

Symposium 10: Bioceramics and Bioinspired Materials

For the last four decades, a field of bioactive and biomimetic materials has progressed and innovated tremendously to substitute or regenerate not only skeletal but also soft tissues. These innovative materials have been studied to be applied for maxillofacial and orthopaedic implants, bone substitutes, bone cements, dental prostheses, drug delivery carriers and even for cancer treatments. In addition to conventional materials, bioactive composite or hybrid materials of ceramic/polymer and ceramic/metal have been also developed based on an understanding of biological responses to the materials. On the other hand, the biological responses and interactions between materials and our body might still remain unclear, and broad and deep understandings should be required to expect appropriate performances of newly developed materials to human body. This symposium thus focuses on topics covering processing of novel bioceramics, and synthesis of bio-hybrids and bioinspired materials in addition to biodegradability, biocompatibility, and medical application. Contributions on tissue engineering, drug delivery system, and bio-sensing fields are also welcome.

<PROPOSED SESSION TOPICS>

- Advanced Processing of Bioceramics and Biomimetic Materials
- Synthesis of Bioinspired and Biohybrid Materials
- Tissue Engineering Scaffolds
- Interactions of Biomaterials with Biological Systems
- Bionanotechnology for Drug, Gene, Cell-delivery Devices
- Sensing and Diagnostics in Medical Applications

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<INVITED LECTURES>

Tentative invited lecture information is posted in the following URL;

http://www.ceramic.or.jp/pacrim13/list_of_invited_speakers.html#10