

Panel Title: Practical Automotive Experience Provided by Student Competitions

Thursday, September 8, 2011, 10:45 AM – 12:00 Noon

Panel Moderator: G. Marshall Molen, Center for Advanced Vehicular Systems,
Mississippi State University

Panelists: G. Marshall Molen, Mississippi State University
Glenn Bower, University of Wisconsin-Madison
Zachariah Chambers, Rose-Hulman Institute of Technology

Panel Summary: Student automotive competitions have enhanced the educational experience by providing a competitive format for gaining practical, hands-on experience oftentimes with technical support from engineers in industry. The competitions range from solar powered vehicles designed by high school students to the most competitive multi-year Advanced Vehicle Technology Competitions at the collegiate level sponsored by the U.S. Department of Energy. The Society of Automotive Engineers likewise sponsors several competitions that have participation by numerous engineering universities. Panel members will discuss their experience as faculty advisors to these teams.

Short Biographies:

G. Marshall Molen graduated from Texas Tech University in 1974 with the Ph.D. in electrical engineering. He has been employed in industry at The Aerospace Corporation and ESCO Manufacturing Company. His academic career includes serving as associate dean at Old Dominion University, department chair at Tennessee Technological University, and department head at Mississippi State University. As the Diversified Technology/Ergon Distinguished Professor at MSU, he leads the effort in vehicle system integration at the Center for Advanced Vehicular Systems. He was the faculty advisor for the MSU Challenge X team and now the faculty advisor for EcoCar that is the follow-on competition.

Glenn Bower received his Ph.D. from the University of Wisconsin in 1992. Currently, Bower is the Automotive Faculty Advisor at the University of Wisconsin and oversees five different undergraduate student projects – Formula SAE, SAE Clean Snowmobile (Internal Combustion Engine and Electric), Baja SAE, Hybrid Formula SAE and the Hybrid Team which competes in the DOE Advanced Vehicle Projects. Bower's teams have won 18 different international competitions since 1998. Bower has received the SAE Outstanding Faculty Award (2001 & 2008), the NSF Outstanding Faculty Award (2000 & 2006), the Pi Tau Sigma Instructor Award (2008) and the Polygon Teaching Award (2008-2010).

Zachariah Chambers received his Ph.D. from the University of Tennessee at Knoxville in 2000 and is now an Associate Professor of Mechanical Engineering at Rose-Hulman

Institute of Technology where he serves as the Director of their Advanced Transportation Systems Program and as Faculty Co-Advisor for EcoCAR: The Next Challenge. He teaches primarily on the senior level, focusing on machine component design and capstone design. His research areas include model-based system design and hybrid vehicle architectures. He serves as a technical reviewer for other competitions and energy policy publications.