

Abstract of Presentation

Name:

M. Ricardo Ibarra

Institute of Nanoscience of Aragón

Presentation Title:

Research on nanostructured materials for the energy and electronic

Abstract :

The Institute of Nanoscience of Aragón is an interdisciplinary research Institute with main research lines: Physical phenomena at the nanoscale, Nanobiomedicine and nanostructured material. In this talk we will concentrate on the nanostructured zeolites based materials of interest in the field of fuel cell and new spintronic materials and devices. One of keys of success of PEMFC technology is the development of improved and mass manufacturable electrolyte membrane materials that can operate at a temperature range of 130-200°C. Nanostructured electrolyte membrane based on a new composite multifunctional material made by the synergic combination of zeolites, ionic liquids and polymers are being investigated. In the field of spintronic, MTJ devices has been obtained using high quality epitaxial $\text{Fe}_3\text{O}_4/\text{MgO}/\text{Fe}$ heterostructures obtained by pulsed laser deposition. The magnetite electrode is used as source of highly spin polarized electron carriers. Other magnetic FIBD nanostructures are reported.