

Biomedical Research Award

Dr. Negin Katebi, *Harvard School of Dental Medicine*

Dr. Negin Katebi is currently serving as the Interim Program Director of Orthodontics and the Director of pre-doctoral Orthodontics at Harvard School of Dental Medicine (HSDM). She is a Diplomate of the American Board of Orthodontics and runs a busy practice at the Harvard Dental Center Faculty Group Practice. Dr. Katebi received her dental degree (DDS) from Shahid Beheshti University of Medical Sciences school of Dentistry. She then completed her Orthodontic specialty training at HSDM and received the Doctor of Medical Sciences (DMSc) in Oral biology degree from Harvard University. During her residency, she was the recipient of the Harvard Presidential Scholarships for three consecutive years. She also won the first place in the prestigious Charley Schultz Award presented by the American Association of Orthodontics (AAO). After completion of her training, she was invited to join the full-time faculty at Developmental Biology Department. Dr. Katebi's basic science research and collaborations are published in multiple peer-reviewed scientific journals. Her clinical research interests are related to new technologies being utilized in orthodontic treatments.



Project synopsis:

Clear aligner therapy has become a common treatment modality for patients who want to align their teeth with an esthetic option. Although a prominent aligner company recommends weekly tray changes and at least 22-hour daily tray wear, the frequency that patients change their trays is at the clinical judgement of the orthodontist. The purpose of this research is to learn the ideal time to wear clear aligners and the recommended frequency aligners should be changed. Given that individuals respond to orthodontic forces at different rates, we suspect that the 7-day tray change and 22-hour wear time is not the same for every individual using clear aligners. We hypothesize that participant's dentition will have different responses to orthodontic tooth movement, and therefore, aligner frequency change and tray time wear should be individualized. Individualized patient monitoring with the Dental Monitoring application will help determine ideal tray change frequencies. This personalized monitoring might highlight the concept that every person shouldn't be prescribed a generic aligner change frequency and will show the importance and value of close monitoring to provide the patient and clinician the most cost-effective treatment.

Dr. Katebi and her team are beyond grateful to The American Association of Orthodontists Foundation (AAOF) for this funding. The generous support and sponsorship from the AAOF, not only will be beneficial to Dr. Katebi's career as a full-time orthodontic faculty but also will help

the team to be able to conduct this clinical trial. The team expects that the customized treatment will benefit the practice of orthodontics by improving the efficiency and efficacy of clear aligner therapy as well as elevating the patient experience.