

60 years of implantology

A retrospective focus on ceramic implants





Under the theme "Facts of Ceramic Implants Part III," the European Society for Ceramic Implantology (ESCI) hosted the European Congress for Ceramic Implantology for the third time, held from 25 to 27 September 2025, in Horgen/Zurich, Switzerland.

Over three days, the congress offered exciting insights into current research, clinical innovations, and interdisciplinary perspectives. Dentists, implantologists, and scientists from across Europe and beyond met to discuss the latest findings, exchange experiences, and network regarding future developments.

The 3rd European Congress for Ceramic Implantology kicked off on Thursday with practiceoriented workshops, where participants could dive directly into implant systems and surgical techniques under the guidance of experienced experts. These "hands-on" phases not only provided theoretical knowledge but also enabled immediate application under realistic conditions. The workshops were particularly appreciated for bridging the gap between research and clinical practice.

Dr Jens Tartsch, President of the ESCI, succeeded in covering a balanced spectrum in the lecture programme, ranging from fundamental principles to biological aspects and clinical application. 28 speakers followed Dr Tartsch' invitation and contributed their expertise in three thematic chapters: material aspects, biological aspects, and clinical application.

In the sessions on material aspects, topics such as the material stability of zirconia, surface technology, and long-term behaviour under

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stress were highlighted. The speakers demonstrated how modern ceramic materials are becoming increasingly competitive with established titanium solutions, especially regarding biocompatibility and aesthetic requirements.

Prof. Jérôme Chevalier from France opened Friday with his presentation "Ceramics for dental implant use: sate-of-the-art current developments, perspectives," summarising the latest developments in ceramic implants and giving an outlook on future applications. Following this, Prof. Andraž Kocjan from Slovenia illuminated the manufacturing techniques and surface modifications of zirconia implants. Dr Nadja Rohr from Switzerland questioned the role of implant surfaces in clinical marketing and their influence on the perception of patients and dentists.

Prof. Ralf Kohal from Germany explained the mechanical stability of ceramic implants and debunked common myths in his lecture "Everything you always wanted to know about the stability of ceramic implants but were afraid to ask." Dr Marc Balmer from Switzerland presented results from clinical studies. Dr Frank Spitznagel from Germany examined the prosthetic options for ceramic implants and their evidence base. Prof. Sebastian Kühl from Switzerland shared his experiences from a multicenter study.

The clinical lectures focused on case studies from everyday implantology: from immediate loading and augmentation procedures to managing difficult anatomical situations. Several speakers presented long-term data on ceramic implants, underscoring confidence in the long-term stability of these systems.

A particularly impressive lecture was given by Prof. Eik Schiegnitz from Germany, who discussed the interfaces between clinical practice and evidence-based guidelines. Prof. Michael Payer from Austria reported on his clinical experiences with ceramic implants, while Dr Paul Weigl from Germany illuminated biological aspects and corrosion resistance.

Another focus was on biological aspects: Here, inflammatory processes, tissue reaction, soft-tissue management, and the role of microbial factors were discussed. It was particularly noteworthy how some speakers used the latest studies to demon-





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strate that peri-implantitis rates in ceramic systems can be comparably low when the surrounding conditions are optimal.

A highlight was the keynote by Prof. Dr Tomas Albrektsson: In his lecture, he paid tribute to both the historical development of implantology and the current advances in the ceramic field. Almost exactly 60 years ago, Per-Ingvar Brånemark placed the first implant, opening up an entirely new world for patient treatment. Prof. Albrektsson is a companion on the path of implantology, thus ideally connecting his perspective with a look back and a look forward.

The lectures were supplemented by Dr Volker von Baehr ("Immunology of titanium") and Prof. Ralf Smeets ("Titanium and corrosion"), both from Germany, and Dr Alessandro Alan Porporati from Italy ("Metal as an Independent risk factor for infections: evidence from hip arthroplasty"), who critically examined the role of titanium and metals in implantology.



The exchange section culminated in discussion rounds, where the audience critically debated the limits and open questions with the presenters. Particularly lively debates arose regarding the clinical situations in which ceramic implants should be preferred over titanium, and how to optimise treatment decisions based on individual patient factors.

On Saturday, the lectures focused on the biological, prosthetic, and digital aspects of ceramic implantology.

Dr Sebastijan Perko from Slovenia investigated the role of biomarkers in osseointegration. Prof. Michael Stiller from Germany reported on clinical experiences with different ceramic implant systems. Dr Joan Pi Anfruns from the USA presented full-arch rehabilitation and also addressed supply difficulties for ceramic implants in the USA. In a double presentation, Dr Stefan Röhling and Dr Michael Gahlert from Germany introduced the new approach for ceramic implants: current and future two-piece ceramic implant systems. Prof. André Chen and Dr João Borges from Portugal demonstrated the integration of digital workflows into prosthetic care. Prof. Bilal Al-Nawas from Germany illuminated the osteoimmunological fundamentals for daily practice, while Prof. Reinhardt Gruber from Austria presented the scientific background on blood concentrates.

Drs Elisa and Joseph Choukroun from France explained the significance of platelet-rich fibrin preparations for regenerative therapy. Drs Markus and Matthias Sperlich from Germany showed how the patient's biology can be optimally preserved through digital immediate loading. The congress concluded with Dr Frank Maier from Germany and his presentation "Biology and implant geometry".

Beyond the scientific programme, networking opportunities facilitated informal encounters and lasting contacts. The social highlight was the Swiss Gala Dinner "60 Years of Implantology," which took place in the stunning setting of the Landgut Bocken on Lake Zurich, allowing participants to experience the famous "Switzerness."

The ESCI Congress sent a strong signal: Ceramic implantology is no longer a marginal topic but is increasingly moving into the focus of well-founded scientific investigation and clinical application. The lectures presented showed that research and practice are in constant dialogue and that ceramic implants can be not only competitive but often prospectively advantageous in many scenarios.

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