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Image: Judith Brodsky

FOOD & THE PLANET 2018

Riaz Bhunnoo, Global Food Security Programme

Riaz provides strategic leadership to the Global Food Security (GFS) programme (which coordinates scientific research supported by its partners across government departments and agencies, the devolved administrations, research councils and Innovate UK); where he drives forward cross-stakeholder, interdisciplinary activities in partnership with the UK public funders of food security research.

Riaz has worked at the BBSRC (which formally leads on the multi-partner programme) since 2005, and in that time has undertaken secondments to the RCUK Executive Directorate to work on cross-Council research coordination and policy, and the Gates Foundation to work on Grand Challenge Explorations. Riaz is a strong advocate of interdisciplinary working to tackle the biggest challenges facing society.

Jennie Brand-Miller, University of Sydney

Jennie Brand-Miller, AM, PhD, FAIST, FNSA holds a Personal Chair in Human Nutrition in the Charles Perkins Centre at the University of Sydney. She is recognised around the world for her work on carbohydrates and the glycemic index (or GI) of foods and its role in human health and has written close to 400 scientific publications.

Her books about The Low GI Diet have made the GI a household word and sold over 3.5 million copies worldwide in 12 languages. Her research interests focus on diet and diabetes, insulin resistance, lactose intolerance and oligosaccharides in infant nutrition. She was awarded a Clunies Ross Science and Technology Medal in 2003, and in 2011 she was appointed a member of the Order of Australia. She is the proud recipient of two Nucleus cochlear implants.

ABOUT OUR SPEAKERS



SPEAKERS

Frances Brodsky, UCL

Frances Brodsky is Director, UCL Division of Biosciences, and Chair of the UCL Food, Metabolism & Society Research Domain. Brodsky's graduate work with immunologist Sir Walter Bodmer applied the then-novel technology of monoclonal antibodies to study human histocompatibility molecules (HLA). During her postdoctoral fellowship, she discovered that the clathrin protein controls intracellular transport important for HLA stimulation of immune responses. Her laboratory at UCL continues to study clathrin biochemistry, cell biology, and physiology.

Nishi Chaturvedi, UCL

Nishi Chaturvedi is Professor of Clinical Epidemiology, whose main areas of interest are the aetiology, mechanisms of disease and modes of prevention of cardiovascular disease and diabetes, with a specific focus on ethnic minorities both in the UK and abroad. She leads the Southall and Brent REvisited (SABRE) study, a tri-ethnic population based cohort of Europeans, South Asians and African Caribbeans aged 40-69 years at inception between 1988 and 1991. This cohort has been followed for 25 years, funded by the Wellcome Trust, British Heart Foundation, MRC and Diabetes UK.

Celia Caulcott, UCL

Celia was appointed Vice-Provost for Enterprise and London in October 2015. She's a member of the Provost's senior management team and a non-executive director for UCL Business. Before joining UCL Celia was Executive Director of Innovation and Skills at the Biotechnology and Biological Sciences Research Council (BBSRC). Prior to that she worked in various roles within government, at the Wellcome Trust and the biopharmaceuticals industry, including Celltech Ltd. Celia studied Microbiology at Newcastle University and has a PhD in Pharmaceutical Microbiology from Aston University.



SPEAKERS

Ian Charles, Quadram Institute

Ian returned to the UK from Australia where he was Director of the Institute of Food Research, University of Technology, Sydney to take up his role as Director of the Institute of Food Research and Founding Director of the Quadram Institute in May 2015. Ian has over 30 years' experience in academic and commercial research. His academic career has included being a founding member of The Wolfson Institute for BioMedical Research at University College London, one of the UK's first institutes of translational medicine.

He has worked in the pharmaceutical industry at Glaxo Wellcome, and has founded biotech companies in the area of infectious disease, including Arrow Therapeutics, sold to AstraZeneca in 2007, and Auspherix, a venture capital backed company founded in 2013. Ian is an internationally recognised scientist and has expertise in infectious diseases, the microbiome, and its impact on health and wellbeing, genomics and metagenomics.

Carole Dalin, UCL Institute for Sustainable Resources (Bartlett School of Energy, Environment and Resources)

Dr Carole Dalin is a NERC (Natural Environment Research Council) Independent Research Fellow and Senior Research Fellow at the Institute of Sustainable Resources at UCL. Her fellowship research project, Developing Integrated Environmental Indicators for Sustainable Global Food Production and Trade (FOODIES), focuses on quantifying the environmental sustainability of food production and trade across the world.

Carole is also involved in the Sustainable and Healthy Food Systems (SHEFS) project, funded by the Wellcome Trust, in collaboration with colleagues from a range of disciplines at UCL, CBER, LHSTM, Aberdeen University and institutions in India and South Africa. The SHEFS project is linking multiple environmental aspects related to food systems with nutrition indicators to explore the effects of food system policies and diet changes in the UK, South Africa and India on health and the environment. Carole obtained her Ph.D. in Environmental Engineering and Water Resources at Princeton University in 2014.

SPEAKERS

Matteo Fumagalli, Imperial College London

Matteo Fumagalli is a Lecturer in Quantitative Evolution at Imperial College London and Honorary Research Associate at UCL. He obtained his PhD in Bioengineering from the Polytechnic University of Milan, Italy. He then worked as an EMBO fellow at the University of California, Berkeley, and then as a HFSP fellow at the UCL Genetics Institute. His research interests include bioinformatics and population genetics. Specifically, some of his recent studies focused on the detection of genomic signatures of adaptation to environments.

Dorian Fuller, UCL Institute of Archaeology

Dorian Q Fuller is professor of Archaeobotany at the UCL Institute of Archaeology, where his research interests include the Archaeobotany of Food Production and Globalization of Agriculture. He grew up in San Francisco, California, received a BA from Yale University in Anthropology and Biology, and a PhD from Cambridge. After his PhD on the origins of agriculture in South India, he began teaching archaeobotany at UCL in 2000. His archaeological fieldwork has included India, Sri Lanka, China, Thailand, Sudan, Ethiopia, Morocco, Turkey and Iraqi Kurdistan. He has authored more than 170 papers and is a founding editor of the journal *Archaeological and Anthropological Sciences*.

Kent Kirshenbaum, NYU

Kent is a Professor in the Department of Chemistry at New York University, where he is a founding member of the Biomedical Chemistry Institute. Kent obtained his Bachelor's degree in Chemistry at Reed College in Portland, Oregon. He conducted his PhD studies in Pharmaceutical Chemistry at the University of California San Francisco and his post-doctoral studies in protein chemistry at the California Institute of Technology in Pasadena. At NYU, Kent co-founded a science outreach program, "The Experimental Cuisine Collective" with Professor Amy Bentley (Food Studies) and Chef Will Goldfarb (Pastry). Kent has appeared on the Food Network, the Cooking Channel, the Science Channel, the Discovery Channel, *Sid the Science Kid* (PBS), and at the Wellington-on-a-Plate Festival. He has served on the Scientific Advisory Board for Beyond Meat.

SPEAKERS

Gladys Oluyemisi Latunde-Dada, King's College London

Gladys (Yemisi) is a Senior Lecturer in the Department of Nutritional Sciences, Faculty of Life Sciences and Medicine at King's College London. Her research interests are in the molecular biology of iron nutrition and metabolism. She has worked on the protective effects of flavonoids on hemin-induced DNA damage in colon cancer cells and is currently, at King's College, a key member of the Iron Research Group that identified and characterized some iron regulatory genes in the mammalian system.

The group has contributed immensely to global understanding of iron transport and metabolism by isolating three key genes namely, *Dcytb*, coding for a ferric reductase, and *Ireg1*, for a basolateral iron transporter, and a Haem Carrier Protein 1 (HCP1). This work was published in the journals *Science*, *Molecular Cell* and *Cell*, respectively. She has also investigated the bioavailability of iron nano-compounds and amino acid-iron chelates in cell culture and murine animal studies. She is currently investigating the mechanisms of haem transport by transgenic expression of genes in mammalian cells as well as studying the bioavailability of iron and zinc from wheat in human subjects. Dr Latunde-Dada's research activities have generated a considerable number of publications in learned journals.

Nick Lane, UCL

Nick is Professor of Evolutionary Biochemistry in the Department of Genetics, Evolution and Environment at UCL, and Co-Director of the new UCL Centre for Life's Origins and Evolution (CLOE). His research focuses on the way that energy flow shapes evolution, from the origin of life to the role of mitochondria in the evolution of eukaryotic cells and including our own health.

He has published some 80 research papers and articles, co-edited two volumes and written four celebrated books for the general public, which have been translated into 30 languages. He received the Biochemical Society Award in 2015 and the Royal Society Michael Faraday Award in 2016.



SPEAKERS

Nick Lesica, UCL

Nick is a Wellcome Trust Senior Research Fellow at UCL. His research group is working to understand how the brain processes sensory information and performs the computations that underlie perception and behaviour. He received his undergraduate degree from MIT and his Ph.D. from Harvard, and worked as a postdoctoral researcher in Japan and Germany before joining UCL. His book 'A Conversation About Healthy Eating' was published by UCL Press in 2017.

Kelle Moley, Washington University

Kelle is the Vice Chair for Research and the Chief of the Division of Basic and Translational Science Research in the Department of Obstetrics and Gynecology, at Washington University in St. Louis, USA. She is also the newly appointed Director of the Center for Reproductive Health Sciences also at Washington University. As an independent physician-scientist for the last 25 years, her research has focused on 1) the investigation of mitochondrial metabolism, biogenesis and function in oocyte, sperm, cleavage stage embryo and blastocyst, as well as endometrial stromal cells during implantation, 2) glucose metabolism and carbohydrate fluxes due to alterations in energy substrates in the same tissues, 3) single cell profiling of glucose metabolism and 4) developmental origins of adult diseases, including diabetes and obesity.

In general, her work has impacted our understanding of reproductive performance and glucose utilization in diabetic and obese animal models and this is directly applicable to the pathophysiology of diabetes related disorders in humans. She serves as the Co-Director of the Washington University Institute of Clinical and Translational Sciences and is PI of the national NIH K12 Reproductive Scientist Development Program, which resides at Washington University in St. Louis. She was elected to the National Academy of Medicine in 2014.



SPEAKERS

Mike Murphy, University of Cambridge

Mike's research focuses on the roles of reactive oxygen species in mitochondrial function and pathology. In particular he has pioneered the targeting of bioactive and probe molecules to mitochondria in vivo. This general methodology is now widely used. Prominent mitochondria-targeted compounds are antioxidants, such as MitoQ, which protects against oxidative damage in ischaemia-reperfusion injury. Murphy developed MitoQ as an oral drug which has been used in two Phase II trials so far. This work established mitochondria as a relevant drug target and opened up the field of mitochondrial pharmacology.

The Murphy group has gone on to create MitoSNO, a mitochondria-targeted nitric oxide donor which is now being developed as a potential therapy for cardiac ischaemia-reperfusion injury, and MitoG to treat diabetes. Recently his work has extended to determining the mechanism by which mitochondria produce free radicals during ischaemia-reperfusion injury in heart attack and stroke. Murphy is a Wellcome Trust Investigator, honorary research Professor at the University of Otago, New Zealand, a recipient of the Keilin Medal from the Biochemical Society and is an honorary Fellow of the Royal Society of New Zealand. He has published more than 290 papers and has a h-index of 91.

Richard Pearson, UCL

Richard is Director of the Centre for Biodiversity and Environment Research at UCL. His research interests include the impacts of environmental change on biodiversity, particularly extinction risk under climate change, and the importance of biodiversity in underpinning ecosystem services for human well-being. Richard has been identified as one of the world's most Highly Cited Researchers in the field of Environment/Ecology.

Tim Smit, Eden Project

Sir Tim is best known for his achievements in Cornwall. He 'discovered' and then restored 'The Lost Gardens of Heligan' with John Nelson, which is now one of the UK's best loved gardens.

Tim is Executive Vice-Chairman and Co-founder of the multi award-winning Eden Project in Cornwall. Since its opening in 2001, 19 million people have come to see a once sterile pit, turned into a cradle of life containing world-class horticulture and startling architecture symbolic of human endeavour. Tim is also Executive Chairman for Eden Project International which aims to have an Eden Project on every habited continent by 2025.

SPEAKERS

Andrew Smith, UCL

Andrew is a Senior Lecturer in the Department of Microbial Diseases at UCL. His research is focussed on mucosal inflammatory diseases of the oral cavity and gastrointestinal tract. He has 20 years of experience working the field of immunology and is currently investigating the secretory pathways associated with cytokine release from epithelial and myeloid cells. He has a strong track record in translational research and is currently heading a clinical trial in the treatment of oral lichen planus with probiotics at the Eastman Dental Institute UCL. His research has generated over 50 publications in leading journals in the fields of immunology, cell biology and gastroenterology.

Barry Smith, Centre for the Study of the Senses

Professor Barry C. Smith has been Director of the Institute of Philosophy at the School of Advanced Study since 2008 and is the founding director of the Centre for the Study of the Senses, which pioneers collaborative research links between philosophers, psychologists and neuroscientists. He has published on the emotions, the perception of taste and on self-knowledge.

In November 2012, Barry was appointed AHRC Leadership Fellow for the Science in Culture Theme. As part of this role he will provide intellectual and strategic leadership for the further development of the Science in Culture Theme and work closely with senior AHRC Programmes staff to develop partnerships within and beyond academia. He is a frequent broadcaster and recently wrote and presented a 10-part series for BBC Radio 4, The Uncommon Senses.

Marco Springmann, University of Oxford

Marco is a senior researcher on environmental sustainability and public health in the Nuffield Department of Population Health and the Oxford Martin Programme on the Future of Food at the University of Oxford, UK. He is working on a multi-disciplinary global modelling project that brings together researchers from the various departments across the University of Oxford, as well as international collaborators. The aim of the project is to systematically assess the impacts of climate change, economic development, and changing dietary habits on the global food system, and to analyse the effects of current and future policy approaches.

SPEAKERS

Mark Thomas, UCL

Mark Thomas is Professor of Evolutionary Genetics at UCL's Department of Genetics, Evolution and Environment. He works mainly on biological and cultural aspects of human evolution. He uses computer simulation and statistical modelling to make inferences from genetic data, including ancient DNA, and archaeological information on processes such as past migrations and dispersals, and natural selection – particularly in response to changes in diet and infectious disease loads – and how demography shapes cultural evolution. Mark is a co-Chair of the UCL Food, Metabolism and Society Research Domain, with Professors Frances Brodsky and Mark Miodownik.

Megan Vaughan, UCL Institute of Advanced Studies

Megan is Professor of African History and Health at the Institute of Advanced Studies, UCL and is co-Chair of the UCL Grand Challenge of Global Health. She previously held posts in Cambridge, Oxford and the University of Malawi. Her work has focused on the history of food systems, famine, nutrition and gender relations in south/central Africa, and on the history of colonial medicine and psychiatry. She holds an Investigator Award from the Wellcome Trust to work on a critical history of epidemiological 'transition' in sub-Saharan Africa, which she is carrying out collaboratively with colleagues in Malawi, Ghana and South Africa.

