



ILSI Health and Environmental Sciences Institute (HESI)

2015 HESI Annual Meeting Speaker Biographies

Berridge, Brian R., DVM, PhD, DACVP

Dr. Brian Berridge is Director and Head of WW Animal Research Strategy in the Office of Animal Welfare, Ethics and Strategy at GlaxoSmithKline. In that position he leads efforts to advance the scientific impact of animal and non-animal modeling in support of pharmaceutical development. He has held previous positions as a Director of Regulatory & Discovery Pathology at GSK and Principal Research Pathologist at Eli Lilly & Company. Brian is an Oklahoma State University-trained veterinarian with residency and PhD training from Texas A&M University. He is a Diplomate of the American College of Veterinary Pathologists and holds an adjunct Associate Professor position in the Department of Population Health and Pathobiology at North Carolina State University. He additionally teaches cardiovascular toxicology at the University of North Carolina. He is a member of the Executive Board and Board of Trustees for the ILSI Health and Environmental Sciences Institute where he also co-chairs the HESI Cardiac Safety Technical Committee, the Integrated CV Strategies Working Group, and the Translational Preclinical Imaging Technical Committee. Brian also chairs an international effort to harmonize cardiovascular nomenclature in regulatory toxicologic pathology and a CV Specialty Interest Group within the Society of Toxicologic Pathologists.

Farach Carson, Mary C., PhD

Dr. Farach Carson is Vice Provost for Translational Bioscience and Scientific Director, BioScience Research Collaborative, and Professor of Biochemistry and Cell Biology at Rice University in Houston, TX. Research in her laboratory relates to the role of extracellular matrix in the progression of cancer following metastasis from primary sites, such as prostate or breast, to bone. In many cases, primary tumors are fairly slow growing and do not become life-threatening until they form tumors in bone. The growth factors sequestered in bone matrix provide a very rich environment to promote the growth of cancer cells that invade there. Many of these growth factors are bound to a class of proteoglycans that contain heparan sulfate which regulate their bioactivity. Studies in the laboratory are aimed at identifying and isolating the growth factors responsible for cancer growth and progression with the long term aim of developing "molecular drugs" to combat cancer metastasis. Three dimensional models are used to study the behavior of cancer cells and to test their susceptibility to anti-cancer drugs that reduce cancer growth and progression. Industrial partnerships support the development of novel cancer diagnostics based on the principle that cancer biomarkers are created by cancer growth in bone. A multidisciplinary project involves the use of proteoglycans, particularly those bearing heparan sulfate chains such as perlecan, in engineering of connective tissues such as bone, cartilage or salivary gland. Cell and molecular engineering strategies are being developed that facilitate controlled tissue growth and differentiation. Growth factor binding and delivery by engineered proteoglycans is being used in oral surgery and orthopaedic applications. Several engineering partnerships both within and outside the university exist to support these studies. A trainee doing research in this laboratory would be exposed to a variety of techniques including cell culture, recombinant and natural protein purification and analysis, cloning and molecular biology, microRNAs, immunodetection and immunohistochemistry, and various pre-clinical cancer models.

Green, Jessica, PhD

Dr. Jessica Green is Director of the Biology and Built Environment Center and a TED Senior Fellow. A Professor at both the University of Oregon and the Santa Fe Institute, she wants people to see how the microbial blueprint of our bodies, homes, cities and forests impacts our world, and our future. As founding director of the innovative new Biology and the Built Environment (BioBE) Center, Green envisions a future for urban design that promotes sustainability, human health and well-being. She is currently spearheading efforts to model urban spaces as complex ecosystems that house trillions of diverse microorganisms interacting with each other, with humans, and with their

environment. She calls it, the “built environment microbiome.” Dr. Green is internationally recognized for highly cited publications in *Nature*, *Science*, and the *Proceedings of the National Academy of Sciences*. Her research has been featured in *Discover*, *Scientific American*, the *Boston Globe*, and she was selected for the 2012 Portland Monthly Brainstorm award (one of eight “innovators changing our world”). She was a National Science Foundation bioinformatics postdoctoral fellow, completed a PhD in nuclear engineering at UC Berkeley, and earned a BS in civil and environmental engineering at UCLA.

Kelemu, Segenet

Dr Segenet Kelemu is the fourth Director General of the International Centre for Insect Physiology and Ecology (*icipe*) in Nairobi, Kenya, and the first woman to lead *icipe*. Born in Ethiopia, Dr Kelemu has experienced the challenges and successes associated with African agriculture first-hand, from tending the field to directing world-class laboratories. She is a molecular plant pathologist with emphasis on elucidation of molecular determinants of host-pathogen interactions, development of novel plant disease control strategies including genetic engineering, biopesticides, pathogen population genetics and dynamics and endophytic microbes and their role in plant development. After post-doctoral work at Cornell University in the USA, Segenet joined the International Center for Tropical Agriculture (CIAT) as a Senior Scientist in 1992 and was later appointed Leader of Crop and Agroecosystem Health Management. CIAT recognised her numerous contributions to the centre and its mission with their Outstanding Senior Scientist Award. After twenty-five years of studying and successfully applying cutting-edge science outside of Africa, Dr Kelemu returned from the diaspora to contribute to Africa’s development. In 2007, she became the Director of the Biosciences eastern and central Africa (BecA) Hub at the International Livestock Research Institute (ILRI) in Nairobi, Kenya. Under her leadership, the BecA initiative grew from a contentious idea into a driving force that is changing the face of African biosciences. BecA’s research capacity, staff, facilities, funding, partners and training programs have expanded at an ever-accelerating pace. She assembled and inspired a scientific and technical team bound by a common passion for using science to enhance Africa’s biosciences development. Prior to becoming the Director General of *icipe*, she was Vice President for Programs at the Alliance for a Green Revolution in Africa (AGRA). Segenet was featured in the top 100 most influential African women of 2014 in *Forbes Africa* and has been celebrated with numerous awards. In 2014 she was named the L’Oréal-UNESCO For Women in Science Laureate for Africa, one of five Laureates chosen from around the world for their leadership and scientific excellence. The People’s Republic of China awarded her their prestigious Friendship Award, granted to foreign experts who have made outstanding contributions to China’s economic and social development. She has been elected a Fellow of the African Academy of Sciences, and was awarded The World Academy of Sciences 2011 TWAS Prize for Agricultural Sciences jointly with Prof Zia Khan – the first African to win this prize since its inception. Segenet continues to publish widely in refereed journals, book chapters, manuals, conference/workshop papers, working documents, and others. A natural teacher, over the years she has taken many BSc, MSc, and PhD students under her wing.

McClain, Scott, PhD

Dr. Scott McClain’s academic background is in animal physiology and environmental toxicology having received his MS and PhD degrees in the Center for Environmental Toxicology and Statistics at Miami University, in Oxford, Ohio. Dr. McClain’s professional background is within the biotechnology sector with training primarily in immunology and clinical allergy diagnostics, product efficacy and safety testing. He started his professional career supporting research programs in immunology and biochemistry with a focus on developing bioactive food ingredients. The last nine years have been spent in the regulatory divisions of the agricultural biotechnology sector with an emphasis on conducting and communicating studies in allergy and toxicology which support the safe introduction of novel food and feed crop products. Dr. McClain has worked in Syngenta Product Safety for five years. He represents Syngenta as co-chair of the ILSI Health and Environmental Sciences Institute’s (HESI) Protein Allergenicity Technical Committee (PATC) and participates on the Crop Life International Allergy Expert Team.

Tonui, Willy K., PhD, RBP

Dr. Willy Kiprotich Tonui, is Chief Executive Officer at the National Biosafety Authority (NBA), Nairobi, Kenya. He is responsible for the day to day management of the Authority. The role of NBA is to regulate research and commercial activities involving GMOs in Kenya. Before joining NBA he helped to establish a Biorisk Management and Dual Use Research (BIORISK-DUR) programme and Office of Health Safety and Environment (OHSE) the Kenya Medical Research Institute (KEMRI). Dr Tonui has served as the Chair of the Board of Directors for the global International Federation of Biosafety Associations (IFBA), and the only recognized Registered Biosafety Professional (RBP) in Africa. He is also the Founder Member and Past President of African Biological Safety Association (AfBSA) www.afbsa.org a seven-year old professional association that seeks to congregate practitioners of biological safety, promote biosafety and biosecurity as a discipline through awareness and to facilitate the sharing of biosafety and biosecurity information in the African region. He is also a member of the American Biological Safety Association (ABSA), European Biosafety Association (EBSA) and the Asia Pacific Biosafety Association (APBA). Willy studied for his BSc (Biological Sciences and Chemistry) at Kurukshetra University (India), MSc and PhD in Immunology (specialty in vaccine development) from Kenyatta University (Kenya) and did his Post-doctoral training at the School of Veterinary Medicine at Colorado State University, USA. Willy has a career-long history of consistently supporting national programmes, regulations and policies in Kenya. He is a registered Expert on Environmental Impact Assessment and Audit (EIA/EA) by the National Environmental Authority (NEMA). In general he supports National programmes in developing laws and regulations in hazardous waste management, biosafety, biosecurity, occupational health and safety, Disaster Management, Quality Management and Cleaner Productivity enhancement. He has consulted with the World Health Organizations (WHO), Centres for Disease Control (CDC), Organization for Economic Cooperation and Development (OECD), World Organization for Animal Health (OIE in Biosafety and Biosecurity, International Health Regulations, Good Laboratory Practices and Accreditation systems. In Kenya he is a member of several national committees. He is an author of Laboratory Safety Handbook and three other books on Fire Safety and Prevention.

Ushio, Misti, PhD

Dr. Misti Ushio joined Harris & Harris Group in 2007 and is currently Chief Strategy Officer and a Managing Director. Prior to joining Harris & Harris Group in 2007, Ms. Ushio worked for Merck & Co. for over 10 years in the BioProcess Research & Development group, which focused on vaccines and biologics development. She also worked as a Technology Licensing Officer at Columbia University. Ms. Ushio currently serves on the board of Accelerator-NYC, TARA Biosystems, AgBiome, Senova Systems, SynGlyco, ProMuc, and OpGen. Her past investments include BioVex (acquired by Amgen), TetraVitate (acquired by Eastman) and Ancora Pharmaceuticals (acquired by Corden Pharma). She also serves as founding CEO of TARA Biosystems. Ms. Ushio serves on the Executive Oversight Committee for the Columbia University Coulter Foundation Grant, the Executive Committee for the American Heart Association's Health Sciences Innovation Investment Forum, the Executive Board for the NYC Venture Fund, and review committee the Robertson Fund at Rockefeller University. She was graduated from Johns Hopkins University (B.S., Chemical Engineering), Lehigh University (M.S., Chemical Engineering) and University College London (Ph.D., Biochemical Engineering).

Vos, Theo, PhD

Dr. Theo Vos is Professor of Global Health at the Institute for Health Metrics and Evaluation (IHME) at the University of Washington. He is a key member of the Global Burden of Disease (GBD) research team, and is working to improve the GBD methods, update sources of data, and develop partnerships with countries to produce GBD estimates that are most relevant to policy decision-making. He is also focused on linking the epidemiological estimates from GBD to information on health expenditure and cost effectiveness. Prior to joining IHME, Dr. Vos was Director of the Centre for Burden of Disease and Cost-Effectiveness at the School of Population Health of the University of Queensland. While there, he led burden of disease studies in Australia and contributed to studies in Malaysia, South Africa, Singapore, Thailand, Vietnam, and Zimbabwe. Previously, Dr. Vos led two large economic evaluation projects. The Assessing Cost-Effectiveness in Prevention project, or ACE Prevention, was conducted in Australia and was the most comprehensive evaluation of disease prevention measures ever conducted in a country. A similar project, Setting Priorities Using Information on Cost-Effectiveness (SPICE), examined intervention options for tuberculosis, mental disorders, lifestyle risk factors, and road traffic injuries in Thailand. Dr. Vos received his PhD in epidemiology and health economics from Erasmus University and his medical degree from State University Groningen, both in the Netherlands. He also studied at the London School of Hygiene and Tropical Medicine where he obtained an MSc in Public Health in Developing Countries.