

2nd International Conference on **Animal & Dairy Sciences**

September 15-17, 2014 Hyderabad International Convention Centre, India



Kumar Venkitanarayanan

University of Connecticut, USA

The potential for plant-derived antimicrobials for controlling zoonotic and food-borne diseases

Zoonotic and food-borne diseases represent a significant portion of infectious diseases causing morbidity and mortality in humans worldwide. This is further exacerbated by the emergence of antibiotic resistance in many pathogens, thereby underscoring the need for safe and effective alternate strategies for controlling them. Plant-derived antimicrobials represent a diverse group of compounds that have been traditionally used as dietary constituents as well as active components in a number of herbal and traditional medicines. The antimicrobial properties of several plant-derived essential oils have been demonstrated, and a variety of active components of these oils have been identified. Since plant derived antimicrobials contain different chemical functional groups in their structure, their antimicrobial activity is attributed to multiple mechanisms, thereby limiting the development of bacterial resistance against these compounds. This talk will provide extensive results from multiple research projects showing the efficacy of several plant-derived molecules for controlling the colonization of zoonotic pathogens in food animals, and attenuating their virulence and disease outcome in humans using cell culture and *in vivo* models. The pathogens discussed will include *Salmonella Enteritidis*, *Escherichia coli* O157:H7, *Listeria monocytogenes* and *Clostridium difficile*.

Biography

Kumar Venkitanarayanan received his Bachelor of Veterinary Science and Master of Veterinary Science degrees from Kerala Agricultural University and Tamil Nadu Agricultural University, respectively, after which he practiced as a veterinarian for a year. In the US, He obtained his MS in Food Science (University of Nebraska-Lincoln) and PhD in Animal Science (University of Connecticut). He later worked as a Postdoctoral Research Associate at the Center for Food Safety, University of Georgia. He has published 80 peer-reviewed journal manuscripts, 10 book chapters and characterized five new bacterial genes. Having successful in garnering more than 5 million dollars as funding for his research, Venkitanarayanan serves on the editorial board of multiple international journals, and is currently supervising one post-doctoral scientist, five PhD candidates, and five MS students.

kumar.venkitanarayanan@uconn.edu