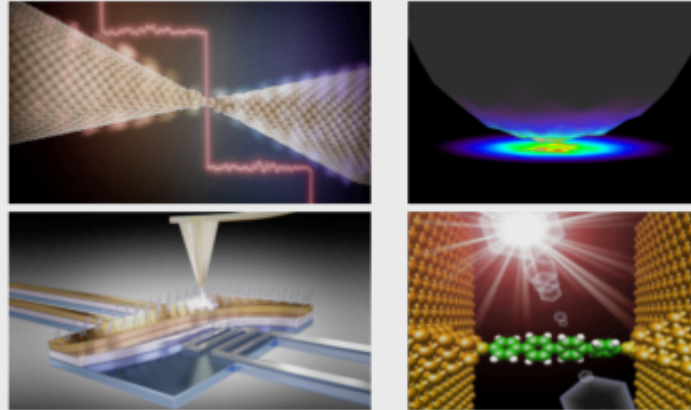


Theoretical Nanoscale Thermal Transport

UAM Universidad Autónoma de Madrid

FTMC
Condensed Matter Physics Center



Position type: PhD position in Theoretical Condensed Matter Physics (FPI fellowship).

Topic: Nanoscale thermal transport.

Duration: 4 years.

Principal Investigator: Juan Carlos Cuevas (<http://webs.ftmc.uam.es/juancarlos.cuevas/>).

Requirements: Graduate in Physics that have completed a Master in Condensed Matter Physics or related areas.

When to apply: from 8 to 29 October (2018).

How to apply: via sede electrónica del Ministerio Ciencia, Innovación y

Universidades: <https://sede.micinn.gob.es/portal/site/eSede/>

Approximate starting date: February 2019.

For more info: contact me at juancarlos.cuevas@uam.es

Description of the project:

The general goal of this project is the theoretical study of several fundamental aspects of nanoscale thermal transport. In particular, we want to improve our current understanding of the radiative heat transfer and thermal radiation in nanoscale systems. We also want to elucidate the fundamental physical mechanisms that govern the heat conduction in atomic-scale junctions. Additionally, we intend to study the energy dissipation and, in particular, the thermoelectric cooling in molecular junctions. All these issues are of fundamental importance for many different fields and disciplines such as thermal sciences, nanoelectronics, nanooptics, and condensed matter physics. Moreover, these problems are key to developing novel technologies like near-field based thermal management, thermophotovoltaics, and nanoscale energy conversion.