

WEBINAR

Talk on "Biomechanical Design and Fabrication for Mandibular Implant with Titanium Alloy or PEKK (Polyetherketoneketone)"

Organised by: Material Engineering Technical Division (MaTD), IEM

24 APRIL 2025, THURSDAY

3:00 PM - 5:00 PM

WITH

Prof. Dr Yunfeng Liu

*BEM Approved CDP: 2 Hours
Ref. No.: IEM25/HQ/118/T (w)*



Registration fee
Student Member: Free
IEM Member: RM15.00
Non-Member: RM70.00

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SYNOPSIS

Mandibular segmental defects resulting from trauma, infection and surgical resection of tumours usually need implanting surgery of mandibular reconstruction to restore the appearance and oral function of the patient, and the mechanical behaviour of the artificial implant and reconstructed mandible is a key factor should be considered when replacing missing bone segments. There are three sections to this webinar: first, the fundamentals of the anatomic structure and mechanical requirements of the mandible will be introduced; then a titanium alloy implant with novel biomechanical design structure named layered slice and rod-connected mesh structure ((LSRCMS) will be presented in section 2; in section 3, a PEKK mandibular implant with topological optimal structure and its biomechanical behaviours tested by in vitro/vivo experiments will be shared.

BIODATA SPEAKER

Professor Dr. Yunfeng Liu is a biomedical engineering scientist who graduated from the Zhejiang University of China and has been a visiting professor at the School of Dental Medicine of IUPUI and Case Western Reserve University of USA for one year, respectively. He is the Head of the Digital Medicine Technology Laboratory at the College of Mechanical Engineering, Zhejiang University of Technology. He and his team are currently working on designing and fabricating advanced artificial implants with varying structures and materials and developing a surgical robot for dental implanting. He has published over 80 peer-reviewed papers in journals such as Biomaterials Advances and hosted over 40 public or private research grants for implant design and surgical robots, with a total investment of over 6000,000 Yuan.