



PhD position: Nanoparticle aggregates through droplet evaporation for surface-enhanced spectrometry

Specifications

Location: Enschede, The Netherlands

Function types: PhD position

Scientific fields: Biotechnology, Biophysics, Physics, Chemistry, Engineering.

Hours: 38.0 hours per week

Salary: € 2174 - € 2779

Education required: MSc

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 project consists on exploring the capabilities of such “nanopacks” for detection techniques based on surface-enhanced techniques. The PhD project will have a strong focus on experimental biophysics, while other students will be simultaneously working on the same topic via numerical simulations and engineering applications.

Requirements

We are looking for a candidate with a Master’s Degree in a relevant field, like e.g. biotechnology, chemistry, physics or engineering. The candidate should be able to work independently, and have excellent theoretical and experimental skills. Fluent spoken and written English is required. Since the work will be mostly experimental, experience in the laboratory in any level is appreciated; but experience in microscopy, spectrometry, photonics and/or detection techniques will be considered as a decisive advantage. 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 developed within 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 will enjoy a strong collaboration with the biomedical technology institute MIRA and the institute for Nanotechnology MESA+.

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

Conditions of employment

PhD students are employed for a period of 4 years. Salary and conditions are in accordance with the Collective Labour Agreement (CAO) of the Dutch Universities. The gross monthly salary starts at € 2174,- gross per month in the first year, leading up to € 2779,- gross per month. Additionally, the University of Twente provides excellent facilities for professional and personal development, a holiday allowance (amounts to 8%) and an end-of-year bonus (amounts to 8.3%), and a number of additional benefits.

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.