

Proceedings of  
5<sup>th</sup> World Congress on  
**MICROBIAL BIOTECHNOLOGY &  
VACCINE DESIGN**

September 17-18, 2018 | Lisbon, Portugal

**Hosting Organization: Pulsus Group**

40 Bloomsbury Way, Lower Ground Floor  
London, UK WC1A 2SE  
Ph: +1-408-429-2646

**E-Mail:** [microbialbiotechnology@pulsusevents.org](mailto:microbialbiotechnology@pulsusevents.org) | [vaccinedesign@pulsusevents.org](mailto:vaccinedesign@pulsusevents.org)

5<sup>th</sup> World Congress on  
**Microbial Biotechnology &  
Vaccine Design**

September 17-18, 2018 Lisbon, Portugal

**Keynote Forum**  
**Day 1**



## 5<sup>th</sup> World Congress on MICROBIAL BIOTECHNOLOGY & VACCINE DESIGN September 17-18, 2018 Lisbon, Portugal



### John F Alderete

Washington State University, USA

#### The perfect serodiagnostic target: *Trichomonas vaginalis* STD as model

A rapid, sensitive and accurate serodiagnostic for the number one, non-viral sexually transmitted infection caused by *Trichomonas vaginalis* is needed for screening both women and men. Such a test will also permit determining the true incidence and prevalence of this STI. Presently there exists the invasive antigen-detection OSOM™ Trichomonas Rapid Test (Sesku Diagnostics); a lateral flow, immuno-chromatographic Point-of-Care test that works only for women. During the course of our investigations of the relation between the vaginalis and prostate cancer, we obtained sera from women and men highly reactive to the highly immunogenic trichomonad protein  $\alpha$ -actinin protein unique to this protist. IgG to this protein was not detected among uninfected controls. The availability of sera allowed us to test the hypothesis that the identification of epitopes to other immunogenic proteins of *T. vaginalis* would permit the construction of novel, chimeric recombinant proteins that would be a perfect target for a serum IgG diagnostic for both women and men. We then identified the immunogenic metabolic enzymes fructose-1,6-bisphosphate aldolase (A),  $\alpha$ -enolase (E) and glyceraldehyde-3-phosphate dehydrogenase (G). Some epitopes of these enzymes were found to have little or no sequence identity to other eukaryotes, yeasts and microbial pathogens. We constructed a new version of an earlier chimeric recombinant String-Of-Epitopes (SOE) protein consisting of 15-mer peptides within which were epitopes of A, E and G. This chimeric protein, now referred to as AEG::SOE2, was detected by ELISA with highly reactive sera of women and men, but not control, negative serum lacking antibody to *T. vaginalis*. This approach lends itself to the creation of highly specific immunogenic targets for both detection of serum antibody in patients and such targets may also be future subunit vaccine candidates.



#### Biography

John F Alderete has received his PhD from The University of Kansas in 1978 and did Postdoctoral Research at The University of North Carolina at Chapel Hill. He was at the University of Texas Health Science Center at San Antonio for 30 years before working at Washington State University. He has published 140 scientific articles and 63 book chapters, invited articles and press releases. His work has been presented at 157 scientific conferences and he has given seminars at 90 colleges and universities worldwide. He has served in National Institutes of Health Study Sections, Boards of Scientific Counselors and National Advisory Councils. He has been a Member of several National Academy of Medicine panels.

[alderete@vetmed.wsu.edu](mailto:alderete@vetmed.wsu.edu)

5<sup>th</sup> World Congress on  
**MICROBIAL BIOTECHNOLOGY & VACCINE DESIGN**  
September 17-18, 2018 Lisbon, Portugal



## *Dilip N Zaveri*

*Biocare Research Ltd, India*

### **Bacterial drug resistance: Where do we stand?**

Despite advancements in hygiene and technology one of the major challenges faced by health care sector is to prevent, identify and treat multidrug resistant infections with reference to hospital acquired infections. Among all types of nosocomial infections the major threat is the silent spread of colonizing multidrug resistant pathogens from patient to patient via various sources. Pathogens associated with nosocomial infections are either of endogenous or exogenous in sources. They come in to hospital circulation post-surgery, chemotherapy or other such medical intervention. Regional genetic study based on resistance mechanism is very important to understand multidrug resistance pattern of prevailing organisms. Further these kinds of information helps to understand how acquisition of genes mediating resistance against different classes of antibiotics along with the resistance to bacteriotoxic environmental conditions such as exposition towards heavy metals or disinfectants can be studied. Our study focuses on surveillance of multidrug resistant strains from the members of the group Enterobacteriaceae (ESBL-E) which has affected healthcare and community settings adversely.

### **Biography**

Dilip N Zaveri has more than 30 years of experience as Clinical Microbiologist. Along with that he has been involved in research and development with various national and international NGOs. He has completed more than 19 research projects (Base line biological surveys/conducted all over India and abroad), training, teaching, publications, presentations etc. in various capacities. He has not only established Biocare Research (I) Pvt. Ltd., but he is also associated with it since inceptions from 1992 to till date as its Director and Chairman of Biocare Group.

[drdilip.n.zaveri@gmail.com](mailto:drdilip.n.zaveri@gmail.com)

### **Notes:**