

ICN2 is a renowned research centre. Its research lines focus on the newly discovered physical and chemical properties that arise from the behaviour of matter at the nanoscale.

The Institute promotes collaboration among scientists from diverse backgrounds (physics, chemistry, biology, and engineering) to develop basic and applied research, while seeking out new ways to interact with local and global industry.

It also offers researchers training in nanotechnology, develops numerous activities to promote and enable the uptake of nanotechnology by industry, and promotes networking among scientists, engineers, technicians, business people, society, and policy makers.

ICN2 was accredited in 2014 as a Severo Ochoa Centre of Excellence and is a founding member of the Barcelona Institute of Science and Technology (BIST). The aim of the Severo Ochoa Program, sponsored by the Spanish Ministry of Economy, Industry and Competitiveness, are to identify and support those Spanish research centres that demonstrate scientific leadership and impact at global level.

Job Title: POSTDOCTORAL RESEARCHER – GRAPHENE ENERGY STORAGE

Research area or group: Novel Energy-Oriented Materials Group

Description of Group/Project:

Graphene and Energy Storage are two strongly rising research topics and myriad papers on that intersection see the light every year.

But we are not looking for a person to contribute to that publishing frenzy. We want to hire a person to put all that knowledge (and in particular our own group's [1-7]) into the development of high-energy and fast-charging energy storage devices.

The NEO-Energy host group is located at the Catalan Institute of Nanoscience and Nanotechnology (ICN2) and gathers expertise on materials science, nanoscience, electrochemistry, graphene and hybrid materials www.neoenergy.cat.

Some recent references

[1] Hybrid Energy Storage. The merging of battery and supercapacitor chemistries. D.P. Dubal, O. Ayyad, V. Ruiz, P. Gomez-Romero* *Chemical Society Reviews*, 44 (2015) 1777.

[2] Hybrid Electrodes Based on Polyoxometalate-Carbon Materials for Electrochemical Supercapacitors Ruiz,* J. Suárez-Guevara, P. Gomez-Romero* *Electrochemistry Communications* 2012, 24, 35-8.

[3] Hybrid Energy Storage: High Voltage Aqueous Supercapacitors based on Activated Carbon / Phosphotungstate Hybrid Materials Suárez-Guevara, V. Ruiz,* P. Gomez-Romero* *J. Mater. Chem. A*, 2014, 2 (4), 1014 – 1021.

[4] Stable graphene–polyoxometalate nanomaterials for application in hybrid supercapacitors Suárez-Guevara, V. Ruiz and P. Gomez-Romero*, Phys. Chem. Chem. Phys., 2014, 16 (38), 20411-20414.

[5] A high voltage solid state symmetric supercapacitor based on graphene-polyoxometalate hybrid electrodes with a hydroquinone doped hybrid gel-electrolyte DP Dubal, J Suarez-Guevara, D Tonti, E Enciso, P Gomez-Romero. Journal of Materials Chemistry A: Materials for Energy and Sustainability 2015, 3(46), 23483-23492.

[6] Development of hybrid materials based on sponge supported reduced graphene oxide and transition metal hydroxides for hybrid energy storage devices Deepak P. Dubal*, Rudolf Holze, Pedro Gomez-Romero*. Scientific Reports 2014, 4 : 7349.

[7] Electroactive Graphene Nanofluids for Fast Energy Storage. Deepak P. Dubal and Pedro Gomez-Romero. 2D-Materials 2016, 3, 031004.

Main Tasks and responsibilities:

The candidate will work in the context of a recently created spin-off company which aim is the development of prototype devices. Therefore, materials engineering is the keyword, high TRLs the path and a breakthrough device the objective.

Education, Experience, Knowledge and Competences required:

An engineer (materials, chemical, electrochemical) with experience in battery manufacturing AND/OR large-scale graphene fabrication is sought. Candidates should have a strong background in battery electrochemistry materials science and experience in prototype design.

Candidates should be self-motivated by the topic, be proactive and well organized, and be able to work independently. A very good communication skills in English (or Spanish) is mandatory.

Research Career Profile (According to the European Framework for Research Careers):

R3-Established Researcher

Summary of conditions:

- Full time work (37,5h/week)
- Contract Length: 1 year.
- Salary will depend on qualifications and demonstrated experience.
- Salary according to the cost of living in Barcelona.
- Support to the relocation issues.
- Life Insurance.

Estimated Incorporation date: As soon as possible.

How to apply:

All applications must be made via <http://jobs.icn2.cat/job-openings/120/postdoctoral-researcher-graphene-energy-storage> and include the following:

1. A cover letter.
2. A full CV including contact details.
3. 2 Reference letters or referee contacts.

Deadline for applications: It remains opened until 17 of September, but applications will be regularly reviewed and potential candidates will be contacted.

Equal opportunities:

ICN2 is an equal opportunity employer committed to diversity and inclusion of people with disabilities.