

THE SCIENCE & ENTERTAINMENT EXCHANGE

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Speaker Biographies



[BONNIE BASSLER](#) is the Squibb Professor and Director of Graduate Studies in the Department of Molecular Biology at Princeton University. She also runs the Bassler Laboratory at Princeton and is a Howard Hughes Medical Institute Investigator. Bassler's research focuses on the molecular mechanisms that bacteria use for intercellular communication, a process called quorum sensing. Her team is currently working to find ways to disrupt specific communications so that bacteria either cannot talk or listen to one another, which has critical applications to world health problems. Bassler has received numerous honors for her breakthrough research including the MacArthur "Genius" fellowship for extraordinary creativity in 2002 and in 2006 she was elected to the National Academy of Sciences.



[DAVID BOLINSKY](#) is founding partner and Medical Director of XVIVO, a full-service medical and scientific digital animation company. After two years in medical school and a year's leave to illustrate a book, Bolinsky accepted an invitation to become Senior Medical Illustrator at the Yale School of Medicine. At XVIVO, he has produced animations which have attracted international attention and received numerous awards. His short film, *The Inner Life of the Cell*, vividly illustrates the mechanisms that allow a white blood cell to sense its surroundings and respond to an external stimulus. Bolinsky's clients include a number of large companies and universities as well as HBO, NBC, NOVA, PBS, and Disney Imagineering.



[CYNTHIA BREAZEAL](#) is an Associate Professor of Media Arts and Sciences at MIT where she founded and directs the Personal Robots Group at the Media Lab. As a pioneer of Social Robotics and Human Robot Interaction, her research program focuses on developing personal robots that interact with humans in human-centric terms, work with humans as partners, and learn from people via tutelage. She has been awarded an ONR Young Investigator Award, been honored as finalist in the National Design Awards in Communication, and recognized as a prominent young innovator by the National Academy

of Engineering's Gilbreth Lecture Award.



[JOHN T. BROOKS](#) is the Leader of the Clinical Epidemiology Team in the Division of HIV/AIDS Prevention at the CDC. His career with the CDC began when he entered a two-year training program in field epidemiology with the their Epidemic Intelligence Service (EIS or the "disease detectives"), where he was assigned to the Foodborne and Diarrheal Diseases Branch. Now in the Division of HIV/AIDS Prevention, he supervises numerous large cohort studies of HIV-infected Americans and continues to treat patients with HIV infection at the Atlanta VA Medical Center. As part of his responsibilities at CDC, Brooks occasionally serves as a content area expert for television screenwriters seeking information about HIV/AIDS.



[RODNEY BROOKS](#) has been a professor at MIT and Stanford for 25 years and led MIT's Computer Science and Artificial Intelligence Laboratory for ten years. He has started a number of companies along the way including iRobot, maker of the home cleaning Roomba and also thousands of IED disarming robots working with the US military in Iraq and Afghanistan. More recently he cofounded Heartland Robotics, with the goal of revitalizing American manufacturing. He is a member of the National Academy of Engineering and a Fellow of the American Academy of Arts and Sciences.



[STEVE CHU](#) is the Director of the Lawrence National Berkeley Laboratory and a professor of physics and of molecular and cell biology at the University of California, Berkeley. Chu was elected to the National Academy of Sciences in 1993 and at just 49 years old, he shared in the 1997 Nobel Prize in Physics. As concerns have grown regarding the changing climate, he has become actively engaged in addressing the world's energy demands and has challenged scientists to find environmentally friendly energy alternatives to fossil fuels. He is co-chairing an international InterAcademy Council study, "*Lighting the way: Toward a Sustainable Energy Future; Transitioning to Sustainable Energy.*"



[RALPH J. CICERONE](#) is the President of the National Academy of Sciences. He is an atmospheric chemist whose research on climate change has shaped science and environmental policy at the highest levels both nationally and around the world. His research was recognized on the citation for the 1995 Nobel Prize in chemistry and he has been consistently honored for his fundamental contributions to the understanding of greenhouse gases and ozone depletion. In 1999 he was named the laureate for the Bower Award and Prize for Achievement in Science, one of the most prestigious American awards in science.



[ROBERT FULL](#) is Professor of Integrative Biology at the University of California, Berkeley and director of a new Berkeley center, CiBER, the Center for Interdisciplinary Biological Inspiration in Education and Research. He also directs the Poly-PEDAL Laboratory, which studies the Performance, Energetics and Dynamics of Animal Locomotion (PEDAL) in many-footed creatures. His fundamental discoveries in animal locomotion have inspired the design of novel neural control circuits, artificial muscles, eight autonomous legged robots and the first self-cleaning dry adhesive. Full's research interests extend from analyzing the pitching motion of a Hall of Fame pitcher to assisting computer animators make children's movies (*A Bug's*

Life). He recently was named Mentor in the Life Sciences by the National Academy of Sciences.



[LAWRENCE GOLDSTEIN](#) is Professor of Cellular and Molecular Medicine at the University of California, San Diego, and Director of the UC San Diego Stem Cell Program. He is also a Howard Hughes Medical Institute Investigator. Goldstein's research is focused on understanding the molecular mechanisms of movement inside brain cells and how failures in the movement systems may lead to neurodegenerative diseases. His laboratory has discovered important links between transport processes and diseases such as Alzheimer's and Huntington's. As a co-founder of the biotechnology company Cytokinetics, he has also had an active role in private industry where he has gained experience in translating scientific insights to new therapeutic approaches.



[HEIDI HAMMEL](#) is a Senior Research Scientist and co-Director of Research at the Space Science Institute in Boulder, Colorado. Hammel studies giant planets in our solar system using the Hubble Space Telescope, the Keck Observatory, and other facilities. She has a special interest in Neptune and Uranus, and led the team that used Hubble to watch a comet smash into Jupiter in 1994. Asteroid ³1981 EC20² has been renamed *3530 Hammel* in her honor. Hammel has been lauded for her public outreach work with the American Astronomical Society's Sagan Medal for outstanding public communication by an active planetary scientist. She has also received the San Francisco Exploratorium's Public Understanding of Science Award.



[ERIC HASELTINE](#) is a neuroscientist and Managing Partner of Haseltine Partners, a technology forecasting consulting practice. Over the course of his career, Haseltine has applied new discoveries about the human brain in fields as diverse as aerospace technology, virtual reality, special effects, journalism, entertainment and, most recently, national security and intelligence. Haseltine's early research in flight simulation helped pioneer the emerging field of virtual reality. He later joined the Walt Disney Company where he was head of R&D for the entire corporation, including film, television, theme parks, Internet and consumer products. After leaving Disney, Haseltine oversaw all science and technology efforts within the US

intelligence community, and fostered innovative technologies for counter-terrorism.



[EMILY LEVINE](#) is a humorist, writer, and radio commentator. A Harvard graduate, Levine connects big ideas with our everyday lives and makes it funny. She has been a television writer/producer and has created and produced pilots for new situation comedies for CBS, NBC, ABC and HBO. Increasingly interested in things like chaos theory and the dynamics of change, Levine realized she could be smart and funny, entertaining and enlightening. The marriage of Levine's brain with her funny-bone has resulted in a career as a corporate speaker and as a radio commentator for WNYC in New York. Her performances have earned her accolades like "brainy and zany" and "mad professor genius comic."



[SUSANNE MOSER](#) is Director and Principal Researcher of Susanne Moser Research & Consulting in Santa Cruz, California, and a Research Associate at the University of California-Santa Cruz Institute for Marine Sciences. Her work focuses on adaptation to climate change and communication in support of social change. A geographer by training, she is particularly interested in effective communication strategies that work among the scientific community, decision-makers, and members of the public. Dr. Moser contributed to Working Group II of the Nobel prize-winning Intergovernmental Panel on Climate Change's Fourth Assessment Report, and has advised former Vice President Al Gore on climate change communication.



[DAVID POEPEL](#) is a professor in the Departments of Linguistics and Biology at the University of Maryland, and in the Department of Psychology at NYU. He directs the Cognitive Neuroscience of Language Laboratory, using various machines to study the brain basis of hearing, speech, and language. Principally, Poeppel studies speech, looking at how we perceive it



and examining the 'parts list' of the mind/brain for language. He frequently writes and lectures about neuroscience, linguistics, and brain imaging and has been a Fellow at the Wissenschaftskolleg and The American Academy, a guest professor at many institutions, and received the DaimlerChrysler Berlin Prize and other honors.



[V.S. RAMACHANDRAN](#) is the Director of the Center for Brain and Cognition and a professor with the Psychology Department and the Neurosciences Program at the University of California, San Diego. Ramachandran's early research focused on visual perception but he is perhaps best known for his work in experiments in behavioral neurology which, despite their apparent simplicity, have had a profound impact on the way we think about the brain. He has been called the "Marco Polo of neuroscience" by Richard Dawkins and the "modern Paul Broca" by Eric Kandel. His work is often featured in the major news media and *Newsweek* magazine recently named him a member of "The Century Club," adding him to the list of the one hundred most prominent people to watch in the next century.



[LISA RANDALL](#) is a professor of theoretical physics at Harvard University. Her research involves models for elementary particles and cosmology, the most recent involving extra dimensions of space. Randall was featured in *SEED Magazine's* "2005 Year in Science Icons," in *Newsweek's* "Who's Next in 2006," in *Time Magazine's* "100 Most Influential People" of 2007, and in 2008 Randall was included in *Esquire Magazine's* list of the "75 Most Influential People of the 21st Century." Randall is a fellow of the American Physical Society, a member of the American Academy of Arts and Sciences, and in April was elected to the National Academy of Sciences.



[GENE ROBINSON](#) is the Swanlund Chair, Department of Entomology, Neuroscience Program and Institute for Genomic Biology at the University of Illinois. He pioneered the application of genomics to the study of social behavior and led the effort to gain approval from the National Institutes of Health for sequencing the honey bee genome. Robinson has made a wide range of fundamental advances in explaining the endocrine, neural, and genetic regulation of behavior at the individual and colony levels in honey bees. He has also significantly advanced the understanding of the role of genes, hormones, and neurochemicals in the evolution of social behavior and in 2005 he was elected to the National Academy of Sciences.



[NEIL deGRASSE TYSON](#) is an astrophysicist and Director of the Hayden Planetarium at the American Museum of Natural History in New York City. A graduate of the Bronx High School of Science, Tyson earned his BA in Physics from Harvard and his Ph.D. in Astrophysics from Columbia. Tyson's professional research interests are broad, but include star formation, exploding stars, dwarf galaxies, and the structure of our Milky Way. He pens a monthly essay for *Natural History* magazine under the title "Universe" and has written eight books. Tyson also appears as the on-camera host of PBS-NOVA's spinoff program *NOVA ScienceNow*.



[J. CRAIG VENTER](#) is the Founder and President of the J. Craig Venter Institute (JCVI), a research organization dedicated to human, microbial, plant, synthetic, and environmental genomic and policy research. Venter is also Founder and CEO of Synthetic Genomics, Inc. His work there focuses on studying and using microbes from environments to develop new biological sources of energy and chemicals. It was under Venter's leadership that Celera Genomics sequenced the human



genome using the whole genome shotgun technique, new mathematical algorithms, and new automated DNA sequencing machines. Venter and his team at JCVI published in 2007 the first complete human genome.

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