

AAO Foundation Award Final Report

Principal Investigator	Joorok Park
Co-Investigator	
Secondary Investigators	
Award Type	Orthodontic Faculty Development Fellowship Award
Project Title	The effect of using different frames of reference on variation in the orientation of the head
Project Year	July 1, 2012 – June 30, 2013
Institution	University of the Pacific, Arthur A. Dugoni School of Dentistry
Summary/Abstract (250 word maximum)	<p>The AAOF Orthodontic Faculty Development Fellowship Award has supported me to dedicate my time in developing my knowledge research and teaching.</p> <p>The main goal of this research was to identify and investigate the potential landmarks that are suitable to establish the frame of reference in 3D cephalometric analysis. An important part of the study was to measure 3D envelopes of error in landmark location of various 3D skeletal and dental landmarks. Then, a computerized method for quantitative evaluation of skeletal and dental asymmetry was developed.</p> <p>We collected initial and final CBCT images of 22 Class II cases treated by an expert clinician. Four second year orthodontic residents were trained and calibrated to digitize 31 skeletal and 60 dental landmarks. Independent estimates of each landmark's position have been made by 3 judges. The 3 estimates have been averaged and the distance of each estimate from the mean of the three has been computed. The outlier was computed, identified by inspection, and deleted, after which the average of the remaining estimates was recomputed.</p> <p>Construction of database of 91 skeletal and dental landmarks was completed, and ready for development of 3D envelopes of error in landmark location. Furthermore, a quantitative analysis for skeletal and dental asymmetry of the 22 Class II cases was studied. Lastly, the landmark data from this study will be used to evaluate orthodontic treatment effect on skeletal structures and dentition.</p>
Were the original, specific aims of the proposal realized?	Yes. I was able to develop my professional career in teaching and clinical research.
Were the results published?	Not yet, I am currently preparing the materials for publication

If not, are there plans to publish? If not, why not?	for the first part of this study.
Have the results of this proposal been presented? If so, when and where? If not, are there plans to do so? If not, why not?	The preliminary result is scheduled to be presented at the 46th Annual Scientific Congress Korean Association of Orthodontists on November, 2013.