



HOSTING OFFER. MARIE CURIE-IF FELLOWSHIPS 2020

1. Contact Person / Scientist in Charge

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2. Project Keywords

- Organometallic Chemistry
- Homogeneous Catalysis
- Cooperative Chemistry
- Main Group Chemistry
- Transition Metal Chemistry

3. Brief description of the Centre / Research Group

Research will take place at the Institute for Chemical Research (IIQ), a joint research unit supported by the Spanish National Research Council (CSIC) and the University of Sevilla. CSIC is Spain's largest public research institution, and ranks third among Europe's largest research organization. With 10.940 employees, including 3.764 researchers, CSIC produces 20% of the national scientific output, being the leading patent filer among research bodies in Spain. During the last five years, it has secured *ca.* 160 MSCA projects. In turn, the University of Sevilla is the third largest university in Spain with more than 70000 students, 6700 staff and a direct current participation on 58 EU projects.

In terms of infrastructure, facilities and equipment the host department and laboratories fully meet the requirements necessary for the successful execution of the research project. Access to the facilities at both, the Chemical Research Institute (IIQ) and the Centre of Research Technology and Innovation of the Universidad de Sevilla (CITIUS) will be available. Those include, for instance, a full range of spectroscopic (> 10 NMR instruments, UV-Vis, FT-IR, 5 MS, 2 Maldi-TOF), X-ray diffraction and other analytical techniques.

The Marie Curie fellow will be integrated within the group of Dr. Jesus Campos (<http://jcamposgroup.iiq.us-csic.es/>), tenured scientist at IIQ (CSIC-Univ. Sevilla). The group focuses on the use of organometallic and coordination complexes and clusters to tackle challenging chemical transformations of economic and environmental significance, with emphasis on cooperative processes. The group currently count with national and international funds for a variety of research endeavors, including an ERC Starting Grant (2018-2023). The group is currently comprised by 10 members, including undergraduate students, research



assistants, PhD students and postdocs. In addition, the MC fellow will have the opportunity to interact with a rich internal network within the department and take advantage of a range of current ongoing international collaborations.

4. Project Description

Research in our lab focuses on the use of organometallic and coordination complexes and clusters to tackle challenging chemical transformations of economic and environmental significance. We put emphasis on the study of reaction mechanisms and the development of new modes of chemical cooperation. We have very recently started to explore unconventional cooperative systems that merge fundamental concepts of seemingly independent areas such as transition metals catalysis and low valent main group elements or heterogeneous and homogeneous catalysis. Thus there will be a range of potential avenues of investigation to discuss between the candidate and PI. Overall, we have planned on exploring chemical systems that have a fundamental impact regarding structures and reactivity per se. Nevertheless the final aim will be applying these cooperative designs to difficult but highly desired transformations such as the functionalization of carbon dioxide and the hydroamination of unsaturated substrates with ammonia, to cite a couple of examples. The Fellow will join an interdisciplinary team and will work closely with other members focused on a variety of cooperative designs. It is expected that the MC researcher will also enhance his leadership skills by training and supervising other younger members of the group. In addition, the Fellow will be encouraged to assist to training workshops and seminars on a variety of topics related to research and instrumentation, language, grant preparation, leadership abilities, etc. organized both by the Spanish National Research Council and by the University of Sevilla as a fundamental tool for the career development of the Fellow.

5. Applications: documents to be submitted and deadline

If you are interested to apply to a MSCA-IF to join our group, please send your CV and a cover letter to Jesús Campos. The deadline to receive the document will be June 30th.