FEMS EUROMAT 23

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FEMS EUROMAT is the most important international congress in materials science and technology in Europe. It continues a successful congress series promoting the transfer of knowledge and the exchange of experience between academia and industry. **Submission deadline:28 February 2023**

Area D: Characterization and Modeling

D03: Correlative Microscopy

Correlative microscopy has seen significant advances over the last decade, driven by advancements in instrumentation and algorithms for data collection and analysis, including the application of machine learning. The cumulative effect of the combined advances has led to the correlative microscopy approach being significantly more impactful; this applies equally to materials and life sciences, especially. Furthermore, the unique perspective of correlative methodologies to generate complementary morphological, structural and chemical information far exceeds what is possible with any single technique. The symposium aims to bring together scientists from materials science, chemistry, physics, and biology to discuss current trends and future directions of correlative microscopy research. Topics will include a variety of complementary approaches and innovative workflows such as a combination of electrons and X-rays, electrons and neutrons, multiple scattering techniques, scanning probe microscopy, near field, light microscopy, and theoretical approaches. The symposium is also open to in situ techniques applied to biological samples and functional materials under realistic or near realistic conditions, for example, in gaseous environments, at elevated temperatures, and in liquid, including the time domain. Moreover, advanced techniques in data processing for automated correlative measurements, as well as metadata considerations for correlative microscopy, are included in this symposium. Topics will include a broad range of applications spanning the fields of energy, engineering, health, 2D and 3D materials, and devices. Examples are metal alloys, ceramics, soft matter, semiconductors, ion conductors, wide band gap materials, catalysts, battery materials, quantum devices, and nuclear reactor components. The ultimate goal of the symposium is to stimulate fruitful discussions on multimodal and correlative methodologies.

Symposium Organizer


Dr. Regina Ciancio
Area Science Park & CNR-IOM Trieste


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DGM