

## CONFERENCE GOALS

Professionals in higher education (HE) and informal science education (ISE) gathered to explore how formal-informal partnerships grounded in civic engagement may strengthen the work of both informal and formal science education. Conference goals included:

- Sharing approaches and outcomes each community employs to implement the civic engagement approach to Science, Technology, Engineering and Mathematics (STEM) learning;
- Mapping possible collaborations between formal and informal science educators that have the potential to transform each community's approach to STEM learning;
- Examining how civic responsibility and engagement activities are related to issues of infrastructure, policy, and learning.

## CRAFTING A VISION

Formal-informal collaborations focused on civic engagement to facilitate STEM learning, a science-enabled citizenry, and science-based decision making.

With the guidance of a facilitator, participants engaged in interactive problem-solving discussions to theorize connections between informal and formal science education. They concluded that a shared focus on contemporary issues of civic consequence could spawn productive collaborations, achieve STEM learning goals, and lead to greater civic engagement. Key aspects of the discussion that emerged include:

- A place-based approach emphasizing local motivation, passion, and involvement.
- A continuum of engagement to address learner interests and needs from K-12 through higher education and life-long adult learning, including both in-school and out-of-school learning opportunities.
- An expanded definition of audience to include students, teachers, and adults, with a focus on reaching those underrepresented in STEM disciplines.
- A beginning identification of effective, engaging tools required to address the range of tasks involved, from reaching out to the public, training teachers, and supporting citizen science work, to forging dynamic partnerships.
- The importance of diversity in approach, perspectives, and partnership formation that includes the social sciences, arts and humanities; embraces the international community; and engages the faith-based community.
- A recognition of ethical, evidence-based decision making as an issue for ongoing discussion, a focal point for public interest and dialog, and a way of helping the public make meaning out of science research and outcomes.
- The need to contribute to and sustain a pathway to STEM careers through K-12 and higher education, teacher education, public engagement in citizen science, and public outreach.

## Executive Summary

### Science Education for New Civic Engagements and Responsibilities- Informal Science Education (SENCER-ISE) Conference

Liberty Science Center

March 6-8, 2011

Funded by the National Science Foundation (DRL1001795) with additional funding from the Noyce Foundation.



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FOUNDATION

Science Education for New Civic Engagements and Responsibilities (SENCER)

[www.sencernet.net](http://www.sencernet.net)

National Center for Science and Civic Engagement (NCSCE)

[www.ncsce.net](http://www.ncsce.net)

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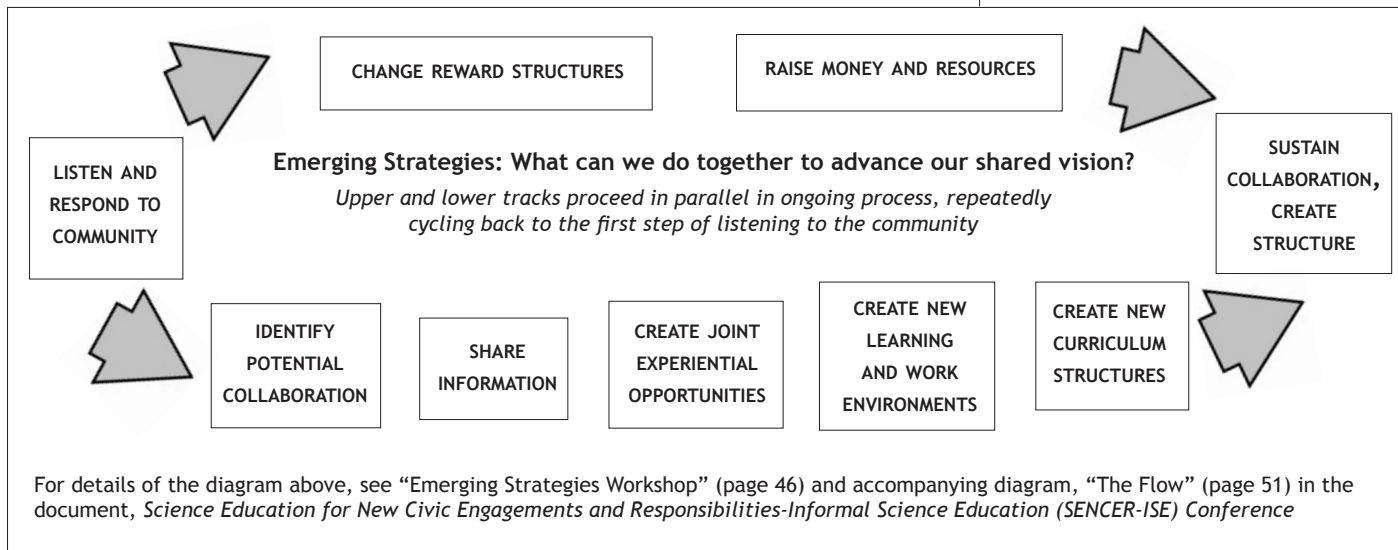
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The problem-solving process included identification of potential obstacles, ranging from mutual misunderstanding on the part of ISE and HE regarding each others' work; to identification of conflicting cultures, rewards systems, success measures, schedules, and logistics; to public mistrust of science. For example, most of the HE participants saw civic engagement with science and technology-based issues as a means towards the end of science learning, while most of the ISE participants saw civic engagement with such issues as a valuable end in itself.

Potential strategies to address these obstacles and build a foundation for ongoing collaborative work include development of resources and joint approaches and structures to initiate, advance, and sustain the work, as outlined below.

Number of higher education (HE) participants .....	21
Number of informal science education (ISE) participants .....	19
Total number of participants .....	40



## EMERGING PARTNERSHIPS, FUTURE COLLABORATIONS

As participants worked in teams to brainstorm, diagram, and present collaborative visions, they learned more about ISE and HE strengths, audiences, accomplishments and capabilities. During an open forum, participants posted topics of interest and potential focal points for collaboration and formed ad hoc discussion groups with like-minded peers. A partnership workshop conducted by an expert in the field offered an introduction to the possibilities and pitfalls of partnership formation and engaged participants in work groups to design ISE-HE partnership approaches, employing civic engagement to address issues of climate change.

By the end of the conference, participants agreed that this meeting should be just the first step for the SENCER-ISE initiative. Participants suggested further sessions to build upon the impetus of the conference to develop workable structures and partnerships, either with some of the participants from the original meeting who have formed nascent partnerships as result of the discussions or with new participants at the regional level that could include matched potential partners from ISE and HE. A number of participants began to initiate first steps in forming ISE-HE collaborative efforts, with plans for post-conference follow up.

