

Heat-Mechanics

In the unstoppable race towards device miniaturization, it becomes imperative to understand and control heat transport at the nanoscale – arguably one of the largest pending challenges of Nanoscience. In this context, we are opening 2 post-doc positions at the Condensed Matter Physics Center IFIMAC (<https://www.ifimac.uam.es/>), an excellence research unit of the Universidad Autónoma de Madrid in Spain. The two post-docs, one experimental the other theoretical, will work synergistically to unveil the intimate connection between friction and heat-transport at the nanoscale (Heat-Mechanics) whilst shedding an atomic detailed understanding of exotic forms of heat transport emerging at the nanoscale. Such developments will then enable the design of novel thermal devices (thermal-diodes and nanocoolers) on 2D materials.

Experiments will be performed using a home-built atomic force microscope (AFM), and calculations with all-atom molecular dynamics (MD) simulations engine LAMMPS. Therefore, the experimental post-doc is expected to have prior experience in AFM and the theoretical post-doc in MD.

How to apply

We are looking for outstanding early post-docs that are eager to participate in our research. We welcome applicants with a background in Physics, Chemistry, Materials Science, or related areas with a PhD degree. Send us an email to pablo.ares@uam.es , guilherme.vilhena@uam.es including: a short motivation paragraph, CV and names/email of at least 1 reference contact.

Duration: 2 years

Salary: ↔ 2300 €/month

Application deadline: 15/February/2023

