JoinTECH
by Kyoto Institute of Technology

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Biomaterials Engineering Laboratory

JoinTECH-Online

Advanced 3D Printing for Biomaterials

Date/Time: 26 August 2025, JST: 2pm-4pm, CEST: 7am-9am
Location: Kyoto Institute of Technology, Bldg.15, 2F, N205

日 時: 令和7年8月26日(火) 14:00 - 16:00
場 所: 京都工芸繊維大学 15号館 2F N205

Zoom meeting available
オンライン視聴も歓迎します

ABSTRACT: Additive manufacturing techniques are rapidly transforming the development of biomaterials, enabling precise control over scaffold architecture and material composition. This seminar will focus on two cutting-edge fabrication methods: melt electrowriting (MEW) and electrospinning. Participants will gain insight into the principles, setup, and operating parameters of each technique, as well as their advantages and limitations in biomedical applications. Case studies from ongoing KIT–Udine projects will illustrate how these technologies are used to create micro-structured scaffolds designed for tissue regeneration.

SHORT BIO: Assistant professor in the field of Materials Science and Technology, he deals with the study and development of surface treatments applied to materials for use in the biomedical field. After obtaining a Master's degree in Process and Materials Engineering, he did his PhD in Materials Chemistry at Kyoto Institute of Technology with a thesis entitled "Innovative approaches to biomaterials' technology through systematic spectroscopic analyses". During his study period abroad, he worked on the study of surface chemistry and functionalization of materials used in prosthetics. He exploited the chemistry of oxide and non-oxide ceramics. This research activity, in collaboration with the Kyoto Prefectural University of Medicine, Osaka University, Amedica Co. and Shinsei Co. was divided into two main strands: the first concerned the degradation phenomena of biocompatible oxide ceramic used in orthopedic applications, while the second focused on modulating the surface chemistry of non-oxide ceramics to stimulate osteoinductive activity and at the same time reduce bacterial proliferation on these surfaces. Currently working at the Polytechnic Department of Engineering and Architecture of the University of Udine, he works on evaluating how surface treatments and coatings can influence the biocompatibility, antibacterial properties and corrosion rate of resorbable and non-resorbable metallic materials. Author and co-author of several publications in international journals and referee for some of them, speaker at national and international conferences and scientific meetings.

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