

# EUROMAT 2021

EUROPEAN CONGRESS AND EXHIBITION  
ON ADVANCED MATERIALS AND PROCESSES

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## Area A – Functional Materials

### Symposium A9 – Photovoltaics/solar cells

#### ***Advanced Materials, Techniques, and Design Strategies to improve Solar Cells Performance***

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#### **Abstract**

Photovoltaics and Photonics are important key technologies to enable a greener and sustainable future for our society, given our primary dependence on energy to sustain a good life quality. The novel understanding of physical phenomena underlying light-matter interactions and propagation within materials could bridge the gap toward the major goal of the energy green deal. Indeed, recent developments have brought the efficiency of many solar cells technologies closer to the theoretical maximum, particularly by being able to capture (and trap) more light in a wider spectral range, by reducing recombination and by decreasing the contact resistance. This Symposium aims to display and gather discussion on the latest developments concerning materials and techniques to boost solar cells efficiency independently of its base materials.

Experimental and theoretical works related, but not limited, to the following topics are welcome:

1. Photonics for solar cells
2. Light managing systems
3. Passivation techniques
4. Multi band solar cells
5. Quantum dot solar cells
6. Thin film solar cells
7. Up and down converters
8. Transparent conductive materials
9. New materials for solar cells
10. Novel configurations
11. Light coupler and focusing devices
12. Nanophotonics, metasurfaces, device designs