



The Sol-Gel Process is one of the most widely used procedures for the synthesis of advanced ceramics, nanomaterials, hybrid and nanocomposite materials and a versatile tool for coating technology. Several commercial products based on sol-gel technology are on the world market, such as the 3M™ Cubitron™ Abrasive Grain. The estimated expansion rate of the sol-gel business worldwide is 7.96% according to TechNavio's analysts for the period from 2012 to 2016. Its wide success is due to simple and low temperature routes to produce a widespread number of multifunctional materials with applications in corrosion protection, art and historical patrimony conservation, optic materials and coatings, electronic coatings, catalysis, energy storage and production, biocatalysis and biosensors, environmental remediation, gas separation and storage, drug delivery, clinical analysis, image contrast agents, hard coatings, smart windows, radiation sensors, among other applications. In this symposium we intend to contemplate works on most of these areas, so as to give the participants an opportunity to learn and expand their awareness of the versatility and power of this methodology for obtaining materials aimed at advanced applications.

**Abstracts and Talks will be presented in the following areas:**

- Sol-Gel Chemistry and New Precursors for Sol-Gel Chemistry
- Aerogel
- Sol-Gel for Photonics and Optical Devices
- Hybrid Materials and Nanocomposites through Sol-Gel process
- Sol-Gel Process For Corrosion Protection
- Sol-Gel Materials and Photocatalysis, Photosynthesis, Photochromism
- Sol-Gel for Dentistry and Medical Devices
- Sol-Gel in Microelectronics
- Sol-Gel and Heterogeneous (Bio)Catalysts
- Magnetic and Photomagnetic Materials through Sol-Gel process
- Sol-Gel and Materials for Energy Production, Transport, and Storage

## Invited Lectures

Galo Soler-Illia, Facultad de Ciencias Exactas y Naturales, Departamento de Química Inorgánica, Analítica, y Química Física, Universidad de Buenos Aires; Argentina- *Sol-gel and self-assembly tools to design complex nanomaterials* -

Marcus Andre Worlsey, Lawrence Livermore National Laboratory, USA. - *Graphene and CNT-based Aerogels: Synthesis and Applications*-

Bruce Sidney Dunn, University of California at Los Angeles, USA. - *Synthesis of Sol-Gel Materials and Architectures for Electrochemical Energy Storage* –

Albert Edward Stiegman, Florida State University, Department of Chemistry & Biochemistry, USA *Multicomponent Sol-Gel Materials for Light, Magnetism, and Catalysis* -

José Fabian Schneider, Universidade de São Paulo, Instituto de Física de São Carlos. *Nuclear Magnetic and Electron Spin Resonance applied to Sol-Gel Photochromic Materials.*

Juan Rodriguez, Universidad Nacional de Ingeniería, Faculdade de Ciências, Peru- *Supported The role of seeding in the structure and wettability of ZnO nanorods films on different substrates*

Luiz D. Carlos, Universidade de Aveiro ,Departamento de Química, Aveiro, Portugal- *Nanothermometry: A Novel Functionality for Luminescent Organic-Inorganic Hybrid Materials.*

Michel Wong Chi Man, École Nationale Supérieure de Chimie de Montpellier, Montpellier, France. *Sol-Gel made functional hybrid silicas* .

Katia Jorge Ciuffi, Universidade de Franca, São Paulo, Brazil; *Multifunctional catalysts prepared by sol-gel methodology inside green chemistry principle.*

Flavio M. Vichi, Universidade de São Paulo, Instituto de Química, São Paulo, Brazil- *Sol-Gel Derived Precursors For Nanostructures Oxides*

Veronica C.Z. Bermudes, Universidade Trás-os-Montes e Alto Douro, Centro de Química-Vila Real, Portugal. *Sol-gel chemistry and self-directed assembly: a way to induce order in hybrid materials*

Rogéria R. Gonçalves, Faculdade de Filosofia Ciências e Letras de Ribeirão Preto, Departamento de Química, USP, São Paulo, Brazil; *Micro and nanostructured sol-gel rare earth-doped materials for photonic applications*

**Symposium organizers:**

Ubirajara Pereira Rodrigues Filho, Universidade de São Paulo, Instituto de Química de São Carlos

Andrea de Camargo, Universidade de São Paulo, Instituto de Física de São Carlos

Sidney J.L. Ribeiro, Universidade Estadual Paulista "Júlio de Mesquita Filho", Instituto de Química Arararaquara