Vacancy

BIRA-IASB is looking for:

Postdoc

Statute: Contractual
Deadline for applications: December 6, 2019

There is a vacancy for a postdoc position, with a contract of 1 year and 4 months, to work in the context of the ESC2RAD H2020 project "Enabling Smart Computations to study space RADiation effects" http://www.esc2rad.eu/. The postdoc will work on the modeling of space radiation effects (mainly protons and electrons) on different components of future human Space missions, such as functional materials of the spacecraft and biological molecules of relevance for DNA damage in astronauts. The postdoc will work with first-principles chemical physics approaches for the passage of particles through matter, such as time-dependent DFT (TDDFT), and, for the studies on functional materials, also with Monte Carlo particle transport approaches, as implemented in Geant4.

Division, context

The position is open at the SW1 level (with the seniority of about 2 years from the PhD) in the Planetary Aeronomy group, which aims at developing instruments and modelling tools for the studies of planets in the Solar System and possibly beyond. Apart from the core activity of the group, related to the study of Mars and Venus' atmospheres and Martian climate, another activity is improving the modelling of space radiation effects for future human interplanetary travels and stays on Mars, on both astronauts and spacecraft components.

The project is in collaboration with Prof. Emilio Artacho (University of Cambridge, UK, and nanoGUNE research centre, Spain), Prof. Jorge Kohanoff (Queen's University of Belfast, UK) and Prof. Fabrizio Cleri (University of Lille, France).

The position is in principle for a postdoc with maximum 2 years of experience after the PhD, but candidates with more experience can also apply (in this case the contract may last 1 year, though, as the salary is based on the level of seniority).

The team takes part in national and international projects, funded notably by the

More about BIRA-IASB

The Royal Belgian Institute for Space Aeronomy (BIRA-IASB) is a Belgian federal scientific research institute.

Created in 1964, its main tasks are research and public service in space aeronomy, which is the physics and chemistry of the atmosphere of the Earth and other planets, and of outer space. Its scientists rely on ground-based, balloon-, air- or space-borne instruments and computer models.

www.aeronomie.be

Belgian Science Policy, the European Commission (EC), the European Space Agency (ESA). For some of these projects, the IASB research teams have a coordination role.

Responsibilities

The postdoc will have the opportunity to contribute in different manners, either with TDDFT/Molecular Dynamics calculations or Monte Carlo particle transport Geant4-based calculations. Depending on her/his expertise and initiative, she/he will have the opportunity to focus more on radiation effects on materials or on biological matter.

Required competences:

- a PhD degree in physics/chemical physics/computational quantum chemistry
- expertise in DFT/ MD methods or in Monte Carlo particle transport (Geant4)
- good communication skills in English (oral, written);
- some expertise in scientific programming (fortran, C++, python, ...);
- ability to work independently and in a team;
- results-oriented attitude

Offer and benefits

- This position is a full-time job on a contractual base;
- Possibility of acquiring a bonus for bilingualism (Dutch/French) and/or competency premium (via certified training);
- Opportunity to participate in courses (to be taken during working hours);
- Refund of cost for public transport between home and work and some compensation for using bicycle;
- Diverse social and cultural advantages: museum card, hospitalization insurance, discounts via Fed + card ...;
- canteen;
- free childcare during the school holidays (July / August);

Procedure

After evaluation of the application letters, the selected candidates will be invited for an interview, or a skype call if needed.

More information about this vacancy can be obtained from Dr. Fabiana Da Pieve by email fabiana.dapieve@aeronomie.be .

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Interested?

Send a complete CV, cover letter, and a list of contact references e-mails to

fabiana.dapieve@aeronomie.be

and in cc to hr-ae@aeronomie.be with reference: "D43_Postdoc"