



OGLETHORPE
UNIVERSITY

CONVERSATIONS ON ENGAGEMENT— CIVIC AND OTHERWISE

JOIN OUR DISCUSSIONS CONCERNING HOW TO RETOOL TRADITIONAL ACADEMIC COURSES TO ENHANCE STUDENT ENGAGEMENT AND HOW TO ASSESS THE SUCCESS OF SUCH TRANSFORMATIONS. OPEN TO INTERESTED STAFF, STUDENTS AND FACULTY FROM ANY DISCIPLINE

WHAT WE DID DURING OUR SUMMER VACATION

TUESDAY, APRIL 1, 2008

A REPORT FROM THE 2007 SENCER SUMMER INSTITUTE

7:00 – 8:30 p.m.

Oglethorpe University Museum of Art

Presenters: Dr. Keith Aufderheide, Dr. Lynn Gieger, Dr. John Nardo and Dr. Michael Rulison

THE VALUE OF ENGAGEMENT

FRIDAY, APRIL 4, 2008

12:00 – 1:30 p.m.

Talmage Room

Dr. Lawrence M. Schall

THEORY TO PRACTICE

THURSDAY, APRIL 3, 2008

Three sessions with **TERRY MCGUIRE, PH.D.**, an associate professor and vice chair in the department of genetics at Rutgers University.

DIGITAL RESOURCES TO SUPPORT A COMMUNITY OF SCHOLARS

1:30 – 2:30 p.m. • *Earl Dolive Theater*

DR. STRANGELOVE, OR HOW I LEARNED TO STOP WORRYING AND TOLERATE/LIKE/LOVE ASSESSMENT

2:45 – 3:45 p.m. • *Earl Dolive Theater*

IS IT OK FOR EVERY STUDENT TO EARN AN 'A'? THE 'BACKGROUNDERS' AND BEYOND

7:00 – 8:30 p.m.

Oglethorpe University Museum of Art

PLEASE RSVP: As seating is limited at each event, please send the names and affiliations of those who will be attending, which events the reservations are for and contact information to [Dr. Keith Aufderheide](mailto:Dr.Keith.Aufderheide@oglethorpe.edu). Voice-mails may also be left at 404-364-8405.

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SUMMARY STATEMENT: A series of presentations and discussions exploring in what ways it may be beneficial to retool traditional academic courses so as to enhance student engagement, and the means of accomplishing and assessing the success of such transformations. All interested parties (students, staff and faculty), both from the Oglethorpe community and from other near-by institutions of higher education, are invited and encouraged to attend. For each event, participation is solicited from those teaching and studying in all disciplines, as the themes to be explored are believed to be of broad interest, applicability and concern.

Background Statement: Civic engagement is an increasingly popular way of attempting to ensure that undergraduate students are involved in, committed to and enthusiastic about their own education. Engagement initiatives may take many forms, but one of the most common involves integrating or linking the content and emphasis of an academic course with one or more issues of public or social concern. This might be something as simple as spending five or ten minutes at the outset of each class session talking about (or simply implying) connections between course content and recent news articles or other items from the popular press. And it might be as complex as what has been done at Vassar College, namely the linking of two separate classes, one in urban policy and the other in chemistry, the goal being to foster a dialog and tension between the science and the sociology students in the context of lead-based paints. Other implementation techniques include, but aren't limited to, service learning opportunities, theme-linked learning communities, collaborative projects and directed internships.

Engaging students is critical for every discipline, yet it is perhaps especially vital for the STEM (Science, Technology, Engineering and Mathematics) fields. In recent remarks, U.S. Senator Robert Casey, Jr. (D-PA) stated that "the Government Accountability Office (GAO) reports that the proportion of undergraduate students earning degrees in STEM fields has declined over the past decade, despite billions of dollars the federal government has spent on STEM education. The GAO also found that the number of graduate degrees awarded in the STEM fields has declined. This is alarming in the face of several national studies which warn that the number of jobs requiring science or engineering degrees is growing at three times the rate of other jobs in the United States." (Source: <http://www.sencer.net/About/pdfs/CaseyRemarks.pdf>). In response to these and other similarly disturbing trends, the National Center for Science and Civic Engagement (NCSCE) was established in 2001. Science Education for New Civic Engagements and Responsibilities (SENC-

ER) is the signature program of the NCSCE.

The goals of SENCER are three-fold: (Source: <http://www.sencer.net/index.cfm>)

- Interest more students in STEM learning.
- Encourage students to connect STEM learning to their other studies.
- Strengthen students' understanding of science and their capacity for responsible work and citizenship

Progress is made in accomplishing these goals through publication and dissemination of an extensive series of monographs, an electronic newsletter and journal, on-site visitations and consultations, a cadre of local affiliates, and annual gatherings, including the Washington, DC, Symposium and the SENCER Summer Institute. SENCER also believes that assessment is a critical and ongoing component of every initiative, and that proposition is supported through the Student Assessment of Learning Gains (SALG) program, and particularly the SENCER-SALG assessment instrument.

In early 2007, a group of Oglethorpe faculty members—teaching in the disciplines of mathematics/math education, physics and chemistry—came together to explore the possibility of integrating civic engagement themes and foci into certain STEM disciplines. In large part, the impetus for this program was the establishment on the Oglethorpe campus of a new Center for Civic Engagement (CCE), a strategic initiative of our then-new president, Dr. Lawrence Schall. Four of those faculty members attended the 2007 SENCER Summer Institute (SSI) in Portland, ME, and afterward used what they had learned to finish preliminary design of a new SENCER-ized course for second semester freshmen. The purpose of the new class is to engender an increased interest in, commitment to, and enthusiasm for mathematics and the physical sciences by teaching relevant material in the context of a public or civic problem of real immediacy and consequence for undergraduates.



TUESDAY, APRIL 1, 2008

**WHAT WE DID DURING OUR SUMMER VACATION:
A REPORT FROM THE 2007 SENCER SUMMER INSTITUTE**

7:00 – 8:30 p.m. • Oglethorpe University Museum of Art (Third floor, Philip Weltner Library)

A synopsis of the SENCER*, civic engagement and STEM** connections being explored on the Oglethorpe campus. The team members will look back at what has been accomplished, examine their underlying motivations, look ahead at what they hope to accomplish – within the next year and thereafter – and describe how they plan to assess the success of their efforts.

* SENCER is Science Education for New Civic Engagements and Responsibilities

** STEM is Science, Technology, Engineering and Mathematics

PRESENTERS

KEITH H. AUFDERHEIDE, PH.D.

Aufderheide graduated magna cum laude with honors from Wilmington College in 1976, with majors in chemistry and English. He was awarded a Ph.D. degree in theoretical physical chemistry from Miami University in 1980. That same year, he came to Oglethorpe, where he progressed through the academic ranks, becoming a full professor in 1990. He routinely teaches general, analytical and physical chemistry courses. His interests include thermodynamics and quantum mechanics. He served as Chair of the Division of Natural Sciences from 2004 to 2007. In addition to teaching, he is also presently interim associate provost and is the team leader of the local SENCER group.

J. LYNN GIEGER, PH.D.

Gieger graduated cum laude from Millsaps College in 1990 with a B.S. in economics. She received an M.A. in economics and an M.A.T. in mathematics education from Duke University. After a career in middle and secondary mathematics teaching, she then went on to the University of Georgia to earn a Ph.D. in mathematics education. Gieger came to Oglethorpe in 2003 as an assistant professor, teaching both undergraduate mathematics content courses for majors and non-majors and graduate-level mathematics content/methods courses for future K-5 teachers. Her research interests include mathematics education of teachers and the ways in which mathematics and mathematics teachers are portrayed in popular culture.

JOHN C. NARDO, PH.D.

Nardo graduated magna cum laude from Wake Forest University in 1992 with majors in English literature and mathematics with a concentration in Italian studies. He earned M.S. and Ph.D. degrees in mathematics from Emory University in 1998. After three years at North Georgia College & State University, Nardo came to Oglethorpe University in 2000. In 2004, he was promoted to associate professor and elected Chair of the Division of Mathematics and Computer Science for a three-year term. He has taught all but one course in the traditional undergraduate mathematics curriculum and regularly teaches statistics in Oglethorpe's Evening Degree Program. Currently, he is on a year-long sabbatical retraining in actuarial mathematics, an applied field of probability and statistics.

MICHAEL K. RULISON, PH.D.

Rulison attended the University of Illinois in Champaign-Urbana as a National Merit Finalist, earning a B.S. degree in 1976 with a double major in physics and mathematics. He then received M.S. (1979) and Ph.D. (1982) degrees in theoretical physics, both with distinction, from the University of Georgia, where he held a DOE fellowship. He joined the faculty of Oglethorpe University in 1982 and was promoted to full professor in 1992. He was Manning M. Pattillo, Jr., Professor of Liberal Arts from 1997-1999. Rulison was Chief Faculty Consultant for the AP Physics program from 1996-1999. He is currently Chair of the Division of Natural Sciences. His research interests include proton spin, self-organized criticality and the history of cosmological thought.



THURSDAY, APRIL 3, 2008

DIGITAL RESOURCES TO SUPPORT A COMMUNITY OF SCHOLARS

1:30 – 2:30 p.m.
Earl Dolive Theater
(Second floor, Philip Weltner Library)

Science research is a collaborative enterprise. Science teaching, however, is often done in isolation. There are several developing digital resources that will provide peer-reviewed educational resources for innovative teaching. In this informal presentation, McGuire will discuss his own work with the National Science Digital Library and Nature Education and how every professor can help develop digital resources.

DR. STRANGELOVE, OR HOW I LEARNED TO STOP WORRYING AND TOLERATE/LIKE/LOVE ASSESSMENT

2:45 – 3:45 p.m.
Earl Dolive Theater
(Second floor, Philip Weltner Library)

End-of-the-course student evaluations are more likely to document failure than lead to better learning. McGuire has recently employed a number of embedded, formative assessments in his teaching. Here he will discuss how these procedures help him monitor student achievement.

REMEMBER TO RSVP

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IS IT OK FOR EVERY STUDENT TO EARN AN 'A'? THE 'BACKGROUNDERS' AND BEYOND

7:00 – 8:30 p.m.
Oglethorpe University Museum of Art
(Third floor, Philip Weltner Library)

McGuire's 2005 SENCER "Backgrounder" describes his "reinvention" as a professor. Three years later he continues to change his teaching. He will discuss his changing view of students and the strategies he has adopted to improve learning, producing results that are inspiring to McGuire and gratifying for his students.

PRESENTER TERRY MCGUIRE, PH.D.

McGuire is an associate professor and vice chair in the department of genetics at Rutgers University. He obtained his B.A. from The Ohio State University and his Ph.D. from the University of Illinois at Urbana-Champaign. He has published in many different areas, including Mendelian and mathematical genetics, behavioral and neural genetics and ecological genetics. He has designed and taught a wide range of courses within the department of genetics. McGuire, an active participant in the SENCER project, first participated as an advance team member (SENCER Summer Institute 2002) and has brought three teams from Rutgers University to succeeding SSIs. He is a SENCER senior associate and the author of a SENCER "Backgrounder" describing his journey as a professor. In addition to his work with SENCER, he is a BEN (BioSciEd-Net) Scholar. In 2007, he was appointed to the editorial board for the new online endeavor Nature-Education, with primary responsibility for Mendelian Genetics.



FRIDAY, APRIL 4, 2008

THE VALUE OF ENGAGEMENT

12:00 – 1:30 p.m.
Talmage Room (Emerson Student Center)

Schall will discuss his commitment to increasing the engagement of every student at Oglethorpe, both on and off campus. While civic engagement has been a major component of this effort, he will also explore a number of other specific “engagement” initiatives that have proved successful. Lunch will be provided through Table Talk.

PRESENTER

LAWRENCE M. SCHALL, J.D., ED.D.

Schall graduated with honors from Swarthmore College in 1975 and went on to earn his Juris Doctor degree in 1978 from the University of Pennsylvania Law School. He practiced law as a trial attorney for the next seven years, specializing in civil rights litigation with a focus on children’s rights and public assistance issues. In 1990, Schall returned to his alma mater, Swarthmore College, and served for 15 years, leaving as vice president for administration. While at Swarthmore, he was awarded a doctorate in higher education from the University of Pennsylvania. From 2003 until 2005, he served as co-director of Penn’s Executive Doctorate Program and as an adjunct faculty member of Penn’s Graduate School of Education. Schall was elected 16th president of Oglethorpe University in 2005.

ABOUT OGLETHORPE

Oglethorpe University provides a superior education in the liberal arts and sciences and selected professional disciplines in a coeducational, largely residential, small-college environment within a dynamic urban setting. Oglethorpe’s academically rigorous programs emphasize intellectual curiosity, individual attention and encouragement, close collaboration among faculty and students and active learning in relevant field experiences. Oglethorpe is committed to supporting the success of all students in a diverse community characterized by civility, caring, inquiry and tolerance. Oglethorpe’s talented, self-reliant and motivated graduates are prepared to make a life and to make a living, to grow as life-long learners and to be energetic and intelligent contributors in a rapidly changing world.

The location of the university in the dynamic city of Atlanta offers unique opportunities for students to experience firsthand the relevance of their education to the exciting changes that are a part of modern development. Students are encouraged to explore the connections between their educational experiences on campus and the challenges that face a city today. Atlanta offers a multitude of opportunities for students to see the process and result of change and innovation in areas such as government, business, education, cultural affairs, artistic endeavors, international exchanges, transportation, recreation, medical services, science and technology.

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OGLETHORPE
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OGLETHORPE'S SENCER PROGRAMS

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