# International Conference on PROBIOTICS AND PREBIOTICS &

### MICROBES AND BENEFICIAL MICROBES

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### The role of prebiotics, probiotics and postbiotics in skin and neurodegenerative diseases

The microbiotas within us and on us have profound effects on human health, including many disease states of the skin and nervous system. In addition to the effects of prebiotics and probiotics, here we also discuss the importance to human health of postbiotics; here defined as those molecules released by microbiota that have positive health effects in the host. While we may speak of the binarity of the skin and gut microbiomes, one influences the other and therefore the two microbiomes are interconnected. As such, restoration of a healthy microbiome to prevent and treat various diseases or conditions should seek to optimize the microbiome at all sites, including those of the skin and gut. Data in humans and animal models now provide strong evidence that gut dysbiosis is an early onset mechanism in a number of neurodegenerative diseases, including Parkinson's disease and amyotrophic lateral sclerosis (ALS). Further, homeostatic renormalization of the dysbiosis can lead to a partial recovery of some symptoms in these diseases. Likewise in the skin, a number of diseases are associated with dysbiosis and can be successfully treated using a combination of prebiotics, probiotics and postbiotics. In the context of a "systems therapeutic" (Maguire, 2018; Nova Scientific Publishers), using a combination of therapeutics often results in better therapeutic outcomes than that when using only one therapeutic. Such an approach also includes using the combination of therapeutics at multiple sites, or targets. I shall discuss the prevention and treatment of a number of diseases, including ALS and acne using a systems biology approach.

### Biography

Maguire was former Professor of Neuroscience and Ophthalmology at the University of California, San Diego, faculty at the Bascom Palmer Eye Institute and Research Engineer at the University of California, Berkeley. He has been a Fulbright-Fogarty Fellow at the National Institutes of Health USA, has over 100 publications and numerous patents. His work is supported by the NIH and NSF. He is currently CEO of BioRegenerative Sciences and Chief Scientific Officer at NeoGenesis. He is author of the book, Stem Cell Released Molecules: A Paradigm Shift to Systems Therapeutics.

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