



GAVIN CONFERENCES

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### Novel Strategies for Treating Autoimmune Diseases

Many human diseases are caused by altered regulation of genes by various cellular changes, including DNA methylation/acetylation, histone acetylation and histone deacetylation. Histone modification can significantly alter the function of gene by regulating its expression, causing drastic changes in the behavior of cells. This can result in abnormal multiplication of cells, altered cellular responses or changes in cell cycle. Recent studies suggest that histone modifications are directly involved in the development and progression of multiple diseases including cancer and autoimmune diseases.

Targeting histone deacetylases using inhibitors to treat such conditions have been tried in both animal models and in human clinical trials with partial success. Among the different classes of HDAC, HDAC6 is gaining more attention for therapeutic purposes due to their putative role in causing cancer and autoimmune diseases by altering HSP90 pathway. Our study using specific inhibition of HDAC6 showed improved development of lymphocyte differentiation and alleviation of symptoms in a mouse model for Systemic Lupus Erythematosus. The study highlights the relevance of specific HDAC inhibition as a future therapeutic strategy for different disease conditions.

### Biography

Abdul Gafoor Puthiaveetil is the Chair and Program Coordinator of Biotechnology Department at American University of Ras Al Khaimah. Dr. Puthiaveetil completed his PhD at Virginia Polytechnic Institute and State University. He did internship training at National Institutes of Health (NIH), United States and got postdoctoral training at Virginia Tech USA. He has published six international publications, holds two international patents and presented his research findings at multiple international conferences including American Society of Hematology annual meetings, USA and National Cancer Research Institute symposium, United Kingdom.

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