

## Research Aid Award

### Dr. Tarek Elshebiny, Case Western Reserve University

#### Biography:

My name is Tarek Elshebiny. My education started at Ouroba language school which is one of the pioneers in preliminary education in Cairo. I graduated with Egyptian Baccalaureate with a grade of 98% and was ranked within the top 15% all over the country, which gave me the opportunity to join the Dental School in Cairo University which requires the highest GPA among all Egyptian Universities. I graduated in the top 10% of my class and was accepted for residency in the Orthodontic Department at Suez Canal University (Egypt). After graduating, I became full-time faculty in the Orthodontic Department at Future University, one of the biggest private schools in Egypt. I then decided that I would develop more in the US and was accepted in a Fellowship program at Case Western Reserve University, in Cleveland, OH. I quickly noticed that I would benefit from going through residency here in the US and was happy when I was accepted. Upon completion of Residency, I joined the Craniofacial, Surgical and Special Care Fellowship at Case Western. I was honored to be the recipient of the special care training award from the AAO for the year of 2017.



#### Brief description of the project:

**Aim:** To compare 3D voxel based superimposition CBCT in 2 different imaging software programs and to compare 4 imaging software packages for measuring the upper airway volumes and maximum constriction areas **Methods:** 1) Superimpositions: Pretreatment and post treatment CBCT scans of 15 adults and 15 teenagers will be used to compare voxel based superimposition between Dolphin3D and OnDemand3D. 2) Airway Volume: Twenty eight cone-beam computed tomography scans were randomly selected, the upper airway volumes and the maximum constriction areas will be calculated. Dolphin3D, In Vivo- Dental, OnDemand3D, and ITK-SNAP software programs will be used to measure the OPV and the MCA.

#### How Orthodontic education will benefit from the award:

Several software packages report ability to perform different procedures, but results are sometimes inconsistent among software, making it difficult for a practitioner to communicate and compare values. This project will let us know if the technology used by different packages is giving us the same result when performing superimpositions and airway measurements.

#### Why the foundation is important to the project:

The funding provided from the AAOF will help in examining 3D imaging technology that could be beneficial to clinical orthodontics. The foundation will provide funding to assist my work on imaging projects and researches that I am interested in. Also, the funding will provide me the opportunity to be more committed to academics and come up with new ideas that will be beneficial to our specialty.