



DC 12		Epitaxial ferroelectric doped hafnia for improved performance energy storage capacitors
Host Institution	Institute of Materials Science of Barcelona	
Supervisor	Ignasi Fina	
Duration	36 months	
Subject Area	Materials, Ferroelectric, energy storage	
Doctoral degree	Materials Science PhD Programme at Universitat Autònoma de Barcelona	
Description		
<p>Supercapacitors with high energy storage density are nowadays in high demand to power IOT sensors. Recently, there has been increasing interest in purely electrostatic solid-state supercapacitors based on highly polarizable materials, e.g., ferroelectrics and antiferroelectrics. This project will focus on the fabrication and optimization of epitaxial ferroelectric doped hafnia films for energy storage capacitors. The selected candidate will learn to fabricate these capacitors, becoming an expert in the entire process: from the growth to the device fabrication and will work on the optimization and understanding of the underlying physics. The candidate will spend a period of time at the University of Minho and at the University of Cambridge to fabricate and characterize the energy storage capacitors.</p>		
Project-specific selection criteria:		
<ul style="list-style-type: none"> • Master's degree in materials engineering, chemistry or physics. • Affinity for experimental work. 		
Other criteria:		
<ul style="list-style-type: none"> • Highly proficient English language skills. • Willingness to work collaboratively in a research environment. • A strong commitment to their own continuous professional development. • Willingness to travel and work across Europe. 		
Additional information		
<p>As part of the MSCA programme, all recruited MASAUTO researchers must comply with the Horizon Europe MSCA eligibility criteria:</p> <p>a) Doctoral Candidates must not have a doctoral degree at the date of the recruitment by the host organisation.</p> <p>b) At the time of recruitment by the host organisation, DCs must not have resided or carried out their main activity (work, studies, etc.) in the country of their host organisation for more than 12 months in the three years immediately prior to the recruitment date. Compulsory national service and/or short stays such as holidays and time spent as part of a procedure for obtaining refugee status under the Geneva Convention are not taken into account.</p>		

