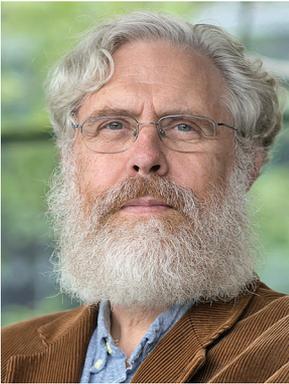




**SEMI-ANNUAL MEETING**  
**6-8 MAY 2017, WASHINGTON, DC**

**SPEAKER  
BIOGRAPHIES**



*Credit: Wyss Institute at Harvard*

## DR. GEORGE M. CHURCH

*Professor of Genetics, Health Sciences and Technology,  
Harvard and MIT (HST)*

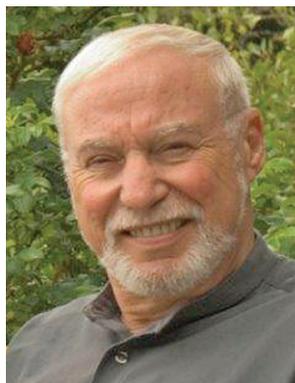
*Director of HMS NHGRI-Center of Excellence  
in Genomic Science*

*Director of the Personal Genome Project*

*Broad Institute and Wyss Harvard Institute  
of Biologically Inspired Engineering*

Dr. George Church is professor of genetics at Harvard Medical School and director of PersonalGenomes.org, which provides the world's only open-access information on human Genomic, Environmental and Trait data

(GET). His 1984 Harvard Ph.D. included the first methods for direct genome sequencing, molecular multiplexing and barcoding. These led to the first genome sequence (pathogen, *Helicobacter pylori*) in 1994. His innovations have contributed to nearly all "next generation" DNA sequencing methods and companies such as CGI-BGI, Life, Illumina, and Nanopore. These accomplishments, plus his lab's work on chip-DNA-synthesis, gene editing and stem cell engineering, resulted in founding additional application-based companies spanning fields of medical diagnostics, including Knome/PierianDx, Alacris, AbVitro/Juno, Genos, and Veritas Genetics and synthetic biology/therapeutics including Joule, Gen9, Editas, Egenesis, enEvolv, and WarpDrive. Church has also pioneered new privacy, biosafety, ELSI, environmental and biosecurity policies. He is director of an IARPA BRAIN Project and NIH Center for Excellence in Genomic Science. His honors include election to the National Academy of Sciences, National Academy of Engineering, and Franklin Bower Laureate for Achievement in Science. He has coauthored 425 papers, 95 patent publications and one book, *Regenesis*.



## ROSS BAKER

*Professor of American Government and U.S. Legislative Politics, Rutgers University*

Ross K. Baker, professor of political science, was a research associate at the Brookings Institution in Washington, D.C., before joining the Rutgers faculty. Professor Baker's fields of interest are American government and U.S. legislative politics.

His books include *The Afro-American* (Van Nostrand, 1970), *Friend and Foe in the U.S. Senate* (The Free Press, 1980, and Copley, 1999), *The New Fat Cats* (Priority Press, 1989), *House and Senate* (W.W. Norton, 1989, 1995, and 2000), *Strangers on a Hill* (W.W. Norton); and *Is Bipartisanship Dead?* (Paradigm). He also co-authored *American Government* (1983 and 1987). Baker is a regular contributor to the editorial pages of the *Los Angeles Times* and *Newsday*, and his commentaries have appeared in *The New York Times*, *Washington Post*, *Chicago Tribune*, *Boston Globe*, and the *Philadelphia Inquirer*. Baker is featured on the National Public Radio program *All Things Considered*.

He served on the staffs of Senators Walter F. Mondale, Birch Bayh, and Frank Church, and as a consultant to the Democratic Caucus of the U.S. House of Representatives. In 2008 and 2012 he was Scholar-in-Residence in the Office of the Democratic leader of the Senate, Harry Reid. In 2000, he served as a senior adviser to Senator Chuck Hagel (R-Nebraska) and Patrick J. Leahy (D-Vermont).

In 1992, Baker was a Fulbright Fellow at the Swedish Institute of International Affairs in Stockholm and served as guest editor of its journals *Internationella Studier* and *Varldspolitikens Dagsfragar*. He was visiting professor at Haverford College in 1992 and visiting professor at the University of Leipzig (Germany) in 2000.



## THE HONORABLE CHARLES F. BOLDEN, JR.

*(Major General, USMC Ret.), NASA Astronaut*

Maj. Gen. Charles Frank Bolden Jr. (USMC-Ret.) was nominated by President Barack Obama and confirmed by the U.S. Senate as the 12th Administrator of the National Aeronautics and Space Administration (NASA). He began his duties as head of the Agency on 17 July 2009 and retired from NASA on 20 January 2017.

At NASA, Bolden oversaw the safe transition from 30 years of Space Shuttle missions to a new era of exploration focused on full utilization of the International Space Station and space and aeronautics technology development. He led the Agency in developing a Space Launch System rocket and Orion spacecraft that will carry astronauts to deep space destinations, such as an asteroid and Mars. He also established a new Space Technology Mission Directorate to develop cutting-edge technologies for the missions of tomorrow. The Agency's dynamic science activities under Bolden include an unprecedented landing on Mars with the Curiosity rover, launch of a spacecraft to Jupiter, and continued progress toward the 2018 launch of the James Webb Space Telescope, the successor to the Hubble Space Telescope.

He attended the U.S. Naval Academy where he earned a bachelor of science degree in electrical science and was commissioned as a second lieutenant in the Marine Corps. In 1977, he earned a master of science degree in systems management from the University of Southern California.

Bolden's 34-year career with the Marine Corps included 14 years as a member of NASA's Astronaut Office. After joining the office in 1980, he traveled to orbit four times aboard the Space Shuttle between 1986 and 1994, commanding two of the missions and piloting two others. He retired from the Marine Corps in 2003 and was inducted into the U.S. Astronaut Hall of Fame in May 2006.

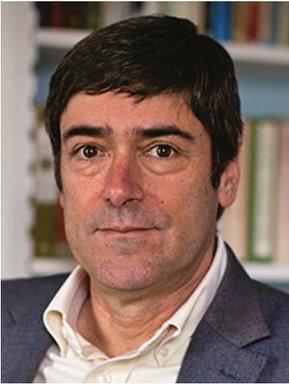


## U.S. SENATOR BILL CASSIDY, MD

*(R-Louisiana)*

Dr. Bill Cassidy is the United States Senator for Louisiana. He grew up in Baton Rouge, Louisiana, and attended Louisiana State University (LSU) for undergraduate and medical school. In 1990, he joined LSU Medical School teaching medical students and residents at Earl K. Long hospital, a hospital for the uninsured. Cassidy worked for Louisiana's charity hospital system for almost three decades, providing care for uninsured and underinsured patients. It was during this time that he co-founded the Greater Baton Rouge Community Clinic, a clinic providing free dental and health care to the working uninsured. Cassidy also created a private-public partnership to vaccinate 36,000 greater Baton Rouge area children against Hepatitis B at no cost to the schools or parents. In the wake of Hurricane Katrina, he led a group of health care volunteers to convert an abandoned K-Mart building into an emergency health care facility, providing basic health care to hurricane evacuees.

Cassidy was elected to the Louisiana State Senate. In 2008, he was elected to the United States House of Representatives to represent Louisiana's Sixth Congressional District, serving on the Energy and Commerce Committee. Cassidy was elected to the U.S. Senate in 2014. He serves on the Health Education Labor and Pensions (HELP), Energy and Natural Resources, Finance, Veterans Affairs, and Joint Economic Committees.



## RICHARD HARRIS

*Correspondent, Science Desk, National Public Radio*

Richard Harris has covered science, medicine and the environment for National Public Radio since 1986.

His award-winning work includes reports in 2010 that revealed the U.S. government was vastly underestimating the amount of oil spilling from the Macondo blowout in the Gulf of Mexico. He also shared a Peabody Award with colleague Rebecca Perl for their 1994 reports about the tobacco industry's secret documents,

which showed that company scientists were well-aware of the hazards of smoking.

Harris has traveled the world, from the South Pole and the Great Barrier Reef to the Arctic Ocean, reporting on climate change. The American Geophysical Union honored him with a Presidential Citation for Science and Society, and in 1999 he was awarded the Carl Sagan Award for Public Appreciation of Science by the Council of Scientific Society Presidents.

Harris grew up in the San Francisco Bay Area and earned a bachelor's degree in biology at UC-Santa Cruz. He graduated with highest honors and spoke at commencement. In his first full-time reporter job, at the Livermore (Calif.) *Tri-Valley Herald*, he discovered that the Lawrence Livermore National Laboratory was working on a new generation of nuclear weapons — ones that use nuclear explosives to generate energy beams. Scientists at the time contemplated putting these weapons in space to shoot down incoming missiles.

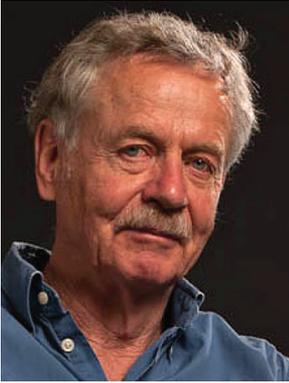
In 2014, he turned his attention back to biomedical research and came to realize how the field was suffering. Too many scientists were chasing too little funding. That led him to take a year-long sabbatical at Arizona State University's Consortium for Science, Policy and Outcomes to research and write *Rigor Mortis*. It is his first book.



## SKIP HOBBS

*Founder and Managing Partner, Ammonite Resources*

G. Warfield “Skip” Hobbs is a geologist and founder and managing partner of Ammonite Resources, a firm of international petroleum, mining and geothermal technical and business consultants which has been headquartered in New Canaan, Connecticut, since 1982. Hobbs holds a B.Sc. Degree in geology from Yale College and a M.Sc. Degree in petroleum geology from the Royal School of Mines, Imperial College, London. He has served as an elected officer of the American Association of Petroleum Geologists, and, from 2004-2012, served on the executive committee of the American Geological Institute, a federation of 50 geoscience professional societies representing over 250,000 members in every earth science discipline. He was AGI president in 2010-2011. Hobbs was a member of the Council of Scientific Society Presidents in Washington, D.C., from 2009-2012, where he served as co-chair of the Committee on Energy and the Environment. In 2016 he was elected as a fellow of the Geological Society of America. From 2000-2014 Hobbs was a trustee of the New Canaan Nature Center and was president of the Nature Center from 2012-2014. Hobbs writes and lectures frequently on energy economics and energy policy and on environmental issues. When not working on matters of geoscience, he manages a family farm in Massachusetts that produces organically-grown vegetables, honey, maple syrup, grass-fed beef, and timber.



## DR. RUDOLF JAENISCH

*Founding Member, Whitehead Institute for  
Biomedical Research*

*Professor of Biology, Department of Biology, MIT*

Rudolf Jaenisch, MD, is a founding member of the Whitehead Institute and professor of biology at Massachusetts Institute of Technology. He is also president emeritus of the International Society for Stem Cell Research and recipient of the 2011 United States National Medal of Science. He generated the first trans-

genic mice carrying exogenous DNA in the germ line and was the first to use insertional mutagenesis for identifying genes crucial for embryonic development. Perhaps his most fundamental contributions have been in the study of epigenetic processes during development. In particular, Jaenisch showed that methylation of DNA plays important roles in gene expression, imprinting and X-inactivation as well as in diseases such as cancer and mental retardation. His work has focused on mammalian cloning and has defined some of the molecular mechanisms that are crucial for the nuclear reprogramming. More recently he is using direct reprogramming of somatic cells to generate “induced Pluripotent Stem” (iPS) cells in the culture dish. These cells are relevant to establish in vitro system to study major human diseases and eventually to derive cells that could be used for “customized” therapy.



## DAN KAHAN

*Elizabeth K. Dollard Professor of Law  
Professor of Psychology, Yale Law School*

Dan Kahan is the Elizabeth K. Dollard Professor of Law and professor of psychology at Yale Law School. His primary research interests are risk perception and science communication. 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 related facts. In studies funded by the National Science Foundation, his research has investigated public disagreement over climate change, public reactions to emerging technologies, and conflicting public impressions of scientific consensus. 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*. He is a senior fellow at the National Center for Science and Civic Engagement and a member of the American Academy of Arts and Sciences.



## DR. NICOLE C. KLEINSTREUER

*Deputy Director, National Toxicology Program  
Interagency Center for the Evaluation of Alternative  
Toxicological Methods (NICEATM)*

Dr. Nicole Kleinstreuer is the deputy director of the National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM) within the NIEHS, in Research Triangle Park, North Carolina. She worked previously for Integrated Laboratory Systems as the head of their

computational toxicology group. Kleinstreuer maintains adjunct appointments at the Eshelman School of Pharmacy at the University of North Carolina at Chapel Hill and in the NIEHS division of intramural research biostatistics and computational biology branch.

She has received many prestigious awards, including the B.H. Neumann prize from the Australian Mathematical Society, the James G. Wilson presentation award and the F. Clarke Fraser new investigator award from the Teratology Society, the best publication award from the Biotechnology Specialty Section of the Society of Toxicology, and the Lush Prize Young Investigator Americas award. Her research focuses on in-vitro alternatives to animal testing, high throughput screening and multidimensional data analyses, and mathematical and computational modeling of biological systems and their susceptibility to environmental perturbations that may result in adverse outcomes.

Kleinstreuer received degrees in mathematics and biomedical engineering from the University of North Carolina at Chapel Hill, her Ph.D. in bioengineering from the University of Canterbury in Christchurch, New Zealand, and completed her postdoctoral training with the U.S. EPA's National Center for Computational Toxicology.



## FRED LAWRENCE

*10th Secretary and CEO, Phi Beta Kappa Society  
Visiting Professor of Law and Senior Research Scholar,  
Yale Law School  
Visiting Professor, Georgetown Law Center*

Frederick M. Lawrence is the 10th secretary and CEO of the Phi Beta Kappa Society, America's first and most prestigious honor society, founded in 1776. He is visiting professor of law and senior research scholar at Yale Law School and visiting professor at the Georgetown Law Center. He previously served as president of Brandeis University and dean of the George Washington University Law School.

An accomplished scholar, teacher and attorney, Lawrence is one of the nation's leading experts on civil rights, free expression and bias crimes. He has published widely and lectured internationally. He is the author of *Punishing Hate: Bias Crimes Under American Law* (Harvard University Press 1999), examining bias-motivated violence and the laws governing how such violence is punished in the United States. He frequently contributes op-eds to various news sources, such as *The Boston Globe*, *the Observer*, *The Hill*, *the NY Daily News* and *The Huffington Post*, and he has appeared on CNN, among other networks.

Lawrence has testified before Congress concerning federal hate crime legislation, was the key-note speaker at the meeting of the Organization for Security and Cooperation in Europe (OSCE) on bias-motivated violence, was a senior research fellow at University College London, and the recipient of a Ford Foundation grant to study bias-motivated violence in the United Kingdom. Lawrence is a trustee of Beyond Conflict, serves on the Board of Directors of the National Humanities Alliance, the National Commission of the Anti-Defamation League and the Advisory Board of RANE (Risk Assistance Network + Exchange) and has been a Trustee of Williams College and WGBH.

As president of Brandeis, Lawrence strengthened ties between the university and its alumni and focused on sustaining the university's historical commitment to educational access through financial aid. His accomplishments during his presidency included restoring fiscal stability to the university and overseeing record setting increases in admissions applications, undergraduate financial aid and the university's endowment.

As dean and Robert Kramer Research Professor of Law at George Washington University Law School from 2005 to 2010, Lawrence recruited the strongest classes in the school's history, and his five years as dean were five of the six highest fund-raising years in the school's history.

His legal career was distinguished by service as an assistant U.S. attorney for the southern district of New York in the 1980s, where he became chief of the Civil Rights Unit. Lawrence received a bachelor's degree in 1977 from Williams College magna cum laude where he was elected to Phi Beta Kappa, and a law degree in 1980 from Yale Law School where he was an editor of the Yale Law Journal.



## DR. NOELLE F. METTING

*Radiation Biologist, U.S. Department of Energy, Office of Public Radiation Protection, Office of Environmental Protection and ES&H Reporting*

Noelle Metting, ScD, is a radiation biologist in the Department of Energy (DOE), currently working in the Office of Environment, Health, Safety, and Security. Previously, Metting was the program manager for the Low Dose Radiation Research Program in DOE's Office of Science from 2001 until 2015, where she developed

and administered a highly-focused research portfolio of stringently peer-reviewed investigator-initiated proposals. The Low Dose Program budget averaged \$18 M per year in research grants awarded to both universities and national Laboratories.

Metting was a research scientist for 20 years before coming to DOE. She began her career in the field of experimental radiation physics at the Pacific Northwest National Laboratory (PNNL) as a junior member of a research team funded by NASA to design real-time radiation dosimetry subsequently deployed in the Space Shuttle fleet (Dr. L.A. Braby, principle investigator). She went on to undertake ground-breaking measurements of secondary electrons around the tracks of high energy heavy ions at UC-Berkeley's BEVALAC Accelerator Facility and the GSI Accelerator Facility in Darmstadt, Germany. Following an educational leave to pursue doctoral studies in radiation biology, Metting returned to PNNL, where she continued research into the biological effects of ionizing radiation in cell culture models. Her research employed PNNL's innovative single-cell single-particle micro-beam irradiator in addition to other high energy particle accelerators around the country.

Metting earned her Bachelor of Arts from Whitman College, and Master of Science in Radiological Sciences from the University of Washington. She received her Doctor of Science in Cancer Biology from Harvard University in 1994. Metting was a 1992 co-recipient of the PNNL Director's Award for Excellence. She was elected to the post of councilor in physics for the Radiation Research Society in 1997 and served for four years. In 2005 she received a Superior Accomplishment Award from the Department of Energy *"For exceptional initiative and insight and scientific excellence in the development of..."* her Ionizing Radiation Dose Ranges Chart. In addition to publications and presentations of earlier original research, Metting has represented DOE at numerous national and international meetings.



## DR. SETH C. MURRAY

*Senior Advisor of Agricultural Systems, Office of the Chief Scientist (OCS), U.S. Department of Agriculture*

Seth Murray is an associate professor and the Eugene Butler Endowed Chair in Agricultural Biotechnology in the Department of Soil and Crop Sciences at Texas A&M University. He received his Ph.D. from Cornell University in 2008 working on the genetics of sorghum and a B.S. from Michigan State University. His research program focuses on new approaches in high

throughput field phenotyping, quantitative genetic discovery and applied maize breeding for yield, aflatoxin resistance and stress tolerance in Texas, and perenniality in maize and sorghum. He has chaired 19 graduate students, authored 40 articles, and served in leadership roles for ASTA, the Crop Science Society of America and the National Association of Plant Breeders. He recently founded and is editor of *The Plant Phenome Journal*, a CSSA and ASA publication. He is currently spending one year on sabbatical as the senior advisor of agricultural systems in the Office of the Chief Scientist at the USDA in Washington, D.C.



## DR. RONALD RAEI

*Eva Li Memorial Chair of Architecture and Chair Graduate Committee, Department of Architecture, University of California Berkeley*

Ronald Rael is an associate professor and the chair of the graduate committee in the Department of Architecture at UC Berkeley. He directs the printFARM Laboratory (print Facility for Architecture, Research and Materials), holds a joint appointment in the Department of Architecture, in the College of Environmental Design, and the Department of Art Practice, and is both a Bakar and Hellman Fellow. His teaching spans

the curriculum, from graduate design thesis, undergraduate courses on Design and Activism, and he has twice directed the one year post-professional Master of Architecture program, Studio One.

He is an applied architectural researcher, design activist, author, and thought leader in the fields of additive manufacturing and earthen architecture. In 2014 his creative practice, Rael San Fratello (with architect Virginia San Fratello), was named an Emerging Voice by The Architectural League of New York — one of the most coveted awards in North American architecture. In 2016 Rael San Fratello was also awarded the Digital Practice Award of Excellence by the The Association for Computer Aided Design in Architecture (ACADIA).

He is the author of *Borderwall as Architecture: A Manifesto for the U.S.-Mexico Boundary* (University of California Press 2017), which advocates for a reconsideration of the barrier dividing the U.S. and Mexico through design proposals that are hyperboles of actual scenarios that have occurred as a consequence of the wall, and *Earth Architecture* (Princeton Architectural Press, 2008) is a history of building with earth in the modern era to exemplify new, creative uses of the oldest building material on the planet. *Emerging Objects*, a company co-founded by Rael, is an independent, creatively driven, 3D Printing MAKE-tank specializing in innovations in 3D printing architecture, building components, environments and products.

Rael earned his Master of Architecture degree at Columbia University where he was the recipient of the William Kinne Memorial Fellowship. Previous academic and professional appointments include positions at the Southern California Institute for Architecture (SCI\_arc), Clemson University, the University of Arizona, and the Office for Metropolitan Architecture in Rotterdam. His work has been published widely, including the *New York Times*, *Wired*, *MARK*, *Domus*, *Metropolis Magazine*, *PRAXIS*, *Thresholds*, *Log*, and recognized by several institutions including The Cooper Hewitt Smithsonian Design Museum, La Biennale di Venezia, the Graham Foundation for Advanced Studies in the Fine Arts, Storefront for Art and Architecture, and his work is included in the permanent collection of The Museum of Modern Art in New York.



## DR. CHRIS VOLPE

*Executive Director, ScienceCounts*

Christopher Volpe, Ph.D., is the executive director of ScienceCounts, a 501(c)3 organization formed in 2014 to cultivate strong support for science, in particular, basic science among the public. He is a vocal advocate for leveraging proven marketing and sales practices from business to enhance the effectiveness of science communication and public advocacy.

Over the last two decades, Volpe has developed and marketed numerous novel science education and outreach products and services. Prior to ScienceCounts, he was most recently the president and co-founder of Prismatic Laser Programs, a science- and technology-based education company, currently the nation's largest provider of STEM assembly programs to schools.

Volpe is a physical chemist by education and an alumnus of Scripps Institution of Oceanography.



The Council of Scientific Society Presidents thanks the Carnegie Institution for Science for its generous support of the Spring 2017 meeting. CSSP also thanks the Kavli Foundation for its support of the Fred Kavli Science at the Frontiers Lecture.



## **UPCOMING MEETINGS:**

### **DECEMBER 2017 MEETING**

2-4 December 2017, Washington, DC  
with the Congressional Breakfast Tuesday, 5 December 2017