

Principal Investigator	Nan Hatch, DMD PhD
Co-Investigator	
Secondary Investigators	
Award Type	Orthodontic Faculty Development Fellowship
Project Title	Robert E. Gaylord Teaching Fellowship
Project Year	2006
Institution	University of Michigan
Summary/Abstract (250 words maximum)	My research during this funding period remained focused upon understanding the mechanisms by which fibroblast growth factor (FGF) signaling influences craniofacial development. FGF signaling has long been known to play a critical role in craniofacial morphogenesis, but the mechanism by which FGF signaling influences bone formation and skeletal development has yet to be fully understood. Results of my research indicate that FGF's influence cranial osteogenesis and cranial suture fusion by regulating expression of factors that control pyrophosphate generation and breakdown by calvarial pre-osteoblasts. The long term goal of my research is to elucidate the impact of FGF signaling on osteoblast differentiation, bone mineralization and craniofacial development as a precursor towards the development of biologically based therapeutics for the treatment of patients with craniofacial defects.
Were the original specific aims of the proposal realized?	Goals for the funding period of this award were met. With the continued support of the AAOF, I successfully achieved the academic goals delineated within my proposal. As junior full time orthodontic faculty at the University of Michigan, I devoted 80% of my time towards research, with the remainder devoted to patient care and teaching. My ultimate career goal continues to be that of becoming a highly successful academic orthodontist and independently funded biomedical investigator.
Were the results published? If not, are there plans to publish? If not, why not?	Hatch N. (2007). <i>Potential role of PC-1 Expression and Pyrophosphate Elaboration in the Molecular Etiology of the FGFR Associated Craniosynostosis Syndromes</i> . Orthod Craniofac Res, 10: 53-8.

<p>Have the results of the proposal been presented? If so, when and where? If not, are there plans to do so? If not, why not?</p>	<p>Hatch, N. (2006). <i>Craniosynostosis: A phenotype of excessive mineralization or pathologic calcification?</i> Oral presentation, Moyer's Presymposium, Ann Arbor, MI.</p> <p>Hatch N and Franceschi RT (2007). <i>Runx2 Mediates FGF2 Stimulated Expression of the Pyrophosphate Generating Enzyme, PC-1, in Osteoblastic Cells.</i> Oral Presentation and published abstract, 9th International Conference on the Chemistry and Biology of Mineralized Tissues, Austin, TX.</p>
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