Research Goes to School
Innovation through Institutional Integration
National Science Foundation
Strengthen Programs through Integration

- Office of the Provost
- Robert Noyce Scholars Program
- Woodrow Wilson Fellows – Stem Goes Rural
- Center for Direct Catalytic Conversion of Biomass to Bio-fuels (C3Bio)
- Discovery Learning Research Center
I³ NSF Solicitation

I³ appears in the EHR solicitations for nine programs:
- Centers of Research Excellence in Science and Technology (CREST)
- Research on Gender in Science and Engineering (GSE)
- Historically Black Colleges and Universities Undergraduate Program (HBCU-UP)
- Innovative Technology Experiences for Students and Teachers (ITEST)
- Alliances for Broadening Participation in STEM: Louis Stokes Alliances for Minority Participation (LSAMP)
- Math and Science Partnership (MSP)
- Robert Noyce Teacher Scholarship Program
- Research in Disabilities Education (RDE)
- Tribal Colleges and Universities Program (TCUP)
Synergize the outputs of the component programs through an integration of efforts

- Combine efforts and infrastructure from each program to achieve additional outcomes
- Increase effectiveness of each component program
“Research Goes to School” Goals

- Develop a model for delivering advanced grand challenge research projects into the hands of high school teachers and students
  - Create a bridge that directly links high school teaching with higher education research
  - Remove barriers for researchers to cross the gap through administrative support
  - Model for years 1–3 based on translating C3Bio research to high school curricula
  - Generalized model developed in years 4–5 to be implemented with other research projects
Goals, continued

- Demonstrate the global and local relevance of the STEM disciplines to high school students
- Increase excitement and interest in STEM majors and careers for high school students
Timeline

Years 1–3

- Develop and refine model for research/curriculum integration with C3–Bio

Years 4–5

- Generalize model to other research projects.
- Implement generalized model with different scientific content
Progress to Date

- Funded August, 2010
- Workshop set for June 13–24, 2011
  - Information and application available on website: [www.purdue.edu/researchgoestoschool](http://www.purdue.edu/researchgoestoschool)
  - Currently 10 in-service teachers have applied for 8 openings in 2011

- Advisory Board in Place
  - Chemistry, physics, and biology teachers from rural Indiana schools
  - Duke Energy representative
  - State Department of Education science curriculum specialist
  - University personnel from participating programs
Assessment Tools Being Developed

- Assess pre/post content knowledge of students and teachers
- Assess pre/post knowledge of problem-based learning (PBL) strategies
- Assess pre/post student attitudes and choices regarding STEM courses, majors, and careers
Next Steps

- Develop supporting components:
  - Regional Summits
  - Webinars
  - Social Networking Site for teachers

- Refine model for delivery in 2012 based on implementation and assessment information
Research Goes to School Leadership Team

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