

Decadal Survey of Social and Behavioral Sciences for Applications to National Security

Committee

Paul R. Sackett

Chair

PAUL R. SACKETT is the Beverly and Richard Fink Distinguished Professor of Psychology and Liberal Arts at the University of Minnesota. His research interests revolve around various aspects of testing and assessment in workplace, educational, and military settings. He has served as editor of two journals: *Industrial and Organizational Psychology: Perspectives on Science and Practice* and *Personnel Psychology*, as president of the Society for Industrial and Organizational Psychology, as co-chair of the committee producing the Standards for Educational and Psychological Testing, as a member of the National Research Council's Board on Testing and Assessment, as chair of APA's Committee on Psychological Tests and Assessments, and as chair of APA's Board of Scientific Affairs. He holds a Ph.D. in Industrial/Organizational Psychology from the Ohio State University.

Gary G. Berntson

Member

GARY G. BERNTSON is an Emeritus Academy Professor of Psychology at The Ohio State University. His research is in the areas of neuroscience, social neuroscience and psychophysiology. He has published over 200 peer-reviewed articles and has edited numerous books, including the *Handbook of Psychophysiology*, the *Handbook of Neuroscience for the Behavioral Sciences*, and *Social Neuroscience*. Berntson is a Fellow in several professional associations and has served on the editorial boards of numerous journals, including *Psychobiology*, *Psychophysiology*, the *International Journal of Psychophysiology* and *Emotion Review*, among others. He is a Past-President of the Society for Psychophysiological Research (2011-2013). He has served on numerous federal advisory committees, including NIH and NSF panels, the Portuguese Science Foundation, and the Department of Defense (Defense Science Board) Task Force on Predicting Violent Behavior. He also served as the scientific consultant to the Department of Homeland Security FAST program. He was the recipient of Distinguished Teaching and Distinguished Scholar awards from the Ohio State University, and received the Paul D MacLean Award for Outstanding Neuroscience Research, from the American Psychosomatic Society (2013). Dr. Berntson received his Ph.D. in psychobiology and life sciences in 1971 from the University of Minnesota.

Kathleen M. Carley

Member

KATHLEEN M. CARLEY is a professor of computer science in the Institute for Software Research, an IEEE Fellow, and the director of the Center for Computational Analysis of Social and Organizational Systems at Carnegie Mellon University. She is also the CEO of Carley Technologies Inc., aka Netanomics. Her research combines cognitive science, sociology, and computer science to address complex social and organizational issues. Her most notable research contribution was the establishment of Dynamic Network Analysis (DNA) – and the associated theory and methodology for examining large high-dimensional time variant networks. Her research on DNA has resulted in tools for analyzing large-scale dynamic networks and various multi-agent simulation systems. Her group has developed tools for extracting sentiment, social and semantic networks from social media and other textual data (AutoMap), simulating epidemiological models (BioWar), simulating covert networks (DyNet), and simulating changes in beliefs and practice given information campaigns (Construct). She received two B.S. degrees: one in economics and another in political science from Massachusetts Institute of Technology and a Ph.D. in sociology from Harvard University.

Noshir Contractor

Member

NOSHIR CONTRACTOR is the Jane S. & William J. White Professor of Behavioral Sciences in the McCormick School of Engineering & Applied Science, the School of Communications and the Kellogg School of Management at Northwestern University. He is the director of the Science of Networks in Communities (SONIC) research center. He is investigating factors that lead to the formation, maintenance, and dissolution of dynamically linked social and knowledge networks in a wide variety of contexts. He received the National Communication Association Distinguished Scholar Award in 2014 and was elected as a fellow of the International Communication Association in 2015. He is the co-founder and Chairman of Syndio, which offers organizations products and services based on network analytics. He has a bachelor's degree in electrical engineering from the Indian Institute of Technology, Madras and a Ph.D. in communication from the Annenberg School of Communication at the University of Southern California

Nancy J. Cooke

Member

NANCY J. COOKE is a professor of human systems engineering at Arizona State University and is science director of the Cognitive Engineering Research Institute in Mesa, AZ. She is currently president of the Human Factors and Ergonomics Society and the recent past chair of the Board on Human Systems Integration at the National Academies of Science, Engineering, and Medicine. She also recently chaired a study panel for the National Academies on the Enhancing the Effectiveness of Team Science. She was a member of the US Air Force Scientific Advisory board from 2008-2012. Her research interests include the study of individual and team cognition and its application to the development of cognitive and knowledge engineering methodologies, sensor operator threat detection cyber and intelligence analysis, remotely-piloted aircraft systems, human-robot interaction, healthcare systems, and emergency response systems. She specializes in the development, application, and evaluation of methodologies to elicit and assess individual and team cognition. In addition to large number of awards and appointments to National Academies studies, Dr. Cooke was named an American Psychological Association Fellow in 2009 , a Fellow of the Human Factors and Ergonomics Society in 2000, and designated a National Associate of the National Research Council of the National Academies of Sciences, Engineering, and Medicine in 2016. She received her Ph.D. in Cognitive Psychology from New Mexico State University.

Barbara A. Doshier

Member

BARBARA A. DOSHER (NAS) is a distinguished professor of cognitive sciences at the University of California at Irvine. Her research studies memory, attention, and perceptual learning in humans using a combination of behavioral testing and mathematical modeling. She was a professor of psychology, Columbia University from 1977- 1992. She moved to University of California, Irvine in 1992, and was dean of the School of Social Sciences from 2002-2013. She is an elected fellow of the American Psychological Society, the Society for Experimental Psychologists, and the National Academy of Sciences, and received the 2013 Howard Crosby Warren Medal of the Society for Experimental Psychologists. She has served on the board and as president of the Society for Mathematical Psychology and on the executive board of the Vision Sciences Society, is a prior associate editor of Psychological Review, and on grant review boards at the National Science Foundation and National Institutes of Mental Health. She received a B.A. in psychology from the University of California, San Diego. She received a M.S. and Ph.D. in experimental psychology from the University of Oregon.

Jeffrey C. Johnson

Member

JEFFREY C. JOHNSON is a professor of anthropology at the University of Florida. He is also is an adjunct professor in the Institute for Software Research at Carnegie Melon University. He was the director of the Summer Institute for Research Design in Cultural Anthropology from 1996-2015. He was a former program manager with the Army Research Office (IPA) where he started the basic science research program in the social sciences. He has conducted extensive long-term research comparing group dynamics and the evolution of social networks of over-wintering crews at the American South Pole Station, with those at the Polish, Russian, Chinese, and Indian Antarctic Stations. Using these isolated human group settings as space analogs, he is currently studying aspects of team cognition on mission success. He is the author of *Selecting Ethnographic Informants* (Sage, 1990) and is co-author (with Borgatti and Everett) of the book *Analyzing Social Networks* (Sage, 2013). He was the founding editor of the *Journal of Quantitative Anthropology*, and co-editor of the journal *Human Organization*. He is currently an associate editor for the *Journal of Social Structure* and the journal *Social Networks*. He received his Ph.D. in Social Science from the University of California, Irvine.

Sallie Keller

Member

SALLIE KELLER is professor of statistics and director for the Social and Decision Analytics Laboratory of the Biocomplexity Institute at Virginia Polytechnic Institute and State University. Dr. Keller served as the chair for the Decadal Summit Steering Committee. Her previous positions include Academic Vice-President and Provost at University of Waterloo, director of the IDA Science and Technology Policy Institute in Washington DC, William and Stephanie Sick Dean of Engineering at Rice University, head of the Statistical Sciences group at Los Alamos National Laboratory, professor of statistics at Kansas State University, and statistics program director at the National Science Foundation. Her areas of expertise are social and decision informatics, statistical underpinnings of data science, uncertainty quantification, and data access and confidentiality. She is a national associate of the National Academy of Sciences, fellow of the American Association for the Advancement of Science, elected member of the International Statistics Institute, and member of the JASON advisory group. She is also a fellow and past president of the American Statistical Association. She holds a Ph.D. in statistics from the Iowa State University of Science and Technology.

David Matsumoto

Member

DAVID MATSUMOTO is a professor of social psychology at San Francisco State University and the director of the Culture and Emotion Research Lab. The laboratory focuses on studies involving culture, emotion, social interaction and communication. He is well known for his work in the field of microexpressions, facial expression, gesture, and nonverbal behavior. He has served as the Editor-in-Chief for the Journal of Cross-Cultural Psychology and as an Editor of the Culture and Diversity Section for the Social and Personality Psychology Compass. Matsumoto is also an Editorial Board Member for Personality and Social Psychology Review, Asian Journal of Social Psychology, Journal of Nonverbal Behavior, Motivation and Emotion, and Cognition and Emotion. He holds a Ph.D. in psychology from the University of California at Berkeley.

Carmen Medina

Member

CARMEN MEDINA is the founder of MedinAnalytics, LLC. Carmen spent 32 years at the Central Intelligence Agency and is a recognized national and international expert on intelligence analysis, strategic thinking, and diversity of thought. She is the co-author of the best-selling book: *Rebels At Work: A Handbook for Leading Change from Within*. After leaving the CIA, she spent almost five years at Deloitte Federal Consulting. From 2005-2007 Carmen was part of the executive team that led the CIA's Analysis Directorate. She was a leader on diversity issues at the CIA, serving on equity boards at all organizational levels and across Directorates. She was the first CIA executive to conceptualize many IT applications now used by analysts, including online production, collaborative tools, and Intellipedia. Upon her retirement, Carmen received the Distinguished Career Intelligence Medal. While at Deloitte from 2011 - 2015, Carmen served as senior advisor and mentor to Deloitte's flagship innovation program, GovLab, and sponsored research projects on Bitcoin, Millennials, and the impact of the Internet of Things on government. She holds a B.A. degree in comparative government from the Catholic University of America.

Fran P. Moore

Member

FRAN P. MOORE is president of FPM Consulting, LLC, which provides national security and intelligence insight, strategic analysis, learning expertise, and management consulting to private and public sector clients. She is network expert for the Cipher Brief, a digital news and analysis platform. She retired from the Central Intelligence Agency in 2015 as a senior executive with 32 years of leadership and intelligence analysis experience. She serves on the Board of Threat Deterrence Capital, advising its core business, Circinus, which serves the mission needs of the United States in the areas of defense, security, intelligence, and law enforcement. She also serves on INSA's Security Policy Review Committee and AFCEA's Intelligence Committee. She is a council member for Gerson Lehrman Group. Since 2014, Fran has served on the board of the intelligence community's Studies in Intelligence. She was CIA's Chair for Harvard's Learning Innovations Lab from 2014 to 2015 and a senior ally for CIA's LGBT affinity group. Among her many career recognitions, she received a Presidential Rank Award, Distinguished Executive in 2013. She holds B.A. degrees in international relations and political science from Elmira College.

Jonathan D. Moreno

Member

JONATHAN D. MORENO (NAM) is the David and Lyn Silfen University Professor at the University of Pennsylvania where he is a Penn Integrates Knowledge (PIK) professor. He is also a professor of medical ethics and health policy, of history and sociology of science, and of philosophy. He has published a number of books including the latest *Impromptu Man: J.L. Moreno and the Origins of Psychodrama, Encounter Culture, and the Social Network* (2014), and *The Body Politic* (2011), *Mind Wars* (2012), and *Undue Risk* (2000). He is the U.S. member of the UNESCO International Bioethics Committee. He is a senior fellow at the Center for American Progress and he has served as an adviser to many governmental and non-governmental organizations. He received his Ph.D. in philosophy from Washington University in St. Louis and holds an honorary doctorate from Hofstra University.

Joy Rohde

Member

JOY ROHDE is an assistant professor at the Gerald R. Ford School of Public Policy at the University of Michigan. She is also a faculty member with the Science, Technology, and Society Program and the Department of History. Her work examines the relationship between the social and behavioral sciences and the American state from the late 19th century to the present. Her first book, *Armed with Expertise: The Militarization of American Social Research during the Cold War* (Cornell University Press, 2013), investigates the Cold War origins and contemporary consequences of Pentagon social research contracting for national security. She is currently working on a book project that explores how ideas about cybernetics and advances in computing impacted the social sciences, policy analysis, and national security in the United States since the 1960s. Prior to joining the Ford School, Rohde was an assistant professor of history at Trinity University, and she has held fellowships from the Miller Center of Public Affairs and the American Academy of Arts and Sciences. She received her Ph.D. in History and Sociology of Science from the University of Pennsylvania.

Jeffrey Taliaferro

Member

JEFFREY W. TALIAFERRO is an associate professor of political science at Tufts University. His research and teaching focus on security studies, international relations theory, international history and politics, and United States foreign policy, intelligence, and national security. He is the author of *Balancing Risks: Great Power Intervention in the Periphery* (Cornell University Press, 2004), which won the American Political Science Association's Robert L. Jervis and Paul W. Schroeder Award for the Best Book in International History and Politics. He is co-author with Steven E. Lobell and Norrin P. Ripsman, of *Neoclassical Realist Theory of International Politics* (Oxford University Press, 2016) and co-editor with Lobell and Ripsman, of *Neoclassical Realism, the State, and Foreign Policy* (Cambridge University Press, 2009) and of *The Challenge of Grand Strategy: The Great Powers and the Broken Balance between the World Wars* (Cambridge University Press, 2012). He has been a member of the Director of the Central Intelligence Agency's Historical Review Panel (HRP) since 2008. He earned a bachelor's degree in history and political science from Duke University and a Ph.D. in government from Harvard University.

Gregory F. Treverton

Member

GREGORY F. TREVERTON is the former chairman of the National Intelligence Council. Previously, he directed the RAND Corporation's Center for Global Risk and Security, and before that its Intelligence Policy Center and its International Security and Defense Policy Center, and he was associate dean of the Pardee RAND Graduate School. He has served in government for the first Senate Select Committee on Intelligence, handling Europe for the National Security Council and as vice chair of the National Intelligence Council, overseeing the writing of America's National Intelligence Estimates (NIEs). He has taught at Harvard and Columbia universities and been a Senior Fellow at the Council on Foreign Relations, and Deputy Director of the International Institute for Strategic Studies in London. His latest books are *Dividing Divided States*, University of Pennsylvania Press, 2014; and *Beyond the Great Divide: Relevance and Uncertainty in National Intelligence and Science for Policy*, (with Wilhelm Agrell), Oxford University Press, 2015. He holds a B.A. summa cum laude from Princeton University and a M.P.P (Master's in Public Policy) and Ph.D. in economics and politics from Harvard.

Jeremy M. Wolfe

Member

JEREMY M. WOLFE is professor of ophthalmology and radiology at Harvard Medical School and head of the Visual Attention Lab at Brigham and Women's Hospital. He has extensive expertise in vision, binocular perception, visual attention, and cognitive science. His research focuses on visual search and visual attention with a particular interest in socially important search tasks in areas such as medical image perception (e.g. cancer screening), security (e.g. baggage screening), and intelligence. His work has developed the "Guided Search" (GS) model through several iterations. In recent years, he has become increasingly interested in the role of vision and attention in medical and security errors. He is editor-in-chief of *Cognitive Research: Principles and Implications* (CRPI). He is President of the Federation of Associations in Behavioral and Brain Science (FABBS) and past-Chair of the Board of the Psychonomic Society. He received an A.B. in psychology from Princeton and his Ph.D. in psychology from Massachusetts Institute of Technology.