Postdoc position in quantum chemistry/condensed matter physics/machine learning

There is an open two-year postdoc position at the Department of Chemistry, Aarhus University.

The starting date is 01.03.2021 or after mutual agreement and the place of work is Langelandsgade 140, 8000 Aarhus C.

Application deadline: 4 January 2021.

We are seeking candidates with strong interest and expertise in quantum method development in relation to a project involving a combination of quantum chemistry, condensed matter physics and machine learning.

The position will involve working in a small and focused team consisting of Prof. Ove Christiansen (Theoretical Chemistry, Aarhus University, homepage: here) and Prof. Nicola Lanatà (Condensed Matter Physics, Aarhus University), as well as two postdocs. This team is embedded in the bigger Christiansen and Lanatà groups at the chemistry and physics departments at Aarhus University.

The ideal candidate has a PhD degree in theoretical chemistry or physics, or related discipline. Important background includes expert programming skills and analytical abilities. Collaborative skills are necessary as well as a high level of independence. Other key-words of notice are second quantization many body theories, embedding theories – quantum or QM/MM, machine learning, Gaussian Process Regression, dynamic mean field theory or related methods, C++/Python, metallo-proteins.

The project team will develop, test, and apply new methods to treat strong electron correlation and link this to computation of energies, potential energy surfaces, nuclear motion including vibrations/phonons and dynamics for very diverse chemical systems.

The project is based on building new quantum methods from the ground up, including machine learning as a boost inside the computational machinery (See for example here for quantum embedding and here for potential energy surfaces).

Over time our methods will be extended to quite large systems using various combinations of theories and computational methods with roots in both quantum chemistry and condensed matter physics.

Applications must include CV, full publication list, references and a description of qualifications. Qualified applicants are encouraged to email Ove Christiansen (ove@chem.au.dk) and Nicola Lanatà (lanata@phys.au.dk) including this information in case of any questions.

Work and life in Aarhus

All interested candidates are encouraged to apply, regardless of their personal background. It is a priority that the successful candidate has a personality supporting positive team work.

Working in Denmark offers opportunities for a good work-life balance. English is widely spoken, though Danish is the main language of campus. English is the working language.

Aarhus is Denmark's second largest city, and forms the center of the western parts of the country on the Jutland peninsula. Recently, Aarhus has attracted international attention as a travel destination due to its unique combination of a thriving food-scene, high-quality museums, a surrounding beautiful nature, a very lively city due to the "young population", many cultural events including music festivals etc. See e.g. the recent recommendation by CNN here.

Aarhus is easily reached through local international airports in Jutland within 1 hour of Aarhus, or through either Copenhagen or Hamburg Airports, both situated about a 3-hour train-journey from Aarhus.

Aarhus University is consistently ranked as a top-100 university in the World and it houses both an engineering and a medical school, as well as the traditional sciences, social sciences, environmental and agricultural sciences and arts. The Department of Chemistry at Aarhus University (www.chem.au.dk) is one of the leading European chemistry departments with a broad research programs. It has a permanent staff of ~30 full and associate professors, a support staff of ~30 people, ~150 PhD students

Application Deadline:
04 January 2021

Institute/Faculty:
Department of Chemistry

Faculty:
Faculty of Natural Sciences

Academic contact person:
Ove Christiansen
Professor
ove@chem.au.dk
+4551526145

Vacant positions:
1

Number of months:
24

Hours per week:
37

Expected date of accession:
01/03/2021

and postdocs and around 500 students.

Application procedure

Shortlisting is used. This means that after the deadline for applications – and with the assistance from the assessment committee chairman, and the appointment committee if necessary, – the head of department selects the candidates to be evaluated. All applicants will be notified whether or not their applications have been sent to an expert assessment committee for evaluation. The selected applicants will be informed about the composition of the committee, and each applicant is given the opportunity to comment on the part of the assessment that concerns him/her self. Once the recruitment process is completed a final letter of rejection is sent to the deselected applicants.

Letter of reference

If you want a referee to upload a letter of reference on your behalf, please state the referee's contact information when you submit your application. We strongly recommend that you make an agreement with the person in question before you enter the referee's contact information, and that you ensure that the referee has enough time to write the letter of reference before the application deadline. Unfortunately, it is not possible to ensure that letters of reference received after the application deadline will be taken into consideration.

Formalities and salary range

Natural Sciences refers to the Ministerial Order on the Appointment of Academic Staff at Danish Universities under the Danish Ministry of Science, Technology and Innovation.

The application must be in English and include a curriculum vitae, degree certificate, a complete list of publications, a statement of future research plans and information about research activities, teaching portfolio and verified information on previous teaching experience (if any). Guidelines for applicants can be found here.

Appointment shall be in accordance with the collective labour agreement between the Danish Ministry of Finance and the Danish Confederation of Professional Associations. Further information on qualification requirements and job content may be found in the Memorandum on Job Structure for Academic Staff at Danish Universities.

Salary depends on seniority as agreed between the Danish Ministry of Finance and the Confederation of Professional Associations.

All interested candidates are encouraged to apply, regardless of their personal background. Research activities will be evaluated in relation to actual research time. Thus, we encourage applicants to specify periods of leave without research activities, in order to be able to subtract these periods from the span of the scientific career during the evaluation of scientific productivity.

Aarhus University offers a broad variety of services for international researchers and accompanying families, including relocation service and career counselling to expat partners. Read more here. Please find more information about entering and working in Denmark here.

Aarhus University also offers a Junior Researcher Development Programme targeted at career development for postdocs at AU. You can read more about it here.

The application must be submitted via Aarhus University's recruitment system, which can be accessed under the job advertisement on Aarhus University's website.

Aarhus University

Aarhus University is an academically diverse and research-intensive university with a strong commitment to high-quality research and education and the development of society nationally and globally. The university offers an inspiring research and teaching environment to its 38,000 students (FTEs) and 8,000 employees, and has an annual revenues of EUR 885 million. Learn more at www.international.au.dk/