



## ***Symposium E : Green Materials: Processes and Devices***

### **Scope of the Symposium**

A sustainable development is "a development that meets the needs of the present without compromising the ability of future generations to meet their own needs". However, materials dominating nowadays technologies for electronic and energy storage devices have proven to lack sustainability. In contrast, carbon-based materials and technologies are options to reach sustainability in the electronic and energy storage fields. This means that new technologies covering the entire supply chain for developing environmentally friendly batteries are in high demand. Reuse and recycling are key factors to decrease the environmental impact of batteries, and energy storage and conversion devices. Finding new chemicals (easy-to-recover) to substitute critical materials (precious and/or heavy metals) will have a positive impact on "green" energy storage devices. Newly designed batteries, that use of carbon-based biosourced redox-active electrode materials, natural binders and "green" electrolytes, are expected to be biodegradable within dedicated waste management facilities. The intention/goal of this symposium is to bring together leading experts in bio-sourced materials and recycling and degradation strategies to highlight the forefront of research and steer future research directions in greener devices.

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

- *Biodegradable electrode materials*
- *Electronic and ionic transport in sustainable energy storage devices*
- *Heavy metal-free electrodes*
- *Materials from bio-waste*
- *Renewable biomass-derived materials for energy storage*
- *Supercapacitors*
- *"Green" electrolytes*
- *Sustainable synthesis processes*

### **Tentative list of invited speakers (To be confirmed)**

**Clara Santato** (*Polytechnique Montreal*) **Igor Zhitomirsky** (*McMaster University*) **Paulo Roberto Bueno** (*UNESP*) **Orlando Rios** (*Oak Ridge National Laboratory*) .

### **Symposium Organizers**

**Marcelo Ornaghi Orlandi** (*Sao Paulo State University*) **Clara Santato** (*Polytechnique Montreal*) **Francesca Soavi** (*Alma Mater Studiourm Universita? di Bologna*) **Neftali Lenin Carreno** (*Federal University of Pelotas*) .

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**XVIII Brazil MRS Meeting**