



0480

**Introduction to 3D Printing in Dentistry: Fundamentals, Technologies, and Materials**

M. Donmez

Department of Prosthodontics, Istinye University, Istanbul, Turkey

The field of dentistry is witnessing a paradigm shift with the integration of 3D printing. The future of 3D printing in dentistry is poised to be revolutionary, with advancements in technology and materials driving innovation across various aspects of dental care. A key aspect to integrate 3D printing technologies into daily clinical practice is to understand the basics of this fabrication method. Therefore, the first session of this 3D printing symposium will introduce the participants into 3D printing by focusing on the fundamentals of 3D printing, the differences among different 3D printing technologies, and the type of materials that can be used. After this introductory session, possible restorative and prosthetic applications with 3D printing will be discussed in the second session. This session will also summarize the findings of current studies on how 3D printing has been integrated into restorative and prosthetic dentistry. The symposium will end with the third session, which will be about the use of 3D-printed composite resins indicated for permanent restorations. This session will focus on an in-depth comparison between subtractive and additive CAD/CAM materials for single-tooth restorations, from a biomechanical perspective to a clinical and financial point of view. This symposium is designed to provide the best available evidence on 3D printing technology, its development, and its integration in different clinical applications with in vivo and in vitro evidence. It is expected that future directions will lead to devising best practices for restorative and prosthetic dentistry.