



MINISTERIO  
DE CIENCIA, INNOVACIÓN  
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INSTITUTO DE CARBOQUÍMICA

### **Vacancy:**

### **Early Stage Researcher (ESR13) position - *Development of High Performance and Stable Electrocatalysts for the Oxygen Evolution Reaction (MSCA-ITN BIKE Project)***

An EU-funded Marie Skłodowska-Curie Early-Stage Researcher (ESR) position is available in the area of the development of high performance and stable electrocatalysts for the oxygen evolution reaction in Instituto de Carboquímica of the Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC), Zaragoza, Spain.

**This is a full-time position (40 hours per week), fixed-term for 36 months, with a start date of 1<sup>st</sup> October 2019.**

### **PROJECT DESCRIPTION**

The successful applicant will carry out European Union-funded research within the “BIKE: Bimetallic catalysts Knowledge-based development for Energy applications” Marie Skłodowska-Curie Innovative Training Network (ITN) project (Grant agreement no. 813748), which offers unique doctoral training and research opportunities. The BIKE project will develop the next generation of bimetallic catalyst for green and blue hydrogen production. The programme will combine a range of complementary, multidisciplinary research expertise comprising: computational predictive modelling; operando characterization of catalysts; tuneable, robust, and scalable preparative methods of bimetallic nanoparticles; catalyst testing and operation; and reactor/process design. The BIKE network comprises 10 member institutions and partner organisations, spanning both academia and industry, located in Bulgaria, Denmark, Germany, Italy, Norway, Spain, and the United Kingdom. In total, 14 ESRs will be recruited across the BIKE network and each will conduct research on a specific, but closely related research area. The ESRs will work in areas spanning heterogeneous catalysis, green chemistry, hydrogen economy, and materials and chemical sciences within a framework of highly specialized research groups from leading European academic and industrial laboratories. The network will provide outstanding inter-disciplinary training opportunities through hands-on research projects, international lab exchanges, industrial secondments, and specialist workshops and conferences. ESRs are generously funded with many opportunities for travel and networking.

This full-time, fixed-term ESR position will be based at the Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC), Zaragoza, under the supervision of Prof. Maria Jesus Lazaro and Dr. M<sup>a</sup> Victoria Martínez Huerta, and will involve research and study in the areas of the preparation of bimetallic electrocatalysts for oxygen evolution reaction (OER) for anion exchange membrane water electrolysis (AEMWE) applications, and their structural and electrochemical characterization. The ESR will collaborate in research, attend joint training events, and contribute to workshops and conferences across the BIKE network. The post-holder will be expected to register to study for a PhD (3 years) as an integral part of this ESR position. The ESR will be provided with a generous stipend to

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cover their living costs and travel for the duration of the 3 years; tuition fees will be paid for this period. They will also receive funds to support their participation in the BIKE-ITN European-wide research and training events. The network ESR/PhD students will receive training primarily through their host institute with additional training provided by visits to other host institutes and industrial partners in the network.

## APPLICANT PROFILE

There are strict eligibility and residency requirements that must be met. Applicants must be either European citizens (from EU Member States or Associated Countries, but not residents of Spain), or from Other Third Countries (*i.e.* USA, Canada, Australia, Japan, India, China, *etc.*).

At the time of recruitment (*i.e.* first date of employment/signature of the contract) applicants must meet the following eligibility criteria:

- Have less than 4 years research experience (measured from the time their Master's or equivalent degree was awarded).
- Not have a doctorate/PhD.
- Be a national of any country other than the country of the premises of the host organization to which they are applying (unless they have legally resided outside that country for at least 3 out of the last 4 years).
- Not have resided in the country of the recruiting host for more than 12 months in the 3 years immediately before the recruitment date (and not have carried out their main activity (work, studies, *etc.*) in that country) – unless as part of a procedure for obtaining refugee status under the Geneva Convention.

### Essential criteria:

- Master's degree (MSc) or equivalent such as MChem or MSci (but not BSc) in chemistry, material science, chemical engineering or a related field
- Experience in research laboratory and teamwork
- Good organizational skills
- Excellent written and verbal communication skills in English
- Good computational skills including use of Microsoft Office (or equivalent) for text and data manipulation.
- Demonstrated ability and self-motivation in catalysis/materials synthesis and characterization, together with ability to think analytically and creatively
- Other....

### Desirable criteria:

- Publications in peer-reviewed journals
- The ideal candidate should have an academic success. It should prove a compromise with the marked aims, high initiative and dedication and a big capacity for team work. It would be of great interest if it has the capacity to be integrated into different foreign research groups



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- Previous experience in contributing to a collaborative interdisciplinary research environment

### Required Language(s):

- 1) English – It is a requirement that applicants can demonstrate that their ability to understand and express themselves in both written and spoken English is sufficient for them to derive the full benefit from the network training, and to embark on a PhD at a Spanish university.
- 2) A basic working knowledge and experience of Spanish.

### APPLICATION PROCEDURE

Applications should be sent by email to:

[mlazaro@icb.csic.es](mailto:mlazaro@icb.csic.es) and/or [mmartinez@icp.csic.es](mailto:mmartinez@icp.csic.es)

and marked for the attention of **Prof. Maria Jesus Lazaro./Dr. M<sup>a</sup> Victoria Martínez Huerta**

**Applications sent to other addresses will not be considered for evaluation.**

**Deadline for receipt of complete applications: 1<sup>st</sup> July 2019.**

The subject of the application email must contain the following information:

**"Application for the ESR13 position in the development of high performance and stable electrocatalysts for the oxygen evolution reaction – MSCA-ITN BIKE Project (Grant agreement no. 813748)".**

The application email must be accompanied by the following documents:

- i) A standard application letter of no more than 2 pages (written in English) signed by the applicant indicating their full name, date and place of birth, citizenship, postal address, and email address. The letter should clearly indicate the applicant's motivation for applying for this ESR position and describe their relevant experience. Additionally, the applicant must explicitly declare that they fulfil the **eligibility criteria** set out in article 3.4 of the H2020 Guide for Applicants Marie Skłodowska-Curie Actions - Innovative Training Networks (ITN), see: [http://ec.europa.eu/research/participants/data/ref/h2020/other/guides\\_for\\_applicant/s/h2020-guide-appl-msca-itn\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/other/guides_for_applicant/s/h2020-guide-appl-msca-itn_en.pdf)
- ii) Contact information (including email addresses) of TWO academic referees.
- iii) A detailed CV (of no more than 3 pages) in English illustrating the candidate's educational background, a list of undergraduate exam results and degrees held (with grades/rankings); a list of publications, poster and oral presentations (if any);

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academic prizes or scholarships, etc.; and scientific experience and skills. The document must be signed by the applicant. A template CV, which can be found at <https://europass.cedefop.europa.eu/documents/curriculum-vitae/templates-instructions/templates/doc> must be used.

- iv) Where relevant, a copy of Master's thesis or equivalent (in pdf format) including a 1 page summary written in English.
- v) Scanned copies of academic transcripts and degree certificates for the higher education qualifications held.
- vi) Official translation in English and equivalence certificate of the Master's degree or equivalent will be required at the point of contract signature.

**Salary range: € 37,434.96 to € 47,634.96**

The funding for this Marie Skłodowska-Curie Early Stage Researcher position provides for a remuneration starting from € 44,634.96. Actual salary will depend on employer deductions, personal circumstances and the exchange rate applicable to the fellowship (if not paid in Euros). This amount includes an annual living allowance and a mobility allowance (to cover the expenses associated with working in a different country).

**Allowance eligibility depends on the personal circumstances of the ESR:**

Living Allowance: total amount € 37,434.96 per year. This figure is inclusive of the country coefficient of 95.4%.

Mobility Allowance: total amount € 7,200 per year.

Family allowance: total amount € 3,000 per year (eligibility depends on supporting evidence that at the time the ESR position starts the ESR is married, in a partnership equivalent to marriage in the country it was formalised or have dependent children).

**For informal enquiries please contact Prof. Maria Jesus Lazaro Email: [mlazaro@icb.csic.es](mailto:mlazaro@icb.csic.es) and/or [mmartinez@icp.csic.es](mailto:mmartinez@icp.csic.es)**

More information about the ITN BIKE programme, the open positions and host organizations is available on the project's dedicated website: [www.bike-msca.eu](http://www.bike-msca.eu)