



Symposium E : Photonic Materials and Processes: patterning, physical properties and applications

Scope of the Symposium

There is a large demand for the development of novel photonic materials with improved properties for technological applications. The rapid growth of new photonic materials is due to the availability of new strategies for synthesis and characterization techniques. On the other hand, laser-based processing of materials is a key technology, able to open significant markets for photonic technologies. The aim of this Symposium is to bring together scientists and engineers working on the physical properties and applications of photonic materials and intends to present an overview of advances in new platforms design, concepts of materials, manufacturing techniques and promising applications. It will cover emerging topics in photonic materials, as organic, inorganic and hybrid systems, including plasmonic, metamaterials, two-dimensional materials, among others, which aim to overcome existing limitations that prevent the development of practical photonic devices. In addition, laser-based manufacturing processes on macro, micro and/or nano-meter scales addressing the current scientific and technological advances will be considered

Abstracts will be solicited in (but not limited to) the following areas

- *Novel routes for the preparation of photonic materials*
- *Nanophotonic and Plasmonic Materials: new engineering for photonic devices*
- *Characterization, spectroscopy and nonlinear effects of photonic materials*
- *Plasmonic waveguides: novel architectures*
- *Hybrid systems: fabrication and applications*
- *Synthesis and optical properties of quantum dots, colloidal, and vitreous nanocomposites*
- *Spintronics, Microwave and EMI shielding*
- *Fundamental aspects of laser-materials processing, including dynamics, modelling and simulation*
- *Laser micro/nano processing, including, but not limited to micro-joining, micro-cutting & drilling, surface patterning/texturing, (ultra) short pulsed laser processing*
- *Laser based surface functionalization and large area processing*
- *Laser-based Additive Manufacturing processing, including laser printing and sintering both on the macro-and micro/nano scale, including laser-transfer techniques*

Tentative list of invited speakers (To be confirmed)

Maurizio Ferrari (*Institute for Photonics and Nanotechnologies*) **Marco Bettinelli** (*University of Verona*) **Luis D Carlos** (*University of Aveiro*) **Wilfried Blanc** (*French National Centre for Scientific Research*) **Pierre-Francois Brevet** (*Claude Bernard University Lyon 1*) **Amitava Patra** (*Indian Association for the Cultivation of Science, Department of Materials Science*) **David J. Hagan** (*CREOL, The College of Optics & Photonics University of Central Florida*) **Antonio Ancona** (*University of Bari*) **Gert-willem Rmer** (*University of Twente*).

Symposium Organizers

Luciana Reyes Pires Kassab (*Faculdade de Tecnologia de Sao Paulo*) **Cid Bartolomeu de Araujo** (*Universidade Federal de Pernambuco*) **Cleber Mendona** (*Instituto de Fisica de Sao Carlos*) **Rajeev Kumar** (*Materials Research Centre, Indian Institute of Science*) **Harish Kumar Choudhary** (*Japan Advanced Institute of Science and Technology*) **Bruno Alexandre Pacheco de Castro Henriques**

*(Universidade Federal de Santa Catarina) **Andrs Fabian Lasagni** (Technical University of Dresden) **Filipe Samuel Silva** (University of Minho) **Milton Pereira** (Universidade Federal de Santa Catarina) .*

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XIX Brazil MRS Meeting