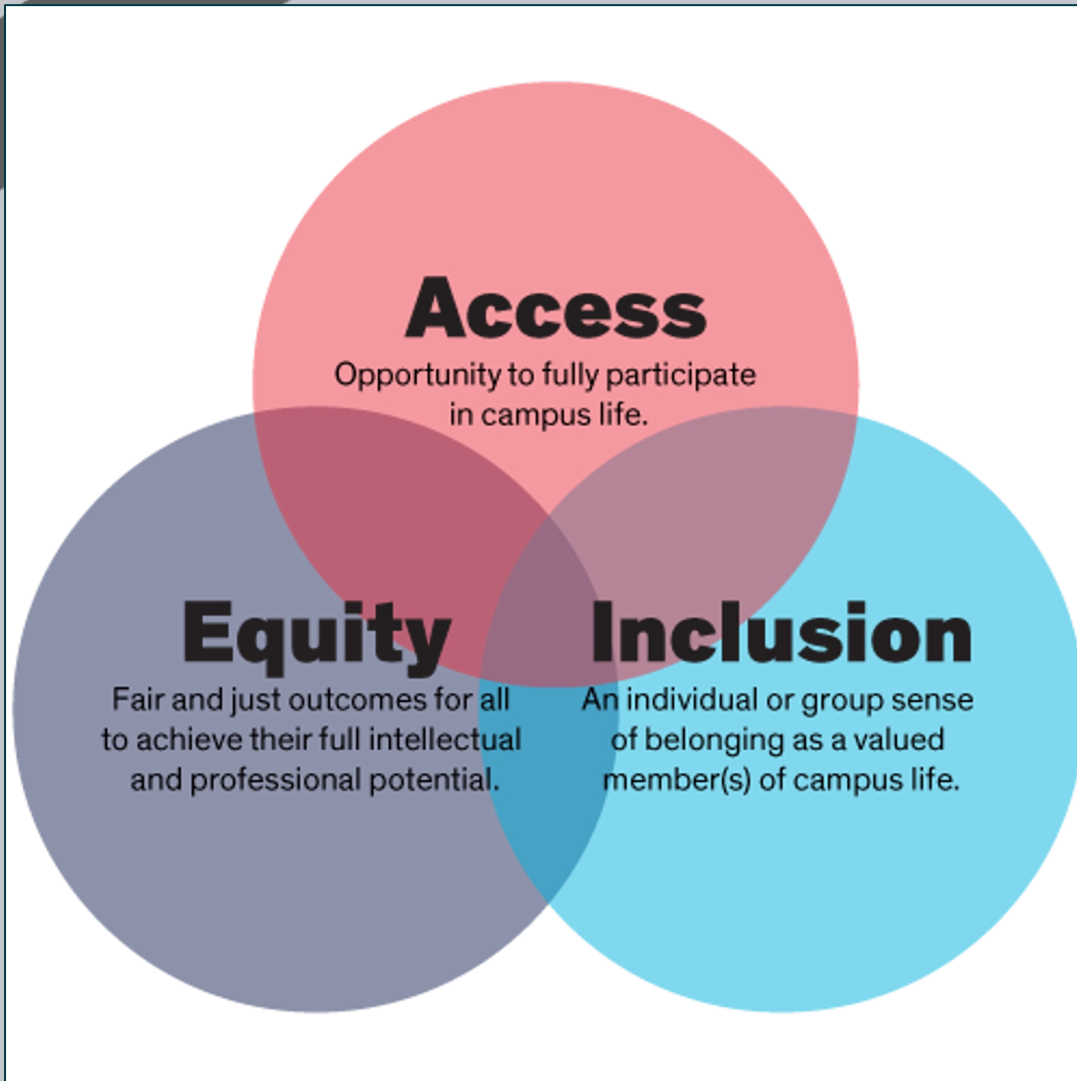


BROADER IMPACT IDENTITY

The long-term impact you could make through your BI efforts over your career.

Likewise...It shapes the choices you make, the collaborations you seek out, the grants you target, the journals in which you seek to publish, etc.

Broadening Participation



Increasing engagement and participation among those that are under-represented in STEM

Who might that include?

The goal is to discover and nurture talent wherever it may be found

Conclusion

- Collaboration is a journey not a destination
- Develop trust, leadership, and the ability to resolve conflict
- Communication
- Listen to partners needs
- Be Patient

