INMA
INSTITUTO DE NANOCIENCIA Y MATERIALES DE ARAGÓN

EXCELENCIA SEVERO OCHOA

MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

AGENCIA ESTATAL DE INVESTIGACIÓN

Postdoctoral position open @ INMA (Zaragoza, Spain)

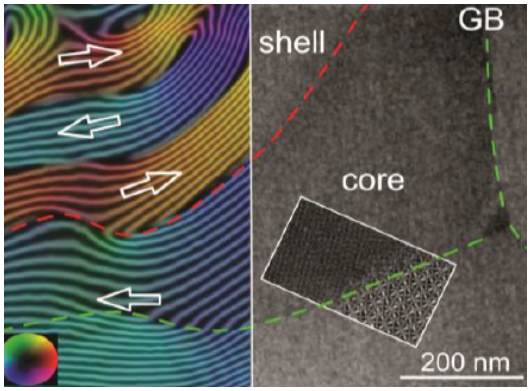
Project GREENE

"Single-Grain Re-Engineered Nd-Fe-B Permanent Magnets"

https://www.greene.es/

Rare-earth-element (REE) permanent magnets based on Nd–Fe–B are vital for use in electric vehicles and wind turbines, making them central to Europe's green-energy future. These magnets have outstanding properties, but they are granular, multiphase materials whose **intrinsic properties are still under-exploited**. GREENE focuses on a **redesign of the Nd-Fe-B grain boundaries** aimed at **improving the coercivity and reducing the rare-earch content**, applying these new strategies to fresh, and **recycled feedstocks** to reduce Europe's supply dependence.

This **GREENE postdoctoral position @ INMA (Zaragoza, Spain)** will focus on the **atomic scale and magnetic characterization of Nd-Fe-B** at different length-scales (single crystals, micro and nano-sized grains) and the newly designed grain boundaries by advanced **aberration-corrected (S)TEM techniques** and local magnetic characterization by **electron holography and DPC** imaging. This work will be performed at the electron microscopy facilities of the **Spanish National Infrastructure for Electron Microscopy (ELECMI) of the Laboratory of Advanced Microscopy (LMA) at INMA** (https://lma.unizar.es/), which is equipped with **two aberration-corrected TEMs**: a 2025-upgraded double-corrected Titan Cube and a probe-corrected Titan 60-300, equipped with the most advanced imaging and spectroscopic tools for structural, chemical and magnetic analysis.



Requirements for the candidate:

- **PhD in Physics, Materials Science, Nanoscience, Nanotechnology** or related.
- **Fluent in English** with good writing skills.
- Experienced researcher in **advanced (S)TEM, preferably in (Nano)magnetism**.
- **Scripting/programming skills** (python, MATLAB…) will be highly valued.

Details of the position:

- **~22 months contract. Salary depending on the postdoctoral experience.**
- Official call pending.
- Pre-selected candidates will be informed about application procedure.

Tentative starting date:

- 1st September 2025.

Contact before 30th June to:

- César Magén, cmagend@unizar.es
- https://inma.unizar-csic.es/investigadores/magen-dominguez-cesar/