



DESIGNING THE RIGHT BROADER IMPACTS PLAN FOR YOUR PROJECT

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AGENDA

What are Broader Impacts?

How to be a Realistic Planner

Tools Available Online

Campus Resources



WHAT ARE BROADER IMPACTS (BI)?

- Also referred to as Outreach Efforts
- The potential of a sponsored project to benefit society and contribute to the achievement of specific, desired societal outcomes

WHEN THE RESEARCH IS THE BROADER IMPACT...

Structural Evolution Through the Lifecycle of Hurricane Sandy (2012) AGS 1322532

- Operational models of weather systems, storm forecasting and resilience planning



CAREER: Architectural Support for CPU / GPU Hybridization CCF 1149539

- Broad potential to improve energy efficiency and battery life and to advance fields that rely on HPC



WHEN THE BROADER IMPACTS ARE *DIRECTLY RELATED* TO RESEARCH PROJECT...

The LIFE Center: Learning in Informal and Formal Environments

SMA 0835854

- PI collaborates with organizations and policymakers to develop science-based programs that help children maximize their ability to learn.



CAREER: Rationally Designed Conjugated Polymers Based on Benzobisazoles

DMR 0846607

- Interdisciplinary research experiences for undergrad and graduate students and chemistry ambassadors which target underrepresented students grades 8-12.



WHEN THE BROADER IMPACTS ARE SUPPORTED BY, YET COMPLEMENTARY TO THE RESEARCH PROJECT...

**Computational Behavioral Science:
Modeling, Analysis, and Visualization of
Social and Communicative Behavior
IIS 1029679**

- Museum exhibit that integrated computer vision tools developed through this project with robotics tools from another Expedition



**Energize New Mexico
IIA 1301346**

- The NM EPSCoR project supports an array of outreach and education efforts designed to share the research developed by the project with stakeholders and the broader community.



HOW TO PLAN REALISTICALLY...

1. Follow the Solicitation
2. Include an Evaluator...Early
(if needed)
3. Identify a Target Audience
4. Set a Goal for that Audience
5. Budget Accordingly



EVALUATOR OPTIONS

INTERNAL OPTIONS

- Institute of Social Research
- Cradle to Career Policy Institute
- Develop your own Evaluation Plan
- FRDO Website Resources

EXTERNAL OPTIONS

- New Mexico Evaluators
- Professional Evaluator
 - Lynn Nordstrom

Come back to ADVANCE space on Tuesday, April 17th for a follow up workshop on Evaluation Plans.

IDENTIFYING A TARGET AUDIENCE



- Realistically applicable to your proposed project goals
- Fits your personality and qualifications
- Effectively accounts for time, budget, and people constraints

SETTING A GOAL FOR YOUR TARGET AUDIENCE

- Timeline to the Future
- How many people, industries, government agencies, etc. will be affected?
- Do you need to include learning standards?



BUDGET RESOURCES ACCORDINGLY

MONEY & GOODS

- Is it included in the proposed budget?
- Is it participant support?
- Is it unfunded collaboration?
- Are you using resources already available at your home or collaborative institution?
- How much will an evaluator cost?

PEOPLE

- Do you have enough people?
- Are they qualified to conduct the proposed activities?
- Do you need to hire a consultant?
- Do you have the right contacts?
- How do you start the conversation to develop a broader impacts relationship?

TIME

- How long will your broader impact take?
- Does it need to happen during a certain time to meet the goals?
- Do you or your target audience need to travel?
- Is this feasible to both your schedules?

Request support from the Faculty Research Development Network by clicking this [link](#).

Tools for Preparing your Broader Impact

- Developing a Broader Impacts Plan
- NABI Broader Impacts Guiding Principles and Questions for NSF Proposals
- NSF Merit Review Broader Impacts Criterion: Representative Activities

Examples of Broader Impacts

- Publications with undergraduate or minority student authors
- Community or workforce engagement
- K-12 education and outreach
- Undergraduate research experience
- Industry engagement
- Instances of improving societal well-being or public awareness
- Transformative discovery
- Data sharing

UNM BROADER IMPACTS

The National Science Foundation (NSF) describes Broader Impacts as being the potential of a research project to benefit society and contribute to the achievement of specific, desired societal outcomes. Per the NSF, broader impacts may be accomplished **through the research itself, through activities directly related to specific research projects, or through activities supported by, yet complementary to the project.** Even though the NSF is the only sponsor that specifically names Broader Impacts as an evaluation measure, this desire to improve the world around us through research and other externally funded endeavors is common to most funding opportunities. As a result, the OVPR and FRDO would like to offer their assistance to faculty looking to develop broader impacts strategies to include in their proposals. Use the button below to request support.

Submit a Request for Proposal Support

NSF Perspectives on Broader Impacts

NSF values the advancement of scientific knowledge and activities that contribute to the achievement of societally relevant outcomes. Such outcomes include, but are not limited to:

- Full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (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 US
- Enhanced infrastructure for research and education



Each year, the National Science Foundation (NSF) receives about 50,000 proposals for funding. Because there are many more worthy proposals than NSF is able to fund, the foundation distinguishes among them through a merit review process that incorporates two

Tools Available Online

- NSF Perspectives on Broader Impacts - https://www.nsf.gov/od/oia/publications/Broader_Impacts.pdf
- National Alliance on Broader Impacts (NABI) - <https://broaderimpacts.net/>
- Broader Impacts at UNM - http://frdo.unm.edu/unm_broader_impacts

NM STEM Connection



Managed by the UNM STEM-H Center for Outreach, Research and Education with support from the NM Experimental Program to Stimulate Competitive Research (NM EPSCoR), the NM STEM Connection provides information about STEM resources for **K-12 students, teachers, parents, counselors, and administrators** as well as **higher education faculty/staff** and **community members** in New Mexico.

UNM STEM University



STEM University is a collection of **free** outside-of-class activities related to science, technology, engineering and mathematics disciplines (STEM) put on by the STEM Collaboration Center. These events connect UNM students with STEM research, scientists, technology and leadership. Faculty can post STEM events by following this **link**. Click **here** to access the current list of STEM University events.

Albuquerque Museums



Below are links to contact information for local museums.

- Albuquerque Museum**
- iExplora!**
- Indian Pueblo Cultural Center**
- International Balloon Museum**
- Museum of Nuclear Science & History**
- NM Natural History Museum**

Mission: Graduate



Mission: Graduate is a partnership that brings together educators, employers, educational support providers, government leaders, and citizens to work on collaborative projects and align organizational practice and policy toward achieving **common goals**. They seek partners with the interest, experience, and expertise necessary to identify strategies relevant to their **seven core outcomes**.

NM Girls in C-STEM



This group brings together organizations throughout NM that are **committed to informing and motivating girls to pursue careers in science, technology, engineering, and mathematics (STEM)**. Activities are designed to facilitate connections between organizations to maximize access to shared resources. Check out current **programs** and **partners** or **connect** with this group.

Government Labs in NM



Military and National Labs in New Mexico participate in a variety of outreach efforts. Some of them may provide examples to follow while others will include opportunities for partnerships. Check out the links to their outreach pages below.

- Air Force Research Lab**
- Los Alamos National Laboratory**
- Sandia National Laboratories**

UNM College Based Outreach



A number of schools and colleges at UNM offer outreach opportunities. These are excellent places to begin your own outreach effort, either as an example to follow or as a collaborative partner. Check out the links to their outreach pages below.

- College of Arts & Sciences**
- College of Education**
- College of Fine Arts**
- School of Architecture & Planning**
- School of Engineering**

New Mexico EPSCoR



One mission is to cultivate a well-qualified and diverse Science, Technology, Engineering and Mathematics (STEM) workforce and develop a strong culture of innovation and entrepreneurship. Through collaborations with organizations ranging from afterschool programs to colleges and universities, from museums to business startup accelerators, NM EPSCoR Education and Outreach programs serve a wide range of audiences across the state.

ABQ Math Teachers' Circle



The Albuquerque Math Teachers' Circle supports local teachers who desire to explore mathematical ideas in a fun, encouraging environment. Their meetings provide an opportunity for math educator participants to work on interesting problems, developing their mathematical knowledge, skills, and intuition with the support of leading mathematicians and scientists from the local community.

Research Data Support



Effective open source software and data sharing can be incorporated into **broader impacts**. The Research Data Services provides a variety of services in support of effective research data planning, management, preservation, discovery and use. In addition, the RDS team also provides support for several key research data infrastructure capabilities that are maintained by the Library for use by UNM's research community.

CSTA New Mexico



The Computer Science Teachers Association (CSTA) supports and promotes the teaching of computer science. CSTA provides opportunities for K-12 teachers and their students to better understand computer science and to more successfully prepare themselves to teach and learn. The NM chapter offers a ways to get involved with CS teachers helping to shape CS education in New Mexico.

Industries in NM



Industry collaborations are positive outcomes of broader impacts. Below are links to some industries in New Mexico who are already working to improve STEM education and may be productive partners in your proposal.

- Key Albuquerque Industries**
- Boeing**
- Honeywell**
- Intel**
- Northrop Grumman**
- Raytheon**

CAMPUS RESOURCES

- New Course Development
- K-12 Specialists
- Undergraduate Specialists
- Underrepresented/Minority Groups Specialists

<http://frdo.unm.edu/>

[Home](#) [Support Initiatives](#) [Find Funding](#) [Proposal Support](#) [Limited Comps](#) [Broader Impacts](#) [Workshops](#) [Connect with an FRSO](#)


Our Mission

The Faculty Research Development Office (FRDO) works in close collaboration with other units of the [Office of the Vice President for Research \(OVPR\)](#) and with research administration personnel in colleges and departments to enable faculty to obtain external funding. FRDO also helps to implement campus research initiatives.

[Submit a Request for Proposal Support](#)


CORE SERVICES

ASSIST WITH LIMITED COMPETITIONS



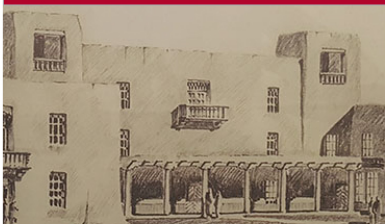
[View Limited Competitions](#)

COORDINATE WORKSHOPS AND SEMINARS




[View all Workshops](#)

ADMINISTER OVPR RESEARCH INITIATIVES




[View Faculty Support Initiatives](#)

PROPOSAL PLANNING & EDITING SUPPORT



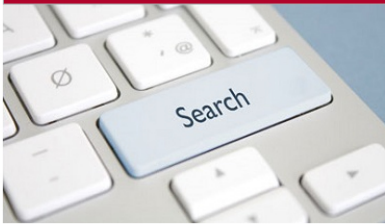
[Learn More About These Services](#)

SUPPORT EARLY CAREER INVESTIGATORS



[Find Out More](#)

HELP WITH FUNDING SEARCH



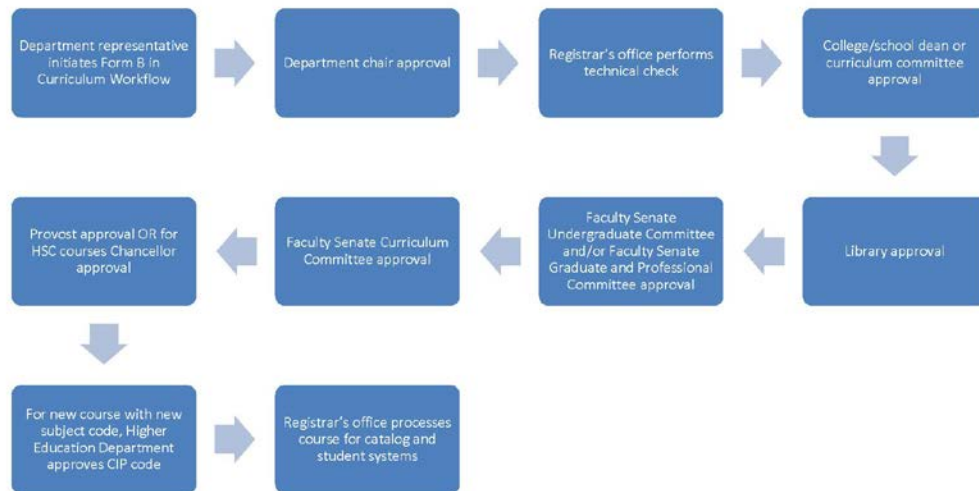
[View Funding Opportunities](#)

Request support from the Faculty Research Development Network by clicking this [link](#).

NEW COURSE DEVELOPMENT

Curriculum Workflow Process

Form B – New Course Request. Request new undergraduate and graduate courses



- UNM Curriculum Forms & Resources - <https://registrar.unm.edu/faculty--staff-resources/index.html>
- Head of your department
 - Departmental letters are required for NSF CAREER proposals
- Associate Provost for Curriculum & Assessment
 - Pamela Cheek
- Center for Teaching and Learning - <http://ctl.unm.edu/>
- Graduate Interdisciplinary Studies



K-12 SPECIALISTS

- NM STEM Connection
 - Karen Kinsman (Director)
<http://nmstemh.org/>
- NM MESA
 - Kim Scheerer (UNM Contact)
<http://www.nmmesa.org/>
- Engineering Student Success Center
 - Elsa Castillo (Asso. Director)
<https://ess.unm.edu/index.html>
- ABQ Math Teachers' Circle
 - Michael Nakamaye (UNM Prof.)
<http://www.unm.edu/~mathtc/index.php>

UNDERGRADUATE SPECIALISTS

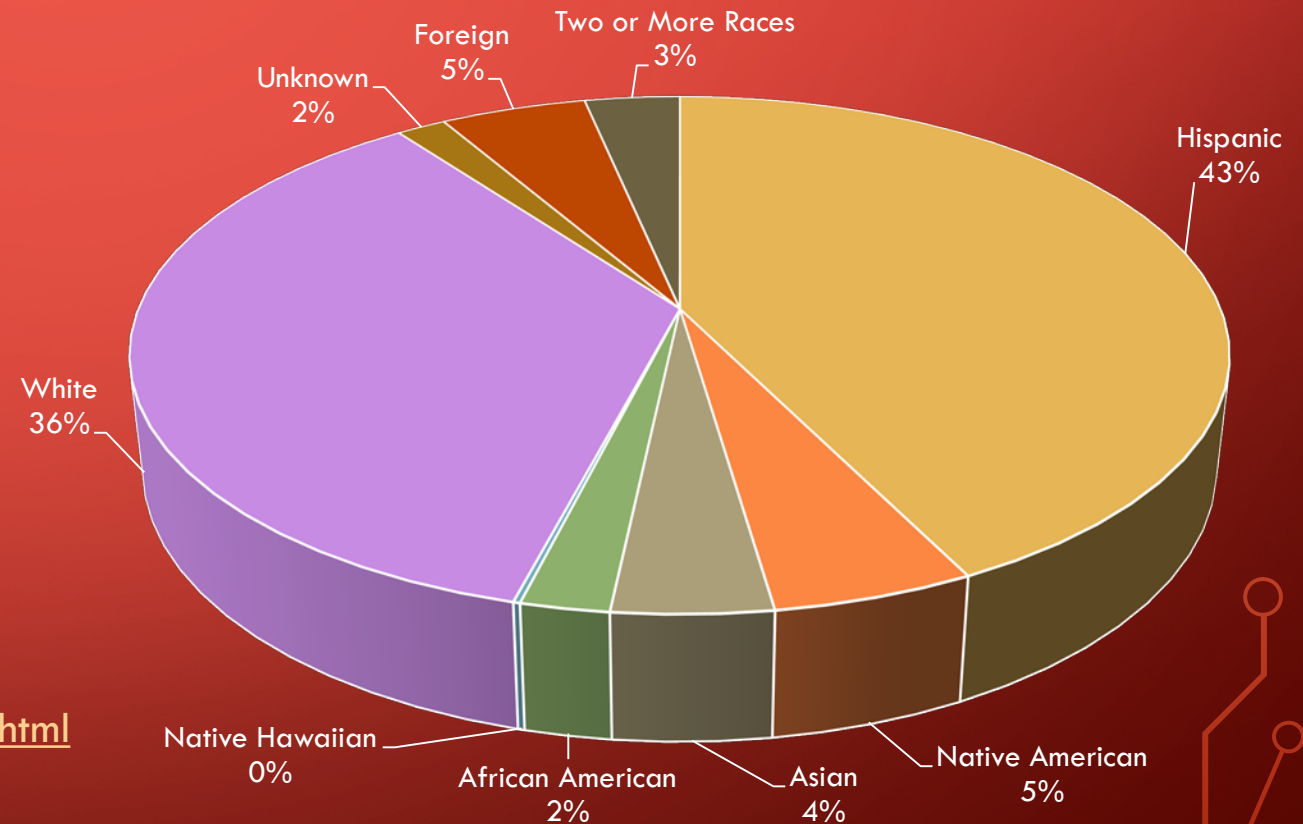
- STEM Collaborative Center
 - Tim Schroeder (Director)
 - <https://stem.unm.edu/>
- STEM University
 - <https://stemuniversity.unm.edu/>
- Engineering Student Success Center
 - Steve Peralta (Director)
 - <https://ess.unm.edu/index.html>



UNDERREPRESENTED/MINORITY GROUPS SPECIALISTS

- Student Support Services
<http://ssstrio.unm.edu/>
- Ronald E. McNair Scholars Program
-Ricardo Romero (Program Specialist)
<https://mcnair.unm.edu/>
- Project for New Mexico Graduates of Color
<http://pnmgc.unm.edu/>
- El Centro de la Raza
-Rosa Isela Cervantes (Director)
<https://elcentro.unm.edu/>
- Native Americans in STEM (NASTEM)
-Douglas Williams (Program Coordinator)
<https://ess.unm.edu/ess-programs/nastem/index.html>
- African American Student Services
W. Scott Carreathers (Director)
<http://afro.unm.edu/>

UNM Spring 2018 Total Enrollment by Ethnicity*



*<http://oia.unm.edu/facts-and-figures/documents/spring-2018-official-enrollment-report.pdf>

MAIN BROADER IMPACTS TAKE AWAYS



- Make it meaningful and applicable.
- Try to incorporate it into your long-term personal goals.
- You're not alone.

QUESTIONS?

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COLLEGE EMBEDDED FACULTY SUPPORT TEAM

Open

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College of Fine Arts Research

[View Full Department Faculty Research Support Contact List](#)