

Editorial

Symposium on Advanced Ceramics and Ceramic Processes for Dentistry

This was the first time a topical symposium on Advanced Ceramics and Ceramic Processes for Dentistry was organized in association with this conference. The symposium aimed to provide a forum for multidisciplinary discussion with a focus on the challenges presented to the future concepts and the current and emerging technologies. The state of the art implant and fixed prosthodontics practices in dentistry have created a rapidly increasing demand for advanced ceramics and ceramic processes. A broad range of issues challenge the researchers and engineers in the ceramics community that include developing bioresorbable ceramics for bone regeneration, bioactivating surfaces of inert high strength ceramics for implants, combining inherently chemically stable and physically stiff ceramics into highly coherent laminate composites for prosthetic crowns and bridges, and integrating feasible techniques for producing, in cost-effective and materials-saving manners, long-lasting individualized ceramic components of biocompatibility, complexity and high precision. Innovations in ceramics and ceramic processes are vital to enable reliable and affordable dental restoration solutions with highly aesthetic outcomes.

The symposium covered the following topics: (i) Novel ceramic and hybrid dental restoration concepts; (ii)

Clinical/follow-up studies of ceramic dental restorations; (iii) Porous and/or nanostructured ceramics for maxillo-facial and extra-oral skeletal reconstructions; (iv) Bioresorbable ceramics for bone regeneration; (v) Bioactivation of surfaces of inert high strength ceramics; (vi) Ceramic implants and abutments with enhanced healing and tissue-integration capacities; (vii) High performance ceramics and glass ceramics for aesthetic dental crowns and bridges, (viii) Aesthetic and high strength veneers; (ix) Cost-effective and materials-saving manufacturing of individualized ceramic dental components. Eight papers are included in this special issue, with one each on topics (i), (iii) and (v), two on topic (vi) and three on topic (vii). The symposium was co-chaired by James Zhijian Shen, Tomaž Kosmač, Horst Fischer, Jenny Fäldt and Leif Hermansson.

Guest Editor

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