

AAO Foundation Award Final Report

Principal Investigator	Dr. Sercan Akyalcin, DDS, PhD
Co-Investigator	-
Secondary Investigators	-
Award Type	Orthodontic Faculty Development Fellowship Award (OFDFA)
Project Title	Orthodontic Faculty Development Plan
Project Year	July 1, 2012 – June 30, 2013
Institution	University of Texas at Houston School of Dentistry (UTSD)
<p>Summary:</p> <p>Upon being successful in my application, I immediately started working on my fellowship-related scholarly activities.</p> <p>With AAOF support, I was able to attend the 88th European Orthodontic Society Meeting in Spain. As indicated in my development plan, I presented my research paper titled ‘ CBCT-Generated Models vs. Digital Models: Linear Measurement and Surface Accuracy’. This paper was published in AJO-DO in June 2012 and, I was able to share the results with the European colleagues at this meeting. Additionally, I was also able to attend other scientific meetings such as ADEA and IADR in the March of this year and other faculty development workshops throughout the year.</p> <p>During this past year I finalized my research collaboration with MD Anderson and the results were presented at the 54th annual meeting of the American Association of Physicists in Medicine in Charlotte/NC. We also prepared a manuscript titled ‘Measurement of Skin Dose from Maxillofacial Cone-beam Computed Tomography Imaging’, which was recently submitted to a medical journal. With AAOF’s support I was also able to have another collaboration (international) to investigate the long-term effects of rapid maxillary expansion. We are about to finalize a manuscript on this project as well.</p> <p>Lastly, as indicated in my faculty development plan, I was able to start my orthodontic residency training with advanced standing status in my department. AAOF’s support helped me cover the tuition and some other expenses as well. Upon the completion of this program, I will be eligible to take the American Board of Orthodontics exam.</p>	
Were the original, specific aims of the proposal realized?	Yes, I was able to realize all of the objectives that were listed in the faculty development plan. Please see the summary above.
Were the results published? If not, are there plans to publish? If not, why not?	<p>See the above summary for the unpublished work.</p> <p><u>Publications during the fellowship period:</u></p> <p>Refereed Original Articles</p> <ol style="list-style-type: none"> 1. Akyalcin S, Cozad BE, English JD, Colville CD, Laman S. Chair-Side 3D Scanners to Replace Conventional Dental Impressions. <i>Am J Orthod Dentofacial Orthop.</i> December, 2013. (In Press). 2. Akyalcin S, Schaefer JS, English JD, Stephens CR, Winkelman S. A cone-beam computed tomography evaluation of buccal bone thickness following maxillary expansion. <i>Imaging Sci</i>

	<p><i>Dent.</i> June, 2013. (In Press)</p> <ol style="list-style-type: none"> 3. Akyalcin S, McIver HP, English JD, Ontiveros JC and Gallerano RL. Effects of Repeated Sterilization Cycles on Primary Stability of Orthodontic Mini-screws. <i>Angle Orthodontist.</i> 85(1):00-00, 2012. (In Press). 4. Akyalcin S, Rykiss J, Rody WJ, and Wiltshire WA. Digital Analysis of Staining Properties of Clear Aesthetic Brackets. <i>J Orthodontics.</i> 39(3):170-175, 2012. DOI: 10.1179/14653112512Z.00000000024 5. Lightheart KG, English JD, Kau CH, Akyalcin S, Bussa HI Jr, McGrory KR, and McGrory KJ. Surface analysis of study models generated from OrthoCAD and cone-beam computed tomography imaging. <i>Am J Orthod Dentofacial Orthop.</i> 141(6):686-693, 2012. PMID: 22640670 <p>Book Chapters:</p> <ol style="list-style-type: none"> 1. Akyalcin, S., English, J.: CBCT to Replace Digital Dental Models and Measurements. <i>Computed Tomography: New Research.</i> Nova Science Publishers Inc. Hauppauge, NY 2012. pp. 277-298
<p>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?</p>	<p><u>Presentations/abstracts during the fellowship period:</u></p> <ol style="list-style-type: none"> 1. Cozad B*, English J, Colville C, and Akyalcin S. Chair-side Intraoral Scanners to Replace Conventional Dental Impressions. <i>American Association of Orthodontists Annual Meeting</i>, Philadelphia, PA, May, 2013. 2. Gamache CS*, English JD, Salas AM, Rong J, and Akyalcin S. Assesment of Image Quality in Maxillofacial CBCT Imaging. <i>J Dent Res.</i> 92(SIA): ABS #3645, 2013. 3. Whitman A*, English JD, McHone J, and Akyalcin S. Diagnostic Accuracy of Various 3D Digital Model Systems. <i>J Dent Res.</i> 92(SIA): ABS #1961, 2013. 4. Bailey LS, English JD, Stephens CR, Gallerano RL, and Akyalcin S*. Accuracy of Cone-beam CT Generated Cephalometric Radiographs for ABO Analysis. <i>J Dent Res.</i> 92(SIA): ABS #1960, 2013. 5. Akyalcin S, English JD, Jones TL*, Abramovitch K, and Rong J. Measurement of Skin Dose from Typical CBCT Orthodontic Imaging. <i>Southwestern Society of</i>

Orthodontists Annual Meeting, Oklahoma City, OK, 2012.

6. **Akyalcin S**, English JD, Abramovitch K, Rong J. Measurement Of Skin Dose From CBCT Scans For Orthodontic Imaging. *54th Annual Meeting of AAPM, Abs# SU-E-I-6*, 2012.
7. **Akyalcin S***, English JD, Lighthouse K, and Kau CH. CBCT-generated models versus digital models: Linear measurement and surface accuracy. *88th Congress of The European Orthodontic Society Annual Meeting, Abs# OP 41*, 2012.
8. English JD, **Akyalcin S**, McHone JB*, Cavender AC, Mariani, S., and Gay, I. Biocompatibility of light-cured orthodontic bonding adhesives: a preliminary study. *J Dent Res. 91(SIA): ABS #822*, 2012.
9. **Akyalcin S**, English JD, Ledingham AD*, and McIver H. Effect of Sterilization on Stability of Anodized and Non-Anodized Mini-Screws, *J Dent Res. 91(SIA): ABS #1040*, 2012.