

**THE NATIONAL ACADEMIES  
NATIONAL RESEARCH COUNCIL  
BOARD ON SCIENCE EDUCATION**

**BIOGRAPHICAL SKETCHES: WORKSHOP PARTICIPANTS**

**Douglas Clark** is an associate professor of science education at Vanderbilt University. Clark completed his doctoral and postdoctoral work at UC Berkeley and his master's at Stanford. His research analyzes students' science learning processes in technology-enhanced environments, simulations, and digital games with a particular focus on conceptual change, representations, and argumentation in these environments. Clark's current work focuses specifically on digital games to support students understanding of Newtonian mechanics by integrating and overlaying popular game dynamics with formal physics concepts and representations. Much of this research focuses on public middle school and high school students in classroom settings. Clark's work has been funded by the National Science Foundation and the National Academy of Education/Spencer Foundation

**Diane Jass Ketelhut** is an Assistant Professor of Science Education at Temple University. Her research interests center on improving student learning and engagement with science through increasing access to scientific inquiry experiences and through raising self-efficacy in science. She looks specifically at the use of virtual environments to deliver scientific inquiry curricula and science assessments to students in the classroom and at professional development to help teachers integrate scientific inquiry into their curricula. Her current federally-funded projects include "SAVE Science," an innovative game-based system for evaluating learning in science for middle school years, "Science in the City," a standards-based scientific inquiry after-school curriculum project for elementary and middle-school students, and  $e=mc^2$ , an alternative mid-career math and science middle school teacher education program. She holds certification in secondary school science and was a science curriculum specialist and teacher (science and math) for grades 5-12 for 15 years. Diane received an Sc.B. in Bio-Medical Sciences from Brown University, an M.Ed. in Curriculum and Instruction from the University of Virginia and her Ed.D. in Learning and Teaching from Harvard University.

**Yasmin B. Kafai** is a Professor of Learning Sciences at the Graduate School of Education at the University of Pennsylvania. She received her doctorate from Harvard University while working with Seymour Papert at the MIT Media Laboratory. From 1994 to 2008, she was on the faculty at the UCLA. Her research on children's learning as designers of games, virtual worlds, and computational textiles has and is receiving generous funding from the National Science Foundation, the Spencer Foundation, and the MacArthur Foundation. As part of her policy work, she wrote *Under the Microscope: A Decade of Gender Equity Interventions in the Sciences* (2004) and worked on *Tech-Savvy Girls: Educating Girls in the Computer Age* (2000), a report for the American Association of University Women. At the National Academy of Sciences, she has briefed the Telecommunication and Computer Science Board for Being Fluent with Information Technology (1999) and is currently on the steering committee for the National Academy of Sciences' workshop series *Computational Thinking for Everyone* and the Department of Education's National Educational Technology Plan. A past president of the International Society of the Learning Sciences (ISLS), she is now the co-executive editor of the *Journal of the Learning Sciences*.

**Ton de Jong** studied cognitive psychology (cum laude) at the University of Amsterdam and received a PhD in Technological Sciences from the Eindhoven University of Technology on the topic 'problem solving and knowledge representation in physics for novice students'. Currently he is full professor of Educational Psychology at the University of Twente, Faculty of Behavioral Sciences where he is department head of the department Instructional Technology. He was project manager of the EC projects servive, KITS, and Co-Lab in which simulation and gaming was the central didactical approach, and several national projects including the ZAP project. In the ZAP project interactive simulations for psychology were developed that are sold worldwide. For ZAP and SimQuest he has won a number of international prizes. From March 2008 onwards he is the coordinator of the EC 7th framework IP SCY (Science Created by You) that will develop a multimedia learning environment for science topics. Ton de Jong published over 100 journal articles and book chapters and is on the editorial board of six ISI journals. In 2006 he published a paper in Science on inquiry learning with computer simulations. Personal website: <http://users.edte.utwente.nl/jong/>

**Jan L. Plass** is an associate professor of Educational Communication and Technology in the Steinhardt School of Culture, Education, and Human Development at New York University, where he co-directs the NYU Games for Learning Institute. He is the founding director of the CREATE Consortium for Research and Evaluation of Advanced Technology in Education. His research is at the intersection of cognitive science, learning sciences, and design, and seeks to enhance the design of visual environments. His current focus is on cognitive and emotional aspects of information design and interaction design of simulations and educational games for science education and second language acquisition. He has received funding for his research from the U.S. Department of Education's Institute of Education Sciences, the National Science Foundation, the National Institutes of Health, and, most recently, from Microsoft Research and the Motorola Foundation. His interests also include the design and development of educational multimedia and web applications, and particularly issues of information architecture, interaction design, and information design. In addition to directing a Ph.D. program in which he has been mentoring close to two-dozen doctoral students, he teaches courses at the masters and doctoral level that address these topics. Dr. Plass serves on the editorial review boards of some of the most highly ranked journals in his field, including the Journal of Educational Psychology, Educational Technology Research and Development, Computers in Human Behavior, Journal of Computing in Higher Education, and the Journal of Research on Technology in Education. Dr. Plass received his MA in Mathematics and Physics Education and his Ph.D. in Educational Technologies from Erfurt University (PH Erfurt, Germany).

**Daphne Bavelier** is Professor of Brain and Cognitive Sciences at the University of Rochester, NY. She is also Co-Director of the Rochester Center for Brain Imaging and Director of the Mind-Space Laboratory. She is a renowned expert in human brain plasticity. Her research combines behavioral and brain imaging approaches to study how humans learn and how the brain adapts to changes in experience, either by nature - for example, deafness - or by training - for example, playing video games. Her laboratory has recently shown that playing certain types of entertainment video games induces a vast array of improvements in perceptual and cognitive abilities that extends well beyond the specific tasks in the game. A training regimen whose benefits are so broad is unprecedented and provides a unique opportunity to identify factors that underlie generalization of learning and principles of brain plasticity. Professor Bavelier entered the Ecole Normale Supérieure of Paris, France, in 1985. She received her PhD in Brain and Cognitive Sciences at the Massachusetts Institute of Technology in

1992 and was then a McDonnell-Pew fellow in Cognitive Neuroscience at the Salk Institute, San Diego. She has been on the faculty at Georgetown University, and, since 1999, at the University of Rochester. She was a recipient of the John Merck Scholar Awards in 2000, a 21st Century Award Research Grant by The James S. McDonnell Foundation in 2002, and was selected as a finalist in the Blavatnik Awards for Young Scientists in 2008. She has also been funded by the NIH, the NSF, the Charles A. Dana Foundation and the Packard Foundation over the years. She heads a Multidisciplinary Research Initiative (MURI) sponsored by the Office of Naval Research that studies complex learning and skill transfer with video games.

**Ellen Wartella** is Distinguished Professor of Psychology at the University of California, Riverside. She is a leading scholar of the role of media in children's development. Currently she is a co-principal Investigator on a 5-year multi-site research project entitled: "IRADS Collaborative Research: Influence of Digital Media on Very Young Children" funded by the National Science Foundation (2006-2011). She was a co-principal Investigator on the National TV Violence Study (1995-1998) and a co-principal investigator of the Children's Digital Media Center project funded by the National Science Foundation (2001-2006). She serves on the Board of Trustees of Sesame Workshop, the National Educational Advisory Board of the Children's Advertising Review Unit of the Council of Better Business Bureaus, The Rudd Center for Food Policy and Obesity and Harvard's Center on Children's Media and Children's Health. She recently served on the Institute of Medicine's Panel Study on Food Marketing and the Diets of Children and Youth (2006) and was a member of the National Academy of Sciences Board on Children Youth and Families (2002 – 2007). During 2006-2007 she was the Inaugural Senior Fellow of the Fred Rogers Center for Early Learning and Children's Media. She is a member of the American Psychological Association, the Society for Research in Child Development and is the past President of the International Communication Association. She was elected a Fellow of the American Association for the Advancement of Science in 2008.

Between July 2004 and February 2009 she was the Executive Vice Chancellor and Provost of the University of California, Riverside and before that she was Dean of the College of Communication at the University of Texas at Austin. Dr. Wartella earned her Ph.D. in Mass Communication from the University of Minnesota in 1977 and completed her postdoctoral research in developmental psychology in 1981 at the University of Kansas.

**Robert Goldstone** received a Ph.D. in psychology from University of Michigan in 1991. Robert Goldstone has been a professor in the Psychological and Brain Sciences Department and Cognitive Science Program at Indiana University. His research interests include concept learning and representation, perceptual learning, collective behavior, and computational modeling of human cognition. He was awarded two American Psychological Association (APA) Young Investigator awards in 1995 for articles appearing in *Journal of Experimental Psychology*, the 1996 Chase Memorial Award for Outstanding Young Researcher in Cognitive Science, a 1997 James McKeen Cattell Sabbatical Award, the 2000 APA Distinguished Scientific Award for Early Career Contribution to Psychology in the area of Cognition and Human Learning, and a 2004 Troland research award from the National Academy of Sciences. He was the executive editor of *Cognitive Science* from 2001-2005, associate editor of *Psychonomic Bulletin & Review* from 1998-2000, and associate editor of *Cognitive Psychology* and *Topics in Cognitive Science* from 2007-2009. He was elected as a fellow of the Society of Experimental Psychologists in 2004, and a fellow of the Cognitive Science Society in 2006. In 2006 he became a Chancellor's professor and Director of the Indiana University Cognitive Science Program.

**John Dexter-Fletcher** is a research staff member at the Institute for Defense Analyses where he specializes in manpower, personnel, and training issues. His graduate degrees are in computer science and educational psychology, both from Stanford University, where as a research associate he directed numerous projects for the Institute for Mathematical Studies in the Social Sciences.. He has held academic positions in psychology, computer science, and systems engineering and government positions as a research psychologist and program manager for the Navy, Army, Defense Advanced Research Projects Agency, and White House Office of Science and Technology Policy. He has served on various science and technology panels, including those of the Defense Science Board, Army Science Board, Naval Studies Board, Air Force Scientific Advisory Board, and the National Academy of Engineering. He is a fellow of the American Educational Research Association and three divisions of the American Psychological Association. He has designed computer-based instruction programs used in public schools and training devices used in military training. He has published widely and served on the editorial boards of professional journals in psychology, instruction, and human factors. His research activities have produced ‘intelligent’ tutoring systems, networked simulations, wearable voice-interactive performance aids, international specifications for sharable digital objects, and cost-effectiveness analyses on the use and impact of instructional technology.

**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 three grants from NSF and the US Department of Education Institute of Education Sciences to explore immersive and semi-immersive simulations as a means of student engagement, learning, and assessment. In 2007, he was honored by Harvard University as an outstanding teacher. Chris has served as a member of the National Academy of Sciences Committee on Foundations of Educational and Psychological Assessment, a member of the U.S. Department of Education’s Expert Panel on Technology, and International Steering Committee member for the Second International Technology in Education Study. He serves on Advisory Boards and Commissions for PBS TeacherLine, the Partnership for 21st Century Skills, the Pittsburgh Science of Learning Center, and several federal research grants. 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.

**Katherine McMillan Culp** is a Senior Project Director at the Center for Children & Technology at Education Development Center, Inc. She is the co-Principal Investigator on Possible Worlds, one of two National Research and Development Centers on Instructional Technology. The Possible Worlds team is developing games for the Nintendo DSi that help teachers address difficult conceptual science content at the seventh grade level. Dr. Culp is leading the research program associated with the project. Dr. Culp is also the Director of Research for the Regional Education Laboratory for the Northeast and Islands. In this role she oversees a range of research projects that inform policy and decision-making at the state and local level, including both large-scale randomized control trial studies and short-term descriptive studies. From 2000-2006 she directed formative and outcome evaluations of several of the Intel Corporation’s Innovation in Education initiatives for K-12 teachers and students. She has also conducted a series of program evaluations studying strategies for supporting student use of modeling and simulation tools in science classrooms. She is a graduate of Amherst College and holds a Ph.D. in developmental psychology from Teachers College, Columbia University.

**Paul Horwitz**, Director of the Modeling Center at the Concord Consortium, is a theoretical physicist with broad interests in the application of technology to science and math education. Much of his research has used computer-based manipulable models to create challenging game-like activities that pose problems and then monitor and react to students' actions. He was the Principal Investigator on the ThinkerTools Project, which pioneered the use of such activities for teaching Newtonian mechanics. RelLab, a simulated "Relativity Laboratory" that he designed, won two EDUCOM Higher Education Software Awards. He also directed the design and implementation of GenScope as well as its successor program BioLogica—multi-level models of genetic processes ranging in scale from DNA to populations. Currently, he is running a project that is attempting to teach Darwin's theory of evolution by natural selection to 4th grade students, using a sequence of puzzles and challenges built on a model of plants and animals that exhibit adaptation to different environments as an emergent behavior that arises naturally, over many generations, from their inheritance with variability of physical traits.

**Nancy Butler Songer** believes that is increasingly important for all American students, not just those who are traditionally successful, to become sophisticated thinkers of science. With a Ph.D. from the University of California, Berkeley in Science Education and a M.S. in Molecular Biology, Songer is Professor of Science Education and Learning Technologies at the University of Michigan and Director of the BioKIDS/DeepThink research projects. Songer and her team use educational research to improve science learning in high-poverty, urban elementary and middle school classrooms within the Detroit Public Schools. In particular, the work focuses on American students' under performance in science that emerges between the fourth and eighth grades in two areas:

- \* Research on the development and empirical evaluation of visualization technologies, curricular units and learning progressions to promote students' deep understandings of current science topics, and
- \* The exploration of new ideas in educational assessment leading to tests that evaluate students' complex reasoning with science.

Scholarly accomplishments include election as a Fellow of the American Association for the Advancement of Science (AAAS), a Promising Technology Award from the United States Department of Education, and a National Science Foundation Presidential Faculty Fellowship from President Bill Clinton.

**Richard R. Halverson** is an associate professor in educational leadership and policy analysis and at the University of Wisconsin–Madison. He is co-director of the Games Learning and Society Research Group and Associate Director of the Education Research Challenge Group at the Wisconsin Institutes for Research. His work aims to bring the research methods and practices of the learning sciences to the world of educational leadership by exploring how to access, document, and communicate the practical wisdom of school leaders. Halverson was a social studies teacher and a school administrator in suburban Chicago and has earned an MA in philosophy and a PhD in the learning sciences from Northwestern University.

**Kurt Squire** is an associate professor at the University of Wisconsin-Madison in the Educational Communications and Technology division of Curriculum and Instruction and Associate Director for Educational Research and Development at the Morgridge Institute for Research. Squire is also a co-founder of the Games, Learning, & Society Group. Squire's work integrates research and theory on digital media (particularly games) with theories of situated cognition in order to understand how to design educational environments in a digital age. Squire is a former Montessori primary school

teacher, games journalist, and co-founder of joystick101.org. In addition to writing over 50 scholarly articles and book chapters, he has given dozens invited addresses in North America, Europe, and Asia.

**Mizuko Ito** is a cultural anthropologist of technology use, focusing on children and youth's changing relationships to media and communications. She has recently completed a research project supported by the MacArthur Foundation, a three year ethnographic study of kid-initiated and peer-based forms of engagement with new media. The findings of this project will be reported in a book forthcoming from MIT Press this fall, *Hanging Out, Messing Around, and Geeking Out: Youth Living and Learning with New Media*. Her book on educational software, *Engineering Play*, will also be published by MIT Press this year. She is conducting ongoing research on Japanese technoculture, and is currently studying online fans of anime and editing a book on otaku culture. Her work on mobile phone use in Japan appears in a book she co-edited with Daisuke Okabe and Misa Matsuda, *Personal, Portable, Pedestrian: Mobile Phones in Japanese Life*. She is a Research Scientist at the University of California Irvine.

**Sasha Barab** is a Professor in Learning Sciences, Instructional Systems Technology and Cognitive Science at Indiana University (<http://inkido.indiana.edu/barab>). He holds the Barbara Jacobs Chair of Education and Technology, and is the Director of the Center for Research on Learning and Technology. His research has resulted in numerous grants, dozens of academic articles, and multiple chapters in edited books, which investigate knowing and learning in its material, social, and cultural context. The intent of this research is to develop rigorous claims about how people learn that have significant practical, pedagogical, and theoretical implications. His current work involves the research and development of gaming environments designed to assist children in developing their sense of purpose as individuals, as members of their communities, and as knowledgeable citizens of the world. Central to this work has been a focus on the understanding the value of transformational play, referring to a state of engagement that involves projection into the role of a character who, engaged in a partly fictional problem context, must apply conceptual understandings to make sense of and, ultimately, transform the context (see <http://QuestAtlantis.Org> for example). He also gives invited talks worldwide, and is considered a leader in scholarly and practical work on online communities, games and learning.

**Philip Bell** pursues a cognitive and cultural program of research across diverse environments focused on how people learn in ways that are personally consequential to them. He is an associate professor of the Learning Sciences at the University of Washington and the Geda and Phil Condit Professor of Science and Mathematics Education, and he directs the ethnographic and design-based research of the Everyday Science and Technology Group (<http://everydaycognition.org>). He also directs the University of Washington Institute for Science and Mathematics Education focused on coordinating P-20 education efforts across the university. Bell has studied everyday expertise and cognition in science and health, the design and use of novel learning technologies in science classrooms, children's argumentation, culturally responsive science instruction, the use of emerging digital technologies within youth culture, and new approaches to inquiry instruction in science. He is a Co-Lead of the Learning in Informal and Formal Environments (LIFE) Center (<http://life-slc.org/>) and is a Co-PI of COSEE-Ocean Learning Communities (<http://cosee-olc.org/>). Bell serves as a member of the Board on Science Education with the National Academy of Sciences and co-chaired the National Research Council consensus report effort on Learning Science in Informal Environments. He has a background in human cognition and development, science education, computer science, and electrical engineering.

**Reed Stevens** is a Professor of Learning Sciences at the School of Education and Social Policy at Northwestern University and co-lead of the NSF funded LIFE Center. His research focuses on learning in and across informal and formal settings, particularly those that are connected to STEM ideas and disciplines. Since the early 1990s, he has conducted studies in settings that include homes, science museums, K-12 STEM classrooms, early childhood learning centers, undergraduate engineering education, and a range of professional STEM workplaces. This work has the broad goal of building an understanding of learning across the lifespan in everyday life. He has expertise in a broad range of ethnographic field methods for studying cognition and learning with a specialization in techniques for analyzing moment-to-moment interaction between people and with technologies. He is currently conducting studies of children's everyday interactions with media, including video game play and television, and how these media experiences connect with the rest of their lives.

**Daniel C. Edelson** is Vice President for Education at the National Geographic Society and Executive Director of the National Geographic Education Foundation. In this role, he leads the Society's efforts to boost geo-literacy in American society through in-school and out-of-school educational programs. He also directs National Geographic's broader education and outreach activities. Prior to joining the National Geographic Society, Dr. Edelson was on the faculty of the School of Education and Social Policy at Northwestern University for fifteen years, where he conducted research on the design of curriculum, computer-based learning environments, and teacher professional development. As part of this design research program, he developed and published textbooks for middle and high school earth and environmental sciences, and geographic information systems (GIS) software for grades 6-16. Dr. Edelson has published extensively on motivation, classroom teaching and learning, educational technology, and teacher professional development. He holds a Ph.D. in Computer Science (Artificial Intelligence) from Northwestern University and a B.S. in Engineering Sciences from Yale University.

**Steve Schneider** is the Senior Program Director of Mathematics, Science and Technology at WestEd. Dr. Schneider has been the Principal Investigator of numerous initiatives that include: the \$12.2 million NSF Center for Assessment and Evaluation of Student Learning (CAESL); the NAEP Technological Literacy and the Science Framework and Test Specification projects; five Institute for Education Sciences (IES) randomized control studies on the impact of educational interventions on student learning; the evaluation California's Statewide Mathematics Implementation Study; development of the National Board for Professional Teaching Standards Science Teacher Assessment; and the WestEd Eisenhower Mathematics and Science Regional Consortium. He has over 35 years of science, mathematics, and technology education experience, including K-12 pre-service teacher education, high school science teaching in biology, physics and oceanography, and professional development. He has published numerous articles on science, mathematics and technology education, professional development, and teacher preparation. Dr. Schneider serves on advisory boards and review panels for IES and NSF. He received his doctorate from Stanford University in the Design and Evaluation of Educational Programs with an emphasis in Science, Mathematics, and Technology Education, a bachelor's degree in Biology from the University of California, Berkeley and a California Life Teaching Credential from California State University, San Jose.

**John Behrens** is Director of Networking Academy Learning Systems Development at Cisco. Dr. Behrens is responsible for the design and development of the Networking Academy's global on-line instructional offerings that integrate interactive curricular and assessment technologies with hands on

activities. These curriculum, assessment, and gaming tools serve more than 700,000 students per year in 160 countries across more than 10 languages. Dr. Behrens has published chapters in a number of widely used psychology reference books along with articles in a range of educational, psychological, and statistical journals. His research interests focus on the intersection of cognitive, statistical and computing issues in instruction, assessment, and on-line learning. In addition to his work at Cisco, Dr. Behrens is an Adjunct Assistant Research Professor in the Department of Psychology at the University of Notre Dame (Indiana, USA). Dr. Behrens received his Master's Degree in Special Education and Ph.D. in Educational Psychology from Arizona State University. He received his B.A. in Psychology and Philosophy from the University of Notre Dame. Prior to joining Cisco, he was a tenured Associate Professor of Psychology in Education at Arizona State University

**Ron Stevens**, Ph.D. is a Professor of Microbiology, and member of the Brain Research Institute at the UCLA School of Medicine. He is the director of the internet-based IMMEX problem solving project which has engaged over 150,000 students and teachers in computational education and professional development activities that span elementary school through medical school. The educational software tools developed by the IMMEX project have received multiple research and corporate awards including the New Researcher Award from the Association of American Medical Colleges (1992), a Masters of Innovation award from Zenith Corporation (1992), a nomination from the Computerworld-Smithsonian Institute's "A Search For New Hero's" competition (1994) and an award of excellence from the Minnesota Learning Software Design Competition. Most recently (2007) Dr. Stevens received the 'Foundations of Augmented Cognition' award from the Augmented Cognition Society. His current interests are the use of machine learning tools and electroencephalography (EEG) to model the acquisition of scientific problem solving skills.

**Valerie Shute** is an associate professor at Florida State University (FSU). She came to FSU in 2007 and teaches graduate students in the Instructional Systems Program. Before coming to FSU, Val was a principal research scientist at Educational Testing Service (ETS) where she was responsible for designing and developing basic and applied research projects related to assessment, cognitive diagnosis, and learning from adaptive instructional/assessment systems. Prior to ETS, Val worked in industry and was employed at the Air Force Research Lab. She earned a Ph.D. in educational psychology from UCSB, and held a two-year postdoctoral fellowship at the Learning Research and Development Center. Her research interests include student modeling/diagnosis, instructional system design, formative/stealth assessment to support learning, and innovative evaluation methodologies, typically using the structure and power of Bayes nets to support various efforts. A few past research projects include exploratory and confirmatory tests of aptitude-treatment interactions using intelligent tutoring systems, and student modeling approaches. An example of current research involves using immersive games with stealth assessment to support the acquisition of key competencies (e.g., systems thinking, creative problem solving, and teamwork). Currently, her favorite game is Guitar Hero.

**Eva L. Baker** is Distinguished Professor of Education with specializations in psychological and methodological studies at UCLA. She is director of the National Center for Research on Evaluation, Standards, and Student Testing (CRESST), which has technology and assessment awards from the Departments of Education and Defense. She also co-directs the recently funded Center for Advanced Technology in Schools (CATS).

Professor Baker has long focused her research on the integration of teaching and measurement, including design of instructional and accountability systems and new technologically oriented

measures of complex human performance both in the U.S. and abroad. Professor Baker was chair of the Board on Testing and Assessment (BOTA) of the National Research Council. She was a co-chair of the Joint Committee on the Revision of the Standards for Educational and Psychological Testing (published in 1999), sponsored by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education, and in 2007, was President of the American Educational Research Association. She is a recipient of numerous awards and fellowships. She has an extensive bibliography, including a 2008 book *Assessment of Problem Solving Using Simulations*.

**Merrilea J. Mayo** is the Director of Future of Learning Initiatives at the Ewing Marion Kauffman Foundation. Her portfolio of activities includes video-game-based learning, educational virtual worlds, and cell-phone delivered learning. Previously, from 2001-2006, Dr. Mayo was Director of the Government-University-Industry Roundtable (GUIRR) of the National Academies. GUIRR focused on trisector issues such the science and engineering workforce, intellectual property rights, the impacts of globalization on national competitiveness, deemed exports regulations, and national-laboratory university collaborations. Dr. Mayo's earlier career included two years at Sandia National Laboratories, eleven years on the faculty of the Pennsylvania State University, and a founding role in both ASTRA (an advocacy organization for the physical sciences) and the University-Industry Demonstration Partnership (an organization devoted to improving the ability of companies and universities to conduct joint research). Dr. Mayo is a materials scientist and engineer by training, having received her Ph.D. in that field from Stanford University in 1988, publishing approximately 80 technical articles, and serving as the Materials Research Society's President in 2003.

**Alan Gershenfeld** has spent the last twenty-five years at the intersection of entertainment, technology and social entrepreneurship. He is currently Founder and President of E-Line Ventures, a publisher of digital entertainment that engages and empowers – with a core focus on computer/video games and webcomics. Prior to E-Line, Alan was CEO of netomat, a leader in mobile-web community solutions. netomat originated as network-based art project and was selected as a Technology Pioneer at the 2007 World Economic Forum at Davos. Before netomat, Alan was member of the executive management team that rebuilt game publisher Activision from bankruptcy into a profitable industry leader with more than a billion dollars in revenue. At Activision, Alan served as Senior Vice President of Activision Studios where he supervised all product development at the company's Los Angeles studios. Titles released under Alan's leadership include *Civilization: Call to Power*, *Asteroids*, *Muppet Treasure Island*, *Spycraft*, *Pitfall*, *Zork* and *Tony Hawk Skateboarding*. Before joining Activision, Alan spent nearly ten years in the film industry where he worked in a variety of development, production and post-production positions with credits on numerous feature film and documentaries. Alan currently serves as Chairman of the Board of Games for Change. He also serves on the Board of Directors of FilmAid International and on the Advisory Boards of Creative Capital, Global Kids, We Are Family Foundation and the Joan Ganz Cooney Center For Educational Media and Research (Sesame Workshop).

**Scot Osterweil** is the Creative Director of the Education Arcade ([www.educationarcade.org](http://www.educationarcade.org)), and a research director in the MIT Comparative Media Studies Program. He is an award-winning designer of educational games, working in both academic and commercial environments, and his work has focused on what is authentically playful in challenging academic subjects. He has designed games for computers, handheld devices, and multi-player on-line environments. He is the creator of the

acclaimed Zoombinis series of math and logic games, and leads a number of projects in the Education Arcade, including Labyrinth (math), Kids Survey Network (data and statistics), Caduceus (medical science), iCue (history and civics) and the Hewlett Foundation's Open Language Learning Initiative (ESL). He is a founding member of the Learning Games Network ([www.learninggamesnetwork.org](http://www.learninggamesnetwork.org)).

**Alex Chisholm** is Executive Director and a founding member of the Learning Games Network, a non-profit organization that champions the use of games in education and supports the design, development, and production efforts of both non-profit and commercial partners. As a media research and development consultant who creates transmedia entertainment and educational properties, he currently serves as Executive Producer of both Generation Cures, a "Game for Good" initiative at Children's Hospital Boston, and Interactive Social Language Education (ISLE), an international language learning platform made possible by support from the William and Flora Hewlett Foundation. Between 1999 and 2003, Alex served as Director of Development and Communications for MIT Comparative Media Studies, working with Henry Jenkins to develop research projects and secure financial support for the program. In recent years, he has developed and managed projects with NBC Universal, including iCue with NBC News and the online games for NBC Olympics. Chisholm has also collaborated on research, product, and program development with Microsoft, Electronic Arts, Sony Pictures Imageworks, and LeapFrog. He is the software and interactive media judge for the annual NAPPA Awards. Alex holds a B.S. from Cornell University.

**Susan Zelman** joined CPB as senior vice president for Education and Children's Content in September 2008. She develops and oversees the vision, focus and related strategy for CPB's education and children's content initiatives and manages CPB's administration of the Department of Education's Ready To Learn grant. Previously, Dr. Zelman was the superintendent of Public Instruction with the Ohio Department of Education. During that time, she advanced Ohio's educational system from midway to sixth among all 50 states, according to Education Week, and average student scores on state tests increased as well as scores on the SAT and ACT. The Goldman Sachs Foundation recently named Ohio a winner of its Prize for Excellence in International Education, citing innovative programs which prepare Ohio students for the 21st century global marketplace. For her impressive work, Gannett Newspapers named Dr. Zelman one of the 10 most powerful and influential women in Ohio state government. Dr. Zelman has held executive posts at the Missouri and Massachusetts departments of Education and chaired the Department of Education at Emmanuel College in Boston. She held a five-year appointment with the Education Technology Center of the Harvard Graduate School of Education and was the recipient of the National Science Research Opportunity Award for Women through Columbia Teachers College. She holds a Ph.D. in education from the University of Michigan and is the recipient of numerous honorary degrees and awards.

**John Hight** is the Director of Product Development of SCEA Santa Monica Studio. He is responsible for overseeing the 125 person internal team developing God of War 3 as well as the independent external developer, Lightbox Interactive. John started with SCEA in 2005, as Director of Production for external development. He spearheaded the PlayStation Network (PSN) first party publishing effort, producing much of the PSN launch content including: Warhawk, fIOW, BlastFactor, Everyday Shooter, and the PixelJunk series. Prior to joining Sony, John held management and creative positions with Atari, Electronic Arts, Westwood Studios, and 3DO. While Executive Producer at Atari, John oversaw the Dungeons & Dragons franchise, producing Forgotten Realms: Demonstone, Dragonshard, and the hit sequel Neverwinter Nights 2. In his role as Executive Producer and Director of Design for

Electronic Arts, John led the design and creative production of best-seller Command & Conquer: Red Alert 2 and its sequel Yuri's Revenge. He also developed the original IP game Nox. John holds an M.B.A. from U.S.C.'s Marshall School of Business and a B.S.E. in Computer Science from the University of New Mexico. He teaches Anatomy of a Game and Business of Interactive Media at USC's School of Cinematic Arts. John is also the lead author of Game Development Essentials: Game Project Management published by Thomson Delmar Learning.

**Edys Quellmalz**, Director of Technology-Enhanced Assessment and Learning Systems in WestEd's Math, Science and Technology program, leads projects funded by NSF and the U.S. Department of Education related to simulation-based science curricula and assessments for formative and summative assessments that can serve as components of balanced state science assessment systems. Dr. Quellmalz is recognized nationally and internationally as an expert in technology-supported assessment and has published her research widely. She co-directs the development of the framework and specifications for the 2012 Technological Literacy National Assessment of Educational Progress and served on the Steering Committee for the 2011 NAEP Writing Framework. She has consulted for numerous state, national, international assessment programs. She was Director of Assessment Research and Design in the Center for Technology and Learning at SRI International, and on the faculties at the Stanford School of Education and UCLA Graduate School of Education.

**Michael J. Timms** is Associate Director of WestEd's Mathematics, Science and Technology program. His research interest is in the application of educational measurement in intelligent learning systems, and he is Co-PI on several major projects in the SimScientists program that is focused on the use of computer simulations for learning and assessment. Within the SimScientists program, he is responsible for the measurement and technical design of the assessments. Timms also serves as Managing Director of the Center for Assessment and Evaluation of Student Learning (CAESL), a project originally funded by the National Science Foundation to improve student learning and understanding in science through focusing on effective assessment. In a project in which WestEd is leading the development of a new NAEP Technological Literacy Framework, Timms is responsible for facilitating the assessment sub-group and the development of the test specifications that include innovative assessment items. Previously, he led the development of short interactive computer tasks for the 2009 NAEP Science assessment that was recently administered.