



# MADRAS DIABETES RESEARCH FOUNDATION

## ICMR CENTRE FOR ADVANCED RESEARCH ON DIABETES

Recognized as a Scientific and Industrial Research Organization (SIRO)  
by the Department of Scientific and Industrial Research, Ministry of Science & Technology, Govt. of India.  
Affiliated to the University of Madras & Deakin University, Melbourne, Australia & University of Warwick, UK for Ph.D. Programs

### Citation on the outstanding research work on which award is claimed

Dr.M.Balasubramanyam has been actively engaged in disease-biology and molecular medicine research with special reference to diabetes and its vascular complications. Very uniquely in the clinical setting, he has meticulously utilized and transformed the Diabetes-based epidemiological studies into proactive molecular medicine investigations and successfully demonstrated *'the clinical significance and subclinical relevance of altered cellular stress signals and new-biology biomarkers in patients with Type 2 diabetes and its vascular complications'*. Ever since he has demonstrated the association of shortened telomeres in patients with type 2 diabetes (in the year 2005), for the first-time in the world literature, several of his subsequent studies positioned telomere length as a robust biomarker. Performing and directing the state-of-the-art clinical research, he has made outstanding research contributions demonstrating the accelerated cellular senescence (biological ageing) in type 2 diabetes linked to alterations in a panel of miRNAs, LncRNAs, HADCs as well as increased mitochondrial and ER stress. His school of thought, i.e., accelerating ageing in diabetes is clinically important in the context of increasing prevalence of early onset type 2 diabetes in youth. One of his studies unraveled elevated systemic levels of BPA in patients with type 2 diabetes linked to accelerated senescence and shortened telomeres. Preliminary studies also emphasized a role of these biomarkers in lifestyle modification intervention. Most of these studies have clinical foresight and warrant 'targeting aging' so as to pave way for the development of novel therapeutic regimen of anti-ageing / senolytic agents as well as mitochondrially targeted antioxidants and ER stress inhibitors/Chemical Chaperones.

With Regards

Dr.V.Mohan

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