Trends in Science and Technology Relevant to the Biological Weapons Convention: An International Workshop

Committee

Roderick J. Flower

Chair

Roderick Flower, FRS, is Professor of Biochemical Pharmacology at the William Harvey Research lnstitute, Barts and The London School of Medicine and Dentistry. Dr. Flower received his post graduate training at the department of pharmacology in the Royal College of Surgeons of England under the supervision of Sir John Vane. He moved with Vane when the latter became R & D Director at the Wellcome Foundation in Kent and worked there as part of his prostaglandin research team until 1984. Dr. Flower then served as Chair of Pharmacology at the University of Bath, where he also reserved as Head of School of Pharmacy and Pharmacology (1987-1989). ln 1989, he moved to the medical college of St Bartholomew's Hospital, where he became a Director and Founding member of the William Harvey Research lnstitute, and started a new Department of Biochemical Pharmacology. He served as Head of the lnstitute (1998-2002) and was also Wellcome Principal Research Fellow (1994-2007). His main interests are the mechanism of action of anti-inflammatory drugs including Cox inhibitors and glucocorticoid steroids. Dr. Flower has published over 200 peer-reviewed research papers and holds several patents. He has trained numerous Ph,D. students, hosted many researchers from overseas in his group and made important contributions to undergraduate teaching. He has served on several editorial and scientific boards and was president of the British Pharmacological Society (2000-2003). Dr. Flower's honors include: the Thomas Woodcock Physiology Prize (University of Sheffield 1972), The British Pharmacological Society's Sandoz Prize (1978), The Gaddum Memorial Lecture and Medal of The British Pharmacological Society (1986), Fellow of the Academy of Medical Sciences (1999), Fellow of Academia Europeae (2001), the William Withering Medal of the Royal College of Physicians (2003), the Lifetime Achievement Award of the lnternational Society of lnflammation Associations (2005), and the Bayliss-starling Prize Lecture of the Physiological Society (2006). He was elected a Fellow of the Royal Society in 2003. Dr. Flower served on the NRC Committee for the lnternational Outreach Activities on Biosecurity: A Workshop on Building Bridges Between the Scientific and Policy Communities and also on the organzining committee for a 2006 Royal Society-lAP-ICSU workshop on developments in the life sciences and potential implications for the Biological and Toxin Weapons.

Hernan Chaimovich

Member

Hernan Chaimovich is a professor in the Department of Biochemistry of the Institute of Chemistry, Universidade de São Paulo, Brazil and Superintendent General of the Butantan Foundation. He received a degree in Biochemistry from the Universidad de Chile, worked with Osvaldo Cori in apyrase enzymology, and spenttwo and a half years in the U.S. working underthe supervision of C.A. Bunton (UCSB)and F.H. Westheimer (Harvard University) in physicalorganic chemistry. He returned to Chile as an assistant professor of Biochemistry and moved to Brazil in 1969, first as a FAPESP fellow in the Department of Physiology at the Faculty of Medicine, Universidade de São Paulo (USP) and later in the Department of Biochemistry of the Institute of Chemistry, USP, where he became a fullprofessor in 1985. Dr. Chaimovich's research is in interfacialeffects on chemical and biological reactivity using micelles and vesicles as models. The contributions of his group, including theoretical and experimental studies of the effect of micelles and vesicles on a number of chemical reactions, have contributed to dissect the effect of these aggregates on chemical reactivity. Dr. Chaimovich is a co-chair of the InterAmerican Network of Academies of Sciences (IANAS) and is a full member of the Brazilian Academy of Sciences and the Academy of Sciences of Latin America (ACAL). He is also a fellow of the Third World Academy of Sciences (TWAS) and of the American Association for the Advancement of Science (AAAS), being a corresponding member of the Chilean Academy of Sciences. He has received several prizes, including the Grand-Cross of the National Order of Scientific and Technological Merit, the highest scientific distinction conceded by the Brazilian Government, Dr. Chaimovich has also recently served as vice-president for external relations for the International Council for Science(ICSU) and has encouraged its unions to become engaged in biosecurity issues.

Nancy D. Connell

Member

Nancy Connell is a Professor of Infectious Disease at the University of Medicine and Dentistry of New Jersey (UMDNJ)-New Jersey Medical School and Director of the UMDNJ Center for BioDefense and the Biosafety Level 3 Facility of UMDNJ’s Center for the Study of Emerging and Re-emerging Pathogens. She chairs the university’s Institutional Biosafety Committee and she has worked with several international programs on dual use issues. She is past chair of the National Institutes of Health’s Center for Scientific Review Study Section HIBP (Host Interactions with Bacterial Pathogens, which reviews bacterial-pathogenesis submissions to the National Institute of Allergy and Infectious Diseases. She is current chair of the F13 infectious diseases and microbiology fellowship panel. Dr. Connell’s involvement in biological weapons control began in 1984, when she was chair of the Committee on the Military Use of Biological Research, a subcommittee of the Council for Responsible Genetics, based in Cambridge, Massachusetts. Dr. Connell received her Ph.D. in microbial genetics from Harvard University. Her major research focus is in bacterial antibiotic drug discovery.

Andrzej Gorski

Member

Andrzej Górski is Professor of Medicine and Immunology at The Medical University of Warsaw and Vice President of the Polish Academy of Sciences. He is Board certified in Internal Medicine with a subspecialty certification in clinical immunology. Dr. Górski received his M.D. (1970) and Ph.D. (1973) degrees from The Medical University of Warsaw and was a Fulbright Scholar at the Sloan-Kettering Institute for Cancer Research, USA. He has been a visiting professor at Adelaide Children's Hospital, Australia, the Weizmann Institute of Science, Israel, the University of London United Medical and Dental Schools of Guy's and St. Thomas's Hospitals, England, and the Universidad Autonoma, Madrid, Spain. Dr. Górski served as Prorector for Scientific Affairs & International Cooperation (1993-1996) and as Rector (1996-1999) of The Medical University of Warsaw. From 1999-2007 he was also Director of the L. Hirszfeld Institute of Immunology and Experimental Therapy at the Polish Academy of Sciences. Dr. Górski has authored over 100 scientific publications, serves as the Editor in Chief of Archivum Immunologiae et Therapiae Experimentalis, and has served as a member of the Editorial Board of Science & Engineering Ethics. His awards include the Meller Award for excellence in cancer research from Sloan-Kettering Institute, the ICRETT Award and the Yamagiwa-Yoshida Award from the International Union Against Cancer, the J.Sniadecki Memorial Award from the Polish Academy of Sciences (the highest award in medical sciences in Poland), and the Gloria Medicinae, awarded by The Polish Medical Association. In addition, Dr. Górski is a member of the Committee for Ethics in Science at the Polish Academy of Sciences, a member of the Committee for Ethics in Science at the Ministry of Science, Head of the Bioethics Committee, Ministry of Health, and represents Poland in the Forum of National Ethics Committees to the European Commission.

Li Huang

Member

Li Huang received his Ph.D. in the Department of Microbiology at the University of Guelph, Ontario, Canada, in 1988. He was a postdoctoral fellow in the Department of Biochemistry of the School of Hygiene and Public Health at the Johns Hopkins University, Maryland, from 1988 to 1993. He became assistant professor in the Department of Biology at Pomona College, California, in 1993 before joining the faculty in the Institute of Microbiology, Chinese Academy of Sciences, in 1996. He was appointed to full professorship in 1998 and is now Director-General of the Institute of Microbiology, Chinese Academy of Sciences. Dr. Huang's scientific work concerns the isolation and biotechnological exploitation of microorganisms and their genes from various environments. He has also been working on biosecurity-related issues since 2001, and is currently member of the Biosecurity Working Group of the InterAcademy Panel (IAP).

Maxwell O. Onapa

Member

Dr. Otim Onapa is the Deputy Executive Secretary of the Uganda National Council for Science and Technology (UNCST) where he has been stationed since 2006. His responsibilities include providing leadership and technical support in the design, development and implementation of programmes and projects. He also served as chair of the Uganda National Academy of Sciences' Committee on Assessing the Current State of Knowledge Pertaining to the Meaning and Scope of Biosafety and Biosecurity in the Context of Uganda, which published the report The Scope of Biosafety and Biosecurity in Uganda: Policy Recommendations for the Control of Associated Risks (2010). Previously, Dr. Otim Onapa worked at the National Agricultural Research Organisation (NARO) as a Research Officer, Infectious Disease, Livestock Health Research Institute (2000 – 2006) and still at the same institute between 1994 and 1999 as a Research Assistant. Previously (1992-1994), he had worked as a Veterinary Research Officer, Microbiology, Animal Health Research Centre, Entebbe. Academically, Maxwell has a Ph.D. from the Royal Veterinary and Agricultural University, Copenhagen; an M.Sc. (Tropical Veterinary Epidemiology) from the Free University of Berlin/Addis Ababa University; and a Bachelor of Veterinary Medicine (BVM) from Makerere University, Uganda. Dr Otim Onapa has published widely and has had additional professional training in various areas including strategic management, molecular diagnostic PCR training, laboratory diagnosis of avian influenza, among others. He has also presented as a member of papers on Biosafety and Biosecurity in different international forums.

Mohamed I. Parker

Member

M. Iqbal Parker received his BSc in Biochemistry and Microbiology from University of Cape Town in 1974, his BSc (Honours) in 1975 and his Ph.D. in Biochemistry from the same University in 1979. Dr. Parker, currently Director of the Cape Town Component of the International Center for Genetic Engineering and Biotechnology (ICGEB), Professor in Medical Biochemistry at the University of Cape Town and Director of Medical Research Council Oesophageal Cancer Research Group based at the University of Cape Town. Before taking up the post with the ICGEB, he was Director of the School of Biomedical Sciences and Head Division of Medical Biochemistry at the University of Cape Town and subsequently, the Deputy Dean for Research in the Health Science Faculty. Dr. Parker is Past-President of the South African Society for Biochemistry and Molecular Biology and was a key member in founding of the Federation African Societies on Biochemistry and Molecular Biology and is currently its Treasurer. He has been elected onto the Executive Committee on Symposia and also the Chair of the Wood-Whelan Fellowship Committee. He is a founder member of the South African Academy of Sciences (ASSAF) and currently holds the position of Secretary General for five years and currently chairs the Biosafety Committee of this Academy.

Andrew Pitt

Member

Andrew Pitt, D. Phil., is Reader and Director of the Sir Henry Wellcome Functional Genomics Facility (SHWFGF) at the University of Glasgow. He also serves as Director of the Doctoral Training Centre in Proteomics and as Managing Director of the RASOR Interdisciplinary Research Collaboration in Proteomic Technologies, which brings together engineers, physical scientists and biologists across the Universities of Glasgow, Dundee, Edinburgh and Strathclyde. Dr. Pitt's multidisciplinary research involves proteomics, protein science, post-genomics technologies, biochemistry, biomolecular analysis, and systems and synthetic biology. His research focuses particularly on the generation of new technologies for modern protein research, biomarker discovery and identification, complex biochemical pathways and molecular networks, integration and modelling for systems biology, and clinical applications of proteomics. He is a member of the Royal Society Standing Committee on Scientific Aspects of International Security (2007-present), a member of the Executive Board of the British Society for Proteome Research (2007-present), and a member of the editorial board of the Journal of Proteomics.

Ralf Trapp

Member

Ralf Trapp is an independent consultant who has worked and published extensively in the fields of chemical and biological weapons disarmament and non-proliferation. His research includes the impact of advances in science and technology on the regimes pertaining to chemical and biological weapons, national implementation measures for the Chemical Weapons Convention and the Biological Weapons Convention (such as legislation, regulations, training, enforcement, self-regulation in industry and academia, oversight, and education), and other aspects of preparedness and consequence management. He formerly served as Secretary of the Scientific Advisory Board of the Organization for the Prohibition of Chemical Weapons (1998-2006), which administers the Chemical Weapons Convention. He also served as Legal Coordinator (consultant) for the EU Joint Action in Support of the Biological and Toxin Weapons Convention (2007-2008), which was executed by the Bio-Weapons Prevention Project, Geneva, Switzerland. Dr Trapp is an external member of the Academy of Sciences of Bologna and a Fellow of the International Union of Pure and Applied Chemistry (IUPAC). He received his Dr rer. nat. (Ph.D.) from the Technical University "Carl Schorlemmer" Leuna-Merseburg (former German Democratic Republic) in 1978 and Dr sc. nat. from the GDR Academy of Sciences, Leipzig in 1986.

Lloyd Whitman

Member

Lloyd Whitman joined the Center for Nanoscale Science and Technology as the Deputy Director in April 2008. He received a B.S. in Physics from Brown University (with honors, magna cum laude), and M.S. and Ph.D. degrees in Physics from Cornell University. After an NRC Postdoctoral Research Fellowship at NIST, he joined the research staff at the Naval Research Laboratory (NRL). At NRL, Dr. Whitman was most recently the Head of the Surface Nanoscience and Sensor Technology Section, a multidisciplinary research group working at the nexus of nanoscience, biotechnology, and microsystems. He led a diverse portfolio of research studying semiconductor, organic, and biomolecular nanostructures, their use in novel functional surfaces, and their integration into advanced sensor systems for national security applications. In addition to leading research at NRL, Dr. Whitman served as a Science Advisor to the Special Assistant to the Secretary of Defense for Chemical and Biological Defense and Chemical Demilitarization Programs. In this capacity, he represented the Department of Defense on the National Science and Technology Council, Committee on Technology Subcommittee on Nanoscale Science, Engineering and Technology. Dr. Whitman has over 140 publications and patent applications in the areas of nanoscience and sensor technology, and numerous media citations and awards, including the Navy Meritorious Civilian Service Award.