



Dr. Niloufar Azami
2026 Orthodontic Faculty Development Fellowship Award
University of Connecticut

Short Biography

Dr. Niloufar Azami is a clinical Assistant Professor at the University of Connecticut School of Dental Medicine. She received her orthodontic training at both Shahid Beheshti University of Medical Sciences and the University of Connecticut, and has served as a full-time academic orthodontist since 2021. Dr. Azami's research focuses on orthodontic biomechanics, digital technologies, and 3D imaging. Her academic mission is to advance evidence-based orthodontics through innovative research, high-quality education, and improved patient-centered care.

Brief Description of the Project

The project, *Longitudinal 3D Assessment of Facial Movement Dynamics and Symmetry After Orthognathic Surgery*, is a multicenter prospective study designed to evaluate changes in facial soft-tissue movement following orthognathic surgery. Using four-dimensional (4D) stereophotogrammetry, the study will quantify facial movement magnitude, velocity, vector direction, and symmetry before surgery and at multiple postoperative time points. Patients with and without baseline facial asymmetry will be followed longitudinally to better understand how surgical correction affects dynamic facial expressions and neuromuscular adaptation. The study will generate one of the largest longitudinal datasets of facial movement after orthognathic surgery and establish objective methods for evaluating dynamic treatment outcomes.

Statement of How Orthodontic Education Will Benefit from the Award

Orthodontic education has traditionally focused on static assessments of facial esthetics and treatment outcomes. This project introduces objective, quantitative evaluation of dynamic facial movement, providing educators, residents, and clinicians with a more comprehensive understanding of facial adaptation following orthognathic surgery. The findings will enhance teaching in diagnosis, treatment planning, facial asymmetry, and interdisciplinary surgical care by incorporating evidence-based measures of facial function and expression into orthodontic training. Ultimately, the project will help train future orthodontists to evaluate treatment outcomes beyond occlusion and static facial appearance, improving patient-centered care and esthetic decision-making.

Why the Foundation Is Important to the Project

Support from the American Association of Orthodontists Foundation is essential for the successful completion of this project. The Foundation's funding provides resources necessary for patient recruitment, longitudinal data collection, advanced 3D image processing, statistical

analysis, and multicenter collaboration between the University of Connecticut and the University of Antwerp. The AAOF's commitment to supporting innovative orthodontic research enables investigators to pursue projects that may otherwise be difficult to accomplish through traditional funding mechanisms. This support is particularly important for developing novel methodologies that have the potential to influence future clinical practice and orthodontic education.

How Foundation Funding Is Expected to Benefit My Career

AAOF funding is playing a critical role in my development as an academic orthodontist and researcher. As Program Director and junior faculty member, balancing administrative, clinical, educational, and research responsibilities can be challenging. This award provides the resources and support necessary to establish an independent research program focused on craniofacial imaging, facial asymmetry, and digital technologies. The project will generate preliminary data for future extramural funding opportunities, foster international collaborations, and strengthen my ability to mentor residents and students in clinical research. Most importantly, it will help me continue building a career dedicated to advancing orthodontic science, education, and patient care through meaningful and innovative research.