

IMDEA Nanociencia. PhD on New Generation of Rare-Earth Free Permanent Magnets

The [Division of Permanent Magnets and Applications](#), integrated in the [Program Nanoscience for Critical Raw Materials](#) of [IMDEA Nanoscience](#), is recruiting a highly motivated individual to join the research line on development of new permanent magnets for technological applications (energy, automotive, aerospace, medicine...) by novel techniques (nanotechnology-related, advanced 3D-printing...), and perform his/her PhD studies in this framework.

Objective

The PhD student will work on the development of novel technological permanent magnets based on new alloys going from materials found in meteorites to other promising ones that are currently under research in view of market implementation in forthcoming years. The magnetic materials will be processed by innovative techniques and combined with different polymers to synthesize composite materials for the development of new permanent magnets by advanced 3D-printing technology. This work will comprise basic and applied research in close collaboration with international research centers and companies.

The selected candidate is expected to start in January 2018.

Functions and Tasks

- Establishment of the correlation between morphological, microstructural and magnetic properties of novel permanent magnet particles.
- Synthesis of composite magnetic particles/polymers for magnetic filament extrusion to be used in 3D-printing.
- 3D-printing of magnets using the materials under research.

Application Requirements

- Applicants must have completed their Master Degree in Physics, Engineering, Chemistry or related discipline.
- It is recommended (but not mandatory) an average mark of > 8.00 (0-10 scale).
- Applications should be sent electronically to jobs.nanociencia@imdea.org and alberto.bollero@imdea.org
- The subject of the e-mail should include the reference number of the PhD position.
- The application must include the following documents:
 - Motivation letter (max. 1 page),
 - Short curriculum vitae (max. 2 pages),

Deadline for applications: December 31st, 2017

Specific requirements

- Be registered at the *Fichero del Sistema Nacional de Garantía Juvenil* (<http://www.empleo.gob.es/es/garantiajuvenil/accesoJovenes.html>) and fulfill their requirements at the beginning of the contract. It is free of charge, fast and easy, and most of the national calls require it.
- Be registered in the Community of Madrid from June 27th, 2017.

Personal skills

- Highly motivated individual.
- English language.
- Interested in Science and looking for an exciting and ambitious project to work on.
- Creative and problem solver.

For further information contact Dr. Alberto Bollero (alberto.bollerto@imdea.org)