

Dr. Ki Beom Kim

Session Date: Friday, October 18, 2024

Session Time: 9:00 AM – 10:00 AM

Presentation: *“3D Printed Aligners: Unveiling New Horizons in Clear Aligner Therapy”*

Synopsis: The evolution of clear aligner therapy, particularly through the adoption of 3D printing technologies, represents a significant leap forward in orthodontic treatment. This presentation focuses on the integration of 3D printed shape memory aligners (SMAs) and their biomechanical advantages. The direct fabrication of aligners from shape memory polymers using 3D printing not only enhances the precision and efficiency of treatments but also offers a novel approach to aligner design that maximizes comfort and effectiveness. The biomechanical properties of SMAs, particularly their adaptive response to thermal stimuli, provide unparalleled control over treatment outcomes, enabling the execution of complex dental adjustments with greater predictability. This condensed exploration underscores the pivotal role of these technological and biomechanical innovations in advancing clear aligner therapy, promising improved treatment outcomes and patient satisfaction.



Objectives:

- **Comprehend the Technological Foundations of 3D Printed Aligners:** Participants will learn about the core principles of 3D printing technology as applied to the fabrication of clear aligners, including the materials, processes, and design considerations unique to shape memory aligners (SMAs).
- **Analyze the Biomechanical Advantages of Shape Memory Aligners:** Learners will be able to identify and explain the biomechanical benefits of using SMAs in orthodontic treatment, such as their adaptive response to thermal stimuli and the implications for precise and customized treatment planning.
- **Evaluate Clinical Implications and Patient Outcomes:** Students will assess the impact of 3D printed shape memory aligners on clinical practice, focusing on treatment efficiency, precision, and patient satisfaction, and how these factors contribute to the broader adoption of SMAs in orthodontics.

Biography:

Dr. Ki Beom Kim is a Professor at Saint Louis University, holding the Dr. Lysle Johnston Endowed Chair in Orthodontics. He also serves as the Program Director in the Orthodontic Department at the Center for Advanced Dental Education. Dr. Kim is recognized as a Diplomate by both the American Board of Orthodontics and the American Board of Orofacial Pain.

His educational background includes dental training in South Korea, a Ph.D. in Orofacial Pain, and orthodontic training at Vanderbilt University Medical Center. Dr. Kim has contributed to over 100 peer-reviewed articles and has authored multiple book chapters.

He has been involved in over 140 master's thesis projects and has authored three textbooks on orthodontics. Dr. Kim is an Active Member of the Angle Midwest Society. His clinical endeavors focus on the biomechanics of clear aligners and the development of surgical interventions for patients facing obstructive sleep apnea, highlighting his dedication to improving patient outcomes through innovative treatments.