The Main Plenary is the most highly anticipated session at the American Society for Engineering Education Annual Conference, with over 2,000 attendees enjoying this important keynote address. Join your friends, colleagues, and industry partners for the official kickoff of the 118th Annual Conference and Exposition. In previous conferences, ASEE has featured the participation of dynamic, visionary leaders such as Carl B. Mack, executive director of the National Society of Black Engineers; Gu Binglin, president of Tsinghua University; Charles M. Vest, president of the National Academy of Engineering; and many others.

On the occasion of the 100th anniversary of the Journal of Engineering Education and the release of ASEE's Phase II report "Creating a Culture for Scholarly and Systematic Innovation in Engineering Education" (Jamieson/Lohmann report), the plenary will celebrate these milestones and demonstrate rich, mutual interdependences between practice and inquiry into teaching and learning in engineering education. The depth and range of the plenary will energize the audience and reflect the expertise and interests of conference participants. One of ASEE's premier educators and researchers, Karl Smith, will draw upon our roots in scholarship to set the stage and weave the transitions for six highlighted topics selected for their broad appeal across established, evolving, and emerging practices in engineering education. Educators, researchers, and practitioners will offer narratives showing the themes in practice in classrooms and scholarly support for decisions that teachers make when designing courses. Join us for this session that demonstrates the interplay of research and practice in engineering.

The session perpetuates ASEE steps to maintain dialogue connecting practice and research, which began with the 2006 Annual Conference Main Plenary using a Socratic dialogue in Chicago. Efforts continued with the work on the Jamieson/Lohmann reports, including a special plenary at the 2009 conference at which Leah Jamieson and Jack Lohmann presented the Phase I report. Their presentation engaged the audience in a think-pair-share activity. Keeping with the tradition of those unique presentation formats, this 2011 plenary will feature a series of short presentations—hitting highlights and providing opportunities for the audience members to reflect at key transitions so as to identify what they can use in their courses, how they can take these approaches back to their institution, and how they can be part of anything from enhancement strategies to transformational changes. To further encourage the adoption and exploration of these approaches post-conference and because the presenters are not going through the research in detail, supplementary references to support these themes will be available on the program CD proceedings.

KARL A. SMITH
Cooperative Learning Professor of Engineering Education at Purdue University and Morse–Alumni Distinguished Teaching Professor and Professor of Civil Engineering at the University of Minnesota

Karl A. Smith has been at the University of Minnesota since 1972 and has been active in ASEE since he became a member in 1973. He is in phased retirement at the University of Minnesota and for the past five years has been helping start the engineering education Ph.D. program at Purdue University.

He is a fellow of the American Society for Engineering Education and past chair of the Educational Research and Methods Division. He has worked with thousands of faculty all over the world on pedagogies of engagement, especially cooperative learning, problem-based learning, and constructive controversy. His research and development interests include building rigorous research capabilities in engineering education; the role of cooperation in learning and design; problem formulation, modeling, and knowledge engineering; and project and knowledge management. He has served as PI and Co-PI on several NSF-funded projects including two NSF Centers for Learning and Teaching (CLT). He was Co–PI on an NSF CCLI National Dissemination grant entitled “Rigorous Research in Engineering Education: Creating a Community of Practice“ and is currently Co-PI on an NSF CCLI Phase III project, “Expanding and Sustaining Research Capacity in Engineering and Technology Education: Building on Successful Programs for Faculty and Graduate Students.” His bachelor’s and master’s degrees are in metallurgical engineering from Michigan Technological University and he holds a Ph.D. in educational psychology from the University of Minnesota. He has authored or coauthored eight books, including How to Model It: Problem Solving for the Computer Age; Active Learning: Cooperation in the College Classroom, 3rd Ed.; Cooperative Learning: Increasing College Faculty Instructional Productivity; Strategies for Energizing Large Classes: From Small Groups to Learning Communities; and Teamwork and Project Management, 3rd Ed.
Tuesday, June 28, 2011
Distinguished Lecture Series  10:30 a.m. – Noon

The Sleeping Dragon Is Waking

This distinguished lecture will focus on the national and global context for K-16 STEM education. What is the projected demand for U.S. and global engineers in the future? What is happening at a national policy level with K-12 to meet the strategic workforce demand?

Sponsored by the Corporate Members Council

Measuring Innovation with Epistemic Games

DAVID WILLIAMSON SHAFFER
Professor of Learning Science,
University of Wisconsin-Madison

David Williamson Shaffer is a professor at the University of Wisconsin-Madison in the Department of Educational Psychology and a game scientist at the Wisconsin Center for Education Research. Before coming to the University of Wisconsin, Shaffer taught grades 4 to 12 in the United States and abroad, including two years working with the Asian Development Bank and U.S. Peace Corps in Nepal. His M.S. and Ph.D. are from the Media Laboratory at the Massachusetts Institute of Technology, and he taught in the Technology and Education Program at the Harvard Graduate School of Education. Shaffer was a 2008-2009 European Union Marie Curie fellow. He studies how new technologies change the way people think and learn, and his most recent book is How Computer Games Help Children Learn.

In this talk, Professor Shaffer looks at creative engineering thinking, what makes it unique, and how we can measure it and teach it using computer games. The result is an epistemic perspective on learning and assessment—a theory of learning suited to the global economy of the 21st century and the realities of professional practice.

Sponsored by the Educational Research and Methods Division

Changing Employer Expectations: Under the Economic Turmoil a Skills Gap Simmers

LARRY F. HANNEMAN
Adjunct Associate Professor of Chemical and Biological Engineering and Director of Engineering Career Services, College of Engineering, Iowa State University

Larry F. Hanneman, adjunct associate professor of chemical and biological engineering, and Director of Engineering Career Services for the College of Engineering at Iowa State University, provides the overall vision, direction, and management for the college career services, competency-based career self-management, and experiential education programs. Prior to joining Iowa State University Hanneman enjoyed a 25-year career with Dow Corning Corp., serving in a variety of analytical chemistry, environmental research, process research, and global regulatory compliance positions. Hanneman’s current professional affiliations include the American Society for Engineering Education (Chemical Engineering, Cooperative and Experiential Education, College Industry Partnership, and Educational Research and Methods divisions), National Association of Colleges and Employers, Midwest Association of Colleges and Employers, and Midwest Cooperative Education and Internship Association. His current research efforts in ability-based assessment in engineering education have been recognized with the National Association of Colleges and Employers ChevronTexaco Award; the Midwest Association of Colleges and Employers John D. Singleton Research Award; a Case Western University Reserve Fenn Symposium; six ASEE divisional best paper, best session, best speaker, and best workshop awards; and a 2007 ASEE Annual Conference Distinguished Lecture.

PHILIP D. GARDNER
Director of Research for the Collegiate Employment Research Institute, Michigan State University

Philip D. Gardner is director of research for the Collegiate Employment Research Institute at Michigan State University. Gardner has been with MSU for 25 years after receiving degrees from Whitman College (B.A. in chemistry) and Michigan State University (Ph.D. in economics/public policy). His major areas of research include the transition from college to work, early socialization and career progression in the workplace, workforce readiness, and other areas related to college student studies. MSU’s nationally recognized annual college labor market study
is done under his direction each fall. He is currently editor of the *Journal of Cooperative Education and Internships*. In the spring of 2009 he served as a Fulbright specialist to New Zealand on work-integrated learning.

This presentation will share our learning of these changing employer expectations. Not all competencies and abilities are valued equally; all are not changing at the same rate. Internships and co-ops are replacing the traditional starting job that most new college graduates entered just five years ago. Competency expectations have increased significantly across all sectors of the economy; skill and ability enhancement are no longer confined to the engineering, manufacturing, and finance sectors, but are being pushed by firms from agriculture, professional and scientific services, health, education, entertainment, and nonprofit organizations. New abilities aligned with these changing workplace needs are emerging and must be addressed within our learning outcomes, program objectives, and continuous curriculum improvement processes.

*Sponsored by the Cooperative and Experiential Education Division*

**SUNDAY, JUNE 26, 2011**

**Greet the Stars (First-Timers Orientation)**
4:00 p.m. - 5:30 p.m.

This is an orientation for new ASEE members and first-time conference attendees. This session provides an overview of the conference and ASEE as an organization. Take advantage of hearing from ASEE’s president, vice president for member affairs, and other leaders. ASEE staff members will be available to discuss member services. Don’t miss the opportunity to become familiar with your society. Anyone interested in learning more about ASEE and the annual conference is welcome to attend.

**2011 ASEE Picnic**
6:00 p.m. - 9:00 p.m.

$35 for attendees or registered guests
$45 for unregistered guests
$18 for children 6 to 12 years old

See old friends and colleagues and make some new ones at the 2011 ASEE Picnic! Join us as we kick off ASEE Annual Conference 2011 at the beautiful Vancouver International Convention Centre. You’ll enjoy delicious local cuisine, drinks, and traditional First Nations entertainment. You won’t want to miss experiencing Canadian culture overlooking the Vancouver Harbor. Because of the generous participation of our sponsors, the ASEE Picnic tickets are subsidized by over 50 percent! We are delighted to be able to offer our attendees these discounts; we hope to see you there.

**TUESDAY, JUNE 28, 2011**

**ASEE Meet the Board Forum**
4:00 p.m. - 5:30 p.m.

Meet the board in this special session in the Exhibit Hall in the Global Pavilion. Admission is complimentary for all attendees.

**WEDNESDAY, JUNE 29, 2011**

**2011 ASEE Annual Awards Reception**
*Sponsored by Dassault Systèmes and Khalifa University*
6:30 p.m. - 7:00 p.m.

Complimentary for all conference registrants.

All conference attendees are invited to the ASEE Annual Awards Reception preceding the Awards Banquet. This is the perfect opportunity to network with your colleagues and toast the 2011 award winners.

**2011 ASEE Annual Awards Banquet**
*Sponsored by Dassault Systèmes and Khalifa University*
7:00 p.m. – 10:00 p.m.

$75 for attendees or registered guests
$85 for unregistered guests

Dine and celebrate with the recipients of ASEE’s Society Awards and the 2010 Annual Conference Best Paper Award at the 118th ASEE Annual Awards Banquet.