

Postdoc position € 24 months

Í *In situ* optical imaging and spectroscopy studies of the growth of individual carbon nanotubesÎ

Location: Laboratoire Charles Coulomb, University of Montpellier & CNRS, Montpellier, France

Project description

Single-walled carbon nanotubes (SWCNTs) are a family of tubular carbon-based molecules which are receiving tremendous attention due to the combination of exceptional electrical, optical and chemical properties. SWCNTs occur in different types which differ by their diameter and helicity angle, both features determining the physical and chemical properties of SWCNTs (e.g. metallic or semiconducting).

The subject of the postdoctoral project is to apply state-of-the-art methods of optical imaging and spectroscopy for *in situ* studies of the growth kinetics of single-walled carbon nanotubes during chemical vapor deposition.

The research will be based at Laboratory Charles Coulomb, a joint research centre of the University of Montpellier and of the French National Centre of Scientific Research (CNRS) which is the leading French research institution for Chemistry, Physics and Nanoscience. The project will be hosted in the team "Nanostuctures and Spectroscopy". The project will be run in collaboration with the group of Dr Benji Maruyama at the Air Force Research Laboratory (Dayton, USA). Both groups have a long-standing expertise in the *in situ* studies of SWCNTs (Picher et al, Nano Letters (2009), 9, 542 ; Picher et al, ACS Nano (2011), 5, 2118 ; Rao et al, Nature Materials (2012), 11, 213).

Profile

The candidates will have a PhD in Physics, Chemistry or Materials Science and a strong preliminary experience in the optical study of individual nanostructures. Very high motivation for research, analysis skills, taste for experimental work and team work skills are key selection criteria.

Starting date: Between **1 December 2016 and 30 February 2017.**

Duration: 24 months (1-year contract renewable once)

Contact: Dr Vincent Jourdain (vincent.jourdain@umontpellier.fr), Dr Thierry Michel

Website of Laboratoire Charles Coulomb:

<http://www.coulomb.univ-montp2.fr>

Web page of the host team:

<http://www.coulomb.univ-montp2.fr/-Equipe-Nanostructures->

Webpage of the University of Montpellier:

<http://www.umontpellier.fr/>

Application details: the candidate should send a **personalized motivation letter** detailing his/her interest for the project and his/her aptitudes for leading the proposed research, a **detailed CV** and the contact details of **three reference persons**. Incomplete applications will not be considered.