2nd Annual Network Meeting 20 & 21 March 2019

SPEAKER PROFILES

Dr Annaliesa S. Anderson

Vice President and Chief Scientific Officer
Bacterial Vaccines and Technology, World Wide Research and Development, Pfizer Inc, USA

Annaliesa Anderson, PhD, FAAM, has over 20 years of pharmaceutical research experience and is currently the Vice President and Chief Scientific Officer for Bacterial Research, within the Vaccine Research and Development Unit at Pfizer Inc. Her responsibilities include infectious disease vaccine research and development, surveillance, and the assessment of the immunopathology of bacterial colonization and disease. Dr. Anderson's experience includes leadership roles for bacterial vaccine programs directed at the prevention of diseases due to Neisseria meningitidis, Staphylococcus aureus and Clostridium difficile. In these roles, she has made substantial contributions to vaccine antigen discovery, preclinical proof of concept, clinical proof of concept, and recently the licensure of the N. meningitidis serogroup B vaccine Trumenba®.

Prior to joining Pfizer, Dr. Anderson worked at Merck Research Laboratories in Rahway, NJ, where she founded Merck's prokaryotic bio-combinational engineering laboratory and initiated a bacterial vaccine program at Merck in 2000. In 2007 Dr. Anderson joined Wyeth in Pearl River, NY, to direct the bacterial vaccine research efforts in the Early Phase Vaccine Programs group. With acquisition of Wyeth by Pfizer in 2009, Dr. Anderson and her team continued in their same role with the Vaccine Research and Development Unit. Dr Anderson earned her doctorate in biological sciences at the University of Warwick, England, in the field of microbial ecology and then completed two post-doctoral fellowships.

Dr Martin Broadstock

Programme Manager for Immunology, Medical Research Council, UK

Martin joined the MRC as the programme manager for Immunology in Jan 2017; his patch includes immunology, vaccines, the host-response to pathogens and autoimmunity. Martin has been heavily involved in launching the five MRC/BBSRC funded Networks for Vaccine R&D together with MRCs involvement in the UK Vaccine Network. Prior to joining the MRC, Martin was a senior research fellow at King's College London, researching novel therapies for the treatment of dementia and Parkinson's disease. Martin gained his PhD in pharmacology from King's College London in 2006.

Professor Adam Cunningham

Co-director of BactiVac, Professor of Functional Immunity
University of Birmingham, UK
BactiVac Management Oversight Board Co-Chair

Professor Adam Cunningham gained his PhD from Southampton University for studies on antibody responses to Chlamydia pneumoniae. After a short-term position in The Gambia, funded by the WHO, he had his first post-doctoral position in Birmingham studying the cell wall of Mycobacterium tuberculosis. From here, he started work in Prof. Ian MacLennan's group examining how antibody responses develop and are regulated. During this time, he incorporated the use of Salmonella and its component antigens into this work, leading to an independent position as a RCUK Roberts Academic Fellow, studying how immune responses develop to pathogens and vaccines. He was made Professor of Functional Immunity in August 2011 and his research is focused on how adaptive immunity to pathogens and their component antigens are induced, maintained and function. These studies help us understand why some responses are protective, whilst others are not or can even be harmful.

Professor Gordon Dougan

GSK Professor of Molecular Microbiology, The Department of Medicine, Cambridge University, UK

Professor Gordon Dougan F Med Sci FRS – Professor Dougan, who is a Professor in the Department of Medicine at Cambridge University, is an internationally recognised expert in vaccinology. He was Head of Pathogens at The Wellcome Trust Sanger Institute (WTSI) for over a decade. His personal research team studies enteric pathogens with a strong emphasis on pathogenic mechanisms, genomics and antibiotic resistance. He has a particular interest in using genomics to study the evolution of Salmonella enterica serovar Typhi, the cause of typhoid. Before moving to the WTSI he was the founding Director of the Centre for Molecular Microbiology and Infection at Imperial College London and a Professor of Biochemistry. He is a member of EMBO and a Fellow of the Royal Society. He received his BSc and Ph.D. from the University of Sussex and conducted postdoctoral studies at the University of Washington (Seattle) in the laboratory of Stanley Falkow. He worked in industry developing novel vaccines at an internationally renowned multi-national company. He currently sits on the board of The Hilleman laboratories, a joint venture between Wellcome and Merck. He is a founder of VHSquared and Microbiotica, both spin outs of The Sanger Institute. He is currently an 'Expert in Residence' at The Wellcome Trust, advising them on vaccine strategy and innovations. He has published over 500 research papers (many in high impact journals), edited several books and has sat on the editorial boards of a number of prestigious journals. He also holds adjunct professorships at the Universities of Monash and Melbourne.

Dr Ted Fjällman

Chief Executive Officer, Prokarium Ltd, UK

BactiVac Management Oversight Board Member

Dr Ted Fjällman is the CEO of Prokarium, a London-based biotech focusing on targeted oral vaccines and microbial immunotherapy. Prior to joining Prokarium, Ted held a clinical research position at Sahlgrenska University Hospital and has worked as a strategy consultant at Sweden's Royal Academy of Engineering Sciences, where he coordinated the country's national innovation strategy. He is also committed to promoting science and innovation in society and in 2009 Ted became one of the 45 finalists out of 8300 European Astronaut Selection candidates.

Ted holds a PhD from the University of Guelph, Canada, and has been recognised as a leader in biotechnology under the Sloan Foundation funded Synthetic Biology Leadership Accelerator Program (LEAP). He is a member of the international Bacterial Vaccines Network (BactiVac) management board, as well as an active member in the UK BioIndustry Association (BIA).

Prokarium is a venture-backed biotech company with programmes focused on global health and innovation including vaccines against enter fever, Chlamydia trachomatis and Yersinia pestis, the latter being developed with the UK government. The synthetic biology platform, which has been safely tested in 10 clinical trials in 471 volunteers, is also being evaluated as a microbial immunotherapy targeting technology for solid tumours.

Professor Sir Brian Greenwood

Manson Professor of Tropical Medicine at London School of Hygiene & Tropical Medicine (LSHTM), UK

BactiVac Advisory Board Chair

Professor Sir Brian Greenwood is based at LSHTM where he co-ordinates research projects on the control of malaria and epidemic meningitis in Africa. During the past three years he has been supporting a trial of two Ebola vaccines in Sierra Leone. He has long championed medical education and development in Africa, mentoring new generations of African students, doctors and clinicians to become leaders in their fields; helping enhance the stature of African medical research among the international scientific community. Before joining the staff of LSHTM he worked for 30 years in West Africa, first in Nigeria where he helped to establish a new medical school in Zaria, and then for 15 years in The Gambia where he directed the Medical Research Council Laboratories, now part of LSHTM. In 2008, he was awarded the first prestigious Hideyo Noguchi Africa Prize by the Prime Minister of Japan. He was knighted in the 2012 New Year Honours for services to malaria research in Africa, awarded the Canada Gairdner Global Health Award in 2013 and the MRC Millennium Medal in 2015.

Dr Jerome H. Kim

Director General, International Vaccine Institute, Republic of Korea

Dr. Jerome H. Kim is currently the Director General of the International Vaccine Institute, which works to discover, develop and deliver safe effective and affordable vaccines for Global Health. IVI's oral cholera vaccine, prequalified by Sanofi and EuBiologics, is used around the world to prevent that deadly diarrheal disease. IVI's typhoid conjugate vaccine is entering Phase II testing by two vaccine companies.

Prior to IVI Dr. Kim led the Army's advanced development program for HIV vaccines, the RV144 HIV vaccine trial and correlates analysis, and a molecular virology laboratory at Walter Reed Army Institute of Research. He has authored over 200 publications and received the John Maher Award for Research Excellence from the Uniformed Services University of the Health Sciences in 2013. In 2014, he was recognized as one of the 50 most influential people in vaccines.

He is a graduate with high honours and highest honours in History and Biology, respectively, from the University of Hawaii, and received an MD degree from Yale University School of Medicine. He is an adjunct Professor of Medicine at USUHS and the Seoul National University Graduate School of Public Health. He is a Fellow of the American College of Physicians and the Infectious Diseases Society of America.

Dr Elizabeth Klemm

Project Officer, Wellcome Trust, UK

Elizabeth Klemm is a project officer in the vaccines group at the Wellcome Trust. She leads a project to establish and promote the role that vaccines play in reducing antimicrobial resistance. Previously she was a senior scientist at the Wellcome Sanger Institute where she studied bacterial pathogens and antimicrobial resistance using next generation sequencing, including characterizing the first outbreak of extensively drug-resistant typhoid fever. She has published articles on bacterial pathogenesis, host adaptation, and immune evasion.

Dr. Klemm completed her doctorate at the Massachusetts Institute of Technology.

Professor Calman MacLennan

Director of BactiVac, Professor of Vaccine Immunology, University of Oxford, UK

BactiVac Management Oversight Board Chair

I am a clinician scientist from the University of Oxford and currently a Senior Program Officer with responsibility for bacterial vaccines in the Enteric And Diarrheal Diseases at the Bill and Melinda Gates Foundation. After qualifying in medicine from Oxford, I studied for a doctorate in neurosciences before developing an interest in infectious disease immunology. This led to time overseas in Kenya and then Malawi investigating immunity to invasive Salmonella disease. From 2010 to 2014, I was Head of the Exploratory Programme at the Novartis Vaccines Institute for Global Health, in Siena, Italy. There my programme developed new vaccines against Salmonella, Shigella and meningococcus, and contributed to the establishment of a new bacterial vesicle vaccine platform, known as Generalized Modules for Membrane Antigens. Following a sabbatical at the Wellcome Trust Sanger Institute, I returned to Oxford in 2015, where I am as a MRC Senior Clinical Fellow at the Jenner Institute. Salmonella immunology continues to be a main focus of my research with ongoing projects in Africa, and my group is currently engaged in developing a vaccine against gonorrhoea. I am an honorary consultant immunologist at Oxford University Hospitals NHS Foundation Trust, a member of visiting faculty at the Sanger Institute and Professor of Vaccine Immunology at the University of Birmingham. My role at Birmingham increased in August 2017 with the launch of the MRC GCRF BactiVac network. I see bacterial vaccines as having huge potential for global health benefit and am excited about the opportunities that BactiVac has to advance this area of vaccinology.

Dr Marcela F. Pasetti

Professor of Microbiology and Immunity, University of Maryland, USA

Marcela F. Pasetti, Ph.D., is a Professor in the Departments of Pediatrics and Microbiology and Immunology, and a faculty member of the Center for Vaccine Development and Global Health (CVD) at the University of Maryland School of Medicine. Her research focuses on the characterization of immune responses following infection and vaccination in animal models and in humans. Her main areas of interest are maternal-infant immunization and the induction of protective immunity during pregnancy and early in life. Dr. Pasetti also studies mucosal immunity, particularly the role of antibodies in protection against mucosal pathogens. Through several NIH- and foundation-supported projects, her group is investigating mechanisms by which maternal immunity prevents shigellosis in young infants, serological predictors of Shigella vaccine efficacy, the role of vaccine-induced IgG in preventing B. pertussis infection, immune responses induced by novel adjuvants in humans, and markers of immunity to vaccine-preventable disease in young children. In addition to directing a thriving basic research program, Dr. Pasetti oversees the Applied Immunology Section at the CVD, which develops, refines, and performs a variety of immunological assays to support human clinical studies.

Dr Rino Rappuoli

Chief Scientist and Head of External R&D, GSK Vaccines, Italy and Professor at Imperial College, London, UK

Dr Rino Rappuoli is Chief Scientist and Head of External R&D at GSK Vaccines, based in Siena, Italy and Professor at Imperial College, London, UK. Prior positions include Head of Vaccine R&D at Novartis, CSO of Chiron Corporation, and Head of R&D at Sclavo. He obtained his PhD in Biological Sciences at the University of Siena, Italy, and has been a visiting scientist at both Rockefeller University and Harvard Medical School in the United States.

He is elected member of US National Academy of Sciences (NAS), American Academy of Arts and Sciences (AAAS), the European Molecular Biology Organization (EMBO), and the Royal Society of London. Dr Rappuoli has received numerous awards including the Gold Medal of the Italian President, the Albert B Sabin Gold Medal, the Canada Gairdner International Award and the European Inventor Award for Lifetime Achievement. A few years ago he was nominated as the third most influential person worldwide in the field of vaccines (Terrapin). He has published 680 works in peer-reviewed journals.

Dr Rappuoli has developed and implemented a number of novel scientific concepts critical for vaccine development in the areas of genetic detoxification, cellular microbiology, reverse vaccinology and the pangenome. With others, he has developed several licensed vaccines and related adjuvants/carriers, including the acellular pertussis vaccine, which contains a non-toxic mutant of pertussis toxin; the first conjugate vaccine against meningococcus C; MF59, the first vaccine adjuvant after aluminium salts, which stimulates production of CD4 memory cells following meningococcal B vaccination; and CRM 197, a non-toxic mutant of diphtheria toxin that is used as carrier protein for polysaccharides and haptens to make them immunogenic in conjugate vaccines for several diseases, including meningococcal and pneumococcal infections. Recently he used a genome-based approach, named reverse vaccinology, to discover antigens for a new vaccine against meningococcus B.

Dr Rappuoli is among the world scientific leaders dedicated to the sustainability of global health.

Dr Satish Ravetkar

Executive Director, Serum Institute of India Pvt Ltd, India

Dr. S.D. Ravetkar is an Executive Director and member of Board with Serum Institute of India Ltd. Apart from his Doctorate he holds degrees in Management and Finance. He has authored various research articles in national and international journals. He is also on advisory board of various national and international organizations and journals. He has more than 44 years techno-commercial experience in biotech industry in various areas like QC, production, projects planning & research. At present his major responsibility is manufacturing of Bacterial combination vaccines mainly Pentavalent and Hexavalent vaccine. He has extensively worked on microbial and bioengineering aspects of vaccinology and also expertise on technology transfer. He is listed amongst 15 influential figures in the Asian Vaccine Industry. He is also listed amongst 10 most Influential Leaders in the vaccine Industry 2015.

Dr Alex Richter

Consultant in Clinical Immunology, University of Birmingham, UK

BactiVac Management Oversight Board Member

Dr Alex Richter earned her undergraduate medical degree from the University of Birmingham (UoB) and undertook junior doctor training within the British Army. After a doctorate exploring the immunology of pulmonary vasculitis and interstitial lung disease she undertook specialist training in Immunology and Allergy. Alex established clinical services at University Hospitals Birmingham, where she is now a Consultant Clinical Immunologist. She holds the position of Senior lecturer at UoB, where she is developing her research interest in the diverse and emerging field of secondary immunodeficiency. A key theme within this research is assessing vaccine responses in these patients and developing immunodiagnostics to support this work. The assay development is undertaken in the Clinical Immunology Service at UoB, which is a large immunodiagnostics laboratory that supports NHS hospitals in the region and research within the University.

Dr Ceri-Wyn Thomas

Strategy and Policy Manager, Biotechnology & Biological Sciences Research Council (BBSRC), UK

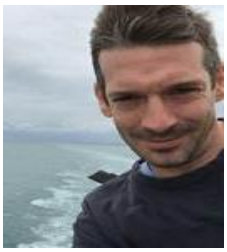
Ceri-Wyn joined BBSRC in April 2018 as a Strategy and Policy Manager. She oversees a number of GCRF and Newton Fund initiatives, including the Networks in Vector Borne Diseases. She is the primary science contact for animal health and 'One health' approaches, within BBSRC's wider 'Bioscience for Health' strategic priority area.

Ceri-Wyn previously worked in scholarly publishing, managing a small portfolio of research journals in materials science and engineering. She gained her PhD from the University of Bristol in 2012, having worked on fossilised animal embryos from Neoproterozoic phosphorites in China, and their efficacy in improving our understanding of early metazoan evolution.

Professor Rick Titball

Professor of Molecular Microbiology, University of Exeter, UK

Rick Titball is Professor of Molecular Microbiology at the University of Exeter. He moved to the University of Exeter from the Defence Science and Technology Laboratory (Dstl) at Porton Down in 2007, where he was a Senior Fellow. He has worked on bacterial pathogens of humans and animals including Burkholderia pseudomallei, Yersinia pestis and Clostridium perfringens and developed vaccines against plague and C. perfringens toxins which are now being exploited by industry. His work at Exeter is directed towards understanding the molecular basis of virulence of B. pseudomallei and C. perfringens and the molecular biology of toxin-antitoxin systems. At Exeter an underpinning feature of his research has been the use of alternative infection models, including G. mellonella larvae, to study disease. He has published over 300 peer reviewed papers including work in Nature, Science and PNAS. He has 18 currently active patents. His work has been funded by the UK Dstl, BBSRC, MRC and Wellcome Trust, and internationally by the Cariplo Foundation, US NiH and US DTRA.



Dr Johan Vekemans

Medical Officer, World Health Organization, Switzerland

Johan Vekemans is a paediatrician, epidemiologist and immunologist working at WHO Initiative for Vaccine Research on the research and fevelopment framework for vaccines targeting priority diseases of high global public health interest. He has a large experience in vaccine development against tropical/neglected diseases in the context of multi-institutional international collaborations. He previously worked at GSK, leading Phase I-III malaria candidate vaccine studies including use of human infection models in healthy adults, Phase 3 field trial implementation in healthy infants and neonates and HIV-infected children. His work included research on different vaccine constructs (protein formulated in new adjuvants as well as attenuated live virus vaccines), safety monitoring, capacity strengthening of research centers in Africa. He has been part of several leadership boards and steering committees overseeing vaccine development programs.He previously lived and worked at the Medical Research Council, The Gambia and in Cochabamba, Bolivia. He is acting as WHO focal point for tuberculosis, Group B Streptococcus, Group A streptococcus, HIV and tuberculosis vaccines research, formulating guidance on preferred product characteristics and priority research activities.

Professor Brendan Wren

Professor of Microbial Pathogenesis, London School of Hygiene and Tropical Medicine, UK

Brendan Wren studied for a PhD in Physical Chemistry and published seminal papers on the effect of ionizing radiation on DNA. He then changed subject discipline and took a Microbiology position at St Bartholomew's Hospital, London.

In 1999 he moved to the London School of Hygiene and Tropical Medicine (LSHTM) and was awarded a chair in Microbial Pathogenesis. His primary research interest includes the molecular characterization of bacterial virulence determinants and the evolution of virulence. Much research has focused on bacterial glycostructures, including the characterization of lipo-oligosaccharides, capsular polysaccharides and glycosylation systems. He has published over 320 scientific publications and is currently Dean of the Faculty of Infectious and Tropical Diseases at the LSHTM.

This basic research has enabled Wren and colleagues to develop glycoengineering in *E. coli*. To date, the major application of this technology is the construction of more affordable recombinant glycoconjugate vaccines.