

Opportunity to conduct your BSc (thesis or internship) or Master project in The Netherlands.

2021
NHL Stenden



university of
applied sciences

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1. Introduction

NHL Stenden University of Applied Sciences has opened three positions for non-European students looking for practical internship, final year (BSc) thesis and/or master thesis in the Netherlands. Bachelor's and master's students are welcome to apply for the offered positions. The project(s) will be conducted by the Water Technology Research Group (WTRG) at NHL Stenden (Water Technology Lecoraat)¹. The selected students will have the opportunity to conduct practical (laboratory) and/or theoretical (model) work, depending on the project. The activities will take place in the Water Application Centre (WAC) and/or the Gilbert-Armstrong Laboratory of Electrohydrodynamics². The projects conducted by the WTRG have a close link with different European companies and industries as well as with other research institutes like Wetsus³, Centre of Expertise Water Technology (CEW)⁴ and other academic institutes, e.g. University of Amsterdam, Wageningen University and Research, HZ University of Applied Sciences, Van Hall Larenstein University of Applied Sciences.

2. What we offer/ask:

- Between 7 (min) and 10 (max) months academic exchange at NHL Stenden University of Applied Sciences,
- 40 hours per week, from Monday until Friday (9am to 5pm);
- A student allowance which will be used to cover visa costs (arranged by the university), health insurance (arranged by the university), transportation to and from the Netherlands (arranged by the university) and a monthly allowance of ~600€/month (depending on the costs done with the before mentioned aspects) throughout the academic exchange duration (finding accommodation is up to the student);
- Opportunity to work in a project with practical (laboratory) research, linked with the Water Technology subject;

3. What we ask from you:

- To be regularly enrolled in a non-European higher education institute following an under graduation (bachelor's) or a graduation (master's) program;
- To be enrolled in one following courses: Chemistry, Environmental Engineering, Sanitation Engineering, Chemical Engineering, Electrical Engineering, Physics.

¹ <https://www.nhlstenden.com/onderzoek/watertechnologie>

² <https://www.waterapplicatiecentrum.nl/en/>

³ <https://www.wetsus.nl/>

⁴ <https://www.cew.nl/en/>

- To have (preferably) previous experience with Water Technology (Drinking Water/Wastewater Treatment) and/or Electrohydrodynamics (EHDA or Electrospinning);
- Academic excellence, to be demonstrated by the student's academic transcript;
- The student has to be proactive and work independently at times;
- Laboratory work experience.
- Some experience with the following procedures (techniques) is appreciated: drinking water/waste water treatment (WAC) process and analysis, high-voltage (low power) related safety, high speed imaging, nanoparticle analysis and imaging treatment (Gilbert-Armstrong Laboratory).
- To be proficient on the English language, to be demonstrated by one of the following examinations:
 - Academic IELTS 5.0 (4.0 for each sub skill). For more information: www.ielts.org.
 - TOEFL iBT 500 (paper-based), 173 (computer-based) and 60 (internet-based). For more information: www.toefl.org. Original test results must be directly sent from the Educational Testing Service to NHL Stenden. The TOEFL institution code for NHL Stenden is C652.
 - Cambridge ESOL score FCE-C (160–161)

4. Projects

The projects that the applicant can work on are in the following subjects:

4.1 Production of polymeric nanoparticles and nanofibers using Electrohydrodynamic Atomization (EHDA) and Electrospinning.

In this project the student will be responsible to fabricate nanoparticles using EHDA or Electrospinning. The work comprises the generation and characterization of such particles, using techniques like high speed imaging, SEM analysis, DLS, imaging treatment etc. This project is conducted together with University of Amsterdam and Wetsus. Preferable backgrounds: Physics, Chemistry or Chemical Engineering

4.2 Application of Electrohydrodynamic Atomization (EHDA) for infusion of gas odorants.

In this project the student will conduct experiments regarding the infusion of chemicals in natural gas distribution pipelines using EHDA systems. The work comprises test with real scale odorization systems, high speed imaging, particle characterization and imaging treatment. This project is conducted with different Dutch companies. Preferable backgrounds: Physics or Chemistry.

4.3 Design and test of a batch-to-continuous physical-chemical system.

In this project the student will have to study how to move from a batch to a continuous flow (Liters/min) system. The process in question is a physical-chemical system and the student will have to design, build and test some (specific) parts of the system. Special attention will be given to heat recovery and mixing steps. This project will be conducted with different Dutch

companies. Preferable backgrounds: Chemical Engineering, Chemistry, Environmental Engineering, Sanitation Engineering.

4.4 Feasibility studies of different air-to-water technologies in semi-arid regions.

In this study the student will operate and test pilot scale size air-to-water systems in a semi-arid region. This project is a cooperation between different Dutch and Brazilian companies, and it will be conducted in the state of Ceará Brazil. The student will be responsible to perform the tests, collect and treat data and present reports about the performance of 2 different technologies. Preferable backgrounds: Chemical Engineering, Environmental Engineering.

4.5 Nano-amp + high noise electric current measurements for EHDA systems.

In this project the student will be responsible to build and tests a low current (nano-amp), high noise and fast response (pico-seconds) system for clear determination of electric current in EHDA systems. The student will have to build and operate the hardware and also apply different resolution filters. This project will be conducted with different Dutch companies. Preferable backgrounds: Physics or Electrical Engineering

5. Application procedure and deadlines

The application process and planning can be seen in the table below:

Table 1 - Application procedure and deadlines.

Stage	Period
Documents submitted to ronaldo.novaes.ferreira@nhlstenden.com	Until Jan 27, 2021 (at 18:00, GMT+1)
Documents assessment and selection for interviews	Jan 27-Feb 05, 2021
Interview period	February 8-14, 2021
Final result and selection	Until February 17, 2021
Visa application start	Until February 22, 2021
Start of activities in the Netherlands (estimation)	End of March - Beginning of April, 2021

Please mention which project subject you would like to apply for in your e-mail. The applicants have to submit the following documents to ronaldo.novaes.ferreira@nhlstenden.com and to luewton.agostinho@hvhl.nl (please mention in the e-mail's subject "NHL Stenden WTRG scholarship – Your name and academic institution") before the deadline seen on Table 1:

- CV (in English);
- Passport;
- Language exam;
- Enrolment certificate;

- Academic transcription;
- A letter from your supervisor (professor) from your university stating that this academic exchange period will be beneficial for your bachelor's or master's thesis;
- An official English translation made by a sworn translator of the enrolment certificate and the academic transcription;

If you have any questions, you can reach us by e-mail on ronaldo.novaes.ferreira@nhlstenden.com and to luewton.agostinho@hvhl.nl



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