

Science Education for New Civic Engagements and Responsibilities

- Faculty development and STEM education reform initiative supported by the National Science Foundation
- Growing community of educators, administrators, and students committed to improving education for all students
- Coordinates symposia, supports campus-based projects, provides resources and recognition



SENCER is an initiative of the National Center for Science and Civic Engagement (NCSCE) at Harrisburg University of Science and Technology.

SENCER is supported by NSF DUE-0717407.



The SENCER Approach

SENCER aims to:

- get more students interested and engaged in learning
- help students connect learning to their other studies
- strengthen students' understanding of science and their capacity for responsible work and citizenship

SENCER courses and programs teach through complex, contested, current, and unresolved public issues to basic science



Applications of SENCER

SENCER has been applied to

- Individual courses
- General education program reform
- Degree programs
- First-year courses
- Courses for non-STEM majors
- Courses for STEM majors
- Honors courses
- Capstone courses
- Learning communities
- Teacher education courses
- Faculty development series
- Institutional collaborations



Examples of course and program topics: water quality, brownfields, urban asthma, obesity, food quality, addiction, computer ethics, coal, nanotechnology, uranium

The SENCER Community

- More than 1800 administrators, educators, and students representing 393 institutions have participated in national events
- Community members represent 46 states and 13 foreign nations
- Participants represent two- and four-year institutions, government agencies, not-for-profit organizations, and school districts



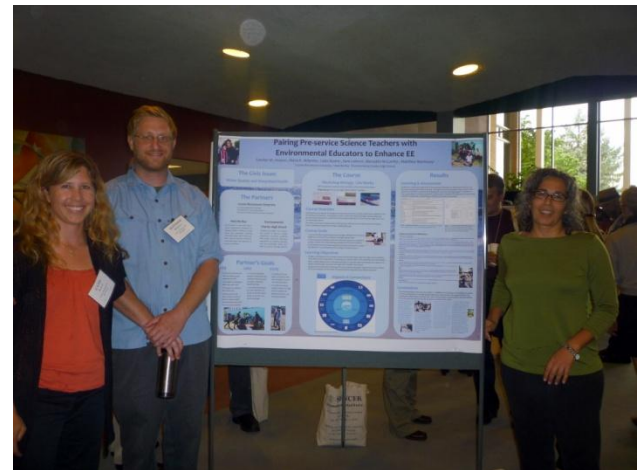
Community College Involvement

- Representatives from 48 two-year institutions have participated in national SENCER events
- 12 Post-Institute Implementation Awards to two-year schools since 2006

Annual National Symposia

SENCER SUMMER INSTITUTES

- Intensive team-based development opportunities hosted in partnership with colleges and universities
- Features sessions on pedagogy, campus adaptations, new challenges; networking
- Recent hosts: UNC Asheville, Harold Washington College
- SSI 2011: July 21-25 at Butler University (Indianapolis, IN)



Annual National Symposia

WASHINGTON SYMPOSIA & CAPITOL HILL POSTER SESSIONS

- Opportunity for community members with mature projects to reconnect, report on their innovations to peers and Congress, and discuss areas of new work
- Generally high student (33%) attendance and specific student programming



Above: Student participants during the 2011 Capitol Hill Poster Session

Below: Flora Lichtman, multimedia editor for Talk of the Nation: Science Friday, and Symposium keynote speaker



Regional Support and Symposia

SENCER CENTERS FOR INNOVATION (SCI)

- Provide project support and regional events to complement national offerings
- Governed by co-directors and leadership councils representing two and four-year colleges and universities
- Facilitate collaboration between institutions and between regions where common interest exists



SCI HOST INSTITUTIONS

- Midatlantic: Rutgers University
- Midwest: Harold Washington College
- New England: Southern CT State University
- South: UNC Asheville
- Southwest: Texas Woman's University
- West: Santa Clara University

Resources

- SENCER Model Series
- Backgrounders
- Science Education and Civic Engagement: An International Journal
- Assessment: SENCER-SALG (Student Assessment of their Learning Gains), Scholarship of Teaching and Learning, Consortium for Assessment for Student Achievement
- Bi-weekly eNews
- House Call program



SENCER MODEL SERIES EXAMPLES

- Assessing Exposure to Toxic Chemicals: General Chemistry Applied to Human and Environmental Health
- Cellular and Molecular Biology: Cancer
- Food for Thought
- Introductory Statistics with Community-Based Projects
- Pregnancy Outcomes in American Women
- Computer Ethics
- The Power of Water

Recognition

- Leadership Fellows Program
- William E. Bennett Award for Extraordinary Contributions to Citizen Science

Implementation Awards

- Modest funding to support on-campus implementation of projects developed at Summer Institute
- Competitive application process
- SENCER has issued nearly 300 grants to support course redesign and development, faculty development, and assessment projects



Members of the SENCER community have received teaching and other awards, honors, keynote and workshop invitations, funding support, tenure and promotion as a result of their work.

Get Involved

- Attend a local, regional, or national event
- Contact a SENCER Center for Innovation
- Submit an article to the Journal
- Sign up for our mailing list at www.sencer.net to receive updates on resources, events, and job opportunities



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