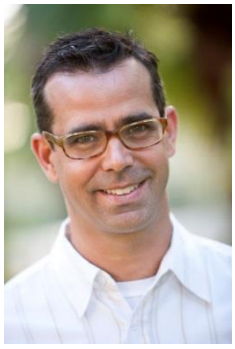
Bios for SMTI 2015 National Conference

Susan Rundell Singer is division director in the Division of Undergraduate Education at NSF and Laurence McKinley Gould Professor in the Biology and Cognitive Science Departments at Carleton. She pursues a career that integrates science and education. In addition to a PhD in biology from Rensselaer, she completed a teacher certification program in New York State. A developmental biologist who studies flowering in legumes and also does research on learning in genomics, Susan is a AAAS fellow and received both the American Society of Plant Biology teaching award and Botanical Society of America Charles Bessey teaching award. She directed Carleton's Perlman Center for Learning and Teaching, was an NSF program officer in Biology, and is a co-author of the Vision and Change in Undergraduate Biology report and an introductory biology text. She has served on numerous boards, including the NSF EHR advisory committee, Biological Sciences Curriculum Study Board, the American Society of Plant Biology Education Foundation, and the Botanical Society board of directors; is a member-at-large for the AAAS Education Section; participates in the Minnesota Next Generation Science Standards team; and was a member of the National Academies' Board on Science Education. She has participated in six National Academies studies, including chairing the committees that authored *America's Lab Report*, *Promising Practices in STEM Undergraduate Education*, and *Discipline-based Education Research: Understanding and Improving Learning in Undergraduate Science and Engineering*.



Eric Brewe is an associate professor in Science Education and Physics, and the associate director of research for the STEM Transformation Institute at Florida International University. He began his career as a graduate student with David Hestenes at Arizona State University, then moved to Hawaii Pacific University and starting in 2007 at FIU. His research into the teaching and learning of physics at the university level includes developing curriculum for the Modeling Instruction course, leading inquiries into the role of Modeling Instruction in promoting student learning, participation, retention & persistence, and enhanced attitudes toward science and equity. This research has led to describing the role of participation in learning using primarily quantitative measures including the use of Network Analyses, and recently Functional Magnetic Resonance Imaging. In addition to research on postsecondary physics, Dr. Brewe has been involved in preparing future physics teachers through Modeling Workshops, and as co-editor of the PhysTEC sponsored book, *Recruiting and Educating Future Physics Teachers: Case Studies and Effective Practices*. Dr. Brewe helped to found the American Physical Society's Topical Group on Physics Education Research (GPER) and served as the founding Chair of GPER.

Charles R. Coble is the SMTI co-director, the co-founder and partner with The Third Mile Group and Teacher Preparation Analytics, was the vice president for policy studies and programs at the Education Commission of the States, professor emeritus of science education, and dean for 13 years of the nationally award-winning School of Education at East Carolina University in Greenville, North Carolina. He served for six years as the vice president of university-school programs for the 16-campus University of North Carolina (UNC). In that capacity, Dr. Coble led the development of the University School Teacher Education Partnerships in all UNC teacher preparation institutions. Over his career, Dr. Coble has directed over $12 million in grants and contracts and is the author or co-author of ten books and over 80 published articles. He holds a bachelor's degree in botany, a master's degree in science education, and a doctorate in curriculum and instruction, all from UNC Chapel Hill. He has maintained, since 1964, a current North Carolina secondary science teaching license.

Noah Finkelstein is a professor of Physics at the University of Colorado Boulder and conducts research in physics education. He serves as a director of the Physics Education Research (PER) group at Colorado, one of the largest research groups in physics education in the country. Finkelstein is also a director of the national-scale Center for STEM Learning, which has become one of eight national demonstration sites for the Association of American Universities' STEM Education Initiative. Finkelstein's research focuses on studying the conditions that support students' interest and ability in physics – developing models of context. This research has resulted in over 100 publications, and nearly 400 public presentations. Recently he has been establishing a national network among university-based centers of STEM education, in partnership with the Association of Public and Land-grant Universities (APLU). Finkelstein is increasingly involved in policy, and in 2010, he testified before the US Congress on the state of STEM education at the undergraduate and graduate levels. Finkelstein has and continues to serve on many national boards in physics education, including: inaugural member (2006) and vice-Chair (2008) of the Physics Education Research Leadership Organizing Council, and Chair (2011, 2012) of the Committee on Education of the American Physical Society (APS), inaugural past-chair (2014) of the APS Topical Group on PER, and Chair of the American Association of Physics Teachers Public Policy Committee. He serves on the Board of Trustees for the Higher Learning Commission, which accredits more than 1,000 institutions of higher education in the U.S. (2014-). In 2012, he was named Presidential Teaching Scholar for the University of Colorado system; and in 2014 named the inaugural Timmerhaus Teaching Ambassador for the University of Colorado system. He received a Bachelor's degree in mathematics from Yale University and his PhD for work in applied physics from Princeton University.

Howard Gobstein, executive vice president and co-director, Science & Mathematics Teaching Imperative, is responsible for university policy efforts and improvements pertaining to research, STEM education and economic development, and initiated SMTI as a key APLU effort. As Executive Vice President of APLU, he has a major role in project coordination and association strategy, as well as working closely with the APLU president and vice-president/chief academic officer to draw on their expertise and respective communities of presidents and provosts. His past positions include associate vice president for governmental affairs and director of federal relations at Michigan State University, senior policy analyst in the Office of Science and Technology in the Executive Office of the President, and vice president and senior program officer at the Association of American Universities (AAU). Gobstein spent the first 11 years of his career designing and leading evaluations of government science programs and policies with the U.S. Government Accountability Office. He holds a master's degree in science, technology, and public policy from George Washington University and a bachelor's in interdisciplinary engineering from Purdue University. He is a Fellow of the American Association for the Advancement of Science (AAAS). He was named the distinguished alumni of 2010 by the Purdue School of Engineering Education.

Katherine Hazelrigg is the program assistant for SMTI and communications coordinator of the Mathematics Teacher Education Partnership (MTE-Partnership) at APLU. She manages the communications and event planning for SMTI and the MTE-Partnership. She serves as the project and grant manager for the MTE-Partnership's more than $1 million in external funding. Before joining APLU, she taught first-year English and introduction to literature by women at the University of Maryland College Park. Hazelrigg received her M.A. in English language and literature from the University of Maryland College Park and her B.A. in English from The Pennsylvania State University's Schreyer Honors College.

Charles Henderson is a professor at Western Michigan University (WMU), with a joint appointment between the Physics Department and the WMU Mallinson Institute for Science Education. He is the co-founder and co-director of the WMU Center for Research on Instructional Change in Postsecondary Education (CRICPE). His research program focuses on understanding and promoting instructional change in higher education, with an emphasis on improving undergraduate STEM instruction. Dr. Henderson's work has been supported by over $6.2M in external grants and has resulted in a number of publications (see http://homepages.wmich.edu/~chenders/ for details). In spring 2010, he was a Fulbright Scholar with the Finnish Institute for Educational Research at the University of Jyväskylä, Finland. Dr. Henderson is the senior editor for the journal *Physical Review Special Topics - Physics Education Research* and has served as a member of the National Research Council Committee on Undergraduate Physics Education Research and Implementation.

Anne-Barrie Hunter is co-director of and research associate with Ethnography & Evaluation Research and program manager for the Center for STEM Learning at CU Boulder. Since 1991, she has worked in collaboration with group members to conduct research and evaluations on science, technology, engineering and mathematics (STEM) education initiatives seeking to improve quality and access in these fields. She recently completed work as lead analyst on a comparative and longitudinal study of undergraduate research (UR) exploring the nature, benefits, and costs of UR experiences as perceived by students and faculty at liberal arts colleges, resulting in the book, *Undergraduate Research in the Sciences: Engaging Students in Real Science*, published by Jossey-Bass. As an extension of this work, she helped to develop and implement the Undergraduate Research Student Self-Assessment (URSSA) survey, a free online evaluation instrument for the research-based assessment UR programs. Currently, Hunter is co-PI on a TUES III grant, jointly funded by the NSF and the Alfred P. Sloan Foundation. As a follow-up study to the influential book *Talking about Leaving: Why Undergraduates Leave the Sciences* (1997, Seymour and Hewitt, Westview Press), the present study explores contemporary factors affecting students' decisions to stay in or switch from STEM majors.

John Keller is an associate professor in the Physics Department and co-director for the Center for Excellence in STEM Education (CESAME) at California Polytechnic State University in San Luis Obispo, CA (www.cesame.calpoly.edu). After obtaining a BS in Biology and an MA in Education from Stanford University, Dr. Keller taught high school science in the Bay Area for five years. He then completed an MS in Astrophysics from the University of Colorado before working as a program coordinator at an astronomy education center for middle school students in Idyllwild, California. Finally, Dr. Keller completed his PhD in Planetary Science at the University of Arizona where he worked for the 2001 Mars Odyssey mission. His dissertation work also involved the development of a concept inventory instrument to uncover student misconceptions regarding the greenhouse effect. Keller is PI for NSF Noyce Phase I and Phase II grants and executive director for the STEM Teacher and Researcher (STAR) Program (www.StarTeacherResearcher.org). He is also currently collaborating on the Research and Education Cooperative Occultation Network (RECON), an NSF-funded citizen science astronomy research project involving communities across the western United States to measure the sizes of Kuiper Belt Objects (www.tnorecon.net).

Steven Pollock is a professor of Physics at the University of Colorado Boulder. His PhD is in theoretical Nuclear Physics from Stanford University. He is a Pew/Carnegie teaching scholar, a University of Colorado president's teaching scholar, and the 2013 CASE/Carnegie US Professor of the year. His current research is in the field of PER (Physics Education), investigating student learning in large and small scale physics classes, and the constraints and opportunities involved in replicating "proven" curricular practice, as well as extending educational models to the upper division. He has implemented and studied "Tutorials in Introductory Physics" at CU, along with supporting and investigating Teaching and Learning Assistants' pedagogical development. He has been described by his students as a human electron.

Kacy Redd, director of science and mathematics education policy, APLU, manages SMTI, a commitment by 132 public research universities to improve science and mathematics teacher preparation, and co-managed a four year NSF project to determine if a national association can promote institutional change to strengthen science teacher preparation at 25 universities. She received funding from the S. D. Bechtel, Jr. Foundation to develop a Next Generation Science Standards Curriculum Alignment Tool and from the Alfred P. Sloan Foundation to build a STEM Education Center Network. She serves as staff lead for APLU's Research Intensive Committee, a committee of 15 presidents of RU1 institutions and for the Task Force on Laboratory Safety. She also supports the senior research officers through the Council on Research at APLU. Before joining APLU, she served as a science and technology policy fellow at the National Academy of Sciences on the Board of Higher Education and Workforce. Redd received her PhD in neuroscience from Columbia University, where she was funded by a HHMI Predoctoral Fellowship.

Sarah Simmons is the senior program officer, science education, Howard Hughes Medical Institute. Sarah joined HHMI in 2014 and prior to that held the position of assistant dean for Honors, Research and International Study in the College of Natural Sciences at The University of Texas at Austin where she administered multiple college initiatives including honors programs, international science initiatives and undergraduate research. Additionally, she was director and PI of the HHMI- and NSF-funded Freshman Research Initiative (FRI) - a unique, large-scale program that engages undergraduates in research at The University of Texas at Austin.