



Postdoc position open: Nanoparticle aggregates through droplet evaporation.

Specifications

Location: Enschede, The Netherlands

Function types: Postdoc position

Scientific fields: Physics, Chemistry, Mathematics, Engineering

Hours: 38.0 hours per week

Salary: € 3068.- to € 4028.-

Education required: PhD

Job description

Metallic nanoparticles can be employed as “signal amplifiers” for spectrometry techniques, of particular interest when the detection of tiny amounts of analyte is required. In order to use such surface-enhanced spectrometry technique, small ‘packets’ nanoparticles and analytes can be prepared making use of a controlled evaporation process. The first part of the project to be carried out by the postdoc will be to perform simulations on the droplet evaporation process, with parameters given by the experiments. In the second part, particles will be added to the evaporating liquid and their interactions and arrangement needs to be modelled. The project is essentially numerical/simulation character, while other students and researchers in the group will be simultaneously working on the same topic via experiments and bio-physical applications.

Requirements

We are looking for a candidate with a PhD Degree in a relevant field, like e.g. physics, mathematics, chemistry or engineering. The candidate should be able to work independently, and have excellent skills in physics and mathematics (both theoretical and numerical).

Experience in lattice-Boltzmann simulation methods, molecular dynamics or other type of CFD techniques with applications in soft matter will be required and decisive.

Fluent spoken and written English is required. Excellent communication and team-working skills are expected from the candidate due to the multidisciplinary and collaborative approach of the project.

Environment

The work will be based on the Physics of Fluids (PoF) group (<http://pof.tnw.utwente.nl/>) in the Netherlands under the supervision of Alvaro Marin (alvaro-marin.com), and financed through the ERC-StG grant “NanoPacks”. The PoF is a large and multidisciplinary group counting currently with more than 30 PhD students, 15 postdocs, 5 full-time academic staff members and about 10 partial-time members. The research done in the group covers practically all fields within fluid physics and fluid mechanics, and extends to granular matter, physical chemistry, mathematical physics ... and many others. The project is carried out in collaboration with external groups in the Netherlands, Germany and U.S. which might require a certain degree of mobility of the candidate.

Please contact asap via email to a.marin@utwente.nl with a C.V. and a motivation letter.

Conditions of employment

You will have a full time employment contract for the duration of 2 years and can participate in all employee benefits the UT offers. Salary and conditions will be in accordance with the Collective Labour Agreement (CAO) of the Dutch Universities. Gross monthly salary depends on experience and qualifications and ranges from € 3068.- to € 4028.- Additionally, the University of Twente provides excellent facilities for professional and personal development, a holiday allowance (amounts to 8%), an end-of-year bonus (amounts to 8,3%) and a number of additional benefits. The position is available from the first of January 2017.

Employer

The University of Twente stands for life sciences and technology. High tech and human touch. Education and research that matter. New technology which drives change, innovation and progress in society. The University of Twente is the only campus university in the Netherlands; divided over six faculties we provide more than fifty educational programs. The faculty works together intensively with industrial partners and researchers in the Netherlands and abroad and conducts extensive research for external commissioning parties and funders. The research which enjoys a high profile both at home and internationally, has been accommodated in the multidisciplinary research institutes MESA+ and MIRA.