



1 postdoc position open in the framework of the ERC-QUANTUMGRAIN project

One postdoc position is available in the Dept. of Chemistry of Universitat Autònoma de Barcelona to work on the project Quantum Chemistry on Interstellar Grains (QUANTUMGRAIN, <https://cordis.europa.eu/project/id/865657>), awarded by the European Research Council (ERC Consolidator Grant, grant agreement number 865657) and led by Dr. Albert Rimola. The project is related to the grain surface chemistry occurring in the Universe. You can know more about the QUANTUMGRAIN project in <https://www.quantumgrain.eu/>.

Scope: Simulations of Biomolecule Formation in Comets and Meteorites

The objective of the postdoc position is to simulate by means of computational chemistry and molecular modelling processes occurring on the surfaces of cometary and meteoritic grains, specifically those that lead to the formation of biomolecules identified in these asteroidal bodies, i.e., amino acids, sugars and nucleobases. In particular, the tasks to develop are: i) to construct realistic structural models of surfaces present in cometary and meteoritic grains, ii) to characterize the elementary physico-chemical steps involved in the biomolecule synthetic routes occurring on the grain surface models with static (i.e., PES characterization) and molecular dynamics (AIMD and metadynamics) simulations, complemented by kinetic calculations, and iii) to determine the actual role of the surfaces in the studied reactions.

What we offer

- Training on surface modelling and *ab initio* simulations of surface chemistry phenomena (i.e., adsorption, diffusion, reactivity) with static and dynamics computations.
- Access to a well-developed research infrastructure, including supercomputing facilities.
- Interactions with senior and young researchers (astronomers, experimentalists and modellers) of other European institutions (and worldwide), who actively participate in other projects of excellence in the field of Astrochemistry.
- A research climate inviting lively, open and critical discussion within and across different fields of research.
- A working environment with teamwork, close working relations, network activities among young scientists and social activities
- A workplace characterized by professionalism, equality and a healthy work-life balance



The successful candidate will also be asked to take some responsibility in PhD-student supervision.

Applicant's profile

Applicants must hold a PhD degree specialized in Computational Chemistry or Astrochemical Modelling, or is going to defend their PhD dissertation along the first semester 2021. Previous experience in computational chemistry and molecular modelling and/or Astrochemistry will be valued. Knowledge of relevant program languages will be appreciated. Very good track record (publications, presentations, etc.) is desired. Teamwork ability is essential.

Starting Date and Period

Starting date is as early as April 2021 or sometime thereafter.

The duration of the employment may be of 1 year with possibility to be prorogued by 3 more years.

Contact Information

Further information may be obtained by e-mailing to the QUANTUMGRAIN official electronic address: pr.quantumgrain@uab.cat. Please use as e-mail subject: "postdoctoral position 1".

Application

Applications should be submitted between February 17th and March 3rd, 2021.

The application must be submitted via Universitat Autònoma de Barcelona's recruitment system, which can be accessed under the job advertisement on the UPAC's website (<https://convocatoriesupac.uab.cat>). Register, sign in, and apply for the 2021DILEUA12 call. All interested candidates are encouraged to apply. Applications from women are especially welcome.

Place of Work and Area of Employment

The QUANTUMGRAIN project is being developed in the Dept. Chemistry (<https://www.uab.cat/departament/quimica/>) of Universitat Autònoma de Barcelona (UAB, <https://www.uab.cat/>), one of the major public universities of Spain. UAB is placed in a university campus outside from the downtown and framed by the beautiful surrounding landscape of wooded areas.