

### **1. Interested institution:**

The Spanish National Research Council (CSIC)

C/ Serrano 117, 28006, Madrid (Spain)

[www.csic.es](http://www.csic.es)

### **2. Brief Description of the Institution**

The Spanish National Research Council (CSIC) is the largest public institution dedicated to research in Spain and the third largest in Europe. Belonging to the Spanish Ministry of Economy and Competitiveness through the Secretary of State for Research, Development and Innovation, its main objective is to develop and promote research that will help bring about scientific and technological progress, and it is prepared to collaborate with Spanish and foreign entities in order to achieve this aim. It has a staff of more than 13,000 employees, among these about 3,300 are permanent researchers and about 4,300 are pre- and post-doctoral researchers. The CSIC has 70 fully own institutes or centres distributed throughout Spain. In addition, it has 53 Joint Research Units with universities or other research institutions. There is also a delegation in Brussels and Rome.

CSIC has considerable experience in both participating and managing R&D projects and training of research personnel. Under the 7th Framework Programme CSIC has signed approximately 700 actions (including 97 coordinated by CSIC and 47 ERC projects). Funding wise, CSIC is listed the 1st organisation in Spain and the 5th in Europe in the 7th Framework Programme, with a total FP7 contribution of over 260 million euros. During the first calls of H2020, CSIC has had an intense participation in all programmes. It has been remarkable the participation in certain calls, such as ERC and Marie Curie, as well as in ICT, NMBP and Societal Challenges. In March 2015 CSIC has obtained 90 projects with a total financial contribution of 40 million euros.

### **3. Please tick the areas of research (as established in Marie Skłodowska Curie Actions)**

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|--|---|
| <input checked="" type="checkbox"/> Chemistry (CHE)                | <input type="checkbox"/> Environmental Sciences and Geology (ENV) |
| <input type="checkbox"/> Social Sciences and Humanities (SOC)      | <input type="checkbox"/> Life Sciences (LIF)                      |
| <input type="checkbox"/> Economic Sciences (ECO)                   | <input type="checkbox"/> Mathematics (MAT)                        |
| <input type="checkbox"/> Information Science and Engineering (ENG) | <input type="checkbox"/> Physics (PHY)                            |

#### **4. Research / Project Description**

Molecular oxygen (O<sub>2</sub>) is the main player in two long standing and now pressing challenges for industry and society today: the production of solar fuels via economically viable water splitting reaction and the generation of greener oxygenation methods via O<sub>2</sub> bond cleavage. Both reactions may partially coincide about the same reaction coordinate; a hypothesis which encourages a development of catalysts in parallel.

To this end, the smart combination of synthetic and mechanistic studies will be applied looking for innovative approaches. Some of them constitute in themselves frontier research, such as the search for light-assisted water oxidation catalysts, the exploitation of redox non-innocent ligands, and the synthesis of oxo complexes beyond the ‘oxo-wall’. Extrapolation to related systems having metal(late)-X(N,O,P) multiple bonds is also considered in order to get efficient catalysts for 100% atom-economy reactions.

Selected papers from the group: ‘*Terminal Phosphanido Rhodium Complexes Mediating Catalytic P-P and P-C Bond Formation*’ (Angew. Chem. Int. Ed. 2015, 54, 472); ‘*Terminal Imido Rhodium Complexes*’ (Angew. Chem. Int. Ed. 2014, 53, 5614); ‘*Pseudotetrahedral Rhodium(I) Complexes*’ (Chem. Eur. J. 2014, 20, 2732); ‘*Aerobic Oxidation of Carbon Monoxide in a Tetrametallic Complex*’ (Chem. Eur. J. 2013, 19, 15250); ‘*Stereospecific Carbene Polymerization with Oxygenated Rh(diene) Species*’ (Angew. Chem. Int. Ed. 2012, 51, 5157); ‘*Developing Synthetic Approaches with Non-Innocent Metalloligands: Easy Access to Ir<sup>-I</sup>/Pd<sup>0</sup> and Ir<sup>-I</sup>/Pd<sup>0</sup>/Ir<sup>-I</sup> Cores*’ (Angew. Chem. Int. Ed. 2011, 50, 8839)

#### **5. Who can apply?**

At the deadline for the submission of proposals (10/09/2015), researchers (\*):

- shall be in possession of a doctoral degree or have at least four years of full-time equivalent research experience.
- must not have resided or carried out their main activities in the country of Spain for more than 12 months in the 3 years immediately prior to the abovementioned deadline.

#### **6. Contact person**

Dr. Cristina Tejel Altarriba (ctejel@unizar.es)

#### **7. Applications: documents to be submitted and deadlines**

We would like to receive the documentation of the applicants before 15-June, including the applicants CV, a letter of motivation and at least two references.

## **“EXPRESSION OF INTEREST” FOR HOSTING MARIE S. CURIE FELLOWS IN SPANISH INSTITUTIONS (CALL MSCA IF 2015)**

Please note that:

- Deadline of the next call for proposals for Marie Skłodowska – Curie Individual Fellowships is **September, 10<sup>th</sup> 2015**.
- Oficina Europea is only responsible for the display of the expressions of interests received by the institutions; further contact and information requests will take place directly between the host institutions and the interested researchers.

(\*) Further details on the Call and additional eligibility criteria can be found at the [Participants' Portal](#)