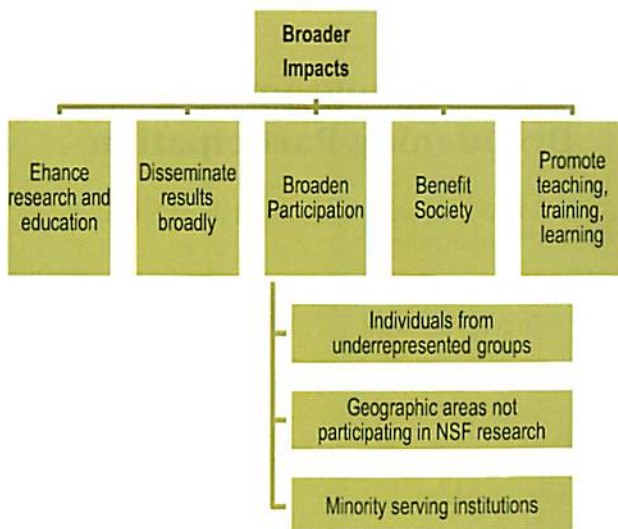


## What is Broadening Participation?

**Broadening participation** provides for the discovery and nurturing of talent wherever it may be found.

NSF defines broadening participation in terms of:

- 1) Individuals from underrepresented groups
- 2) Institutions
- 3) Geographic areas that do not participate in NSF research programs at rates comparable to others.



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## Broadening Participation

➤➤ *An Element of Broader Impacts*



*Directorate for  
Biological Sciences*

## How Can YOU Increase Broadening Participation?

The National Science Foundation encourages their Investigators to become involved in Broadening Participation activities. The NSF hopes that PI's will use this information to inspire their Broader Impact and Broadening Participation activities while training the new generation of scientists and researchers from underrepresented communities.



To understand how to broaden your participation, it is important to know the definition of underrepresented groups that The National Science Foundation uses. According to "Broadening Participation at the National Science Foundation: A Framework for Action", researchers seeking NSF funding "may propose nonexclusive, nondiscriminatory strategies to broaden the participation of individuals who belong to underrepresented groups, e.g.:

- Alaska Natives
- Native Americans
- Blacks or African Americans
- Hispanics
- Native Hawaiians
- Other Pacific Islanders
- Persons with Disabilities

It should be noted that, among the many fields of STEM (Science, Technology, Engineering and Mathematics), identification of a particular group as underrepresented may vary by discipline (e.g., women are underrepresented in *some* fields)."

## Broadening Participation Activities

With NSF's definition in mind, we would like to highlight some broadening participation activities. For additional information, consult the webpage <http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf>.

- Example of new approaches (e.g., use of information technology and connectivity) to engage underserved individuals, groups, and communities in science and engineering.

Dr. Jose Alonso and Dr. Anna Stepanova (North Carolina State University, proposal number 0923727) collaborated with a local elementary teacher to design easy, fun plant biology experiments for children. Their participation efforts are posted on an outreach website that is available in English and Spanish to attract young students into the STEM fields. The website introduces students to critical thinking and the scientific method. [http://www4.ncsu.edu/~jmalonso/Alonso-Stepanova\\_Outreach.html](http://www4.ncsu.edu/~jmalonso/Alonso-Stepanova_Outreach.html).



- Example of research and education collaborations with students and/or faculty who are members of underrepresented groups.

Dr. Carla Mattos (North Carolina State University, proposal number 0818678) provides opportunities for students from her classroom to participate in the lab where they use X-ray crystallography to visualize the structure of proteins. One component of her approach is the implementation of underrepresented graduate and post doctoral students serving as mentors to encourage the undergraduate students and accomplish the goals of the research.



## Broadening Participation Activities

- Example of participation in conferences, workshops and field activities where diversity is a priority.

Dr. Craig Vierra (University of the Pacific, proposal number 0950372) has had considerable success in recruiting students from underrepresented groups and engaging them in the lab and in field work as well. The students, along with Dr. Vierra, go into the field and collect the spiders that he uses as subjects in his NSF sponsored research.



## NSF Programs for Broadening Participation

- RAHSS-Research Assistantships for High School Students
- REU-Research Experiences for Undergraduates
- Louis Stokes Alliances for Minority Participation
- Minority Post Doctoral Research Fellowships
- PFI-Partnerships for Innovation