

## POSTDOCTORAL POSITION

### ORGANOMETALLIC CHEMISTRY AND CATALYSIS

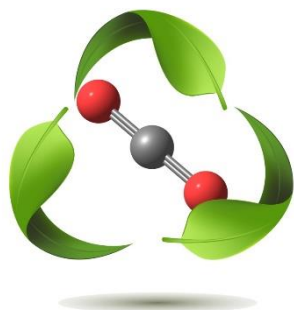
#### New catalysts and transformations for the valorization of carbon monoxide

The European process industry needs to become less dependent of fossils as source of carbon, and – at the same time – to reduce the greenhouse effect by decarbonizing the economy. The EU project



**Carbon4PUR**

Carbon4PUR aims at tackling the two challenges at the same time by **transforming steel mill gas streams of the energy-intensive industry into higher value intermediates for market-oriented consumer products**, through a novel process that turns industrial waste gases (mixed CO/CO<sub>2</sub> streams) into intermediates for polyurethane plastics for rigid foams/building insulation and coatings. Within this industrially driven, multidisciplinary consortium, our group develops novel organometallic complexes, based on first-row transition metals (Mn to Ni), and utilizes them as efficient catalysts for the conversion of CO to valuable monomers.



The present position aims at designing novel ligand platforms and organometallic complexes to generate productive and selective molecular catalysts in carbonylation reactions. The project is at the crossroads of ligand synthesis, main group elements chemistry, coordination chemistry and homogeneous catalysis.

The postdoctoral fellow will be hosted in the [Cantat research group](#) at CEA. The group is fully equipped with state-of-the-art synthetic and spectroscopic equipments, including NMR and IR spectrometers, GC and GC-MS, X-ray diffractometers, gloveboxes, autoclaves and potentiostat.

#### Literature references from the host group:

- [1] E. Blondiaux, J. Pouessel, T. Cantat, *Angew. Chem. Int. Ed.* **2014**, *53*, 12186-12190.
- [2] O. Jacquet, X. Frogneux, C. D. Gomes, T. Cantat, *Chem. Sci.* **2013**, *4*, 2127-2131.
- [3] O. Jacquet, C. Das Neves Gomes, M. Ephritikhine, T. Cantat, *J. Am. Chem. Soc.* **2012**, *134*, 2934-2937.
- [4] Savourey, S.; Lefèvre, G.; Berthet, J.-C.; Thuéry, P.; Genre, C.; Cantat, T. *Angew. Chem. Int. Ed.* **2014**, *53*, 10466.
- [5] S. Savourey, G. Lefèvre, J.-C. Berthet, T. Cantat, *Chem. Commun.*, **2014**, *50*, 14033-14036.

#### Position

1 year, available from February 2019

Gross salary: ca. 2850 €/month

Location: CEA Saclay – located 15 miles south of Paris, France

The position is funded by the EU Project H2020 Carbon4PUR.

The applicant must hold a PhD in molecular chemistry with an experience in molecular chemistry and/or catalysis.

#### To apply, please contact:

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