

When Science and Citizens Connect: Public Engagement on Genetically Modified Organisms

A Workshop of the Roundtable on Public Interfaces of the Life Sciences

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Participant Biographies

Jennifer Baltzegar received a M.S. in Marine Biology from the College of Charleston and is currently a Ph.D. student in the Genetics Program at North Carolina State University. She is also a NSF IGERT Fellow in Genetic Engineering and Society: The Case for Transgenic Pests where her research examines the possibility of using genetic engineering techniques that will control agricultural insect pest populations. She is particularly interested in finding effective ways to control stored grain pests.

Rick Borchelt is Director of Communications and Public Affairs at the US Department of Energy's Office of Science. Prior to DOE, he served as the Special Assistant for Public Affairs to the director of the National Cancer Institute at NIH and director of NCI's news office, providing strategic guidance and coordination of the Institute's communications and public affairs programs. Mr. Borchelt is also the former communications director for the research, education, and economics missions area of USDA, and for the USDA Office of the Chief Scientist. Prior to the USDA, he was director of communications for the Pew-funded Genetics and Public Policy Center at The Johns Hopkins University, where his work included message development, media relations, and strategic communications. He also is Lecturer in science policy and politics in the Hopkins Advanced Academic Programs division. He has had a varied career in science communications and science public policy, including stints as media relations director for the National Academy of Sciences; press secretary for the U.S. House of Representatives Committee on Science, Space and Technology under the chairmanship of the late Rep. George E. Brown, Jr.; special assistant for public affairs in the Executive Office of The President during the Clinton Administration; director of communications for the Department of Energy's Office of Science; and director of communications and public affairs at The Whitehead Institute for Biomedical Research at MIT. He is an advisor to the NSF-funded Nanoscale Informal Science Education (NISE) project, and was a committee member on the National Academy of Engineering's study of public communication about engineering. An undergraduate biology major, he's done graduate work in both insect systematics and science communication. Areas of particular interest include developing community based public engagement in science and adapting the Southern narrative tradition to science communication.

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Dominique Brossard is Professor and Chair in the Department of Life Sciences Communication at the University of Wisconsin-Madison. She is on the Steering Committee of the UW-Madison Robert & Jean Holtz Center for Science and Technology Studies, and an affiliate of the UW-Madison Center for Global Studies. She is also the leader of the Societal Implications of Nanotechnology group in the National Science Foundation (NSF)-funded Nanoscale Science and Engineering Center (NSEC). Her teaching responsibilities include courses in strategic communication theory and research, with a focus on science and risk communication. Dr. Brossard's research program concentrates on the intersection between science, media, and policy. A fellow of the American Association for the Advancement of Science and a Board member of the International Network of Public Communication of Science and Technology, Brossard is an internationally known expert in public opinion dynamics related to controversial scientific issues. She is particularly interested in understanding the role of values in shaping public attitudes, and in cross-cultural analysis to understand these processes. Her lab's recent work has focused on scientific discourse in online environments, such as Twitter. She has published numerous research articles in outlets such as *Science*, *Science Communication*, the *International Journal of Public Opinion*, *Public Understanding of Science* and *Communication Research*. Dr. Brossard has a varied professional background including experience in the lab and in the corporate world. Notably, she spent five years at Accenture in its Change Management Services Division. She was also the communication coordinator for the Agricultural Biotechnology Support Project II (ABSP II), a position that combined public relations with marketing communication and strategic communication. Dr. Brossard earned her M.S. in plant biotechnology from the Ecole Nationale d'Agronomie de Toulouse and her M.P.S and Ph.D. in communication from Cornell University.

Jason Delborne joined North Carolina State University in August 2013 in the Chancellor's Faculty Excellence Program cluster in Genetic Engineering and Society. He serves as Associate Professor of Science, Policy and Society in the Department of Forestry and Environmental Resources and will also teach and advise students in the graduate minor program in Genetic Engineering and Society. Dr. Delborne's research focuses on highly politicized scientific controversies, such as agricultural biotechnology, nanotechnology, biofuels, and climate change. Drawing upon the highly interdisciplinary field of Science, Technology, and Society (STS), he engages various qualitative research methodologies to ask questions about how policymakers and members of the public interface with controversial science and technology. Dr. Delborne has published peer-reviewed articles in journals such as *Social Studies of Science*, *Public Understanding of Science*, and *Science and Public Policy*, and he co-edited *Controversies in Science and Technology: From Evolution to Energy* (Mary Ann Liebert, 2010). In 2010, he received the David Edge Prize, awarded annually by the Society for Social Studies of Science (4S) for the best journal article published in the area of science and technology studies. His current project compares multiple pathways of development of genetically modified trees by exploring the extent to which "responsible innovation" is pursued and achieved.

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Helene R. Dillard was appointed dean of the College of Agricultural and Environmental Sciences at UC Davis in January 2014. Her goal is to build upon the strengths of the college in research, teaching, extension and outreach, and maintain strong relationships with the broad range of stakeholders in California, nationally, and globally. In addition to her responsibilities as dean, she has programmatic responsibilities for the college's Agricultural Experiment Station and Cooperative Extension. Dr. Dillard has national and international leadership experience, including invited consultations, presentations, and scientific exchanges in China, Central America (Honduras, Nicaragua), South America (Argentina, Brazil, Chile), the European Union (the Netherlands, Sweden, United Kingdom), and Zimbabwe. She has worked extensively with U.S. Department of Agriculture programs, the National Institute of Food and Agriculture (NIFA), and the National Research Initiative. Prior to her appointment at UC Davis, Dr. Dillard was on the faculty at Cornell University since 1984 as a plant pathology professor, carrying a 50 percent research and 50 percent extension assignment. Her research focused on the biology, ecology, and management of fungal pathogens that cause diseases in vegetable crops. Her interests include sustainable disease management strategies, integrated pest management, epidemiology and host/pathogen/environment interactions. Dr. Dillard served as chair of the Department of Plant Pathology in Geneva, N.Y. (1997–2001), associate director of Cornell Cooperative Extension (2001–2002), and director of Cornell Cooperative Extension (2002–January 2014). She also served simultaneously as associate dean in two colleges, the College of Agriculture and Life Sciences (CALs) and the College of Human Ecology (2002–January 2014). Dr. Dillard was recognized for her contributions in plant pathology by the American Phytopathological Society (APS), receiving the Excellence in Extension Award in 1992 and being named an APS fellow in 2006. She received the New York Farmers Medal and the Outstanding Faculty Award from CALs in 2013. She completed her B.S. degree in biology of natural resources at UC Berkeley, an M.S. degree in soil science at UC Davis, and a Ph.D. degree in plant pathology at UC Davis.

Sarah Evanega received her PhD in the field of Plant Biology from Cornell University in 2009, for which she conducted an interdisciplinary study combining work in plant molecular biology with science communication. Her dissertation focused on the controversy over genetically engineered papaya in developing countries with a specific focus on Thailand. She came to Cornell after completing a BA in Biology at Reed College. Lured by great weather, plenty of water, and an unbeatable intellectual environment, she remained at Cornell University after completing her PhD to help lead a global project to help protect the world's wheat from wheat stem rust. Dr. Evanega now serves as the Director for the Cornell Alliance for Science—a global communications effort that promotes evidence-based decision-making in agriculture. She teaches courses on agricultural biotechnology at the graduate and undergraduate level. In addition, she serves as Senior Associate Director of International Programs in the College of Agriculture and Life Sciences and holds an adjunct appointment in the Section of Plant Breeding & Genetics in the Integrated School of Plant Sciences at Cornell. Sarah was instrumental in launching the CALs initiative, AWARE (Advancing Women in Agriculture through Research and Education) which promotes women in agriculture. Sarah grew up in a small agricultural village in northwest Illinois.

Rebecca Harrison received a B.S. in Animal Science from Cornell University in 2014, and is now a first-year PhD student in Science and Technology Studies at Rensselaer Polytechnic Institute. She is also on the staff of the Cornell Alliance for Science. She is particularly interested in how consumers, producers, scientists, and policymakers communicate knowledge about and respond to risk in agricultural biotechnology use. Her (1) exposure to biotechnological development at Cornell, (2) involvement with science and technology policy as a former intern with the White House Office of Science and Technology Policy, (3) engagement with the agricultural biotechnology community on the Web (independently, formerly with the Genetic Literacy Project, and currently with the Cornell Alliance for Science), (4) on-farm agricultural experience, and (5) new perspectives from the STS community have given her the standpoint necessary to appreciate not only the need for this technology, but also the need for re-envisioning how its use is communicated, and its risk regulated.

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Robert Goldberg is a professor in the Department of Molecular, Cell, and Developmental Biology at the University of California Los Angeles (UCLA). He received a BS in botany from Ohio University and MS and PhD degrees in plant genetics from the University of Arizona. He was a postdoctoral fellow at the California Institute of Technology. Dr. Goldberg has received several awards at UCLA: the Distinguished Faculty Teaching Award from the Biology Department, the Distinguished Faculty Teaching Award from the Division of Molecular and Cell Biology, the Luckmann Distinguished Teaching Award from the Academic Senate and Alumni Foundation, and the Gold Shield Faculty Research Award for Excellence in Undergraduate Education and Research. In addition, he was honored to have been named one of the top 20 professors in UCLA's 75-year history. He was also awarded the National Order of Scientific Merit Grà Cruz from the President of Brazil. In 2001, he was elected to membership in the National Academy of Sciences. Dr. Goldberg created *The Plant Cell*, organized the first plant-oriented Keystone Meetings, and served as program director of several U.S. Department of Agriculture Plant Genetics and Crop Improvement Grant panels. More recently, he established the Seed Institute, a multiuniversity collaboration dedicated to "uncovering all the genes required to make a seed" which is the focal point of his present research efforts. He has also been the director of the American Society of Plant Biologists Education Foundation.

David Goldston* is Director of Government Affairs for Natural Resources Defense Council in Washington, D.C. and is responsible for its governmental strategies, bringing together NRDC's interactions with Congress, the administration and the public. He has more than twenty years of experience on Capitol Hill, working mainly on science and environmental policy and served as chief of staff of the House Committee on Science from 2001 through 2006. He has been a visiting lecturer at Princeton and Harvard Universities and a columnist for the journal *Nature*. In 2008 and 2009, he was project director for the Bipartisan Policy Center report, "Improving the Use of Science in Regulatory Policy" and he has served on several panels at the National Academy of Sciences. David graduated from Cornell University in 1978 with a B.A. in history and completed the course work for a Ph.D. in American history at the University of Pennsylvania.

William K. Hallman is a professor and Chair of the Department of Human Ecology and is a member of the graduate faculty of the Department of Nutritional Sciences, and of the Bloustein School of Planning and Public Policy at Rutgers, the State University of New Jersey. He is a 1983 graduate of Juniata College in Huntingdon, Pennsylvania and earned his PhD. in Experimental Psychology from the University of South Carolina in 1989. Dr. Hallman's research examines public perceptions of controversial issues concerning food, health, and the environment. Recent research projects have looked at consumer perceptions and behaviors concerning genetically modified foods, animal cloning, avian influenza, accidental and intentional food contamination incidents, and food recalls. His current research projects include studies of public perceptions and responses to food safety risks, the safety of fresh meat, poultry, game, and seafood products purchased on the Internet, the use of nanotechnology in food, and public understanding of health claims made for food products. Dr. Hallman serves on the Executive Committee of Rutgers Against Hunger (RAH), and helped to found the New Brunswick Community Farmers Market, which offers food insecure residents access to fresh, locally grown, affordable, nutritious, and culturally appropriate produce and other food products. Dr. Hallman formerly served as the Director of the Food Policy Institute (FPI) at Rutgers, and currently serves as the Chair of the Risk Communication Advisory Committee of the US Food and Drug Administration (FDA).

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Tamar Haspel is a journalist who's been on the food and science beat for the best part of two decades. She writes a monthly Washington Post column, *Unearthed*, which covers food supply issues: biotech, pesticides, food additives, antibiotics, organics, nutrition, and food policy. When she's tired of the heavy lifting of journalism, Ms. Haspel helps her husband on their oyster farm, Barnstable Oyster.

Molly Jahn* is a Professor in the Laboratory of Genetics and Department of Agronomy at the University of Wisconsin-Madison, and Special Advisor to the Chancellor and Provost for Sustainability Sciences. She has had a distinguished research career in plant genetics, genomics and plant breeding of vegetable crops focusing on molecular genetics of disease resistance and quality traits. Her research groups at UW Madison and Cornell University have produced crop varieties now grown commercially and for subsistence on six continents under approximately 60 active commercial licenses. She has also worked extensively in developing countries to link crop breeding with improved human nutrition and welfare. Her innovative approaches to inter-sector partnerships, engagement with emerging institutions, and integrated projects focused on impact and technology transfer have been highlighted in numerous studies and books. She has consulted widely in the private sector, and has served as an advisor for philanthropic interests, venture capital and finance, First Nations, and U.S and foreign governmental agencies in agriculture, food security, life and environmental sciences. She received the BA with distinction in biology from Swarthmore College and holds graduate degrees from MIT and Cornell University.

Dan Kahan is the Elizabeth K. Dollard Professor of Law and Professor of Psychology at Yale Law School. He is a member of the Cultural Cognition Project, an interdisciplinary team of scholars who use empirical methods to examine the impact of group values on perceptions of risk and science communication. In studies funded by the National Science Foundation, Professor Kahan and his collaborators have investigated public dissensus over climate change, public perceptions of scientific consensus across disputed issues, and public reactions to emerging technologies. Articles featuring the Project's studies have appeared in a variety of peer-reviewed scholarly journals including the *Journal of Risk Research*, *Judgment and Decision Making*, *Nature Climate Change*, *Science*, and *Nature*. The Project is currently engaged in a field research that features using evidence-based strategies to promote public engagement with climate science in Southeast Florida.

Stephen Palacios* is an Executive Vice President with the innovation consulting firm, Added Value Cheskin. He leads the company's Hispanic practice, directing strategy on client engagements relating to new market assessment, product innovation, and communication strategy. Clients include Pepsi, Wells Fargo, Time Warner Inc., AstraZeneca. He is a leading expert in the U.S. Hispanic market having helped guide strategy for organizations such as Blue Cross Blue Shield (various regions) Meredith Corporation and the National Council of La Raza. Mr. Palacios holds a B.A. from Saint Joseph's University (PA), where he was Valedictorian and an M.A. from American University, where he was awarded a Fellowship. He is a frequent speaker at industry conferences and has been featured in publications including the *Los Angeles Times*, *Harvard Business Review* and *AdAge*, and has been featured on ABC's *Nightline* and PBS's Latino market documentary, *Brown is the New Green*.

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Roger Pielke, Jr. has been on the faculty of the University of Colorado since 2001. He is a Professor in the Environmental Studies Program and a Fellow of the Cooperative Institute for Research in Environmental Sciences (CIRES). Dr. Pielke's research focuses on science, innovation and politics. In 2011 began to write and research on the governance of sports organizations, including FIFA and the NCAA. He holds degrees in mathematics, public policy and political science, all from the University of Colorado. In 2012 Dr. Pielke was awarded an honorary doctorate from Linköping University in Sweden and was also awarded the Public Service Award of the Geological Society of America. He also received the Eduard Brückner Prize in Munich, Germany in 2006 for outstanding achievement in interdisciplinary climate research. Before joining the faculty of the University of Colorado, from 1993-2001 Dr. Pielke was a Scientist at the National Center for Atmospheric Research. He is also author, co-author or co-editor of seven books, including *The Honest Broker: Making Sense of Science in Policy and Politics* published by Cambridge University Press (2007) and *The Climate Fix: What Scientists and Politicians Won't Tell you About Global Warming* (2010, Basic Books). His most recent book is *Rightful Place of Science Series, Disasters and Climate Change* (2014, Consortium for Science, Policy & Outcomes). He is currently working on a book on sports in society.

Matthew Nisbet* is Associate Professor of Communication and co-Director of the Center for Social Media at American University, Washington, D.C. As a social scientist, Nisbet studies the role of media and communication in policy-making and public affairs, focusing on debates over science, the environment, and public health. Since 2002, he has authored more than 50 peer-reviewed studies, scholarly book chapters, and monographs. Among awards and recognition, Nisbet has been a Visiting Shorenstein Fellow in Press, Politics, and Public Policy at Harvard University's Kennedy School of Government, a Health Policy Investigator at the Robert Wood Johnson Foundation, a Google Science Communication Fellow, an Osher Fellow at The Exploratorium science center, and a visiting Mellon Fellow in Environmental Studies at Goucher College. In 2011, the editors at the journal *Nature* recommended Dr. Nisbet's research as "essential reading for anyone with a passing interest in the climate change debate," and the *New Republic* highlighted his work as a "fascinating dissection of the shortcomings of climate activism." According to ISI Web of Science, Dr. Nisbet's research has been cited in the peer-reviewed literature more than 900 times, and according to Google Scholar more than 2300 times. Dr. Nisbet's scholarship has appeared at high-impact disciplinary journals such as *Public Opinion Quarterly*, *Public Understanding of Science*, and *Communication Research* as well as interdisciplinary outlets such as *Science*, *Environment*, *Climatic Change*, *Nature Biotechnology*, *BMC Public Health*, and the *American Journal of Public Health*. A frequently invited speaker, he has given lectures on more than three dozen college campuses worldwide and at many other scholarly and professional venues. His consulting experience includes research and analysis on behalf of the National Academies, the Howard Hughes Medical Institute, the Corporation for Public Broadcasting, the Centers for Disease Control, and other public and private sector clients. He holds a PhD and MS in Communication from Cornell University.

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Dietram Scheufele (Chair)* is the John E. Ross Professor in Science Communication in the Department of Life Sciences Communication at the University of Wisconsin, Madison, and Co-PI of the Center for Nanotechnology in Society at Arizona State University. His research focuses on shaping public attitudes toward science and technology, with emphasis on the role that social media and other emerging modes of communication play in society. Dr. Scheufele has published extensively in the areas of public opinion, political communication, and public attitudes towards emerging technologies, including nanotechnology, synthetic biology, stem cell research, nuclear energy, and genetically modified organisms. Dr. Scheufele has served on many committees and advisory panels, including the National Conference of Lawyers and Scientists, the Nanotechnology Technical Advisory Group to the U.S. President's Council of Advisors on Science and Technology, and the National Academy of Engineering Committee on Developing Effective Messages for Improving Public Understanding of Engineering. He received both his MA Journalism and Mass Communications and his PhD in Mass Communications from the University of Wisconsin-Madison.

Brooke Smith* is the Executive Director of COMPASS, a science communications organization focused on helping scientists be more effective communicators, and helping scientists engage with society and the public discourse about the environment. Ms. Smith's career has focused on being a practitioner of science communications, a sustainability leader, and a nonprofit executive. Her experiences are in ocean and environmental science, state and federal environmental policy, environmental consulting, communications, connecting science to policy and management, and nonprofit leadership and management. Ms. Smith leads COMPASS in vision, strategy, fundraising and administration. She received her MS from Oregon State University's College of Oceanic and Atmospheric Sciences, and her bachelor's degree from Duke University. She holds a courtesy faculty appointment at Oregon State University, serves on the Board of Directors of Portland's locally based Forest Park Conservancy, recently served on the National Board of Directors of the Surfrider Foundation and was recently a Donella Meadows Leadership Fellow. She lives in Portland OR with her husband and their 2 daughters.

Allison Snow is professor of evolution, ecology and organismal biology at The Ohio State University. Her Plant Population Ecology Lab studies natural selection and ecological processes within plant populations, including the dynamics of gene flow, especially involving transgenic plants. Trained as a plant ecologist at the University of Massachusetts, Dr. Snow received postdoctoral fellowships from the National Science Foundation and the Smithsonian Institution. Her current research combines molecular and ecological approaches to understand how quickly crop genes move into wild populations, and the extent to which novel transgenic traits could benefit weedy and semi-weedy plants. She is the lead author of a 2005 Ecological Society of America position paper on environmental effects of genetically engineered organisms. A fellow of the American Association for the Advancement of Science and the Aldo Leopold Leadership Program, she has served on the editorial boards of Ecology, Ecological Monographs, Evolution and Environmental Biosafety Research. A past president of the Botanical Society of America, she has served on the U.S. Department of Agriculture's National Genetic Resources Advisory Board and panels convened to discuss issues in transgenic organisms by the National Research Council and the Academy of Finland. In 2002, she was one of Scientific American's Top 50 Researchers in Science and Technology. She also directs the Undergraduate Research Office at Ohio State.

Sophia Webster, originally from Arlington, Virginia, received her B.S. in Biology with minors in Chemistry and Entomology from Virginia Tech in 2012. Sophia is part of the first cohort of students at North Carolina State University supported by the NSF IGERT training grant on Genetic Engineering and Society: The Case of Transgenic Pests. Her research is on (1) Development of killer-rescue gene drive systems in the dengue fever vector *Aedes aegypti* and (2) Evaluation of the reduce & replace model in *Drosophila melanogaster*.

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