Dr. Sanghee Lee
2026 Orthodontic Faculty Development Fellowship Award
University of Washington

1. Short Biography

I am an assistant professor in the Department of Orthodontics at the University of Washington. I received my dental degree and Master of Science degree from Yonsei University and completed my orthodontic residency and Master of Science in Oral Biology at The Ohio State University. Prior to entering dentistry, I earned a Bachelor of Science degree in chemical engineering, which provided a strong analytical and biomechanical foundation for my research interests. I am currently completing my PhD at Yonsei University with a focus on three-dimensional imaging and artificial intelligence applications in orthodontics. I am a Diplomate of both the American Board of Orthodontics and the Korean Board of Orthodontics. My academic and research interests include clear aligner therapy, digital orthodontics, CBCT imaging, and the integration of advanced technologies into orthodontic education and clinical practice.

2. Brief Description of the Project

The purpose of this project, “Assessment of Sequential Distalization with Aligners Using CBCT Fused With Intra-oral Scans,” is to evaluate the effectiveness and biomechanics of sequential molar distalization in Class II adult patients treated with clear aligners. Because conventional two-dimensional cephalometric analysis and current CBCT methods have limitations in accurately evaluating three-dimensional tooth movement, this study utilizes a novel technique that fuses CBCT images with high-resolution intraoral scans to generate precise 3D STL models. This approach enables accurate assessment of tooth displacement, root movement, tipping, and rotation in all planes of space, with the goal of improving evidence-based treatment planning for clear aligner therapy.

3. Statement of How Orthodontic Education Will Benefit From the Award

Orthodontic education will benefit from this award through the integration of advanced digital technologies and evidence-based biomechanics into resident education and clinical training. As an educator, I am committed to teaching residents how to critically evaluate emerging technologies, including artificial intelligence, CBCT imaging, and digital treatment planning systems. The findings from this project will strengthen educational instruction regarding clear aligner biomechanics, treatment predictability, and limitations of aligner therapy. In

addition, this research will support the development of educational modules focused on three-dimensional imaging, digital workflows, and quantitative treatment assessment. By incorporating these technologies into orthodontic education, residents will gain greater competency in digital orthodontics and be better prepared for a rapidly evolving specialty that increasingly relies on advanced imaging and data-driven treatment planning.

4. Why the Foundation Is Important to the Project
   Funding from the AAOF is essential to this project because it provides protected research time and resources necessary to conduct sophisticated three-dimensional image analyses and generate high-quality preliminary data. Support from the Foundation will facilitate the acquisition of computational resources and completion of large-scale analyses that would otherwise be difficult to accomplish during early academic career development. This funding will also provide an important foundation for future peer-reviewed publications and subsequent external funding opportunities, including NIH-supported research initiatives.

5. How Foundation Funding Is Expected to Benefit the Career
   Foundation funding is expected to play a transformative role in my academic career development. As a junior faculty member, this award will provide critical support to establish an independent research program focused on digital orthodontics, aligner biomechanics, and artificial intelligence applications in orthodontics. The AAOF's commitment to supporting orthodontic education and research directly aligns with my long-term goals of becoming an independent clinician-scientist and educator. The experience gained through this project will strengthen my ability to secure future extramural funding, expand interdisciplinary collaborations, and continue contributing to innovation in orthodontic education and patient care. In addition, the award will support the development of mentorship, teaching, and leadership skills necessary for long-term success in academic orthodontics.