

4th Annual Congress on **INFECTIOUS DISEASES**

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5th International Conference on

NEGLECTED TROPICAL & INFECTIOUS DISEASES

August 29-30, 2018 | Boston, USA



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Tackling neglected diseases in current context

The fight against the Neglected Tropical Diseases receiving increased worldwide attention after the recent attribution of the 2015 Nobel Prize in Physiology or Medicine to William Campbell and Satoshi Ōmura for their development of a novel therapy against infections caused by roundworm parasites. Neglected Tropical Diseases (NTDs) known to be a diverse and growing group of communicable diseases that prevail in tropical and subtropical conditions in 149 countries affect more than one billion people and cost developing economies billions of dollars every year. Populations living in poverty, without adequate sanitation and in close contact with infectious vectors and domestic animals and livestock are those worst affected. Despite encouraging progress, millions of people still need free high-quality treatments and millions more still need care and treatment for human dog-mediated rabies, echinococcosis, leishmaniasis and other neglected tropical diseases seemingly difficult to treat. Neglected tropical diseases program in global manner encompass biology of parasites and their vectors. Its research program addresses global public health concerns in terms of disease prevention, control and antiparasitic treatment. Along with understanding of the dynamic interactions between these microorganisms and their hosts, identifying the fundamental bases of parasitism and transmission by vectors, host invasion mechanisms, and determine parasite factors underlying virulence and pathology of these organisms. From scientific point of view, tackling infectious and tropical disease encompass various aspects including like transmission mechanisms, virulence factors, pathogens reservoirs, host immune response working transversally through epidemiology, microbiology, genetics and genomics, cell biology, biochemistry and bioinformatics and imaging. Apart vector born diseases like Dengue and Zika recent research in France look particularly on three key eukaryotic pathogens responsible for severe parasitic diseases that have a significant health and economic impact and affect most of the world's population: *Plasmodium* the causative agent of malaria, *Leishmania* – the agent of leishmaniasis, and *Trypanosoma brucei* – responsible for sleeping sickness. The Anopheles mosquito, which is the vector of Plasmodium and a number of arboviruses, is being studied along with the tsetse fly, the vector of African trypanosomiasis. Fundamental research on *in vitro* and *in vivo* models – including field work in Africa, Asia, South America – with applied research on resistance to antimalarial drugs and on the discovery of new antiparasitic drugs include exploration of traditional medicine and methods like reverse pharmacology. Accurate diagnostic and surveillance with better understanding of genetic and immunologic background of host specific response and pathogen evolution drives adapted vaccine research but also preventive interventions. As one of examples to illustrate it, global mapping of resistance to artemisinin (the KARMA study driven by Institut Pasteur in Paris and the Institut

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Pasteur in Cambodia and members of Institut Pasteur International Network) monitoring risk of spread of artemisine resistance from Asia to Africa using discovery of kelch(K13)–propeller domains as the primary determinant of artemisinin resistance. Immunology is relatively new science about composition, functions, reaction of immune system. Host immune system co-evolute with pathogens and commensal microbiota given individual genetic predispositions and variability and remains along with neuroendocrine system one of the key to maintain homeostasis of organism. Knowledge in immunology is growing and providing clinically valuable solutions across various for diagnostic, preventive (innovative vaccination) and treatment strategies including neglected and tropical diseases. Based on works natural defences to infection are mediated by intrinsic/innate and adaptive immune responses. Understanding the role of early metabolic mediators of inflammatory responses to infection and principles of immuno-metabolism expect to help in the development of urgently needed host directed therapeutic, preventive (vaccines) and diagnostic innovations knowing limitations of existing tools.

Biography

Haluskova Balter Ivana , MD,MBA, France, French/Slovak active medical professional specialised in infectious diseases, internal medicine covering various therapeutic axes, certified in Immunology and Pediatric, MBA in vaccinology. Lived multi-country medical "field "experience in Southeast Asia, West/Central/ East Europe and Middle East. Speaking French, English, Russian, Italian, Czech, and Slovak with notion of Mandarin. Over 15 years of experience in pharmaceutical research and development for European and USA companies as Medical lead /Director of R&D in various therapeutic areas and as Scientific and Medical independent consultant for various academic and private stakeholders globally. Active member of French immunology society (SFI) administrative board and several international academic societies with focus on R&D innovation and partnership highlighting role immunology/immune-metabolism and genetics for innovative treatment, prevention and diagnostic. Member of advisory Health concern (India) and think tank group in order to attract attention to role of accessible medical care, education and awareness along with accurate diagnostic and innovative partnership in this area. Years of expertise to work globally but recently more focused on BRICS as Medical advisor for scientific partnership, bringing new innovative concepts alive and getting them endorsed.

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