

# FEMS EUROMAT23

03 - 07 Sep 2023 (Frankfurt am Main)

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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. **Extended submission deadline: 15 March 2023**

Area E: Energy and Transportation

## E02: Photovoltaics: Materials Science and Perspectives

This symposium will provide an excellent platform for photovoltaic's scientists and engineers around the world to showcase and discuss the latest developments in solar photovoltaic technologies, with particular emphasis on emerging PVs, such as halide perovskite, organic, and dye sensitized. In the past decade, such III generation PV have shown remarkable advances in terms of performance and stability, and they are already finding initial commercial applications. As such, they present both fascinating opportunities and challenges for scientific research and technological development.

The program of symposium E02 will cover the full spectrum of PV topics, including material design and synthesis, fabrication, characterization, and simulation of PV materials and emerging solar cells, modules, and panels and their reliability assessment. The symposium can be divided into three main areas. The first will be dedicated to materials research, discussing the challenges in active cell materials and interlayers, including absorbers, carrier selective buffers, and interconnection layers for tandems. The second area will focus on the solar cells' development, paying special attention to new strategies for improving device efficiencies and extending their lifetimes, such as multijunction and tandem configurations. The third and final area will be devoted to the industrialization of emerging PV technologies, covering the upscaling of PVs through high-throughput printing techniques and related field tests. Submissions are also encouraged on fundamental aspects, such as the theoretical description of the electronic structure of perovskites, modeling of their optoelectronic properties, and advanced characterization techniques.

Topics:

- Perovskite PVs
- Organic PV
- Dye Sensitized PV
- Tandem silicon/perovskite, organic/perovskite, or other tandems
- Theory, modeling, and simulations of PV materials and devices
- Device Physics, Photophysics, and Materials Properties
- Degradation mechanisms
- Large area fabrication
- Advanced device and materials characterization
- Sustainability and deployment
- High-throughput material and solar cell screening

### Symposium Organizer



Prof. Dr. Aldo Di Carlo  
University of Roma Tor Vergata



Prof. Dr. Emmanuel Kymakis  
Hellenic Mediterranean University



Dr. Pedro Salomé  
INL - Intern. Iberian Nanotechnology Lab.

