



Dr. Michael Chavez
University of Iowa
2026 Research Aid Award

I am a second-year orthodontic resident at the University of Iowa College of Dentistry with a passion for advancing patient care through research. Before beginning residency, I completed both my DDS at the University of Iowa and my PhD in Oral Biology at The Ohio State University, where I studied the biology of mineralized tissues and bone regeneration. Throughout my training, I have been fortunate to contribute to more than 30 peer-reviewed publications focused on mineralized tissue biology and regeneration while receiving support through an NIH F30 Predoctoral Individual National Research Service Award. My long-term goal is to become an academic orthodontist and clinician-scientist who provides outstanding patient care, advances scientific understanding, and helps train the next generation of orthodontists.

My AAOF-supported project, Role of Exogenous Tissue Non-Specific Alkaline Phosphatase (TNAP) in Guided Bone Regeneration, focuses on understanding how TNAP influences bone healing following tooth extraction. TNAP is an important regulator of mineralization, and this study will evaluate whether local delivery of TNAP can improve bone regeneration in a mouse extraction model. While the immediate goal is to better understand the biology of bone healing, I hope this work will contribute to the development of future regenerative therapies that may ultimately benefit orthodontic and craniofacial patients.

This award benefits orthodontic education by supporting research that strengthens the biologic foundation of our specialty. As orthodontics continues to move toward more evidence-based and biologically driven treatment approaches, it is essential that we continue to expand our understanding of the mechanisms that govern bone remodeling and regeneration. The experience gained through this project will help prepare me to educate future orthodontists while contributing to an increasingly evidence-based and biologically driven specialty.

The AAOF Foundation plays a unique role in advancing orthodontics by investing in both innovative research and the development of future leaders in our specialty. Funding from the Foundation supports the advanced micro-computed tomography analyses required for this project and enables me to share our findings with the broader orthodontic community through scientific presentations. Equally important, this support provides meaningful opportunities for residents and early-career investigators pursuing careers in academic orthodontics and research.

As a dual-trained DDS/PhD, this award represents an important step in my transition from research trainee to independent orthodontic investigator. The project builds directly on the scientific foundation established during my PhD training while allowing me to pursue clinically relevant questions that may ultimately improve patient care. I am sincerely grateful for the Foundation's investment in my career, and I hope this project is one step toward a lifelong career dedicated to advancing orthodontics through research, educating future orthodontists, and providing the highest quality care for my patients.