

Special Issue on  
**Functional Coatings and Thin Films for Dental and Orthopedic Applications**

# CALL FOR PAPERS

Functional coatings and thin films find application in a wide variety of medical fields (i.e., orthopedics, dentistry, and maxillofacial surgery), as they can be applied to several kinds of devices (catheters, bone/dental implants, surgical sutures, etc.) to improve their performance or provide them with additional properties, different from those of the substrate. In particular, the potentialities of novel coatings and thin films have been found to be crucial to overcome the limitations of currently existing bone implants in both dental and orthopedic applications, as available devices are still associated with too high failure and revision rates, often connected to insufficient integration, infections, and/or wear. For these reasons, research is focusing on the development of functional (i.e., antibacterial, bioactive, and antiwear) coatings and thin films, on the study of their interactions with cells and living tissues, and on the development and optimization of novel techniques for their deposition that can allow obtaining the desired properties and permit the deposition of increasingly complex materials (including ceramics doped with ions, drugs, and proteins) on a larger variety of sensitive substrates.

The aim of this special issue is about collecting novel developments of coatings and thin films for bone implants and of the deposition techniques used for their manufacturing. Submissions related to the topics described below are strongly encouraged. Original as well as review articles detailing the state of the art on the subject will also be welcome, provided that they have a narrow focus and are strictly focused on the topics described below.

Potential topics include but are not limited to the following:

- ▶ Antibacterial coatings and thin films
- ▶ Bioactive and biomimetic coatings and thin films
- ▶ Antiwear coatings
- ▶ Polymeric/ceramic composite coatings
- ▶ Nanostructured coatings for orthopedic, dental, and maxillofacial applications
- ▶ Enhancement and development of deposition techniques
- ▶ Interaction between coating surface and bone cells
- ▶ Impact of the mechanical properties of coatings on in vivo behavior of the implant
- ▶ Innovative characterization techniques for coatings and thin films

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/jhe/fctf/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

**Lead Guest Editor**

Michele Bianchi, Rizzoli Orthopedic Institute, Bologna, Italy  
*m.bianchi@biomec.ior.it*

**Guest Editors**

Mauro Pollini, University of Salento, Lecce, Italy  
*mauro.pollini@unisalento.it*

Andy Choi, University of Technology Sydney, Sydney, Australia  
*andy.choi@uts.edu.au*

**Submission Deadline**

Friday, 16 March 2018

**Publication Date**

August 2018