



UCLouvain

One PhD and one Postdoc positions in Condensed Matter Physics and Nanosciences in UCLouvain (Belgium)

The *Ab initio* Modelling Division at UCLouvain has one PhD student opening and one postdoc position with expected starting time frame in September and June 2022, respectively.

The research will focus on the prediction of the structural, electronic, optical, and quantum transport properties in graphene and other 2D materials (including vdW stacks, Moiré structures and Weyl semimetals) using state-of-the-art *ab initio* simulation techniques. The retained candidates will join a team of ~30 theoretical researchers at UCLouvain working in close collaboration with experimental groups.

Postdoc / PhD candidates should have :

- A PhD / Master degree in Material Science or Physics, or related fields
- Previous exposure to quantum mechanical theory and condensed matter physics
- Experience in DFT-based codes (ABINIT, VASP, Quantum ESPRESSO, CP2K, ...)
- Experience in quantum transport (Non-equilibrium Green's functions approach) and in developing simulation software is a plus
- Excellent communications skills in English (both written and oral knowledge)
- Strong personal motivation to work in a diverse international research team and collaborate with experimentalists.

The application should consist in :

- A curriculum vitae, as well as a brief motivation letter
- The master thesis (for the PhD) and a list of publications (or preprints),
- Copies of the graduation certificates including transcripts of records (for the PhD).
- A recommendation letter (two letters for the postdoc).

All application materials should be sent as **one pdf file** to jean-christophe.charlier@uclouvain.be

Application deadline : June 2022 or until the position is filled...

PhD / Postdoc positions are funded for four / two years respectively, in the form of renewable one-year grants or contracts. Salaries follow the legal scale for research positions in Belgium (indicatively around 2100 Euros for PhD and 2700 Euros for postdoc, after taxes). The PhD candidate should have obtained recently the MSc (no more than 3 years). The PhD candidate can also be finishing her/his Master degree and should therefore mention the approximative date of availability.

Additional information on the recent research of the *Ab initio* Modelling Division at UCLouvain can be found at the following webpage: <https://uclouvain.be/en/research-institutes/imcn/modl> and also <https://perso.uclouvain.be/jean-christophe.charlier/>