

Orthodontic Faculty Development Fellowship Award

Dr. Mohammed H. Elnagar, *University of Illinois, Chicago*

Robert M. Ricketts Sunflower Orthodontics Fellowship Award

Biography

I currently serve as a Clinical Assistant Professor in the Department of Orthodontics at the University of Illinois at Chicago. I have received his DDS graduating with honors as class Valedictorian, followed by General Practice Residency. After that, I have obtained my Certificate of specialty in Orthodontics and Master of Dental Science. I have joined the Department of Orthodontics, University of Illinois at Chicago in 2015 to earn my Ph.D. and later I became a Faculty in 2018. My Ph.D. work was a clinical trial that involved different protocol of bone-anchored maxillary protraction for treatment of Class III patients, In addition to the evaluation of the treatment outcome using 3D digital technology. My work selected to be on the cover of the American Journal of Orthodontics and Dentofacial Orthopedics. My research projects and clinical experience involved the treatment Dentofacial deformities, Skeletal Anchorage, 3D imaging and Artificial Intelligence applications in Orthodontics.



Project Synopsis

My project is a prospective clinical study that will implement Dental Monitoring (DM) AI (Artificial Intelligence) in orthodontics treatment, through AI we aim auto-detect clinical situation from photos and scans taken remotely by the patient. We optimize the appliance efficiency by 3D tracking of the tooth movement. Moreover, I am investigating the accuracy of the construction of 3D Digital models remotely using smartphones compared to the iTero intraoral scanner. My project will clinically validate the AI technology, evaluate the treatment outcome and patients acceptance to the new technology. I believe Implementing AI in Orthodontics will enhance the treatment outcome with fewer appointments and give patients more access to care and overcome provider shortages, geographic remoteness and busy lifestyle.

The Importance of the AAOF

Funding from AAOF was crucial for my research project and the award will help me to recruit patients to participate in my study along with obtaining the needed equipment and software for my project. Furthermore, it will assist in the development of my career as an Educator, Clinician, and Scientist.