

## AAO Foundation Award Final Report

Principal Investigator	Holland Maness
Co-Investigator	None
Secondary Investigators	Stephan Hottel, Timothy Hottel
Award Type	Orthodontic Faculty Development Fellowship Award
Project Title	A Protocol for Integrating facial photographs with Digital Models for the Purposes of Soft-tissue and Hard-tissue Evaluations.
Project Year	2014-2015
Institution	University of Tennessee Health Sciences Center
Summary/Abstract (250 word maximum)	The evaluation of hard and soft tissue relationships is an important part of the study of facial morphology, craniofacial development and orthodontic treatment and outcomes. Historically, this evaluation has occurred in two dimensions. The purpose of this study was to develop a protocol to study the relationship of hard and soft tissues in three dimensions without the use of additional radiation. Stereo photogrammetric images created by the 3dMD Face system and models digitized using the Motion View scanner were utilized. Using a previous lateral cephalometric image from the orthodontic records appointment, these hard tissue and soft tissue images were integrated. A protocol was developed, thus allowing measurement of soft tissue thicknesses and changes over treatment time in relation to the underlying dentition.
Were the original, specific aims of the proposal realized?	Yes. The primary aim was to complete the above project. In addition, the aims of the proposal were to begin to develop new educational protocols, complete research protocols, apply the results to clinical diagnosis and treatment planning and teach these protocols to the residents. All of these objectives are well underway.
Were the results published? If not, are there plans to publish? If not, why not?	The results have been submitted to the Journal of Clinical Orthodontics for review. Previously they were submitted to the AJO-DO in April. Unfortunately they decided not to pursue publication and suggested submission to another journal.
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 results of this proposal have not been presented at this time. However, they could possibly be in the future.

<p>To what extent have you used, or how do you intend to use, AAOF funding to further your career?</p>	<p>This grant was instrumental in offsetting the significant purchase price of the 3dMD camera. Securing the camera in our Orthodontic department and employing its use with all of our orthodontic records has provided a growing repository of images for future research. I am currently serving as advisor for one resident master thesis project that utilizes these images and I know there will be more in the future in addition to my own original research.</p>
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