

Predocctoral Open Position

NEW MATERIALS FOR ENERGY SAVING IN THE ICE-MAKING INDUSTRY

Albert Verdaguer (ICMAB, CSIC)

Position offered

We offer a position for a predoctoral researcher in the framework of the project “New materials for energy saving in the ice-making industry”.

Main Tasks and Responsibilities

The project requires designing and making a homemade ice-making machine. Modification of a commercial ice-making machine. Characterization of surfaces using optical and electron microscopy and scanning probe microscopy techniques. Preparation of surfaces using simple techniques: cleavage, annealing, immersion in solutions, ...

Requirements

- Degree in Material Science, Physics, Chemistry Engineering or similar
- A good knowledge of English will be highly valued.
- Academic grades and research experience will be considered in the evaluation.
- Experience and knowledge on optical microscopy, electron microscopy and atomic force microscopy characterization techniques will be valuable
- Team work capabilities, initiative and creativity

Conditions

- The contract will be full time.
- Gross annual salary of around 22,000 Euros
- Duration of 2 years with the possibility of extension.
- The starting date will be from December 2022

How to apply

The selection process will be continuous until a good candidate is found.

Interested persons should send an email to Albert Verdaguer at averdaguer@icmab.es attaching:

- CV
- Letter of motivation
- If possible, contact details of a reference person.

ICMAB is an equal opportunity employer committed to diversity and inclusion of people with disabilities.

About the Physical Chemistry of Surfaces and Interfaces group

The Physical Chemistry of Surfaces and Interfaces Group is Focused on unraveling and controlling the nanoscale structural and electronic properties of nanostructures and interfaces through surface engineering. Dr. Albert Verdaguer research interests are centered in three main search lines:

- I) Development of new Scanning Probe Microscopy operational modes based in multifrequency dynamic Atomic Force Microscopy (AFM) for the identification of surface chemical groups and to study wetting and ice nucleation at the nanoscale.
- II) Study of the interaction of water with ferroelectric surfaces and its role in surface charge screening using SPM and AP-XPS techniques.
- III) Study of ice nucleation on surfaces focusing on the effect of surfaces on heterogeneous nucleation and ice growth at ambient conditions.

This position will be focused mainly in research line III and in the project we will make the transition from laboratory results to direct application to energy saving in ice-making, crucial to face climate change challenges. Following previous success in the group applying our knowledge to snowmaking procedures that lead to a patent extended worldwide. A close collaboration with companies during the project is expected.

About ICMAB

ICMAB is one of the world's leading institutes in Materials Science research, located at Campus UAB, very close to Barcelona. One of the main ICMAB's strategic objectives and missions is to make an impact in the field of new materials for applications in energy, electronics and health.

ICMAB provides facilities, state-of-the-art equipment and most importantly, excellent scientists and professionals, to assure you a rewarding environment. In the last years, we have grown up to build up a team devoted to project managing, technology transfer, innovation, communication, maintenance, technical services and administration, to team up with the researchers for the advancement of science.

The diversity of our people and the interdisciplinary research fields related to Materials Science ensures an enriching and inspiring working environment. If you are an enthusiastic and highly motivated person and would like to work in a multidisciplinary and multicultural environment, join us!