



**Dr. Helena Kaper**

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### **Post-Doctoral fellowship (h/f/d) on materials synthesis and heterogeneous catalysis**

The project is dedicated to the synthesis of perovskites doped with transition metal elements and/or noble metals. In particular, the candidate will study the impact of noble metal dopants on the surface via impregnation or doped into the structure of the perovskite. The impact of noble metal doping and their exsolution on the surface will also impact the chemical and structural environment of the transition metal dopants. The impact of both, noble metal and transition metal doping will be studied for CO and methane oxidation in order to differentiate between surface and bulk activity.

#### Missions:

- Synthesis of materials with control of the specific surface area and dopants
- characterization of the materials (XRD, N<sub>2</sub> physisorption, SEM, TPR/TPD, ATG-MS, isotope exchange)
- catalytic tests for CO and CH<sub>4</sub> oxidation, ageing study, development of pretreatment protocols

#### Required competences:

- experience with synthesis of inorganic materials and heterogeneous catalysis (PhD in catalysis/materials science)
- English oral and written (B2)
- Very good communication and organization skills
- High ability to work in a team, problem-solving mind, rigorous and autonomy.

#### Work environment:

The LSCF is a joint unit between the CNRS (French National Centre of Scientific Research) and Saint-Gobain, located in the research Centre of Saint-Gobain Research Provence in Cavailon (Vaucluse, France). The project is directly linked with the Institut Charles Gerhardt in Montpellier in the framework of the ANR project DESCARTES. Within this project we will also collaborate with the ESRF and ILL for the structural characterization (Innova'XN project).

Please send your CV and motivation letter before September 30th 2021 to Helena Kaper, [helena.kaper@saint-gobain.com](mailto:helena.kaper@saint-gobain.com)