

# NSF Broader Impacts Support for Faculty

## Science and Engineering Academic Community Engagement Program Manager

### Center for Social Concerns, College of Science, College of Engineering

#### POSITION HISTORY

In September 2012, the University of Notre Dame's Community Engagement Coordinating Council initiated a joint position within the College of Engineering, College of Science, and the Center for Social Concerns (CSC) to assist faculty with developing the Broader Impact of their research for National Science Foundation proposals.

The Science and Engineering Academic Community Engagement Program Manager works closely with a campus network of STEM professionals, assembled by the Director of Community Engagement in the Office of Public Affairs, and a network of local community partners, maintained by the Director of Community Partnerships and Service Learning in the CSC, to design activities of mutual benefit to campus and community partners.

#### POSITION MISSION

To facilitate Science and Engineering Academic Community Engagement in faculty teaching and research that is of mutual benefit to partners by employing appropriate University and community resources.

#### POSITION GOALS

- ❖ Reduce redundancy in Science and Engineering Academic Community Engagement efforts by connecting faculty, students, and community partners with existing programming.
- ❖ Fill in gaps in Science and Engineering Academic Community Engagement programming by tracking existing activities alongside community partner needs and interests.
- ❖ Provide a central point of contact for campus and community partners interested in collaboration.
- ❖ Connect Science and Engineering faculty with community partners for mutually beneficial National Science Foundation Broader Impacts activities.



University of Notre Dame students work with students from Riley High School to take water samples of the Bowman Creek in South Bend, IN.

#### EXAMPLES FROM FUNDED PROPOSALS: ENHANCE, CREATE, EXPAND

##### MATHEMATICS RESEARCH EXPERIENCES FOR TEACHERS

The University of Notre Dame hosts a Research Experiences for Teachers (RET) program for local math teachers seeking professional development experience. Each summer a graduate student in the mathematics department educates middle and high school teachers in complex mathematics. Participants develop curriculum, receive a stipend and earn three non-degree graduate credits.

In 2014, a Principle Investigator (PI) in mathematics decided to enhance the existing RET program by including undergraduate student participants as part of the Broader Impacts of a National Science Foundation proposal. The Program Manager administers the Math RET summer program and thus was able to provide the PI with historical data for use in the proposal and assist with budgeted costs of the proposed activities.

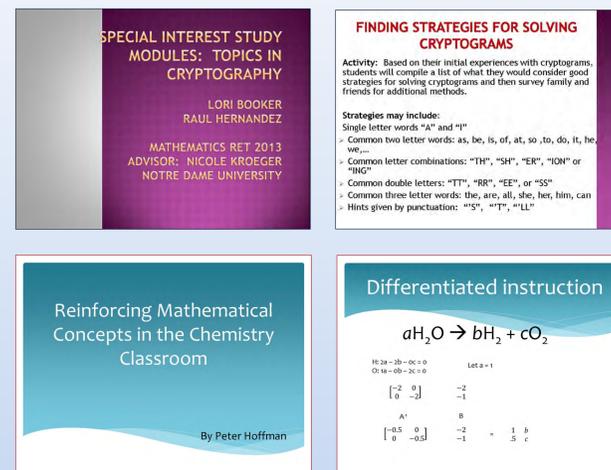


Participants conduct an experiment with help from a graduate student during an Expanding Your Horizons workshop at the University of Notre Dame.

##### CO-TEACHING HIGH SCHOOL CHEMISTRY

Notre Dame faculty members may choose to create new activities that are complementary to their research as part of their National Science Foundation Broader Impacts. For example, a PI in chemistry and biochemistry is teaming up with local high school teachers to co-teach a chemistry course in one private and one public school. Many students in these classes are from groups underrepresented in STEM disciplines.

In addition to engaging in the class, students will visit the PIs lab on campus to gain exposure to University research facilities. The Program Manager gathered relevant demographic data and worked with the Office of Public Affairs' Director of Community Engagement to connect the PI with teachers to build relationships and secure letters of collaboration.



Excerpts from former Mathematics Research Experiences for Teachers participants' presentations (Upper: Booker & Hernandez, 2013. Lower: Hoffman, 2011) final

#### EXPANDING YOUR HORIZONS

The Notre Dame Expanding Your Horizons (EYH) Conference for Girls, part of the National EYH Network, takes place each April in the Jordan Hall of Science on campus. Around 300 girls from Indiana and Michigan in grades 6-8 spend a day pursuing their interests by attending three different workshops on topics they select that are presented by women in Science, Technology, Engineering, and Mathematics (STEM) fields. The Program Manager secured letters of collaboration, reviewed Broader Impacts (BI) plans, and connected Principle Investigators in Science and Engineering with the existing EYH initiative to expand programming by offering new workshops as part of their National Science Foundation BI activities.

#### SUPPORT FOR FACULTY

- ❖ Connect with community partner organizations and existing community engagement initiatives
- ❖ Design Broader Impacts activities
- ❖ Budget for costs of Broader Impacts activities
- ❖ Share best practices for community engagement
- ❖ Relay policies and procedures
- ❖ Gather demographic data
- ❖ Obtain and write letters of collaboration
- ❖ Review Broader Impacts plans and make recommendations
- ❖ Document and track outcomes via the University's community engagement database (EngageND)

#### KEY CAMPUS PARTNERS

##### Center for Social Concerns

The University's community-based learning, research, and service Institute provides best practices for faculty and partnership development, plus office space and supervisory support for the Program Manager via the Director for Community Partnerships and Service Learning

##### College of Engineering

Provides partial funding for the Program Manager position and several activities faculty may align with as part of their Broader Impacts

##### College of Science

Provides partial funding for the Program Manager position and several activities faculty may align with as part of their Broader Impacts

##### Community Engagement Coordinating Council

Develops Broader Impacts Infrastructure through interdisciplinary effort to "deepen a culture of engagement between Notre Dame and community partners"

##### Kaneb Center for Teaching and Learning

Consults with faculty via the Associate Program Director of Learning Outcomes Assessment to "address assessment needs related to educational outreach components of grant funded research activities"

##### Office of Public Affairs and Communications

Collaborates with the Program Manager via the Director of Community Engagement who oversees campus partnerships with local K-12 schools and connects faculty with teachers, administrators, and students for Broader Impacts

##### Office of Research

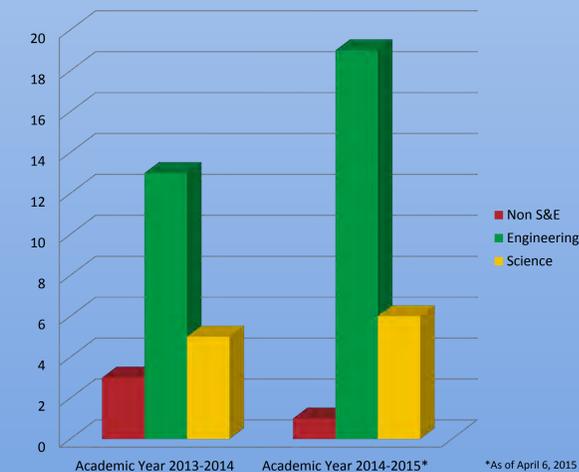
Promotes Broader Impacts support services to faculty in Science and Engineering via the Research Development Program Director

##### ND Energy

Collaborates with the Program Manager via the Education and Outreach Coordinator who supports Broader Impacts efforts of faculty specifically affiliated with ND Energy

#### FACULTY INTEREST

Number of NSF Proposals Seeking Broader Impacts Assistance from Program Manager



#### CONTACT

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