Symposium I: Carbon Based nanomaterials

Scope of the Symposium

Graphene and carbon nanotubes have attracted huge attention in the last decades for their electronic, mechanical, optical, and chemical properties. Although developed very recently, graphene has already found many applications such as solar cells, liquid crystal devices, molecular sensors, and nano-sized transistor prototypes. In the area of basic research, the discovery of this material has also revealed new and interesting physical effects that culminated with the Nobel Prize in Physics 2010 awarded to Andre Geim and Konstantin Novoselov "for groundbreaking experiments regarding the two-dimensional material graphene". Nanotubes are members of the fullerene structural family, which also includes the spherical buckyballs. Nanotubes are formed by graphene sheets rolled at specific and discrete angles. The combination of the rolling angle with the tube radius determines if the nanotube is a metal or semiconductor. The strength and flexibility of carbon nanotubes makes them of potential use in controlling other nanoscale structures, which suggests they will have an important role in nanotechnology engineering including nanoelectronics, hydrogen storage, solar cells, and medicine. Other nano-structured carbon materials can be found on the form of nano-diamonds, carbon fibers, cones, scrolls, whiskers, and graphite polyhedral crystals.

The aim of the symposium "Carbon-based Nanomaterials" is to bring scientists in the area of nanocarbon science together to examine our current understanding and to define future trends of this exciting field. The symposium will address progress at the frontiers of fundamental as well as applied research, and will allow participants to exchange ideas and results of their latest work.

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

- Electronic and optical properties
- Synthesis
- Chemical modification
- Applications

Organizers

Luiz Gustavo Cançado (Departamento de Física – UFMG)
Ado Jorio (Departamento de Física – UFMG)

Invited speakers (confirmed)

Roberto Hiroki Miwa (UFU)

Antonio Gomes Souza-Filho (UFC)

Ado Jorio de Vasconcelos (UFMG)

Naira Maria Balzaretti (UFRGS)

Luiz Orlando Ladeira (UFMG)

Aldo José Gorgatti Zarbin (UFPR)

Solange Binotto Fagan (UNIFRA)

Michael Strano (MIT), Manish Chhowalla (Rutgers University)

Andrey Turchanin (University of Bielefeld)