

## Nifty Fifty Speakers for the 5<sup>th</sup> USA Science & Engineering Festival 2017/2018 School Year

**Kyler Abernathy** - Let this renowned biologist from National Geographic introduce you to the Crittercam -- the miniature high-tech camera that is giving researchers amazing looks into the private lives of wild animals!

**Nadine Afari** - Under the leadership of HTE@USC, discover from this expert at the University of Southern California how a new era of interdisciplinary teamwork is bringing together experts and innovators in fields ranging from science and medicine to art and business to solve challenging problems in healthcare! (*California Speaker*)

**Aaron Alford, Ph.D.** - Discover how this noted research scientist and Director of Research and Evaluation for the National Network of Public Health Institutes (NNPHI) turned his childhood love of "finding critters in the woods" into a mission in paleontology to recover and identify marine mammals from our distant past and donate these specimens to K-12 schools as teaching aids.

**Jatin Ambegaonkar, Ph.D.** - This George Mason University researcher in Exercise and Sport Science is noted for his work in the emerging field of Dance Medicine, helping dancers and performing artists improve their performance and reduce injury risk.

**Joaquin A. Anguera, Ph.D.** - This noted neuroscientist at the University of California, San Francisco is part of a growing cadre of researchers using such emerging technology as mobile apps, virtual reality and computer gaming to study and treat neuro-related disorders, including ADHD, Autism, and depression. (*California Speaker*)

**Ruben Baler, Ph.D.** - In his role as health Scientist at the National Institute on Drug Abuse, part of the National Institutes of Health, he's using brain imaging to teach us about drug addiction.

**Stayce Beck, Ph.D., M.P.H.** - At the Food and Drug Administration (FDA) she is responsible for assuring the safety and quality of medical devices used by millions of people with diabetes. Learn first-hand of the rigorous process that these and other life-saving products go through at the FDA before and after they reach the consumer market!

**Joshua Bell, Ph.D.** - Fascination awaits you as this noted Smithsonian anthropologist takes audiences inside the mysteries of Papua New Guinea's ancestral past, plus Smithsonian's effort to save the 6,000 endangered languages spoken by the world's indigenous people!

**Erik Berkenpas** - This engineer for the National Geographic Society travels to some of the most remote regions of the world testing and using the unique imaging tools he designs to help us better understand our physical world – ranging from the mysteries of the sea to volcanoes and caves!



**Susan Bontems** - Just ask the students that this professor of Chemistry has taught and you'll be told of her unique way of connecting with learners to help make the principles of science come alive. Hear and experience her exciting teaching techniques!

**Damon Bradley, Ph.D.** - As a research engineer at NASA, he helps develop some of the most complex instrument signal processing systems used in space exploration. He also has a special passion for using his background to inspire young students in science literacy and STEM innovation.

**Reginald Brothers, Ph.D.** - From serving as Under Secretary for Science and Technology at the U.S. Department of Homeland Security (DHS), to his current leadership post at the distinguished Chertoff Group in Washington, D.C., this expert has helped shape technological development across public and private sectors.

**Alison Cernich, Ph.D.** - As Director of the National Center for Medical Rehabilitation Research (NCMRR), Dr. Cernich oversees a varied portfolio of research projects, training programs, and rehabilitation research infrastructure network sites aimed at improving the care of individuals with physical disability who require medical rehabilitation.

**Kelvin Choi, Ph.D.** - Dr. Choi is a dynamic and engaging speaker who has been named a NIH Stadtman Investigator for his innovative research on marketing of health risk behaviors and health promoting behaviors, particularly using this research perspective to reduce tobacco use disparities, which is one of the Healthy People 2010 goals. See more here: <http://www.trdrp.org/files/triangulum/kelvin-choi.pdf>

**Rita Colwell, Ph.D.** - Earlier in her career, this distinguished microbiologist made key inroads into the study of cholera. She is now heading an international network to address infectious diseases and safe drinking water issues, in both the developed and developing world.

**Velma Deleveaux, Ph.D.** - With a passion for using engineering to solve complex problems and to inspire women and minorities in STEM, this leader is making a difference at Booz Allen, the leading management consulting firm.

**Rebecca Allen Diamond** - Her career path as a woman in technology has taken her from NASA to professional services firm Ernst & Young LLP. Learn about the role of governance, risk, and compliance in cybersecurity; and compliance as a tool to help secure organizations. (*California Speaker*)

**Tracy Drain** - This Systems Engineer at NASA's Jet Propulsion Laboratory, who has helped develop and execute some of JPL's most notable unmanned space missions, gives exciting insights into what it takes to be a cutting-edge engineer and scientist in space exploration! (*California Speaker*)

**Alvin Drew** - This United States Air Force officer and former combat pilot was one of the last NASA astronauts to perform a spacewalk as part of the Shuttle Discovery's mission to the International Space Station. In his current role as the NASA Liaison to the Department of Defense, he oversees all matters of overlapping interest between the two agencies.







**Spiros Michalakis, Ph.D.** - Explore the future of physics with this amazing quantum physicist from Caltech University who served as scientific advisor for the Hollywood movie, *Ant-Man*. (*California Speaker*)

**M. Coleman Miller, Ph.D.** - Hear this renowned astronomer from the University of Maryland as he describes in fascinating detail the key role black holes and neutron stars play in the development of galaxies. His key studies are also indicating that research may soon enable us to see stars eaten by black holes and detect variations in space-time caused by these mysterious entities.

**Angela Leimkuhler Moran, Ph.D.** - When this noted professor of Materials Engineering at the U.S. Naval Academy is not teaching midshipmen, she is deeply involved with her award-winning outreach programs to inspire K-12 students in STEM. Learn the secrets of how she is motivating the innovative leaders of tomorrow!

**Tolulope "Tolu" Olugboji, Ph.D.** - Growing up in his native country of Nigeria, this University of Maryland geoscientist excelled at using the computer to solve daunting problems in math and physics. Get ready for hands-on excitement as he demonstrates how his high-tech computer models are today studying seismic activity deep beneath the Earth's surface!

**Dana Perkins, Ph.D.** - Learn how she made the transition from a bench scientist in microbiology to a key government policymaker on bioterrorism and biosecurity at the U.S. Department of Health and Human Services!

**Briana Pobiner, Ph.D.** - Let this noted paleoanthropologist and science educator from the Smithsonian take you on an unforgettable journey into our evolutionary past as she explores the lives of cavemen and how they influenced our penchant for meat-eating and other dietary habits!

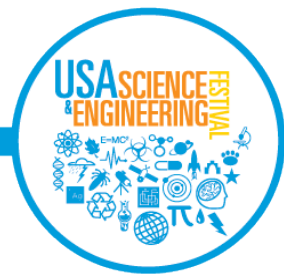
**Karen Rennich, Ph.D.** - Why are bee populations in the U.S. declining at an alarming rate and what can be done about it? Learn how the work of this engineer/beekeeper, as Executive Director of the Bee Informed Partnership, is revealing fascinating insights!

**Griffin Rodgers, M.D.** - Discover how this physician – as director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) -- is leading the fight against some of the most serious illnesses affecting public health today.

**Steve Rolston, Ph.D.** - This physicist in 1999 led the research group that created the first ultra-cold plasmas (gases of ionized atoms) that today are helping scientists better understand plasma found in white dwarf stars and interiors of planets. Discover the groundbreaking work in quantum physics he is now spearheading as co-director of the noted Joint Quantum Institute!

**Matthew P. Scott, Ph.D.** - This renowned developmental biologist and president of the esteemed Carnegie Institution for Science will fascinate you as he takes you inside his speakers' topic: *Why Do You Look Like Your Parents? The Story of Genes That Control How You Grew, and the History of Life.*





**Raman Sundrum, Ph.D.** - This celebrated particle physicist (famous for his collaboration in the groundbreaking Randall-Sundrum models in physics) is providing insight into some of the most mysterious realms of his field, including warped space and parallel universes! Be there as he takes you into these worlds and shows what science is revealing.

**Johanna Teske, Ph.D.** - Delve into the exciting world of this noted astronomer from the Carnegie Institution for Science as she explores giant and small planets of the solar system, twin and host stars and other planetary bodies using some of the most powerful telescopes in astronomy! (*California Speaker*)

**Alan Turchik** - Learn how this young engineer at National Geographic uses his ingenuity to give us the stunning remote images in science exploration that we have come to expect from NG!

**Melina Uncapher, Ph.D.** - This noted neuroscientist from UC San Francisco is applying neuroscience research to solve real-world problems in education and technology – including investigating whether technology use is associated with neurocognitive changes in kids. (*California Speaker*)

**Alycia Weinberger, Ph.D.** -Go on the hunt for extrasolar planets with this noted research astronomer. Learn how her groundbreaking work at the Carnegie Institution is shedding light on how planets are formed via young stars and their disks!

**Jacqueline Yancy, Ph.D.** - In her position as Senior Regulatory Health Project Manager at the U.S Food and Drug Administration, this medical microbiologist oversees regulations that help ensure the quality and safety of new products and drugs for children.

**Learn more about the Nifty Fifty program at:**

<http://usasciencefestival.org/explore/school-programs/nifty-fifty/speakers/>