
HUMAN RESOURCES – CALL FOR VACANCY

POSTDOCTORAL POSITION

■ **PROJECT:** Development of Computational Capabilities to Simulate Energetic Materials at the Microscale

■ **LOCATION:** Department of Chemical Engineering, ETSEQ, Universitat Rovira i Virgili, Tarragona (South Barcelona), Catalonia, Spain.

■ **JOB SUMMARY:**

The Molecular Simulation research group of the Department of Chemical Engineering is seeking a highly motivated postdoctoral student. We are a dynamic multidisciplinary team performing internationally leading research into the development and application of mesoscopic modelling methods for complex systems, including multiphase chemical reactions, fluid dynamics with phase change, among others.

The successful candidate will work in the context of Generalised Dissipative Particle Dynamics with energy conservation (GenDPDE) [1], developing, testing and implementing new algorithms with a particular focus on chemical reactions with phase change. The main objective is to construct Lagrangian algorithms, including thermal fluctuations, for model DPDE particles, and theoretically describe the resulting dynamic (transport coefficients) and thermodynamic behaviour for further application in real systems. You will be part of an international team including the Czech Academy of Sciences and the Army Research Laboratory at the USA.

[1] DOI: 10.1039/C9CP04404C

■ **ESSENTIAL REQUIREMENTS:**

The candidate should have a PhD, preferably in Physics or Chemical, Aerospace, Naval or Mechanical Engineering, or other fields related to the dynamic simulation of complex fluids.

The key elements in the candidate's profile should be:

- i. a solid background in Statistical Mechanics,
- ii. experience with molecular simulation (preferably molecular dynamics, although experience in SPH fluid simulations is also welcome),
- iii. a proven ability for scientific programming (preferably Fortran 90, Matlab, C, C++ or Python). The job is expected to involve familiarisation with existing codes, programming of test codes and data analysis of equilibrium and non-equilibrium properties, but also theoretical derivation of equilibrium and transport properties of the model systems. Consequently, a strong foundation in fluid mechanics and applied mathematics is desirable.

■ **WORKING CONDITIONS**

- Full time researcher contract

- Location: Campus of Sescelades (map) - Department: Department of Chemical Engineering
- Duration: 1 year, with a possibility for an extension to 2 years
- Salary: 35.000 €/year (gross salary)
- Incorporation: 15/11/2020

■ FURTHER INFORMATION:

This post is expected to last for 12 months, ideally starting on the 15th of November 2020 or shortly thereafter subject to agreement. The position will be based at the Department of Chemical Engineering of the URV in Tarragona (Sescelades campus). Tarragona is a city on the Mediterranean coast, 90 km south of Barcelona, famous for its beaches, excellent wines and gastronomy as well as for its Roman remains. In addition, the URV is located close to the largest petrochemical site in the South of Europe.

■ APPLICATIONS

To apply, please prepare a CV, including the names, phone numbers and email addresses of two people willing to give an academic reference.

Follow the link <http://www.fundacio.urv.cat/ca/fundacio/borsa-treball/2020/> and locate the position with **reference: C-2020/045**

A pdf copy of the CV should be uploaded to the link **Enviar CV** before the closing date (see below for detailed instructions)

Date posted: 15 September 2020

Closing date: 30 October 2020

During the evaluation process you may be contacted for an interview and asked to produce any required document to assess your adequacy for the position.

For informal enquiries about the post, please contact: Professor Josep Bonet Avalos (josep.bonet@urv.cat).

Should you have any queries about the application process, please contact teresa.marmol@urv.cat



Enviament Currículums Vitae

*Els camps són obligatoris

Formulari d'enviament de CV - Borsa de Treball de la Fundació URV

Nom*	Cognoms*
<input type="text"/>	<input type="text"/>
DNI/NIE*	Correu electrònic*
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After clicking on **Envia CV**, the image above will be on display.

Complete the boxes with:

Name (*Nom*)

Surname (*Cognom*)

Passport number (*DNI*)

email address (*Correu electrònic*)

Choose the adequate reference (*Referència oferta*): **C-2020/045**

Click on the button *Tria un fitxer* and upload your CV

Check the box (*He llegit i accepto la clausula de consentiment*) to allow the Fundació Universitat Rovira i Virgili to use your data with the goal of filling this position

Click *Enviar* to send