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## **Innovation in Dentistry: Performance, Regeneration, and Peri-Implantitis Control**

**Alexandria, VA, USA** – A symposium exploring the integration of advanced technologies and cutting-edge research and their roles in advancing the field of dentistry was presented at the 103<sup>rd</sup> General Session of the IADR, which was held in conjunction with the IADR/Pan European Regional Congress on June 25-28, 2025 in Barcelona, Spain.

The field of dentistry is on the brink of a transformative evolution, driven by the integration of advanced technologies and biological science. This symposium brought together cutting-edge research aimed at revolutionizing dental material science through innovative strategies and technologies. It explored diverse topics including the use of titanium dioxide (TiO<sub>2</sub>) nanotubes to enhance the mechanical and biological properties of dental materials, and the role of machine learning and genetic algorithms in optimizing material characteristics for superior clinical outcomes.

Additionally, the symposium addressed bio-inspired surface modifications designed to prevent peri-implantitis by enhancing soft tissue integration around implants. The discussion extended to advancements in modifying zirconia implant surfaces to improve biofilm resistance and support cellular attachment. The presentations collectively highlighted how material science and technology are shaping the future of restorative and regenerative dentistry, leading to improved patient outcomes and long-term success.

Organized by Nileshkumar Dubey, National University of Singapore, the Symposium, “Innovation in Dentistry: Performance, Regeneration, and Peri-Implantitis Control” took place on Thursday, June 26 at 8 a.m. CEST (UTC+2).

### **About IADR**

The International Association for Dental, Oral, and Craniofacial Research (IADR) is a nonprofit organization with a mission to drive dental, oral, and craniofacial research for health and well-being worldwide. IADR represents the individual scientists, clinician-scientists, dental professionals, and students based in academic, government, non-profit, and private-sector institutions who share our mission. Learn more at [www.iadr.org](http://www.iadr.org).

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