

Biomedical Research Award

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I earned a BDS degree (2003) from the Tamil Nadu Dr. MGR Medical University, India. I then immigrated to the US to pursue graduate studies in Biomedical Sciences, which culminated in a PhD degree (2010) from Texas A&M University Health Science Center (Baylor College of Dentistry), Dallas, TX. Subsequently, I completed a Certificate in Orthodontics and a DMSc degree (2014) in Harvard University School of Dental Medicine.

I started (2014) my academic career as an Assistant Professor in the Department of Orthodontics and Dentofacial Orthopedics, UMKC School of Dentistry. After serving in UMKC for four years, I joined the University of Iowa College of Dentistry, Department of Orthodontics as an Associate Professor in 2019. I became the Diplomate of the American Board of Orthodontics in 2020. My research focus is to understand the genetic basis of congenital craniofacial disorders resulting in facial asymmetry.



The objective of this Biomedical Research Award application is to investigate the microRNA target site polymorphisms in Craniofacial Microsomia. This is the second most common congenital malformation (1:3000–1:5600 live births) and the pronounced facial asymmetry seen in Craniofacial Microsomia arises due to unilateral defects of the external and middle ear, temporomandibular joint, mandible, masticatory and facial muscles. Despite significant advancements made in the understanding of craniofacial development, the gene regulatory mechanisms leading to craniofacial asymmetry as seen in craniofacial microsomia remains elusive. The knowledge acquired from this study would pave for small molecule based therapeutic interventions and improve treatment outcomes as miRNAs are considered great therapeutic targets to modify gene–regulatory–network.

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