Technical assistant (supercritical fluid technology)

Are you practical and do you want to push the buttons? We are looking for someone who supports our researchers in supercritical technology research.

What you will do

You support (teacher) researchers in the laboratory with ongoing research projects *"MICROL: Production of microparticle-based long-acting injectable protein formulations by supercritical microfluidic (SCMF) technology"*. To this end, you work on activities including but not limited to operation of high-pressure set-ups, analysis of protein-encapsulated microparticles and protein property analysis.

Where you will work

You will work within the Biobased Economy Knowledge Center (KCBBE), one of the knowledge centers of the Hanze. The knowledge center wants to make a positive contribution to a sustainable and healthy society through research in Life Sciences. The KCBBE works together with companies and institutions on issues that require new solutions and innovations. The research contributes to knowledge development and application in professional practice and society and thus leads to innovation and (economic) development. In addition, the research provides new knowledge and insights for our education.

Within the KCBBE, the Plant Production and Processing research group, which is working on the research line *"Green extraction"*, has the ambition to grow into a technical-specialist knowledge network regarding the use of supercritical fluid technology for particle formation for pharmaceutical applications. There is a lot of interest in this from the professional field. This research line has high-quality high-pressure facilities for this purpose.

This research takes place in the Hanze lab of the Energy Academy Europe building and the Zernikelaan pilot facilities.

What we ask of you

- You have at least a bachelor's degree (HBO) or equivalent education in a relevant field (chemical technology, process technology, analytical chemistry, etc.) and experience and/or interest in interdisciplinary collaborations.
- Basic knowledge of (chemical) reactors.
- You dare to push the buttons (literally; on laboratory and pilot scale equipment) and have a practical attitude.
- You are solution-oriented: you can see the cause and consequences of technical problems with the equipment and provide solutions based on that. You can combine process technology and chemistry analysis knowledge.
- You can communicate well with all kinds of different people (different education levels and disciplines): instruct and correct and have a good command of the Dutch and English language.
- You can perform activities including but not limited to:
- Operation of high-pressure set-ups Lab-scale supercritical fluid extractorPilot-scale supercritical fluid extractorSupercritical fluid spray dryerHigh-pressure mixer High-pressure view cell
- Analysis of protein-encapsulated microparticles Morphology (by scanning electron microscopy)Particle chemical composition (by using Energy-dispersive X-ray spectroscopy)Particle size distribution analysisMoisture content (by Karl-Fischer titration method)Zeta-potential analysisProtein content determinationProtein load determinationProtein release studies
- Protein property analysisActivity assay (e.g., by using commercial test kits and corresponding methods)State of agglomeration (by using size-exclusive chromatography)Protein conformation/structure study (using circular dichroism, fluorescence spectroscopy, etc., depending on equipment availability)

This is what you get in return

You will find yourself in an inspiring and dynamic work environment where your expertise is valued and utilized, and where you have every opportunity to further develop yourself.

- This is a role for which we initially offer a one-year contract.

Curious to know more?

Would you like to know more about this job? We'd be happy to tell you more. You can get in touch with Dr. Rob van Haren, +31 6 20 18 21 10.

Will you become our new colleague?

Then send your resume and motivation, **written in English**, via the application button.

- Closing date is: **02/03/2025.**
- Interviews will take place on **March 6, 2025**
- We ask new employees to apply for a Certificate of Good Conduct (VOG) upon commencement of employment. The costs for this will be reimbursed by Hanze UAS.

Acquisition in response to this vacancy is not appreciated.