

SENCER E-Newsletter

Volume 5, Issue 9 June 2006

Strong Community College Representation, New Schools, and Seasoned Partners Define Diverse Participation at SSI 2006

Following a tremendous response to our call for applications, we now have a good idea of who will be joining us in San Jose for SSI 2006. There were 228 applicants accepted to participate SSI 2006. Among them, 196 applied as members of 39 teams from institutions and consortiums from across the nation. Applicants from a variety of disciplines proposed plans to work on a diverse set of curricular reform, course development, and faculty development projects. Their work will include environmental sciences, computer science and technological innovations, infectious diseases, statistics, and engineering.

SSI 2006 will welcome participants from 37 universities, 21 colleges, and one high school, representing 24 states and two foreign countries. There are roughly the same number of public and private institutions sending participants, 30 and 26 respectively. Institutions range from research intensive universities (15) to baccalaureate/arts and sciences schools (11), master's institutions (19), and various associate's institutions (9). Twenty of the institutions that applied to send either teams or individual representatives are completely new to SENCER, will provide a great opportunity to strengthen regional and national partnerships.

**For a complete list of schools that will participate in SSI 2006, see page 3.
For a brief summary of team goals, see pages 4 - 6.**

Register Online for the SENCER Summer Institute 2006

Unbelievably, SSI 2006 is now just two months away! At this time, online registration is available to everyone who applied and was accepted as an individual participant or a member of a team. If you are a member of a team, please contact your team leader before registering. Team leaders are responsible for coordinating registration their teams.

Registering for SSI 2006 is easy. Simply visit <http://www.sencer.net/ssi2006/registrations/ssi2006regmain.cfm> for instructions. **The deadline for online registration is June 30th.**

Once your registration is complete, you will receive an automated confirmation e-mail. If you do not receive a confirmation e-mail or if you have any questions regarding registration, please call Patti Simon or Danielle Kraus at (202) 483-4600.

Participate in the SSI 2006
Poster Session.
See Page 2 for Details.

SENCER Seeks Proposals for
Presentations at SSI 2006.
See Page 2 for Details.



SENCER Seeks Proposals for Presentations at SSI 2006

SENCER is pleased to invite SSI 2006 participants to share their work during presentation sessions at the Institute. Each year, SENCER faculty and participants present on a variety of SENCER projects, courses, strategies, and experiences. Of course, we also welcome presentations not directly related to SENCER work but that would be of interest to our community including other noteworthy projects, pedagogy, initiatives, or innovations.

All SSI 2006 participants are invited to submit a proposal for a presentation at the SENCER Summer Institute 2006. Please consider what areas of your work and expertise you'd like to share with the SENCER community of science and math scholars and university administrators.



Presentations can be made alone or with a colleague and should be about an hour in length. For the proposal, you'll be asked to submit an abstract with a maximum of approximately 150 words, and answer brief questions relating to, among other topics, your target audience and learning outcomes for participants in your session. If we receive a number of similar proposals, we may ask you to consider being part of a panel.

We have set up a website to accept online presentation proposals. Visit <https://secure25.easycgi.com/sencer/ssi2006/Presentations/Presentation.cfm> and follow the steps to submit your proposal. We'll be in touch with you to discuss details, scheduling, or to go over any questions that we have. **The deadline to submit a proposal is June 30th.**

To get an idea of presentations that have been included in previous Summer Institutes, visit last year's program at: http://www.sencer.net/pdfs/SSI_2005/NotesontheProgram2005.pdf.

Participate in the SSI 2006 Poster Session

SENCER invites all SSI 2006 participants, at any stage of development of SENCER-related work, to present a poster at the SSI 2006 Poster Session. This is an excellent opportunity to exchange ideas and network with other participants. The poster session will feature SENCER-related courses and projects—ones that teach “to” basic science “through” complex, capacious, and unsolved public issues, and other noteworthy projects, initiatives, or innovations.

If you would like to propose a poster, go to <https://secure25.easycgi.com/sencer/ssi2006/Posters/Poster.cfm> and complete the online submission form by **June 30th**. The SENCER staff will follow up with you after the 30th with more specific session information and sizing details. We regret that because of space and time limitations, we may not be able to display all posters.



Many SENCER alums have found PosterSession.com (<http://www.postersession.com/>) helpful in creating laminated “conference posters.” You can also browse the booklet from last year's poster session at <http://www.sencer.net/summerinst05.cfm> to get an idea of the projects people are working on.

If you have any questions, don't hesitate to contact the SENCER National Office or the Poster Session faculty co-facilitator, Matt Fisher (matt.fisher@email.stvincent.edu).

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Announcing the SSI 2006 Participants

We are pleased to announce that representatives from the following colleges, universities, and institutions will be attending the SENCER Summer Institute 2006:

Team Participants (Includes New, Alumni, and Multi-Institution Teams)

- Brenau University
- Brigham Young University
- Butler University
- College of Staten Island, CUNY
- Franklin Pierce College
- Harold Washington College
- Hofstra University
- Holy Names University
- Kapi'olani Community College
- Kennedy-King College
- Kenyatta University
- La Salle University
- Lincoln University
- Meredith College
- Metropolitan State University
- Michigan State University
- Minneapolis Community and Technical College
- Montgomery College
- Northeast Ohio Coalition on Higher Education (NOCHE)
- Northland College
- Ohio State University
- Ramapo College of New Jersey
- Roosevelt University
- Springfield College
- Stony Brook University
- University at Albany, SUNY
- University of Cincinnati
- University of Dayton
- University of Hawai'i, Manoa
- University of Minnesota, Twin Cities
- University of North Carolina Asheville
- University of Southern Maine
- University of Wisconsin-Marshfield/Wood County
- University of Wisconsin-Parkside
- University of Wisconsin-River Falls
- Whitworth College
- Woodbury University

as of 06/01/2006

Individual Participants (Includes New and Alumni Participants)

- Antioch College
- Beloit College
- Duke University
- Georgetown College
- Indiana University East
- Indiana University Purdue University Fort Wayne
- Lesley University
- Loyola Marymount University
- Makerere University
- Massachusetts College of Liberal Arts
- Metropolitan College of New York
- Middle Tennessee State University
- New York University
- Oberlin College
- SciTech High
- South Dakota State University
- Truman College
- University of Hartford
- University of Hartford, Hillyer College
- University of South Carolina Sumter
- University of Virginia's College at Wise
- University of Wisconsin-Marathon
- West Virginia University
- Wofford College



Congratulations to all of the SSI 2006 schools!

We are looking forward to working with you (*and learning from you*) in California this summer.

Challenging Work, Briefly Stated SSI 2006 Teams and Their Goals

Brenau University hopes to consult with other participants on their continuing progress in developing new courses for their general education curriculum, reformatting existing courses using the SENCER method, and troubleshooting campus resistance.

Brigham Young University's team aims to present their work on incorporating service-learning and civic issues into their biology curriculum, while designing courses that take a group work approach to learning.

Butler University will develop multiple SENCER courses for 2007 that will strengthen and sustain already established community-based partnerships. One proposed course is a Junior/Senior Capstone, "Topics in American and Global Society."



Brigham Young University

Duke University is working towards launching an elective course in several high schools in the Raleigh-Durham area. At the Institute, the team will refine course content, activities, and assessment practices.

Franklin Pierce College proposes to redesign and SENCERize their Integrated Science course sequence with a focus on global climate change.

Harold Washington College is expanding learning community opportunities to more of their students, and will track students long-term to determine how many pursue careers in the STEM fields.

Hofstra University plans to develop three interdisciplinary courses that reflect the SENCER ideals, and to pursue faculty development activities in partnership with their Institute for the Development of Education in the Advanced Sciences (IDEAS).

Holy Names University, an institution new to SENCER, will research methods useful to revising biology courses and explore the use of the SENCER SALG and assessment.

Kapi'olani Community College's team aims to plan assessment activities, develop a course involving the Science of Sleep, pursue information on strategies to develop partnerships relevant to their P-16 STEM education pipeline, and construct a cross-disciplinary SENCER Service-Learning pathway.

Kennedy-King College will devise strategies to reach out to non-science majors at their college, as well as form several interdisciplinary courses to be launched this academic year.

Kenyatta University will strategize approaches to transition five existing HIV/AIDS courses for teachers and civic servants into the core units.

La Salle University plans to pilot interdisciplinary courses on information awareness during Fall 2006. At the Institute, the team will apply the SENCER ideals into the curriculum that addresses issues such as the use of electronic databases, for example.

Lincoln University would like to improve the retention of students in science courses by using assessment tools to recognize problems students are having and take appropriate action to help them.

Loyola Marymount University hopes to learn from other participants and present results of their own SENCER course development progress.

Meredith College brings a multi-institutional team that has been working with another SENCER school, Kenyatta University, to share the results of their international collaboration on HIV/AIDS courses.

Metropolitan State University plans to develop three courses in the year following SSI attendance that incorporate community-based partnerships for majors and non-majors courses, including one course for all incoming students.

Michigan State University's team will consider a broad range of topics in preparation of future SENCER courses that will support on-going initiatives for improving undergraduate science education on campus. This will include SENCERizing their Carnegie-supported Teachers for a New Era effort and the Task Force on Undergraduate Biology.

(Continued on next page.)

Challenging Work, Briefly Stated SSI 2006 Teams and Their Goals (Cont.)

Minneapolis Community and Technical College plans to implement SENCER modules in a variety of STEM disciplines that will eventually be applied across their division.

Montgomery College will continue their progress in applying the SENCER ideals to several courses, including assessment activities and topics ranging from pharmaceuticals to the environment.

Northeast Ohio Coalition on Higher Education (NOCHE) is a multi-institutional group that will involve up to 3,000 undergraduate and pre-college students in SENCER-based environmental service-learning courses within three years.

Northland College goals include increasing the profile of undergraduate research, incorporate local water quality issues with the Chequamegon Bay region into biology and chemistry courses, and pursue faculty development activities.

Ohio State University will offer a pilot course in engineering for non-majors this upcoming academic year which will include a thorough assessment plan. The team hopes to discuss their senior capstone design courses and their collaborative-learning based First-Year Engineering program with other institutions interested in similar initiatives.

Ramapo College of New Jersey will incorporate the SENCER ideals into a new curriculum over the next year. Additionally, the college plans to implement a strategy that will include SENCER House Calls and other faculty development activities.

Roosevelt University will be using the SENCER approach in their upcoming curriculum reorganization, as applied to both new courses and existing course revision. They will also focus on assessing reactions by both faculty and students to SENCERized courses.

Springfield College's team will develop curriculum materials/methods, train other faculty, and recruit and train students to serve as graduate teaching fellows or undergraduate teaching assistants in the 2006-2007 year. Their focus will be on Anatomy & Physiology and Human Anatomy first and second core courses.

Stony Brook University will SENCERize freshman seminars in their new UG College program that will expose students to various topics in the arts, humanities, sciences, engineering, and technology.

College of Staten Island of CUNY plans to create a detailed outline of both lecture and laboratory syllabi for the redesign of Biology 1617, as well as a way to assess both the effectiveness of the course as a whole and the various new pedagogies to be introduced.

University of Albany, SUNY team members plan to create faculty development opportunities for colleagues in the sciences and other disciplines interested in designing new courses on the biology and global/social impacts of viruses.

University of Cincinnati organized a consortium of institutions that will develop a grant proposal to the National Science Foundation to support a summer institute on genetics in 2007. They will thoroughly assess and follow-up on team activities throughout the Institute, leading up to a genetics workshop the team will attend in October.

University of Dayton plans to pilot a multidisciplinary watersheds course in Fall 2007 and will also track the progress of the Rivers Institute and integrative curricular development initiatives.

University of Hawai'i, Manoa will develop a group of sustainability courses to launch in Fall 2007 which will include introductory courses and an upper division interdisciplinary capstone course.

University of Minnesota, Twin Cities plans to design one new biology course for non-science majors and SENCERize a biology course for science majors. Both courses are proposed for the Fall 2007.



University of Hawai'i, Manoa

(Continued on next page.)

Challenging Work, Briefly Stated SSI 2006 Teams and Their Goals (Cont.)

University of North Carolina at Asheville plans to continue the development of their Integrative Liberal Studies Topical Clusters, especially concerning the involvement of social scientists, the incorporation of technology and the arts, and other co-curricular linkages. They will also work on the assessment strategies used in the Topical Clusters.

University of Southern Maine will develop three course modules on forest sustainability that incorporate universal design to be disseminated to other faculty in the University of Maine system and K-12 teachers.

University of Wisconsin-Marshfield/Wood County plans to present the results of their efforts over the past year, to pursue faculty development, and to develop several new projects, including a service-learning program, a syllabus for a new course.

University of Wisconsin-Parkside will develop a campus-wide plan to weave the SENCER ideals into the mission of their new liberal arts degree for elementary teachers in coordination with their Teacher Preparation Steering Committee.

University of Wisconsin-River Falls intends to develop a multidisciplinary course on scientific discovery and technological advances and how they impact society and the economy. This course will become part of their general education curriculum.

Whitworth College will use their experience at SSI to inform future course development and plan a faculty development workshop for their institution.

Woodbury University plans to create their first SENCER course during the academic year following attendance at SSI 2006 and proposes to develop a course each year following the Institute. Water will be the focus of the initial course and Woodbury will incorporate intensive assessment and evaluation strategies throughout the development and implementation process.



University of Southern Maine

Will You Be Arriving to SSI 2006 Early? Let's Spend the Day in Monterey!

If you are looking for an enriching opportunity at a world-class research facility to kick-off your SENCER experience, we've got a field trip for you.

If you plan to be in San Jose by Thursday afternoon and would be interested in taking part in an organized trip, we'd like to hear from you. We're looking into offering a trip on Thursday, August 3rd, to beautiful Monterey, CA, departing from the Fairmont Hotel around noon.

Participants can visit the Monterey Bay Aquarium, take a ride on a 65-foot research sailboat around the bay, and have a relaxing dinner around town before returning to the Fairmont later that evening. If you would like to find out more about the aquarium and the sailboat ride, visit <http://www.montereybayaquarium.org/>.

Over the next few weeks, we'll assess interest in organizing a trip for Thursday afternoon. If we get a large enough response, we'll reserve a bus and SENCER Senior Associate, Tom Wood, will lead a group to Monterey. In past years, this has been a popular outing with a good mix of learning and recreation.

You'd have two choices for the trip - the cost for transportation and a ticket to the Monterey Bay Aquarium is \$50 per person, while the cost of transportation, admission to the Aquarium, and the boat ride is \$120.

If you would be interested in this trip, please send an email to Danielle Kraus at danielle.kraus@sencer.net (noting the option you'd like) so that we can hold a place for you.



SENCER Curriculum Development Project at Franklin & Marshall

Roger DK Thomas
John Williamson Nevin Professor of Geology
Franklin and Marshall College

Five faculty members at Franklin & Marshall College will work together to develop SENCER-style courses during the coming months of this summer.

The object is to develop new courses, or in one case to revise an existing course, to meet the needs of “Foundations” and “Science in Perspective” components of the college curriculum.

Interdisciplinary “Foundations” courses focus on issues central to human knowledge and its advancement. Students collaborate with one another and with faculty members in problem-solving, analysis of varied kinds of evidence, and assessment of alternative interpretations. Students are required to select two courses from three areas, one of which is The Natural World.

The science requirement has just been revised. Students must now take either two laboratory science courses or one laboratory science course and one “Science in Perspective” course. The latter courses are intended to instruct students in the role played by theory, the nature and role of evidence used in testing hypotheses, and urgent societal concerns that are addressed by the natural sciences.

The courses to be developed are on these topics:

Self-organization and Emergence in Complex Systems

(Tony Chemero: Psychology, Scientific and Philosophical Studies of Mind)

Human Error and Transportation Safety

(Fred Owen: Psychology, expert on visual perception)

Nuclear Weapons, Nuclear Power and Nuclear Waste Disposal

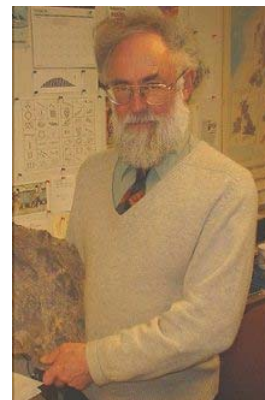
(Jim Strick: Science, Technology and Society, Earth and Environment)

The Renaissance or Burial of DDT

(Rich Pepino: Public Policy, Earth and Environment)

Changing Sea Levels: Human Engagement with a Dynamic Interface

(Roger Thomas, Earth and Environment, Science, Technology and Society)



Roger Thomas

The group will meet in June to plan its work, with the assistance of David Burns, Monica Devanas, Richard Fluck and Eliza Reilly. Peter Bower has also sent us a copy of his paper (in press) on Brownfield Action, to study. Each person will work independently over the summer. Presentations on each project will be reviewed by the group, at a series of meetings to be held in August.

This project is supported by internal matching funds, set aside by the college in conjunction with prior NSF support for curriculum development.

SENCER Story Project

During the SENCER Summer Institute 2005, many people participated in the SENCER Story Project. Attendees talked with Johanna Gosse about their experiences and views on teaching, science education, SENCER, and student learning.

In a response to a question on the importance of SENCER’s work, George Waller of the University of Wisconsin-Fox Valley replied:

“SENCER has recognized that to address major issues, such as global warming, HIV/AIDS, the possible flu pandemic, poverty, and malnutrition, we need to create a curriculum that is interconnected. We have, for so long, presented students with a compartmentalized curriculum, without this kind of interweaving and building bridges across the disciplines as a way to face the realities of an interconnected world.”



George Waller