

Inorganic Organic NANO-composite for thermoelectric applications

The evolution of global energy demand has led to a renewed interest in renewable energy. Among them, thermoelectricity, by converting waste heat into electricity, can provide an answer to this problem. In such a context, the post-doctoral researcher will focus on the development of inorganic/organic thermoelectric composite materials. The multidisciplinary topic will draw on the expertise of three research teams from the Charles Gerhardt Institute in Montpellier (C2M, CMOS, AM2N). The successful candidate will synthesize inorganic nano-objects (transition metal silicide) by mechanical alloying and functionalize them in order to disperse them in a pi-conjugated organic matrix by self-assembling.

The candidate will have a high quality scientific environment for realization of this project and will have access to all the necessary techniques to carry it out: arc furnace, synthesis by mechanical alloying, X-ray diffraction, scanning or transmission electron microscopy, TG / DSC, XPS characterization techniques of electronic and thermal properties, organic synthesis in a controlled atmosphere, NMR (1D and 2D) including high field, spectroscopy and electronic vibration, etc...

Applicant background: PhD in synthetic chemistry or hybrid materials that knows microscopic and spectroscopic characterization techniques

Duration: 12 Months

Location: ICGM, University of Montpellier/CNRS/ENSCM, Montpellier (France)

To apply, please contact before October 20th 2016:

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