Karl A. Smith is Cooperative Learning Professor of Engineering Education, Purdue University; and Morse-Alumni Distinguished Teaching Professor and Emeritus Professor of Civil Engineering, University of Minnesota. He is also actively involved at the STEM Education Center and the Technological Leadership Institute at the University of Minnesota.

Karl started his academic career as a materials processing engineering researcher and for nearly twenty years worked on many funded projects, contributed several archival papers, and advised PhD and MS students. In 1991 he changed careers to focus on engineering education research. Karl 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. 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.

Karl 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.” He serves on the National Advisory Boards for many research projects, including the NSF-CLT Center for the Integration of Research, Teaching and Learning (CIRTL); and the National Academy of Engineering’s Center for the Advancement of Scholarship on Engineering Education.

Karl has received numerous awards, including Distinguished Alumni Award, College of Education and Human Development, University of Minnesota; Distinguished Service Award, Educational Research and Methods Division, Chester F. Carlson Award for Innovation in Engineering Education, and Fellow, American Society for Engineering Education; and Ronald J. Schmitz Award for outstanding continued service to engineering education through contributions to the Frontiers in Education Conference, ERM Division of ASEE and Education Society of IEEE.

He has served as Co-Coordinator for the Bush Faculty Development Program for Excellence and Diversity in Teaching, and Associate Director for Education at the NSF-ERC Center for Interfacial Engineering at the University of Minnesota; as a member of the Board of Directors of the Collaboration for the Advancement of College Teaching and Learning; and as Chair of the Educational Research and Methods Division of the American Society for Engineering Education. Between 1999 and 2004 Karl had a split appointment with Michigan State University where he served as a Senior Consultant to the Provost for Faculty Development.

Karl has published numerous articles on the active learning strategies of cooperative learning and structured controversy, knowledge representation and expert systems, and teamwork. He developed and taught graduate courses on engineering education at Purdue, and on project and knowledge management and leadership at Minnesota. He conducts workshops on building engineering education research capabilities, cooperative learning (especially in STEM disciplines), problem formulation and modeling, and project management and teamwork. His workshops on cooperative learning have helped thousands of faculty build knowledge, skills and confidence for involving their students in more active, interactive, and cooperative learning both during class time and outside of class. The effects of the work are significant in terms of creating a sense of belonging and membership in a community, as well as much more engaged and deep learning.

Karl has written eight books including *How to model it: Problem solving for the computer age* (with Anthony Starfield and Andrew Bleloch), published by McGraw-Hill in 1990; *Cooperative learning: Increasing college faculty instructional productivity* (with David and Roger Johnson), published by ASHE-ERIC Reports on Higher Education in 1991; *Strategies for energizing large classes: From small groups to learning communities* (with James Cooper and Jean MacGregor) published in Jossey-Bass’s New Direction for Teaching and Learning series in 2000; and *Teamwork and project management*, 3rd Ed. published in McGraw-Hill’s BEST Series in 2007.