Zoonotic Diseases and the Role of Agricultural Research in Preventing Future Pandemics
Welcome and Introductions

Sudip S. Parikh, Ph.D.
Chief Executive Officer,
American Association for the Advancement of Science (AAAS);
Executive Publisher of the Science family of journals

Opening Remarks

Catherine E. Woteki, Ph.D.
President of the Charles Valentine Riley Memorial Foundation;
professor of food science and human nutrition, Iowa State University;
visiting distinguished institute professor in the Biocomplexity Institute of the University of Virginia
Ecology, Economics and Evolution of Emergent Pathogens
Andrew Peter Dobson, D.Phil.
Professor, Department of Ecology and Evolutionary Biology, Princeton University; A.D. White Endowed Chair as visiting professor, Cornell University; elected external faculty, Santa Fe Institute; visiting chair in sustainable development, IMéRA, University of Aix‑Provence

One Health Perspectives on Emerging Zoonotic Diseases
Xiang-Jin Meng, M.D., M.S., Ph.D.
University Distinguished Professor of Molecular Virology, Virginia-Maryland College of Veterinary Medicine; professor of internal medicine, Virginia Tech Carilion (VTC) School of Medicine; director, Center for Emerging, Zoonotic, and Arthropod-borne Pathogens, Virginia Polytechnic Institute and State University

Zoonotic Diseases of Food Animals Threaten Global Food Security and Public Health
James A. Roth, DVM, M.S., Ph.D., Diplomate ACVM
Clarence Hartley Covault Distinguished Professor in veterinary medicine; director, Center for Food Security and Public Health; executive director, Institute for International Cooperation in Animal Biologics; Presidential Chair in Veterinary Microbiology and Preventive Medicine, Iowa State University

Panel Discussion and Q&A
MODERATOR
Ilaria Capua, DVM, Ph.D.
Professor, College of Agriculture and Life Sciences; director of the One Health Center of Excellence, Institute of Food and Agricultural Sciences, University of Florida

Adjournment
Sudip S. Parikh, Ph.D.

Sudip Parikh, Ph.D., became the 19th CEO and executive publisher of the Science family of journals in January 2020. The son of Indian immigrants who worked in the textile and furniture manufacturing plants of North Carolina, Parikh completed his undergraduate studies at the University of North Carolina at Chapel Hill. Early in his career, Parikh was a presidential management intern at the National Institutes of Health (NIH) and was awarded a National Science Foundation graduate research fellowship while earning his Ph.D. in macromolecular structure and chemistry from the Scripps Research Institute in La Jolla, California. He has spent two decades at the nexus of science, policy and business, and he is an active member of the scientific advocacy community. Parikh serves as a board member and an officer for several impactful organizations, including Research!America, Friends of Cancer Research and ACT for NIH.
Catherine E. Woteki, Ph.D.

Dr. Catherine Woteki is the president of the Charles Valentine Riley Memorial Foundation and holds positions as a professor of food science and human nutrition at Iowa State University and a visiting distinguished institute professor in the Biocomplexity Institute of the University of Virginia. She served as the chief scientist and undersecretary for the U.S. Department of Agriculture (USDA)’s Research, Education, and Economics mission area from 2010 to 2016. In that role, she developed the Office of the Chief Scientist, established the USDA Science Council, instituted the Department’s first scientific integrity and open data policies, and was a founding member of the Meeting of Agricultural Chief Scientists held under the auspices of the G-20. Woteki is an advocate for building the platforms needed to enhance domestic and international food and agricultural research. Prior to joining the USDA, Woteki served as the global director of scientific and regulatory affairs for Mars, Incorporated, where she managed the company’s scientific policy on matters of health, nutrition and food safety. From 2002 to 2005, she was the dean of agriculture and also the head of the Agricultural Experiment Station. Woteki served as the first undersecretary for food safety at the USDA from 1997 to 2001, where she oversaw the safety of meat, poultry and egg products.

Andrew Peter Dobson, D.Phil.

Andy Dobson was born in London and grew up in Scotland, where he developed an interest in natural history, wilderness and mathematics. He did his undergraduate degree in zoology at Imperial College, London University and his D.Phil at Oxford on the “Mortality Rates of British Birds.” He returned to Imperial College to work as a postdoc with Roy Anderson on population dynamics of host-parasite relationships and continued to develop this interest during a second postdoc with Bob May at Princeton. He was on the faculty at University of Rochester for three years before returning to Princeton as an assistant professor in January 1990. He has been at Princeton in the Department of Ecology and Evolutionary Biology ever since undertaking research in Serengeti, Yellowstone and coastal California and on the house finches that occupy most people’s backyards. Since 2011, he has been external faculty at the Santa Fe Institute and is currently an external A.D. White Professor at Cornell University and a visiting chair in sustainable development at IMéRA at the University of Aix-Provence in Marseille. He is an elected fellow of AAAS and the Ecological Society of America. He has published more than 200 papers and several books; the most recent is “Unsolved Problems in Ecology,” written with David Tilman and Bob Holt, Princeton University Press.
Xiang-Jin Meng, M.D., M.S., Ph.D.

Dr. X.J. Meng is a university distinguished professor and the founding director of the Center for Emerging, Zoonotic and Arthropod-borne Pathogens (CeZAP) at Virginia Tech. The CeZAP is an interdisciplinary center with 108 affiliated faculty from six of Virginia Tech’s colleges to promote collaborative research in the area of emerging, zoonotic and vector-borne pathogens. Meng’s research focuses on emerging and zoonotic viruses of human and veterinary public health significance. He studies how emerging animal viruses, such as porcine coronaviruses and hepatitis E virus, infect across species barriers, and develops effective vaccines against them. Meng’s discovery of swine hepatitis E virus in pigs led to the recognition of human hepatitis E as a zoonotic disease. He is an inventor of 22 awarded and 17 pending U.S. patents on various vaccines against emerging viruses. His research led to the development of the first U.S. Department of Agriculture-fully licensed vaccine against porcine circovirus type 2, an economically important swine virus. Meng received his medical degree from Binzhou Medical University in China and his Ph.D. from Iowa State University in Ames, Iowa. Prior to joining the faculty at Virginia Tech in 1999, Meng was a senior staff fellow at the National Institutes of Health in Bethesda, Maryland. Meng was elected a member of the National Academy of Sciences in 2016, a fellow of the American Academy of Microbiology in 2012 and a fellow of the National Academy of Inventors in 2015.
James A. Roth, DVM, M.S., Ph.D., Diplomate ACVM

Dr. Jim Roth is a distinguished professor in the Department of Veterinary Microbiology and Preventive Medicine in the College of Veterinary Medicine at Iowa State University (ISU). He is the director of the Center for Food Security and Public Health and the Institute for International Cooperation in Animal Biologics, both World Organization for Animal Health Collaborating Centers. He has received five teaching awards and was named Clarence Hartley Covault Distinguished Professor in 1995. Roth’s primary area of research expertise is immunity to infectious diseases of food-producing animals. Roth is a member of the National Academy of Medicine. His work has been recognized and honored by the American Association of Veterinary Immunologists, American College of Veterinary Microbiologists, American Veterinary Medical Association, USDA Animal and Plant Health Inspection Service, and the American Association of Veterinary Medical Colleges. He was elected as American Association for the Advancement of Science fellow for distinguished contributions to the field of immunology, particularly for control of infectious diseases in food-producing animals. Roth served on the Interagency Weapons of Mass Destruction Counter Measures Working Group—Animal Pathogens Research and Development Subgroup (2003-2004), and the White House Office of Science and Technology Policy Blue Ribbon Panel on the Threat of Biological Terrorism Directed Against Livestock (2003-2004) as chair of the Immunotherapeutics Working Group. He has testified before congressional committees on biosecurity preparedness, on efforts to address bioterrorism and agroterrorism, and on the need for vaccines for foreign animal diseases. Roth served on the National Science Advisory Board for Biosecurity from 2005 to 2014. Roth received DVM and Ph.D. degrees from ISU and is a diplomate in the American College of Veterinary Microbiologists.
Ilaria Capua, DVM, Ph.D.

Ilaria Capua is full professor and director of the One Health Center of Excellence at the University of Florida. She has worked as a virologist for more than 30 years directing laboratories of international stature and served as an elected representative in the Italian Parliament for more than three years (2013-2016). She is a regular columnist for the Italian mainstream press and an author of science-based books for adults and children. In her career as a virologist, she focused on viral infections of animals that can be transmitted to humans. In 2006, she championed and pioneered data sharing on viral sequences to improve pandemic preparedness in a collaborative and interdisciplinary fashion. She has authored more than 230 publications in peer-reviewed journals and has published scientific books on zoonotic diseases. Since 2008, she has authored 10 books for the general public that have been translated into several languages. She is now focusing on expanding a novel, broader approach to health known as circular health, which aims to co-advance the health of humans, animals, plants and the environment as one system by exploiting the big data environment.
Launched in 2010, the **AAAS Charles Valentine Riley Memorial Lecture** aims to promote a broader and more complete understanding of agriculture as the most basic human endeavor and to enhance agriculture through increased scientific knowledge.

**About the Lecture and Partner Organizations**

**The American Association for the Advancement of Science**

Founded in 1848, the American Association for the Advancement of Science is an international, nonprofit organization dedicated to advancing science, engineering and innovation for the benefit of all people. With more than 120,000 individual members in more than 91 countries, AAAS is the world’s largest multidisciplinary scientific society and a leading publisher of cutting-edge research through the *Science* family of journals. As one of the top voices for science worldwide, we spearhead initiatives in policy, international cooperation and diplomacy, STEM education, public engagement, and more. We strive to promote and defend the integrity of science and its use, provide a voice for science on societal issues, and strengthen and diversify the science and technology workforce. More information is available at [www.aaas.org](http://www.aaas.org).
Charles Valentine Riley Memorial Foundation

The Charles Valentine Riley Memorial Foundation (RMF) is committed to promoting a broader and more complete understanding of agriculture and to building upon Charles Valentine Riley’s legacy as a “whole picture” person with a vision for enhancing agriculture through scientific knowledge. RMF, founded in 1985, recognizes that agriculture is the most basic human endeavor and that a vibrant, robust food, agricultural, forestry and environmental resource system is essential for human progress and world peace. RMF conducts a wide range of program activities that include discussion groups, forums, roundtables, workshops, briefing papers and lectures on various parts of the food, agricultural, forestry and environmental resource systems. RMF’s goal is to have all world citizens involved in creating a sustainable food and agriculture enterprise within a responsible rural landscape. More information is available at www.rileymemorial.org.

World Food Prize Foundation

Founded by Nobel laureate and “Father of the Green Revolution” Dr. Norman E. Borlaug, the World Food Prize is a $250,000 award presented annually for breakthrough achievements in science, technology and policy that have improved the quality, quantity and availability of food in the world. Termed “the Nobel Prize for Food and Agriculture” by several heads of state, it is presented each October in conjunction with a week of events that include the international Borlaug Dialogue Symposium, and it gathers preeminent global leaders and experts representing more than 65 countries. Information about the World Food Prize events, highlights from past Borlaug Dialogue symposia and nomination criteria are available at www.worldfoodprize.org.