

**SPEAKER**

**Dr. Elia Marin**

**Kyoto Institute of Technology**



**THEME**

**Bio-Tribocorrosion: Mechanisms, Challenges,  
and Applications in Biomedical Metal Alloys**

バイオトライボ腐食: バイオメディカル金属合金における  
メカニズム、課題、および応用

**DATE/TIME**

**MAR. 11, 2025**

**09:30-11:30 Italy**

**17:30-19:30 Japan**

**VENUE**

**ZOOM Online**



<https://us02web.zoom.us/j/87694569246?pwd=3x91eyqMBumDSPkzhXtXX1tFmbS05K.1>

Bio-tribocorrosion is a complex phenomenon involving the interaction between wear, corrosion, and biological processes in metallic materials used in biomedical applications. This seminar will focus on the tribocorrosion of titanium alloys, cobalt-based alloys, and austenitic stainless steels, which are widely employed in orthopedic and dental implants. The main degradation mechanisms will be analyzed, with particular emphasis on fretting-corrosion, a critical issue in modular junctions and prosthetic interfaces subjected to micromotions. Strategies to enhance resistance to bio-tribocorrosion, such as advanced coatings and surface treatments, will also be discussed. Finally, the seminar will explore experimental methodologies for characterizing this phenomenon and future perspectives for developing more durable and biocompatible materials

**ORGANIZER**

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