

**9<sup>th</sup> Euro-Global Summit & Expo on**

# Food & Beverages

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### Bacteriophage applications in food production and processing

Food borne illnesses of microbial origin continue to be serious food safety problem worldwide. In addition to being of significant public health importance, the economic impact of food borne bacterial infections is very significant. For example, in the USA alone, *Salmonella* food borne illnesses result in ca. \$2.4 billion in medical costs annually and hospitalizations and deaths due to *E. coli* O157:H7 infections lead to an estimated \$405 million in medical costs and lost productivity annually. Also, substantive costs to the food industry are incurred in the form of product loss and brand-damaging publicity associated with recalling products contaminated with pathogenic bacteria. Thus, there are very strong public health and economic incentives to develop novel approaches for managing contamination of a broad range of foods by specific food borne bacterial pathogens. Lytic bacteriophages provide one such approach. Lytic bacteriophages/phages (viruses that kill bacteria) are the oldest and most ubiquitous microorganisms on Earth. Because of their potent, highly specific antibacterial activity, phages may provide an all-natural, nontoxic and effective means for significantly reducing or eliminating bacterial pathogens present in various foods. Several phage-based products have been recently introduced including ListShield™ -the first ever phage based product (developed by Intralytix, Inc.) to have received FDA approval for direct food applications. These natural phage products when properly applied reduce significantly the levels of their bacterial hosts contaminating various foods without altering their flavors, aromas or appearances. Bacteriophages represent an emerging “green” technology that can help improve food safety. The presentations will give the audience an overview of the bacteriophage technology and a current and novel perspective on the crucial technical, regulatory and human safety issues of this emerging technology for improving food safety.

### Biography

Alexander Sulakvelidze is the Vice President of R&D and Chief Scientist of Intralytix. He is an internationally recognized expert in phage technology who was instrumental in securing the first ever FDA-approval for phage based food safety product in the world. He has published extensively on the subject of phage therapy including co-editing a major book about bacteriophages entitled “Bacteriophages: Biology and Applications”. He is the author of several issued and pending patents in the field of phage therapy and biocontrol. He is currently serving as an Editor-in-Chief of the scientific journal Bacteriophage and as an ad hoc Reviewer for several other journals and funding agencies.

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