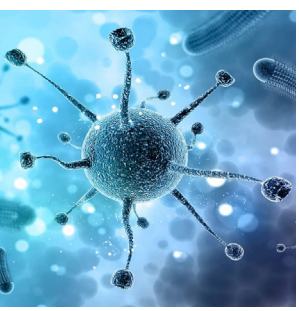
Keynote Forum
May 20, 2019

Medical Microbiology 2019





4th International Conference on

Medical Microbiology

May 20-21, 2019 | Vienna, Austria

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Herbert B Allen, Microbiol Curr Res, Volume 3
DOI: 10.4066/2591-8036-C1-004

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Herbert B Allen

Drexel University College of Medicine, USA

Microbial biofilms in chronic diseases

We have found biofilms in many chronic diseases from eczema to psoriasis in cutaneous disease and from arteriosclerosis to Alzheimer's disease in internal diseases. We have found these biofilms in extracellular and intracellular loci and we have shown that those that are extracellular upregulate the innate immune system. Those that are intracellular are not exposed to the immune system. The organisms creating these biofilms include *Staphylococci* in eczema, *Streptococci* in psoriasis, *Malassezia furfur/ ovale* in tinea versicolor, *M. leprae* in leprosy, molluscum virus in molluscum contagiosum, *Borrelia burgdorferi* and *dental spirochetes* in Alzheimer's disease, and others. The locations of these biofilms are most frequently in the organ that is involved like *Staphylococci* in the skin in eczema, but occasionally they are found in a distant site such as the tonsils in psoriasis and the liver, spleen and kidneys in leprosy. These variables call for different approaches to treatment.

Speaker Biography

Herbert B Allen is a graduate of Johns Hopkins University School of Medicine where he did his internship. He has completed his residency at the Naval Regional Medical Center in Philadelphia, PA, USA and has served on the boards of the American Society of Dermatology and the American College of Physicians and has published over 40 scientific articles in the fields of dermatology and dermatopathology. He has been the professor and chair of the Department of Dermatology of Drexel University College of Medicine for the past 17 years. His specialties include dermatology, dermatopathology, skin pathology and fungal infections and is board-certified with the American Board of Dermatology and the American Board of Pathology.

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Alain B Waffo

Alabama State University, USA

Novelties in phage display with RNA-coliphage Qβ for diseases point-of-care

The use of naturally occurring phages in agriculture and medicine has flourished for years and now, is continuing to enable novel strategies in synthetic biology. Synthetic biology has refined the way to design modify and enrich to optimize by rationally engineering the phages. New function can be achieved by fusing libraries comprising synthetic peptides with a coat protein of a phage and such peptide is displayed on the phage surface. Phage engineering was made possible with the advances of DNA recombinant technology and was mostly applied to DNA phages. RNA phages possess features that can accelerated evolution and serve as platform or tool phage-based for *in vitro* evolution. RNA phages RNA-dependent-RNA-polymerase enzyme lacks the proof reading activity and this contributes to the genotypic and phenotypic divergence, convergence of evolution and could improve the optimization of any engineering efforts. RNA-Coliphage Qβ has been, is and will be great interest and fascinating platform for evolutionary synthetic biology. Qβ is also an important tool to map the library. Recently, we have successfully constructed and exposed a 5-mer-library of FMDV VP1 G-H loop on the surface of Qβ. The tandem amino acid motif that is required for anti-FMDV monoclonal antibody was selected and evolved with our novel panning system. Epitopes of SARS-CoV spike-proteins were mapped, using Qβ and evaluated for potential antibody neutralizing determinants critically important in the development of an efficacious vaccine candidate. We have demonstrated that recombinant Qβ framed with gp41 MPER of HIV can be used either alone or in combination with other strategies for the production and monitoring of HIV-1 gp41 MPER-specific immune responses. With the volume of reports and papers on RNA viruses' replication to antiviral therapy and escaping immune molecules, the struggle and difficulties to develop vaccines against these viruses can be alleviated using RNA phage display system.

Speaker Biography

Alain B Waffo has completed his PhD at the age of 33 years from Max-Planck-Institute of Biophysical Chemistry of Goettingen, Germany under the supervision of Profs. Manfred Eigen and Biebricher Christof. He has two postdoctoral trainings in Newark in New Jersey Medical School and in Texas Medical Center. He is the director, advisor of the Biomedical and Capstone programs and associate professor of Alabama State University, USA. His work has been devoted on infectious diseases caused by RNA virus. His research is sponsor by DoD, NIH and NSF. He has over 50 publications that have been cited over 400 times, and his publication H-index is 17 and has been serving as reviewer and an editorial board member of reputed Journals.

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