Network for Cross-disciplinary assessment of Endocrine Disrupting compounds
https://www.nexed.eu

Doctoral candidate 14:

Disruption of thyroid hormone transport to the brain in organoid models, zebrafish, and humans

Host Institution	Vrije Universiteit Amsterdam, Netherlands
PhD enrolment	Vrije Universiteit Amsterdam, Netherlands
Lead Supervisor	Timo Hamers, Amsterdam Institute for Life and Environment
Subject area	Toxicology, in vitro, hormones, mixtures

About this vacancy

NeXED is a Marie Skłodowska-Curie Actions (MSCA) Doctoral Network, funded by the European Union. NeXED will in total recruit 15 enthusiastic, talented and driven Doctoral Candidates (DCs) who are highly motivated to be part of a new generation of cross-disciplinary toxicologists specialised in using harmonised approaches in a One Health framework to develop and support the implementation of innovations in the field of endocrine disruptor assessment. This vacancy is one of those 15 opportunities. Make sure to also read the general eligibility and selection criteria!

Host institution and research group

This DC position will be hosted by the section Environmental Health and Toxicology at the Amsterdam Institute for Life and Environment of Vrije Universiteit Amsterdam (https://vu.nl/en/about-vu/faculties/faculty-of-science/more-about/environmental-health-toxicology). The section focuses on understanding the influence of environmental factors on human and environmental health. Its interdisciplinary approach integrates (eco)toxicology, risk assessment, and epidemiology to study contaminants from the molecular level to populations and society. The work includes toxicological hazard characterization through toxicity profiling and studies on toxicological mechanisms using *in vitro*, cell-based assays and zebrafish embryo and nematode models.

The research project

The main objective of this DC is to determine the effects of EDC mixture exposure on thyroid hormone transport to the developing brain in novel human in vitro models and compare these effects to changes observed in cerebrospinal fluid thyroid hormone levels observed in humans and zebrafish. Selected real-life mixtures from the case studies will be tested for their effect on thyroid hormone transmembrane transporters (THTMTs) in dedicated THTMT-overexpressing cell lines as well as in human blood-cerebrospinal fluid barrier (BCSFB) organoid models and zebrafish embryos.

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Your tasks

You will

- Independently perform the **experimental work** required for this project (after technical instruction)
- Actively contribute to the **project development and planning**, in collaboration with your co-workers and PI
- Enrol in the PE&RC **graduate school** (https://www.pe-rc.nl) and comply with the doctoral training requirements
- Write **project reports** on a regular basis, and **publish** high-quality research results related to the research project in international conference proceedings and peer-reviewed scientific journals
- **Participate actively** in the NeXED training, dissemination, communication and exploitation activities
- Work actively on the preparation and defence of a **doctoral thesis** in the field of Environmental Toxicology
- Engage with and further support a limited number of **teaching activities** (incl. supervision of internships) for the section Environmental Health and Toxicology of the Amsterdam Institute for Life and Environment

Secondments

The following research stays are planned:

- Interdisciplinary secondment: Terje Svingen (2 months) at DTU (Technical University of Denmark)
- Intersectoral secondment: Ellen Hessel (1 month) at RIVM (National Institute for Public Health and the Environment, Netherlands)

What we offer

- The selected candidate will be employed full-time by Vrije Universiteit Amsterdam on the MSCA-DN project for a period of **36 months**
- Doctoral candidates are offered an employment contract for full-time employment, with a **competitive remuneration** based on the MSCA allowances in line with the MSCA WP 2023-2025
- The gross monthly amount at Vrije Universiteit Amsterdam corresponds to minimum € 3,378 and maximum € 3,707 (PhD) in the third (last) year. Fringe benefits include a maximum of 41 days of annual leave based on full-time employment, 8% holiday allowance and 8.3% end-of-year bonus

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- Funding is available for technical and personal skills training and participation in international research events
- The **expected start date** is between September-October 2025. Last-year master students expected to graduate by this time are encouraged to already apply
- Read more about working at Vrije Universiteit Amsterdam here

Specific requirements

In addition to the general eligibility and selection criteria of the NeXED Doctoral Network,

- A 3-year PhD trajectory at Vrije Universiteit Amsterdam is only possible if:
  - the candidate has completed an accredited Research Master prior to the PhD trajectory or the candidate has comparable qualifications, as demonstrated by their curriculum
  - This requires that the Master's degree amounts to at least 120 ECTS and that at least 60 ECTS has been spent on research preparation within the programme that ties in with the theme of the PhD trajectory to be followed
- MSc degree in (Eco)Toxicology, Developmental Biology, Neurobiology, Molecular Biology or a related field
- Good wet lab experimental skills, preferably including experience with cell culturing methods and/or (zebra)fish (eco)toxicology work
- Experience with the following laboratory techniques is not required but will be considered a benefit: (confocal) microscopy, transcriptomics, microinjections

Application procedure

Applications must be submitted through the NeXED job application platform (https://www.uantwerpen.be/en/projects/nexed/job-openings/apply/).

Deadline for applications: April 21, 2025, 23:59 CET. More information about the application procedure for NeXED PhD positions can be found here.

Contact

For additional information about this vacancy, please contact Timo Hamers (timo.hamers@vu.nl).

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