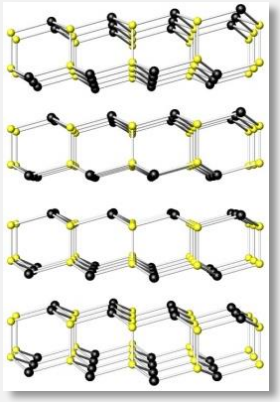
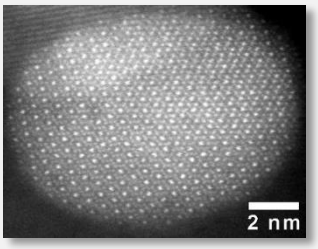
INTERNATIONAL IBERIAN NANOTECHNOLOGY LABORATORY

Project Title:	***Towards Nanostructured Metal Phosphide Electrocatalysts***
Project Short description	H_2 is poised as one of the major contributors to the global clean-energy technologies. This proposal addresses design, synthesis, evaluation and understanding of currently emerging metal phosphide nanostructures as the catalysts for challenging electrochemical reduction of H_2O to generate H_2.  Successful Fellow will prepare a series of transition-metal phosphides nanoparticles and nanostructures using wet chemistry colloidal and solvothermal protocols. The approaches are foreseen to overpass some of the major limitations of existing routes (control over catalysts shapes and chemical compositions, as well as direct grows of the electrocatalysts over conductive substrate) by using pre-designed high and low aspect ratio nanostructured precursors followed by their conversion into the desired phosphides. The primary methods of investigation will be X-ray diffraction, electron microscopy and spectroscopic techniques. The materials and knowledge generated will then be applied in the following part of the project development – electrocatalysis.  We offer an international atmosphere in the exciting city of Braga, as well as judicious supervising together with the scientific exchange with co-workers.
Expected Start/end date	
Required degree and Background knowledge of students, minimum gradepoint average, etc…	The successful Fellow would be highly motivated and interested in science, willing to work in a team. She/He is expected to have a basic knowledge of chemistry, physics, and experience with literature survey. Skills in electrochemistry is of advantage.

Supervisor at INL

Name:	Dr. Yury V. Kolen'ko
Position:	Staff Researcher
email:	yury.kolenko@inl.int