ESR 2: Molecular water oxidation catalysts for photo-electrochemical water splitting

Objectives
The PhD project will develop molecular water oxidation catalysts based on metal-organic frameworks (MOFs). The successful candidate has the possibility to engage in mechanistic studies of the catalytic reaction, in particular spectroscopic characterization of short-lived intermediates. The candidate will also develop micro-structured electrodes based on MOFs and will get training on scalable printing techniques. In a second stage of the project, the candidate will be involved in the preparation of thin film organic or perovskite solar cells and will combine them with the micro-structured electrodes prepared in the first stage to build a photo-electrochemical water splitting device.

Host Institutions and Secondments
The student will complete a PhD with an interdisciplinary supervisory team and benefit from a world-class training programme, including placements with 5 international partners in the following sequence:
- 12 months in ICIQ (Spain)
- 10 month in Uppsala University (Sweden)
- 3 months in UPPA (France) - secondment
- 3 months in Eurecat (Spain) - secondment
- 22 months in Eindhoven University of Technology (The Netherlands), of which 12 outside the project

PhD supervisors are Prof. Sacha Ott (Uppsala University, , www.kemi.uu.se) and Prof. René Janssen (TUe, www.tue.nl). The expected time for a PhD degree in the Netherlands is 4 years, and the last 12 months of the position will be in Eindhoven, under the employment rules for Dutch doctoral students.

Qualifications
- Master’s degree in chemistry
- Experience in synthetic molecular chemistry
- Interested in physical chemistry, especially electrochemical processes and spectroscopic characterization
- Strong interest in interdisciplinary scientific work
- Strong motivation to pursue a PhD degree and to develop a cross-disciplinary cutting-edge project.
- Excellent communication and writing skills
- Willingness to work in collaborative projects with multiple partners
- Very good English language skills
- Self-motivation and the ability to achieve goals independently as well as to contribute effectively to the team
- Willing to travel within the EU and spend extended periods of time in various EU countries.
- Familiarity with environmental, health and safety (EHS) requirements.

Recruitment conditions
The candidate will be employed by ICIQ (Spain), Uppsala University (Sweden), and Eindhoven University of Technology (The Netherlands) on a standard MSCA salary base (including mobility and family allowance) during 3 years and 1 year under Netherlands standards.
Successful applicants will be required to start latest 1 October 2018 for a period of 4 years. Candidates are required to meet the Marie Sklodowska-Curie Early Stage Researcher eligibility criteria (https://ec.europa.eu/research/mariecurieactions/sites/mariecurie2/files/msca-itn-fellows-note_en_0.pdf). At the time of the appointment candidates must have had less than four years full-time equivalent research experience and must not have already obtained a PhD. Additionally, they must not have resided or carried out their main
activity (work, studies, etc.) in Spain for more than 12 months in the last 3 years immediately prior to the starting date.

Any appointment will be conditional upon satisfactory references, the fulfilment of any conditions specified in the offer of a place on a PhD programme, and confirmation of the right to work in the EU and ability to secure a valid visa.

Selections will be made regardless of gender, nationality, religion, ethnicity and cultural background, but aiming for a good balance among the group.

**Selection process**

A first selection process will consist of a screening of the curriculum vitae, academic course transcripts, a motivation letter and 2 recommendation letters. The short-listed candidates will be interviewed by teleconference/skype by the selection committee. The selected candidate will be approved by the selection committee.

**Apply for this job**

Send your application (CV, motivation letter, 2 recommendation letters together with academic course transcripts, all documents should be in English):

esr2-application@escaled-project.eu

Please put in the object of your email that you are applying for the ESR2 position.

Please check that you meet all eligibility criteria

The closing date for receipt of applications is **20 May 2018, 18:00 CET**