

Reference Manual on Scientific Evidence

Third Edition

Committee on the Development of the Third Edition of the
Reference Manual on Scientific Evidence

Committee on Science, Technology, and Law
Policy and Global Affairs

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Appendix A

Biographical Information of Committee and Staff

Jerome P. Kassirer (Co-Chair) served as the Editor-in-Chief of the *New England Journal of Medicine* (1991–1999). He is currently Distinguished Professor of Medicine at Tufts University School of Medicine where he has also served as vice chairman of the Department of Medicine. Dr. Kassirer has served on the American College of Physician’s Board of Governors and Board of Regents, chaired the National Library of Medicine’s Board of Scientific Counselors, and is past chairman of the American Board of Internal Medicine. He is a member of the Association of American Physicians, the Institute of Medicine of the National Academies, and the American Academy of Arts and Sciences. Dr. Kassirer’s current interests are reliable approaches to the assessment of the quality of health care, professionalism, ethical scientific conduct, and patient involvement in decisionmaking. He has been highly critical of for-profit medicine, abuses of managed care, and political intrusion into medical decisionmaking. Dr. Kassirer received his M.D. from the University of Buffalo School of Medicine and trained in internal medicine at Buffalo General Hospital. He trained in nephrology at the New England Medical Center. His latest book, on financial conflicts of interest in medicine, entitled *On the Take: How Medicine’s Complicity with Big Business Can Endanger Your Health*, was published by Oxford University in 2004. He has also published extensively on nephrology, medical decisionmaking, and the diagnostic process.

Gladys Kessler (Co-Chair) was appointed to the United States District Court for the District of Columbia in July 1994. She received a B.A. from Cornell University and her LL.B. from Harvard Law School. Following graduation, Judge Kessler was employed by the National Labor Relations Board, served as legislative assistant to a U.S. senator and a U.S. congressman, worked for the New York City Board of Education, and then opened a public interest law firm. In June 1977, she was appointed Associate Judge of the Superior Court of the District of Columbia. From 1981 to 1985, Judge Kessler served as Presiding Judge of the Family Division and was a major architect of one of the nation’s first Multi-Door Courthouses. She was president of the National Association of Women Judges from 1983 to 1984, served on the Executive Committee of the ABA’s Conference of Federal Trial Judges and the U.S. Judicial Conference’s Committee on Court Administration and Management. She is a board member and has been chair of the board of directors of Our Place, D.C., an organization devoted to serving the

needs of incarcerated women returning to the community. She now chairs the District of Columbia Commission on Disabilities and Tenure.

Ming W. Chin was appointed to the California Supreme Court in March 1996. Before being named to the high court, Justice Chin served from 1990 to 1996 on the First District Court of Appeal, Division Three, San Francisco. Prior to his appointment to the Court of Appeal, Justice Chin served on the bench of the Alameda County Superior Court. Previously, Justice Chin was a partner in an Oakland law firm specializing in business and commercial litigation. He also served as a prosecutor in the Alameda County District Attorney's office. Justice Chin earned his bachelor's degree in political science and law degree from the University of San Francisco. After his graduation from law school, Justice Chin served 2 years as a Captain in the U.S. Army, including a year in Vietnam, where he was awarded the Army Commendation Medal and the Bronze Star. Justice Chin chairs the Judicial Council of California's Court Technology Advisory Committee, as well as the California Commission for Impartial Courts. He frequently lectures on DNA, genetics, and the courts. Justice Chin served as chair of the Judicial Council's Science and the Law Steering Committee. In 2009 the Judicial Council named him California Jurist of the Year. He is an author of *California Practice Guide: Employment Litigation* (The Rutter Group 2011). He is also an author of *California Practice Guide: Forensic DNA* (The Rutter Group, to be published in 2012).

Pauline Newman is a Judge on the United States Court of Appeals for the Federal Circuit. She received a B.A. degree from Vassar College in 1947, M.A. in pure science from Columbia University in 1948, Ph.D. in chemistry from Yale University in 1952, and LL.B. from New York University School of Law in 1958. She was admitted to the New York bar in 1958 and to the Pennsylvania bar in 1979. Judge Newman worked as research scientist for the American Cyanamid Company from 1951 to 1954; as patent attorney and house counsel for the FMC Corp. from 1954 to 1984; and, since 1969, as director of the FMC Patent, Trademark, and Licensing Department. On leave from FMC Corp. in 1961–62, she worked for the United Nations Educational, Scientific and Cultural Organization as a science policy specialist in the Department of Natural Sciences. Offices in scientific and professional organizations include member of Council of the Patent, Trademark and Copyright Section of the American Bar Association, 1982–84; board of directors of the American Patent Law Association, 1981–84; vice president of the United States Trademark Association, 1978–79, and member of its board of directors, 1975–76, 1977–79; member of board of governors of the New York Patent Law Association, 1970–74; president of the Pacific Industrial Property Association, 1978–80; member of executive committee of the International Patent and Trademark Association, 1982–84; member of board of directors of the American Chemical Society, 1973–75, 1976–78, 1979–81; member of board of directors of the American

Institute of Chemists, 1960–66, 1970–76; member of the board of trustees of Philadelphia College of Pharmacy and Science, 1983–84; member of patent policy board of State University of New York, 1983–84; member of national board of Medical College of Pennsylvania, 1975–84; and member of board of directors of Research Corp., 1982–84. Service on government committees included State Department Advisory Committee on International Intellectual Property, 1974–84; Advisory Committee to the Domestic Policy Review of Industrial Innovation, 1978–79; Special Advisory Committee on Patent Office Procedure and Practice, 1972–74; and member of the U.S. Delegation to the Diplomatic Conference on the Revision of the Paris Convention for the Protection of Industrial Property, 1982–84. Judge Newman received the Wilbur Cross Medal of Yale University Graduate School, 1989; the Jefferson Medal of the New Jersey Patent Law Association, 1988; the Award for Outstanding Contributions in the Intellectual Property Field of the Pacific Industrial Property Association, 1987; Vanderbilt Medal of New York University School of Law, 1995; and Vassar College Distinguished Achievement Award, 2002. She was Distinguished Professor of Law, George Mason University (adjunct faculty), served on the Council on Foreign Relations, and was appointed judge of the U.S. Court of Appeals for the Federal Circuit by President Reagan and entered upon duties of that office on May 7, 1984.

Kathleen McDonald O'Malley was appointed to the United States Court of Appeals for the Federal Circuit by President Barack H. Obama on December 27, 2010. Prior to joining the Federal Circuit, Judge O'Malley was a District Judge on the United States District Court for the Northern District of Ohio, a position to which she was appointed by President William J. Clinton on October 12, 1994. Prior to her appointment to the bench, Judge O'Malley served as First Assistant Attorney General and Chief of Staff in the Office of the Attorney General for the State of Ohio from 1992 to 1994, and Chief Counsel in that office from 1991 to 1992. From 1983 to 1991, Judge O'Malley was in private practice, where she focused on complex corporate and intellectual property litigation; she was with Porter, Wright, Morris & Arthur from 1985 to 1991 and with Jones Day from 1983 to 1985. As an educator, Judge O'Malley has taught patent litigation at Case Western Reserve University School of Law and is a regular lecturer on issues arising in complex litigation, including intellectual property matters. Judge O'Malley began her legal career as a law clerk to the Honorable Nathaniel R. Jones, United States Court of Appeals for the Sixth Circuit, from 1982 to 1983. She received her J.D. degree from Case Western Reserve University School of Law, Order of the Coif, in 1982, and her undergraduate degree from Kenyon College in Gambier, magna cum laude and Phi Beta Kappa, in 1979. She received an honorary Doctor of Laws degree from Kenyon College in 1995.

Jed S. Rakoff has been a United States District Judge for the Southern District of New York since 1996. Prior to his appointment, he was a partner at Fried,

Frank, Harris, Shriver & Jacobson LLP. From 1980 to 1990, he was a partner at Mudge, Rose, Guthrie, Alexander & Ferdon LLP. Judge Rakoff was an Assistant U.S. Attorney for the Southern District of New York from 1973 to 1980 and chief of the Business and Securities Fraud Prosecutions Unit from 1978 to 1980. Before joining the U.S. Attorney's Office, Judge Rakoff spent 2 years in private practice as an associate attorney at Debevoise & Plimpton LLP. He served as a law clerk to the Honorable Abraham L. Freedman, U.S. Court of Appeals for the Third Circuit, in 1969–70. Judge Rakoff is coauthor of five books and author of more than 110 published articles, more than 375 speeches, and more than 900 judicial opinions. He has been a lecturer in law at Columbia Law School since 1988. He was a member of the Board of Managers, Swarthmore College, from 2004 to 2008. Judge Rakoff currently serves as a Trustee for the William Nelson Cromwell Foundation and from 2007–10 served as a member of the Governance Board for the MacArthur Foundation Initiative on Law and Neuroscience. From 1998–2011, he was chair of the Criminal Justice Advisory Board, Southern District of New York; from 2003–11 he was chair of the Second Circuit Bankruptcy Committee; and from 2006–09 he was chair of the Honors Committee of the New York City Bar Association. Since 2001 he has served as chair of the Grievance Committee of the Southern District of New York. He is a Judicial Fellow at the American College of Trial Lawyers and was chair of the Downstate New York Chapter in 1993–94. Judge Rakoff is the former director of the New York Council of Defense Lawyers and former chair of the Criminal Law Committee, New York City Bar Association. He has been a Judicial Fellow at the American Board of Criminal Lawyers since 1995. Judge Rakoff received a B.A. from Swarthmore College in 1964, an M.Phil. from Oxford University in 1966, and a J.D. from Harvard Law School in 1969. He was awarded honorary LL.D.s from Swarthmore College in 2003 and St. Francis University in 2005.

Channing R. Robertson is Ruth G. and William K. Bowes Professor and former Dean of Faculty and Academic Affairs, School of Engineering, and Professor, Department of Chemical Engineering, Stanford University. He was named a Bass University Fellow in Undergraduate Education in 2010. Dr. Robertson received his B.S. Chemical Engineering, from the University of California, Berkeley; M.S. in Chemical Engineering, from Stanford University; and Ph.D. in Chemical Engineering—emphasis on fluid mechanics and transport phenomena, from Stanford University. Professor Robertson began his career at the Denver Research Center of the Marathon Oil Company and worked in the areas of enhanced oil recovery, geophysical chemistry, and polyurethane chemistry. Since 1970, he has been on the faculty of Stanford's Department of Chemical Engineering. He has educated and trained over 40 Ph.D. students, holds seven patents, and has published over 140 articles. He is past director of the Stanford-NIH Graduate Training Program in Biotechnology. He was co-director of the Stanford initiative in biotechnology known as BioX, which in part includes the Clark Center for Bio-

medical Engineering and Sciences. He directed the summer Stanford Engineering Executive Program. He received the 1990 Stanford Associates Award for service to the University, the Stanford Associates Centennial Medallion Award in 1991, the 1991 Richard W. Lyman Award, the Society of Women Engineers Award for Teacher of the Year 2000 at Stanford, the Stanford Society of Chicano/Latino Engineers & Scientists Faculty of the Year Award in 2004, and the Lloyd W. Dinkelspiel Award for Distinctive Contributions to Undergraduate Education in 2009. He is a Founding Fellow of the American Institute of Medical and Biological Engineering. Professor Robertson serves on the Scientific Advisory Committee on Tobacco Product Regulation of the World Health Organization and served on the Panel on Science, Technology, and Law, National Research Council, National Academy of Sciences, 1999–2006. Because of his interests in biotechnology, he has consulted widely in the design of biomedical diagnostic devices. He has also served as an expert witness in several trials, including the Copper-7 intrauterine contraceptive cases (United States and Australia), the Stringfellow Superfund case, and most recently the Minnesota tobacco trial. He has cofounded 2 and consulted with over 30 Silicon Valley startups during the past three decades.

Joseph V. Rodricks is an internationally recognized expert in the field of toxicology and risk analysis, and their uses in the regulation and evaluation of toxic tort and product liability cases. Since 1980, he has consulted for hundreds of manufacturers, for government agencies, and the World Health Organization, and he has served on 30 boards and committees of the National Academy of Sciences and the Institute of Medicine. He has more than 120 publications on toxicology and risk analysis, and has lectured nationally and internationally on these topics. Dr. Rodricks was formerly Deputy Associate Commissioner, Health Affairs, and Toxicologist, U.S. Food and Drug Administration (1965–80), and is a visiting professor at The Johns Hopkins University School of Public Health. He has been certified as a Diplomate, American Board of Toxicology, since 1982. Dr. Rodricks' experience includes chemical products and contaminants in foods, food ingredients, air, water, hazardous wastes, the workplace, consumer products, and medical devices and pharmaceutical products. He is the author of *Calculated Risks* (Cambridge University Press), a nontechnical introduction to toxicology and risk analysis that is now available in a fully revised and updated second edition, for which he won an award from the American Medical Writers Association.

Allen Wilcox is Senior Investigator, Epidemiology Branch at the National Institute of Environmental Health Sciences, NIH, and Editor-in-Chief of *Epidemiology*. His research is primarily on human reproduction, with research topics ranging from fertility and early pregnancy loss to fetal growth and birth defects. Dr. Wilcox earned his undergraduate and medical degrees at the University of Michigan, Ann Arbor, and his M.P.H. (maternal and child health) and Ph.D. (epidemiology) at the University of North Carolina School of Public Health at

Chapel Hill, where he is an adjunct professor in the Department of Epidemiology. The school recognized him with its Distinguished Alumni Award in 2006. Other distinctions include the Distinguished Service Medal (highest award of the U.S. Public Health Service); election as a Fellow of the American College of Epidemiology; and election as president of the Society of Epidemiologic Research, the American Epidemiologic Society, and the Society for Pediatric Epidemiologic Research. In 2008, he received the National Maternal and Child Health Epidemiology Award. He holds an honorary doctorate from the University of Bergen (Norway). He is the author of *Fertility and Pregnancy: An Epidemiologic Perspective* (Oxford University Press 2010).

Sandy L. Zabell is Professor of Mathematics and Statistics at Northwestern University. He received his A.B. from Columbia College in 1968, his A.M. in biochemistry and molecular biology from Harvard University in 1971, and his Ph.D. in mathematics from Harvard University in 1974. He was Assistant Professor of Statistics at the University of Chicago from 1974 to 1979, and joined Northwestern University as Associate Professor of Mathematics in 1980. He is a Fellow of the American Statistical Association and the Institute of Mathematical Statistics. In the past he has served as an associate editor of the *American Mathematical Monthly* and the *Journal of Mathematical Analysis and Applications*, and book review editor of the *Annals of Probability*. His principal research interests revolve around mathematical probability (in particular, large deviation theory) and Bayesian statistics (in particular, the study of exchangeability). He has also written extensively on the history and philosophical foundations of probability and statistics, is an affiliated faculty member of the Northwestern Philosophy Department, and the author of *Symmetry and its Discontents* (Cambridge University Press, 2006). Professor Zabell has had a longstanding involvement in the legal applications of statistics, including serving on two panels of the National Research Council, and teaching courses on statistics at both the University of Chicago and Northwestern Law Schools. One of his primary interests at present is forensic science, in particular, the statistical issues arising from the use of DNA in human identification. He has spoken numerous times at forensic science conferences, and lectured on forensic DNA identification in courses at Northwestern. He is also interested in the statistical proof of employment discrimination and the legal uses of sampling. In addition to his scholarly interests, he has assisted legal counsel over the years in more than 200 cases, both civil and criminal.

Staff

Joe S. Cecil is a Senior Research Associate and Project Director in the Division of Research at the Federal Judicial Center. Currently, he is directing the Center's Program on Scientific and Technical Evidence. As part of this program, he served

as principal editor of the first and second editions of the Center's Reference Manual on Scientific Evidence. He has published several articles on the use of court-appointed experts and is currently examining changes in dispositive motion practice in federal district courts over the past 30 years. Dr. Cecil received his J.D. and a Ph.D. in psychology from Northwestern University. He serves on the editorial boards of social science and legal journals. He has served as a member of several panels of NAS, and currently is serving as a member of the National Academies Committee on Science, Technology, and Law. Other areas of research interest include federal civil and appellate procedure, jury competence in complex civil litigation, claim construction in patent litigation, and judicial governance.

Anne-Marie Mazza is the Director of the Committee on Science, Technology, and Law. Dr. Mazza joined the National Research Council in 1995. She has served as Senior Program Officer with both the Committee on Science, Engineering, and Public Policy and the Government-University-Industry Research Roundtable. In 1999, she was named the first director of the Committee on Science, Technology, and Law, a newly created activity designed to foster communication and analysis among scientists, engineers, and members of the legal community. Dr. Mazza has been the study director on numerous Academy reports including *Review of the Scientific Approaches Used During the FBI's Investigation of the 2001 Anthrax Mailings* (2011), *Managing University Intellectual Property in the Public Interest* (2010); *Strengthening Forensic Science in the United States: A Path Forward* (2009); *Science and Security in a Post-9/11 World* (2007); *Daubert Standards: Summary of Meetings* (2006); *Reaping the Benefits of Genomic and Proteomic Research: Intellectual Property Rights, Innovation, and Public Health* (2005); *Intentional Human Dosing Studies for EPA Regulatory Purposes: Scientific and Ethical Issues* (2004); *Ensuring the Quality of Data Disseminated by the Federal Government* (2003). Dr. Mazza received an NRC distinguished service award in 2008. In 1999–2000, Dr. Mazza divided her time between the National Academies and the White House Office of Science and Technology Policy (OSTP), where she served as a Senior Policy Analyst responsible for issues associated with a Presidential Review Directive on the government-university research partnership. Before joining the Academy, Dr. Mazza was a Senior Consultant with Resource Planning Corporation. Dr. Mazza received a B.A., an M.A., and a Ph.D. from the George Washington University.

Steven Kendall is Associate Program Officer for the Committee on Science, Technology, and Law. Mr. Kendall has contributed to numerous Academy reports including *Review of the Scientific Approaches Used During the FBI's Investigation of the 2001 Anthrax Mailings* (2011), *Managing University Intellectual Property in the Public Interest* (2010); and *Strengthening Forensic Science in the United States: A Path Forward* (2009). He is currently a Ph.D. candidate in the Department of the History of Art and Architecture at the University of California, Santa Barbara, where he is

completing a dissertation on nineteenth-century British painting. Mr. Kendall received his M.A. in Victorian Art and Architecture at the University of London. Prior to joining the NRC in 2007, he worked at the Smithsonian American Art Museum and the Huntington in San Marino, California.

Guruprasad Madhavan is a Program Officer with the Board on Population Health and Public Health Practice, and the Committee on Science, Engineering, and Public Policy at the National Academies. Previously, he served as a Program Officer for the Committee on Science, Technology, and Law and as a Christine Mirzayan Science and Technology Policy Fellow with the Board on Science, Technology and Economic Policy. He has worked on such National Academies' publications as *Direct-to-Consumer Genetic Testing: Summary of a Workshop* (2010); *Managing University Intellectual Property in the Public Interest* (2010); and *Rising Above the Gathering Storm, Revisited* (2010). Dr. Madhavan completed his Ph.D. in biomedical engineering at the State University of New York (SUNY) at Binghamton where his research was directed toward developing noninvasive, nonpharmacological, neuromuscular stimulation approaches for enhancing circulation. He received his B.E. (honors with distinction) in instrumentation and control engineering from the University of Madras, and M.S. in biomedical engineering from SUNY Stony Brook. Following his medical device industry experience as a research scientist at AFx, Inc. and Guidant Corporation in California, Dr. Madhavan completed his M.B.A. in leadership and healthcare management from SUNY Binghamton. Among other honors, he was selected as an outstanding young scientist to attend the 2008 World Economic Forum Annual Meeting of the New Champions, and 1 among 14 people as the "New Faces of Engineering" of 2009 in *USA Today*. He is co-editor of *Career Development in Bioengineering and Biotechnology* (Springer 2008) and *Pathological Altruism* (Oxford University Press 2011).