

SEMINARIUM Z MAGNETYZMU I NADPRZEWODNICTWA

Uprzejmie zawiadamiamy, że w **ŚRODĘ**

30 marca br., o godz. 10:00

w sali 203 (bud.1, II piętro) odbędzie się seminarium, na którym

Prof. Paulo César Morais

University of Brasilia
Head of the Brazilian Nanomagnetism Network

wyłosi referat na temat:

„Integrating experimental techniques while characterizing nanoparticulated magnetic materials”

As the research on nanosized materials progresses, the link between the materials' production and their use in new technologies depends more deeply on the characterization techniques. As a result, in the last two decades, the scientific community had witnessed a huge development on materials characterization, including the debut of new techniques and the enhancement in sensitivity and precision of those already employed. Nevertheless, the novelties in materials characterization of the last two decades by themselves are not enough to respond the increasing demands of the new wave of nanosized materials and their integration on new products. Integration of characterization techniques is a key aspect and represents the step forward in accessing the very properties of nanosized materials, in which the surface and bulk aspects play both a central role in orienting opportunities for new technologies.

Nanoparticulated iron oxide-based materials, in particular cubic ferrites, represent nowadays one of the most successful platforms for developing biocompatible materials addressed to a variety of biomedical applications. Besides the pure nanosized iron oxide materials, mixed core-shell structures, including the metal-substituted phases, such as cobalt-substituted magnetite, play a key role within the biocompatible material platform. Mössbauer spectroscopy is therefore the natural candidate to help access the iron oxide-based phases while providing further information in regard to the material stoichiometry, metal site-occupancy, and magnetic behavior. Nevertheless, in many cases, the precise understanding of the iron oxide-based phases is difficult to be achieved only via ordinary Mössbauer spectroscopy. This talk emphasizes the complementary information of Mössbauer, Raman and photoacoustic spectroscopies while investigating nanoparticulated iron oxide-based materials.

Serdecznie zapraszamy

Roman Puźniak
Henryk Szymczak
Andrzej Wiśniewski