2013 NSF MSP Learning Network Conference
Implementation: From Vision to Impact

Speakers' Biographies

Joan Ferrini-Mundy, *Assistant Director, Education and Human Resources Directorate, NSF*

Dr. Joan Ferrini-Mundy is Assistant Director of the National Science Foundation (NSF) for Education and Human Resources, a position she has held since February 2011, and is responsible for the leadership of the NSF Directorate for Education and Human Resources (EHR). She had served the Foundation in a number of capacities since 2007 including as inaugural director (through an Intergovernmental Personnel Act appointment) of the EHR Directorate's Division of Research on Learning in Formal and Informal Settings.

From 2007 through 2009, Ferrini-Mundy was a member of the National Science and Technology Council's (NSTC) Subcommittee on Education, and currently co-chairs the Strategic Plan workgroup of the National Science and Technology Council Committee on STEM Education. She is a member of the Mathematics Expert Group of the Programme for International Student Assessment (PISA), and in 2007-2008,representing NSF, she served as an ex officio member of the President's National Mathematics Advisory Panel, and co-chaired its Instructional Practices Task Group. From 1999 – 2011 Ferrini-Mundy held an appointment at Michigan State University (MSU), where she was a University Distinguished Professor of Mathematics Education in the Departments of Mathematics and Teacher Education, and Associate Dean for Science and Mathematics Education in the College of Natural Science. Her research interests include calculus teaching and learning, mathematics teacher learning, and mathematics and science education policy at the K-12 level. Ferrini-Mundy holds a PhD in mathematics education from the University of New Hampshire. She was elected a fellow of the American Association for the Advancement of Science in 2011.

Richard A. Duschl, *Division Director, Division of Research on Learning in Formal and Informal Settings (DRL), NSF*

Richard A. Duschl, (Ph.D. 1983 University of Maryland, College Park) is Division Director for the Division of Research on Learning in Formal and Information Settings in the Directorate for Education and Human Resources. His home appointment is as the Waterbury Chaired Professor of Secondary Education, College of Education, Penn State University. Prior to joining Penn State Richard held the Chair of Science Education at King's College London and served on the faculties of Rutgers, Vanderbilt and the University of Pittsburgh. He recently served as Chair of the National Research Council research synthesis report Taking Science to School: Learning and Teaching Science in Grades K-8 (National Academies Press, 2007). With Richard Grandy, he co-edited Teaching Scientific Inquiry: Implications for Research and Implementation (SensePublishers, 2008). His research focuses on establishing epistemic learning environments and on the role of students' inquiry and argumentation processes. Richard has twice received the 'JRST Award' (1989; 2003) for the outstanding research article published in the Journal of Research in Science Teaching. He also served for more than a decade as editor of the research journal Science Education and editor for TC Press "Ways of Knowing in Science and Math" book series.

Susan Singer, *Division Director, Division of Undergraduate Education (DUE), NSF*

Susan Rundell Singer is Division Director in the Division of Undergraduate Education at NSF. Her home academic appointment is as the Laurence McKinley Gould Professor, in the Biology and Cognitive Science Departments at Carleton College. 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 an 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, 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*.

James Spillane, *Olin Professor in Learning & Organizational Change, School of Education & Social Policy, Northwestern University*

James Spillane's work explores the policy implementation process at the state, school district, school and classroom levels, focusing on intergovernmental relations and policy-practice relations. While building on the policy implementation research tradition, Spillane has worked to develop a cognitive perspective on the implementation process, exploring the substantive ideas about reforming instruction that local policy-makers, both administrators and teachers, come to understand from state and national reforms. Spillane is also interested in organizational leadership and change and is currently undertaking an empirical investigation of the practice of leadership in urban elementary schools that are working to improve mathematics, science and literacy instruction. In this work, Spillane conceptualizes organizational leadership as a distributed practice involving formal and informal leaders, followers and a variety of organizational tools and artifacts.

Deborah Delisle, *Assistant Secretary, Office of Elementary and Secondary Education, U.S. Department of Education*

Deb Delisle was nominated by President Obama (January 2012) & confirmed by the US Senate (April 2012) as Assistant Secretary for Elementary & Secondary Education at the Department of Education. In this role, she plays a pivotal role as principal adviser to the US Secretary of Education on all matters related to pre-k, elementary & secondary education as well as directing, coordinating & recommending policy for programs designed to assist state & local educational agencies with improving elementary & secondary school student achievement. Prior to joining the Department, Delisle served as Ohio's 35th State Superintendent of Public Instruction (2008 – 2011) where she lead successful application for the US Department of Education's Race to the Top Program, which secured $400 million to boost student achievement through innovative programs & numerous statewide reforms. Deb has received several honors & awards highlighting her creativity and innovation to her calling & service as an educator.

Patricia O'Connell Johnson, *Senior Education Specialist, U.S. Department of Education*

Pat Johnson has been a senior education specialist with the United States Department of Education for 21 years. She currently serves as the team leader for the Mathematics and Science Partnership program, as well as coordinates mathematics and science education within the Office of Elementary and Secondary Education. In addition, she is working with the ESEA flexibility team that oversees the management of state requests, with particular responsibility for teacher and leader evaluation systems within the requests. Previously she managed the Javits Gifted and Talented Students program, the Eisenhower Math and Science National programs, and the Fund for the Improvement of Education. Before joining the Department of Education, she served as: an associate director of Project 2061, a part of the American Association for the Advancement of Science (AAAS); director of academic programs with the Center for Talented Youth at Johns Hopkins University; and, an education specialist with the Maine Department of Education.

Ed Dieterle, *Senior Program Officer for Research, Bill and Melinda Gates Foundation*

Ed Dieterle is a senior program officer at the Bill & Melinda Gates Foundation. He develops and supports research projects and evaluation efforts that target learning and teaching with next generation learning innovations. His research and scholarship has focused on the psychosocial and policy aspects of learning and teaching with serious games and other highly interactive and immersive technologies using qualitative and quantitative methods.

Paul LeMahieu, *Senior Vice President, Programs and Administration, Carnegie Foundation*

Paul LeMahieu is the senior vice president of the Carnegie Foundation, where he manages the programs and administration of the Foundation. Previously at Carnegie, he directed the work of the Carnegie Hub, which supports the networks the Foundation convenes to engage problems of education practice in the field. Carnegie is currently engaged in building multiple networked improvement communities to address new teacher development and retention, teacher evaluation, and the development of two newly designed mathematics pathways to address the dismal failure rates of developmental math students in community colleges. LeMahieu comes to Carnegie from his post as director of research and evaluation at the National Writing Project (NWP) in Berkeley. He has also served as superintendent of education for the state of Hawai'i, and has held the top educational research position for the state of Delaware and the Pittsburgh Public Schools. He has a Ph.D. from the University of Pittsburgh, a master's from Harvard University and a bachelor's from Yale.

Paula Golden, *Executive Director, Broadcom Foundation and Director, Broadcom Community Affairs*

As Executive Director of the Broadcom Foundation and Director of Broadcom Corporation Community Affairs, Paula Golden directs funding for education and research in science, technology, engineering and mathematics (STEM). She also oversees the volunteer activities of 12,000 employees at Broadcom, a global Fortune 500 company and leading innovator in semiconductor solutions for wired and wireless communications.

Paula earned her undergraduate degree in English and Education from Wellesley College and was Assistant Dean and Instructor of Law at New England School of Law where she earned her Juris Doctor, *cum laude*. Chief Counsel and Deputy Registrar of the Massachusetts Registry of Motor Vehicles (DMV) where she served on the Governor's High Technology Council and helped transition the state agency to integrated online service. Paula has also served as Executive Director of the Engineering Center and Engineering Center Education Trust, Director of Development for UCLA Neurosciences and Vice President of the Saint John's Health Center Foundation. Her has been augmented by extensive experience as an attorney, media personality and public speaker.

As Executive Director of Broadcom Foundation and Director of Community Affairs for Broadcom Corporation, Paula has developed the Broadcom MASTERS®, a program of Society for Science & the Public. The Broadcom MASTERS is a middle school science and engineering competition engages young people in project-based learning that causes them to understand the value of staying with math and science through high school in order to achieve their college and career goals. She partners with nonprofits, government entities, formal and informal learning programs and Broadcom employee-volunteers throughout the world to develop STEM learning processes and teacher training that will assist young people from all strata of society get on a path to become scientists, engineers and innovators of the future. She manages Broadcom Foundation's university research funding the reaches over forty renowned universities worldwide and oversees the Broadcom Foundation University Research Competition.

Lance C. Pérez, *Professor, Associate Vice Chancellor for Academic Affairs at University of Nebraska-Lincoln*

Lance C. Pérez has been a faculty member in the Department of Electrical Engineering at the University of Nebraska-Lincoln (UNL) since August 1996 where he holds the rank of Professor. He received his BS degree in electrical engineering from the University of Virginia and MS and PhD degrees in electrical engineering from the University of Notre Dame. In 1995 he was a postdoctoral fellow with the Institute for Signal and Information Processing at the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland. From August 2008 to August 2010 he was a Program Director in the Division of Undergraduate Education (DUE) at the National Science Foundation (NSF) where he worked on the Math and Science Partnership (MSP) program. Dr. Pérez's research interests are in the areas of wireless communications, sensor networks, image processing and engineering education. He was the recipient of a NSF CAREER award and has been the PI or co-PI on over ten million dollars of federally funded grants. While at UNL he has received many teaching awards including the university's College Outstanding Teaching Award. Dr. Pérez currently also holds the position of Associate Vice Chancellor for Academic Affairs at UNL where he leads the academic knowledge management initiative (AKMI), academic program reviews and initiatives for faculty career development, STEM education, instructional technology, and classroom facilities improvements. He was also appointed Dean of Graduate Studies for UNL on August of 2012.

Chris Dede, *Timothy E. Wirth Professor in Learning Technologies, Harvard Graduate School of Education*

Chris Dede is the Timothy E. Wirth Professor in Learning Technologies at Harvard's Graduate School of Education. His fields of scholarship include emerging technologies, policy, and leadership. His funded research includes five grants from NSF and the Gates Foundation to design and study immersive simulations, transformed social interactions, and online professional development. In 2007, he was honored by Harvard University as an outstanding teacher, and in 2011 he was named a Fellow of the American Educational Research Association.

Chris has served as a member of the National Academy of Sciences Committee on Foundations of Educational and Psychological Assessment and a member of the 2010 National Educational Technology Plan Technical Working Group. His co-edited book, *Scaling Up Success: Lessons Learned from Technology-based Educational Improvement*, was published by Jossey-Bass in 2005. A second volume he edited, *Online Professional Development for Teachers: Emerging Models and Methods*, was published by the Harvard Education Press in 2006. His latest book, *Digital Teaching Platforms*, will be published by Teachers College Press in 2012.

James Dearing, *Senior Scientist, Kaiser Permanente, and Co-Director, Center for Health Education Dissemination & Implementation Research*

James W. Dearing, PhD, is a senior scientist with the Institute for Health Research. He studies the diffusion of innovations, with emphasis on intervention design to accelerate the spread of evidence-based knowledge, practices, programs, and policies. His research concerns advice networks among health practitioners, eHealth portrayals of innovations, and the adaptation of innovations in organizations.

William Penuel, *Professor of Educational Psychology and Learning Sciences at the University of Colorado Boulder School of Education*

Bill Penuel is professor in educational psychology and the learning sciences. His research focuses on teacher learning and organizational processes that shape the implementation of educational policies, school curricula, and afterschool programs. In his research, he examines learning and development from sociocultural, social capital, and complex social systems perspectives. One strand of his research focuses on designs for teacher professional development in Earth science education. A second strand examines the role of research-practice partnerships in designing supports for teacher learning in school districts. A third strand examines how children's interest in science develops over time and across different kinds of settings. This third strand includes a focus on young children's learning through digital media, including public television programs. His research has appeared in the *American Educational Research Journal, Teachers College Record, the American Journal of Evaluation, Science Education*, and the *Journal of the Learning Sciences*. He is currently Associate Editor of the Social and Institutional Analysis section at the *American Educational Research Journal*, and he is on the editorial board for *Teachers College Record, American Journal of Evaluation*, and *Cognition and Instruction*.

Martin Storksdieck, *Director of the Board on Science Education, National Research Council*

Martin Storksdieck, PhD, is the director of the Board on Science Education at the National Research Council (NRC) and directs the NRC's Roundtable on Climate Change Education. He oversees studies that address a wide range of issues related to science education and science learning, and provides evidence-based advice to decision-makers in policy, academia and educational practice. His prior research focused on what and how we learn when we do so voluntarily, and how learning is connected to our behaviors, identities and beliefs. This includes the role of personal perspectives in science learning, particularly related to controversial topics such as climate change or evolution, and how connections between school-based and out-of-school learning can create and sustain lifelong interest in science, but also learning itself. Martin's research also focused on the role of science-based professionals and science hobbyists in communicating their passions to a broader public. Before joining the NRC, Martin served as director of project development and senior researcher at the non-profit Institute for Learning Innovation. In the 1990s he was a science educator with a planetarium in Germany, where he developed shows and programs on global climate change; served as editor, host, and producer for a weekly environmental news broadcast; and worked as an environmental consultant specializing in local environmental management systems. He holds an M.S. in biology from the Albert-Ludwigs University in Freiburg, Germany; an M.P.A. from Harvard University's Kennedy School of Government; and a Ph.D. in education from Leuphana University in Lüneburg, Germany.
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