



MALARIA
FREE
ITALY

Web conference 24 November 2020

h15:00 – h17:00 (3:00 – 5:00 PM CET)

FROM 50 YEARS OF A MALARIA FREE ITALY TOWARDS A MALARIA FREE WORLD

Istituto Superiore di Sanità and Sapienza University Rome, key institutions in the achievement of Italy's malaria elimination, take the occasion of the 50th anniversary of the WHO declaration of a malaria free Italy to discuss successes and challenges of the current fight against malaria, particularly in Africa, and to highlight the contribution of scientific research to the goals of malaria elimination and eradication.

Webconference free access: <https://live.starleaf.com/OTUwMTMyNzI6NTIyMzU0>

Meeting program

15:00	Opening	Donatella Taramelli, Alessandra della Torre, Pietro Alano
15:10	Istituto Superiore di Sanità welcome and introduction	Silvio Brusaferrò , Istituto Superiore di Sanità, President
15:15	Sapienza University Rome welcome and introduction	Eugenio Gaudio , Sapienza University, Rome, Rector
15:20	Lessons learned and ongoing challenges: the fight against malaria in the context of elimination	Pedro Alonso , World Health Organisation Global Malaria Programme, Director, Geneva, Switzerland
15:40	A glance at the Italian Malaria Network	Donatella Taramelli , Italian Malaria Network, Director, University of Milan, Milan, Italy
15:45	Discovery of future medicines for malaria elimination	Kelly Chibale , Drug Discovery and Development Centre (H3D), Director, University of Cape Town, Cape Town, South Africa
16:00	A glance at malaria activities at Sapienza University Rome	Alessandra della Torre , Sapienza University Rome, Rome, Italy
16:05	Breaking up the Plasmodium cycle in the Anopheles mosquito for malaria control	Flaminia Catteruccia , Harvard-Chan School of Public Health, Boston, USA
16:20	A glance at malaria activities at Istituto Superiore di Sanità	Pietro Alano , Istituto Superiore di Sanità, Rome, Italy
16:25	Investigating malaria parasite biology and immune responses in areas with varying <i>P. falciparum</i> transmission intensities	Gordon Awandare , West African Centre for Cell Biology of Infectious Pathogens, Director, University of Accra, Accra, Ghana
16:40	Discussion (replies to email questions)	<i>Pedro Alonso, Kelly Chibale, Flaminia Catteruccia, Gordon Awandare</i>
17:00	End of meeting	<i>Pietro Alano, Alessandra della Torre, Donatella Taramelli,</i>



Speakers



Pedro Alonso

Director, Global Malaria Programme World Health Organization, Geneva, Switzerland

Pedro L. Alonso, MD, PhD, is the Director of the WHO Global Malaria Programme in Geneva, Switzerland. The Global Malaria Programme is responsible for the coordination of WHO's global efforts to control and eliminate malaria and sets evidence-based norms, standards, policies and guidelines to support malaria-affected countries around the world.

Dr Alonso has spent over 30 years in public health. His scientific research work has focused on key determinants of morbidity and mortality in the most vulnerable population groups. He has published over 300 articles in international peer-reviewed journals – primarily on malaria treatment, vaccine trials and preventive therapies – and has served on several national and international committees. He is committed to capacity building of both institutions and individuals, primarily in Africa.

Prior to taking up the WHO position, Dr Alonso was Director of the Barcelona Institute for Global Health (ISGlobal), Professor of Global Health at the University of Barcelona, and President of the Governing Board of the Manhica Foundation and the Manhica Health Research Centre in Mozambique.



Gordon Awandare

Director, West African Centre for Cell Biology of Infectious Pathogens (WACCBIP), University of Accra, Accra, Ghana

Gordon Awandare is the founding Director of West African Centre for Cell Biology of Infectious Pathogens (WACCBIP), and a Professor at the Department of Biochemistry, Cell and Molecular Biology at the University of Ghana, Legon. He holds a Masters in Biochemistry from the University of Ghana, and a PhD in Infectious Diseases and Microbiology from the University of Pittsburgh Graduate School of Public Health, PA, USA. Awandare did his postdoctoral training at the Walter Reed Army Institute for Research, MD, USA. In 2014, he led the establishment of WACCBIP after winning one of the World Bank's African Centres of excellence grants. Subsequently WACCBIP has won several other big grants, including a Wellcome Trust DELTAS grant, which altogether have contributed equipment, infrastructure, and provided fellowships to about 250 African scientists for Masters, doctoral and postdoctoral training.

His research interest is in the molecular and cellular aspects of infectious diseases in Africa, with specialization in the biology of the malaria parasite *Plasmodium falciparum*, and the pathogenesis of its infections in African children. He was a recipient of the Royal Society Pfizer award for 2015 for achievements in molecular and cellular studies of malaria, and science capacity building in Africa. He is a Fellow of the Ghana Academy of Arts and Sciences and the Royal Society of Biology of the UK. In 2019, he was appointed the first Global Editor for Africa for Experimental Biology and Medicine, the journal of the Society for Experimental Biology and Medicine.



Flaminia Catteruccia

Professor of Immunology and Infectious Diseases, Department of Immunology and Infectious Diseases, Harvard-Chan School of Public Health, Boston, USA

Flaminia Catteruccia is Professor in the Department of Immunology and Infectious Diseases at the Harvard T.H. Chan School of Public Health.

Her research focuses on the study of the molecular basis of reproductive biology in *Anopheles gambiae* mosquitoes, the major malaria vectors, and of the factors that shape the development of the malaria parasite in the mosquito vector. Her research program integrates basic molecular biology investigations with high-impact translational studies.

Professor Catteruccia earned a bachelor's degree in Organic Chemistry from the University of Rome La Sapienza in Italy and a Doctor of Philosophy degree in Molecular Biology and Genetics from Imperial College London in the UK, where she achieved the first genetic manipulation of *Anopheles*. She has made unique and fundamental contributions to the field of mosquito research in the area of developing transformative genetic tools, and by applying these tools to the study of mosquito mating behavior and reproductive biology. Her recent studies at Harvard are expanding our understanding of the biology of *Plasmodium* parasite transmission by the *Anopheles* vector and are leading to the generation of novel tools to aid malaria elimination. Her work has a strong field component in a number of African countries to confirm and expand the laboratory findings of her research group. In recognition for her contributions and potential, Professor Catteruccia was awarded the prestigious and highly competitive Faculty Scholar Award jointly sponsored by the Howard Hughes Medical Institute and the Bill & Melinda Gates Foundation. She is a member of the Broad Institute in Cambridge, MA.



Kelly Chibale

Director, Drug Discovery and Development Centre (H3D), University of Cape Town, Cape Town, South Africa

Kelly Chibale is a full Professor of Organic Chemistry at the University of Cape Town (UCT) where he holds the Neville Isdell Chair in African-centric Drug Discovery & Development. He is also a Full Member of the UCT Institute of Infectious Disease & Molecular Medicine, a Tier 1 South Africa Research Chair in Drug Discovery, founding Director of the South African Medical Research Council (SAMRC) Drug Discovery & Development Research Unit at UCT and the Founder and Director of the UCT Drug Discovery and Development Centre (H3D).

Kelly obtained his PhD in Synthetic Organic Chemistry from the University of Cambridge in the UK (1989-1992). This was followed by postdoctoral stints at the University of Liverpool in the UK (1992-94) and at the Scripps Research Institute in the USA (1994-96). He was a Sandler Sabbatical Fellow at the University of California San Francisco (2002), a US Fulbright Senior Research Scholar at the University of Pennsylvania School of Medicine (2008) and a Visiting Professor at Pfizer in the UK (2008).

In 2018 Kelly was recognized by *Fortune* magazine as one of the top 50 World's Greatest Leaders and in 2019 he was named as one of the 100 Most Influential Africans by *New African* magazine. This year he has been named as one of the world's top 60 most inspirational leaders in the pharmaceutical industry (one of the world's top 20 inspirational medicine makers in the field of small molecules) on *The Medicine Maker's* 2020 Power List.

Moderators



Pietro Alano

Principal Investigator at the Department of Infectious Diseases of Istituto Superiore di Sanità, Rome, Italy

Pietro Alano is Principal Investigator in the Department of Infectious Diseases of Istituto Superiore di Sanità in Rome, Italy. Pietro obtained his Ph.D. in 1986 at the University of Milan, Italy, studying the bacteriophage-E. coli interplay.

The interest in host-microbe interactions led him to enter the novel field of molecular parasitology, attending in 1986 the Woods Hole course Biology of Parasitism and, from 1987, investigating *Plasmodium falciparum* sexual differentiation in Richard Carter's laboratory at the University of Edinburgh. In 1991 Pietro joined Clara Frontali's laboratory at Istituto Superiore di Sanità (ISS). Pietro's team investigated the genetics and cell biology of *P. falciparum* gametocyte development and interactions with the human and the mosquito hosts, generating several 'omics' datasets, molecular tools and transgenic parasite lines that are now used to develop cell based assays to identify *P. falciparum* anti-transmission drugs and gametocyte specific diagnostic tools.

Pietro contributed to create the Italian Malaria Network, has been a member of the EU networks of excellence BioMalPar and EVIMalaR, in 2017 was appointed by ISS to represent Italy at the General Assembly of the Europe & Developing Countries Clinical Trials Partnership and in 2018 promoted the ISS initiative *RicercaItaliaAfrica* aiming to improve Italy-Africa collaborative research on global health.

Research funds in Pietro's laboratory are/have been provided by the European Commission, the Bill & Melinda Gates Foundation and the Italian Government. Results of this work are reported in over 80 publications (orcid: 0000-0003-0092-9840, https://pubmed.ncbi.nlm.nih.gov/?term=Alano+P&cauthor_id=30866941).



Alessandra della Torre

Professor of Parasitology, Department of Public Health and Infectious Disease, University of Rome Sapienza, Rome, Italy

Alessandra della Torre is Professor in the Department of Public Health and Infectious Disease in the University of Rome SAPIENZA, where she leads the Medical Entomology group. The group interest is mostly focused on mosquito vectors of human and zoonotic diseases, with particular reference to Afro-tropical malaria vectors of the *Anopheles gambiae* complex and to *Aedes* invasive mosquito species vector of exotic arboviruses in Europe. The research projects integrate behavioral, ecological, cytogenetic, genomic studies, as well as laboratory and field activities in collaboration with research group in Europe, USA and Africa - in order to better characterize the dynamic of malaria transmission - and in Europe, USA and Australia - in order to characterize the biology of *Aedes albopictus* in temperate regions. The newly acquired basic knowledge are exploited to optimize surveillance and control approaches.

Professor della Torre earned a bachelor's degree in Biology and a PhD in Microbiology and Epidemiology from the University of Rome SAPIENZA. Her main interest is the evolutive process ongoing within the *An. gambiae* complex. In this context, her main contribution to the field of malaria vector research refers to the identification of two distinct molecular forms within the major malaria vector species *An. gambiae* s. s. - which led to the description of a novel species, named *An. coluzzii* - and the characterization of the species' behavioral and ecological features which impact on malaria epidemiology and control. These researches received support by WHO-TDR, the FP7 and H2020 European funding schemes, National Institute of Health (NIH-USA) and Istituto Pasteur Italia-Fondazione Cenci Bolognetti. Professor della Torre is presently member of the Partner Working Group of the *Anopheles gambiae* 1.000 genomes (Ag1000G) project and of the Inter-sectorial Task Force on Vector Borne Diseases of the Italian Ministry of Health, and coordinated the H2020 *Aedes* Invasive Mosquito COST Action (AIM-COST) gathering research groups from 42 European and international countries.



Donatella Taramelli

Director of the Italian Malaria Network, Dipartimento di Scienze Farmacologiche e Biomolecolari, Università degli Studi di Milano, Milan, Italy

Donatella Taramelli

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Donatella Taramelli is Full Professor of Pathology in the Faculty of Pharmacy of the University of Milan, Milan, Italy since 2000. After a Master degree in Biology, at the University of Perugia, Italy, she completed her post-doctoral training in the Lab of Immunodiagnosis, NCI, NIH, Bethesda (MD) and then at the National Cancer Institute in Milan, Italy. In 1987, she became Associated Professor of Pathology & Microbiology at the Medical School and, in 1993, she moved to the Faculty of Pharmacy of the University of Milan. In 2011, she co-founded and now is the President of the Italian Malaria Network, a consortium of 10 Italian Universities and the Istituto Superiore di Sanità (Italian National Institute of Health), focused on research and training in malaria. Prof. Taramelli is a recognized expert in malaria drug discovery and pathogenesis. Since 1996 with WHO-TDR support, her lab became one of the few in Europe and the only one in Italy with validated screening facilities for new antimalarials. As PI, she was financed by the Italian government, by WHO-TDR, by the EU programs FP6 ANTIMAL and FP7 CRIMALDDI, by the NIH-RO1 and by the Gates Foundation for the development of a novel gametocyte assay (2011-2016). She has been the Italian Representative of four different EU-COST Actions on Drug Discovery, and participant of bilateral projects (Italy – South Africa, 2018-20) with international universities. Prof. Taramelli bibliography includes 186 indexed papers, 16 book chapters, one international patent (H index 41). Main focuses of her research group are: a. Discovery/ screening/early development of antimalarial and anti-leishmania drugs; b. Development of new methods to study the mechanism of action of quinoline and artemisinin class of drugs; c. Studies on the host innate response to parasitic infections and co-infections to identify adjunct therapies.