Tecniospring INDUSTRY

Enric Stern Taulats

Research interests

Postdoctoral researcher with a strong background in **Condensed Matter Physics and Materials Science**. In the last years I have studied the properties of magnetic shape-memory alloys, perovskite ferroelectric compounds, and organic and inorganic salts, especially those which exhibit first-order phase transitions displaying coupling between different degrees of freedom (structural, magnetic, electric), and I have developed **novel experimental techniques** for the study of these phenomena.

My recent investigation focuses on the search of physical mechanisms that can yield new cooling methods. At the University of Cambridge, **I have identified solid barocaloric refrigerants that are greatly sensitive to applied pressures**, and I have implemented these materials for the **development the first-ever barocaloric cooler prototype**, which provides an excellent basis for the development of a new cooling technology.

Highlighted skills:

- Finite Element Analysis / Simulations (COMSOL).
- Heat transfer and thermal phenomena.
- High-pressure transmission.

Education

PhD:	**10/2012 - 4/2017**	**PhD Nanoscience**. Universitat de Barcelona.
Master's Degree**:**	**9/2011 - 9/2012**	**MSc Computational & Applied Physics**. Universitat de Barcelona / Universitat Politècnica de Catalunya.
Undergraduate Degree:	**9/2006 – 7/2011**	**BSc Physics**. Universitat de Barcelona.

Experience in research (Notice that management and teaching activities are not considered)

6/2020 - Present **Postdoctoral Research Associate.**

Dept. Materials Science & Metallurgy, University of Cambridge (UK). Experimental research on giant barocaloric materials: synthesis, characterisation and implementation.

5/2020 - 9/2020 **Scientific advisor**

Barocal Ltd. Cambridge (UK). Project: Characterisation & Implementation of barocaloric materials for cooling.

4/2018-3/2020 **Newton International Postdoctoral Fellow (Royal Society Fellow).**

Dept. Materials Science & Metallurgy, University of Cambridge (UK). Project: Sorptiocaloric materials for energy-efficient cooling.

4/2017 – 3/2018 **Postdoctoral Research Associate.**

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 801342

Dept. Materials Science & Metallurgy, University of Cambridge (UK). Project: Development of a sustainable solid-state barocaloric cooler. (EPSRC – Technology Strategy Board – Innovate UK, and the Royal Society).

10/2012 – 4/2017 **PhD researcher**

Nanoscience Research program (Faculty of Physics, University of Barcelona). Dissertation: Giant caloric effects in the vicinity of first-order phase transitions.

RESEARCH STAYS

9/2015-12/2015 Dept. Materials Science & Metallurgy, University of Cambridge (UK).
Infrared imaging / electrocaloric effects / electric and structural properties.

3/2015 Dept. Chemical Engineering of Northeastern University, Boston (USA).
Magnetometry under applied hydrostatic pressure.

2/2014 Dept. Solid State Physics, Indian Association for the Cultivation of Science, Kolkata (India).
Synthesis of shape-memory alloys / magnetic characterisation.

1/2012 – 7/2012 Dept. Physics and Nuclear Engineering, Polytechnic University of Catalonia.

SCIENTIFIC PRODUCTIVITY

Please find below my Google Scholar profile to find the list of my academic publications:

https://scholar.google.com/citations?user=--gNJ1MAAAAJ&hl=en&oi=ao

According to the WebOfScience: H-index: 16 Times cited: 989

Publications in peer-reviewed journals: 23

Sector of activity

Advanced Materials - *Energy & Resources* - *Greentech*

Select the option/s about your profile

PhD and 2 additional years of full-time research experience: **Yes**

A minimum of 6 years of fulltime experience in research after Master's degree *(Notice that PhD studies are considered research experience)*: **Yes**

Contact information

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