

## AAO Foundation Award Final Report

Principal Investigator	Sundaralingam Premaraj
Co-Investigator	
Secondary Investigators	
Award Type	<i>Robert M. Ricketts Sunflower Orthodontic Fellowship Award</i>
Project Title	Craniosynostosis and Transforming Growth Factor-beta3 (Tgf-B3) Cellular Signaling
Project Year	2007
Institution	University of Nebraska Medical Center
Summary/Abstract (250 word maximum)	<p>The award was used to supplement my salary. Activities during the award period:</p> <p><b><u>RESEARCH:</u></b> ACTIVE:</p> <ol style="list-style-type: none"> <li>Title: Tgf-beta3 mediated apoptosis in osteoblasts Principal Investigator: Sundaralingam Premaraj, BDS, MS, PhD Funding: Nebraska Center for Cellular Signalling, US\$ 50,000, February 2007</li> </ol> <p>CAREER DEVELOPMENT:</p> <ol style="list-style-type: none"> <li>Mini sabbatical Title: Mechanical loading of bone and Wnt signaling Funding: D. H. Reinhardt Scholar (US\$ 5000) Site: Royal Veterinary College, University of London, London, England, June 2, 2008 – June 30, 2008</li> </ol> <p><b><u>MENTORSHIP:</u></b> MASTERS STUDENT, THESIS ADVISOR</p> <ol style="list-style-type: none"> <li>MS Medical Sciences Interdepartmental Area, Dr. Quinn Draper, DMD, Section of Orthodontics, A Comparison of treatment outcomes of the MARA and Herbst functional appliances, Degree expected 12/2009</li> </ol> <p>MASTERS STUDENT, THESIS COMMITTEE MEMBER</p> <ol style="list-style-type: none"> <li>MS Medical Sciences Interdepartmental Area, Dr. Steven Swenson, DDS, Section of Orthodontics, Accuracy of Dolphin 3D<sup>®</sup> Cephalometric analysis using CBCT vs. traditional radiography, Degree expected 12/2008</li> <li>MS Medical Sciences Interdepartmental Area, Dr. Michael Crosby, DDS, Section of Orthodontics, Craniomandibular mechanics of subjects with and without Temporomandibular disorders, Degree awarded 12/2007</li> </ol> <p>DENTAL STUDENTS, RESEARCH ADVISOR</p> <ol style="list-style-type: none"> <li>Sheela Jayappa, Tgf-beta3 mediated apoptosis in osteoblasts, 07/2007- Present , Recipient of 2008 AADR Bloc travel grant</li> </ol>

	<p>2. Brian McIntyre, Tgf-beta3 mediated down regulation of osteoblast differentiation, 07/2007-Present, Recipient of 2008 AADR Bloc travel grant</p> <p><b>TEACHING:</b></p> <table border="0"> <tr> <td>ORT 576 Ortho Concepts:</td> <td>Course director</td> </tr> <tr> <td>PG 849 Biophysical principles I:</td> <td>Course director</td> </tr> <tr> <td>PG 850 Biophysical principles II:</td> <td>Course director</td> </tr> <tr> <td>PG 844 Cephalometrics:</td> <td>Course director</td> </tr> <tr> <td>Dentofacial program:</td> <td>Instructor</td> </tr> <tr> <td>Ortho-Perio interdisciplinary seminar:</td> <td>Instructor</td> </tr> <tr> <td>Critical Review of Current Literature:</td> <td>instructor</td> </tr> <tr> <td>Clinical Orthodontic seminars:</td> <td>instructor</td> </tr> <tr> <td>Dentofacial Clinical conference:</td> <td>Instructor</td> </tr> <tr> <td>Ortho-Endo graduate student seminar:</td> <td>Instructor</td> </tr> </table> <p><b>OTHER:</b></p> <p>Ad-hoc reviewer, Bone</p>	ORT 576 Ortho Concepts:	Course director	PG 849 Biophysical principles I:	Course director	PG 850 Biophysical principles II:	Course director	PG 844 Cephalometrics:	Course director	Dentofacial program:	Instructor	Ortho-Perio interdisciplinary seminar:	Instructor	Critical Review of Current Literature:	instructor	Clinical Orthodontic seminars:	instructor	Dentofacial Clinical conference:	Instructor	Ortho-Endo graduate student seminar:	Instructor
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<p>Were the original, specific aims of the proposal realized?</p>	<p>Yes</p>																				
<p>Were the results published? If not, are there plans to publish? If not, why not?</p>	<p>Manuscript is in preparation</p>																				
<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>	<ol style="list-style-type: none"> <li>1. S. Jayappa, J. Thoendel, A. Moursi, S. Premaraj, Transforming growth factor-beta3 induced apoptosis of osteoblasts, Abstract presented, 86<sup>th</sup> General sessions of IADR, July 2-5, 2008, Toronto, Canada.</li> <li>2. B. McIntyre, J. Thoendel, A. Moursi, S. Premaraj, Effects of Transforming growth factor-beta3 on proliferation and differentiation of MC3T3-E1 cells, Abstract presented, 86<sup>th</sup> General sessions of IADR, July 2-5, 2008, Toronto, Canada.</li> <li>3. S. Swenson, J. Brand, S. Harn and S. Premaraj., Accuracy of Dolphin 3D cephalometric analysis using CBCT vs. Traditional radiography, Abstract presented at 108<sup>th</sup> Annual Session of American Association of Orthodontists (AAO), May 16-20, 2008, Denver, CO.</li> <li>4. C. Warren, S. Premaraj., Miniscrew –retained Distal jet appliance, Table clinic presented at 108<sup>th</sup> Annual Session of American Association of Orthodontists (AAO), May 16-20, 2008, Denver, CO.</li> </ol>																				

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|  | <p>5. Apoptosis regulation in TGF-beta3 gene therapy mediated cranial suture patency, S. Premaraj, B. Mundy, M. Mooney, A.M. Moursi, Paper presented at the 64th Annual meeting of American Cleft Palate-Craniofacial Association, April 23-28, 2007 Broomfield, Colorado.</p> |
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