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RUTGERS' CENTER FOR DERMAL RESEARCH  
(CDR) SEMINAR SERIES

**Guest speaker: Michael Koganov**

Rutgers, The State University of New Jersey

June 5, 2017 at 5:30pm

## *Harmoniance™: Multifunctional and Sustainable Zeta Fraction from Sacred Lotus*

### **ABSTRACT:**

Skin aging, inflammation and hyperpigmentation are common and complex problems, and an effective solution requires coordinated effects using multiple mechanisms and pathways; this is not always achievable by a single compound. Harmoniance™ is proprietary ingredient derived from living *Nelumbo nucifera* (Sacred Lotus) by applying Zeta Fraction™ technology. It demonstrates following multifunctional biological activities: increased hyaluronic acid, filaggrin, and AQP3 expression and decreased melanin expression in ex vivo human skin; increased collagen I expression in adult human fibroblasts; improved organization of elastic fibers in ex vivo human skin; and reduced SDS stress-induced barrier disruption in 3D reconstituted human epidermis. In clinical studies, Harmoniance was also observed to improve skin moisturization and reduce transepidermal water loss, while promoting the improvement of skin softness, compared to placebo; improve the appearance of wrinkles (number, volume, area) and skin roughness; and improve skin appearance aspects such as drainage and body contour. The safety and toxicological profile of this ingredient and comparison of the environmental and sustainability aspects of Harmoniance versus solvent extracts demonstrated the superior sustainability profile of materials produced via Zeta Fraction technology.

### **BIOGRAPHY:**



*Dr. Koganov is Vice-President BioMaterials for Ashland Specialty Ingredients (New York, USA). His primary responsibility is to lead Zeta Fraction™ technology platform. He was a co-founder of IBT (Integrated Botanical Technologies), which developed this proprietary technology and was acquired by Ashland.*

*Dr. Koganov has considerable experience and accomplishments in the areas of physical chemistry and biochemistry of natural products, and biotechnology. His early work was focused on investigation of dynamic structure of electrochemical processes in biological and artificial membranes. Later, he developed electro-membrane technology for comprehensive processing of plants to produce protein concentrates and secondary*

*metabolites. In parallel, he actively participated in discovery and bioremediation projects of US DOE National Laboratories. Dr. Koganov developed both scientific and technical bases of award-winning Zeta Fraction technology, which allows for isolation of intracellular components by a process that is reproducible, sustainable, and can be used for various industries and applications. Zeta Fraction technology permits harvesting and separation of constituent parts of living cell from any plants or algae without requiring external solvents and with minimum energy consumption. In addition, Dr. Koganov led product development and commercialization of patented multifunctional Zeta Fractions (including award-winning Recentia® and Fusion™) that are currently being used in numerous products of global companies.*

*Dr. Koganov holds M.S. degree (Biochemistry), Ph.D. degree (Bioelectrochemistry), Senior Research Fellow and Sc.D. degree - Full Doctor of Science (Biotechnology). He has 68 publications, 57 issued patents and 2 books. Dr. Koganov is a member of the New York Academy of Sciences, Scientific Research Society Sigma Xi, and Biochemical Society. He has received numerous awards and he is an internationally recognized keynote speaker on novel technologies.*

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