



Symposium N : Nanomaterials and Technologies for Sustainability - Implications and Applications to the Environment

Scope of the Symposium

Nanomaterials and nanotechnologies development come with the promise of cleaner, smaller, lighter and more efficient technologies for energy harvesting, storage, and consumption, as well as environmental monitoring and depollution. It is well known that many commercially available products include or are nanomaterials, but still there is a lack of regulation on how to dispose or recycle them. Thus, environmental issues keep steadily increasing, urging us to discuss how materials scientists could more rapidly respond to the worldwide concerns. Cutting-edge strategies with close collaboration of industry and academia towards materials and technology development are fundamental needs toward economic development and climate stability. This symposium supports a global and interdisciplinary communication among experts about the challenges and opportunities for a sustainable advance of nanomaterials and technology. The aim of this symposium is to focus on what nanomaterial- and nanotechnology-based solutions can offer and how rational design can lead to a sustainable environment. The main goals of this symposium are (i) to look at the scientific and technological development and challenges towards sustainable environment, economy and society; (ii) to advance the communication between interdisciplinary fields towards good sustainable global practices; (iii) to strengthen academia-industry collaboration through scientific talks towards faster materials and technology development. Additionally, we plan to have a panel discussion at the end of the symposium and to implement the novel format of 'rapid fire presentations' of posters. A complimentary tutorial is tentatively planned (4h) on nanotechnology regulation.

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

- *Nanomaterials and technologies to monitor and reduce air pollution - catalytic converters, bioreactors, scrubbers and filters*
- *Nanomaterials and technologies for water - Conservation, purification, pollutants monitoring and removal*
- *Nanomaterials for renewable energy technologies*
- *Sustainable practices and regulations in nanomaterials development*
- *Nanomaterials and technologies for sustainable infrastructure and transportation*
- *Nanotoxicology - Nanomaterials impact into environment*
- *Nanotechnology in recycling and biodegradable alternatives*
- *Nanomaterials produced from renewable sources*
- *Implementing sustainability approaches to materials science education*

Tentative list of invited speakers (To be confirmed)

Aldo Zarbin (*Universidade Federal do Parana*) **Andrea De Len** (*Facultad de Química, Universidad de la República*) **Jos Mauro Granjeiro** (*Instituto Nacional de Metrologia, Qualidade e Tecnologia*) **Javier Pereyra** (*Facultad de Ingeniería, Universidad de la República*) **Valtencir Zucolotto** (*Instituto de Física, Universidade de São Paulo*) **Mara Alicia Ulla** (*Instituto De Investigaciones En Catalisis Y Petroquímica, Universidad Nacional del Litoral*) **Maria Cristina Area** (*Instituto de Materiales de Misiones, Universidad Nacional de Misiones*) **Vera Lucia Scherholz Salgado de Castro** (*Empresa Brasileira de Pesquisa Agropecuária - Embrapa*) **Diego Piazza** (*UCS Graphene*) **Misael Silva** (*Merck LATAM*) **Babak Anasori** (*Purdue University*) .

Symposium Organizers

Ivana Aguiar (*Facultad de Química, Universidad de la República*) **Monica Jung de Andrade** (*MilliporeSigma - A business of Merck KGaA, Darmstadt, Germany*)

) **Mara Eugenia Prez Barthaburu** (*Centro Universitario Regional del Este, Universidad de la Repblica*) **Caue Ribeiro** (*Embrapa Instrumentacao / Brazilian Agricultural Research Corporation*) .

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XIX Brazil MRS Meeting