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

Doctoral candidate 11:

Exploring nuclear receptor cross-talk in aquatic molluscs and how it translates to vertebrates

Host Institution	University of Southern Denmark
PhD enrolment	Department of Biology, Denmark
Lead Supervisor	Elvis Genbo Xu, Ecotoxicology laboratory
Subject area	Zebrafish, Endocrine Disruption, One Health

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

Ecotoxicology Group, Department of Biology

This DC position will be hosted by Ecotoxicology Group, Department of Biology, University of Southern Denmark. The Ecotoxicology group laboratories are modern and well equipped for histological analysis, high-end image analysis, biochemical analysis, behaviour analysis, metal analysis (atomic absorption spectrophotometry and mercury analyser) and chemical analysis (LC-MS/MS, GC-MS/MS). Animal facilities include zebrafish breeding facilities, Lymnaea stagnalis breeding facilities. Flow through exposure systems and climate chambers for embryonic exposures.

The research project

The main objective of the research project is to achieve a better understanding of the organizational and functional commonalities in the evolutionary conserved retinoid-system across aquatic invertebrate (molluscs) and vertebrate taxa with a view to identify knowledge gaps, sensitive life stages, and retinoid-system relevant MIEs and KEs that are relevant for future AOP development, a better understanding of cross-talk between hormonal axes and cross species extrapolation, and ultimately a safer assessment of risks of EDCs in invertebrates. This will be achieved by literature review, exposure scenarios with aquatic invertebrates, and comparative analysis between aquatic

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invertebrate and vertebrate taxa deciphering the commonalities and differential effects after modulation of heterodimeric signalling cascades.

Expected research project results include exploration and identification of potential sensitive life-stages for RXR/RAR/TR mediated functions in molluscs, and exploration of RXR/RAR mediated functions and cross-talk between hormonal axes in molluscs/invertebrates by modulation of heterodimeric signalling cascades (i.e. RXR-TR). The obtained knowledge will support the development of cross-species retinoid system-relevant AOPs and discover the taxonomic domain of applicability including aquatic vertebrates.

Your tasks

You will

- Enrol in the PhD School, Faculty of Science, SDU 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 Endocrine disruption with a One Health approach
- Engage with and further support a limited number of teaching activities for the Department of Biology

Secondments

The following research stays are planned:

- Intersectoral: Centre for Environment Fisheries and Aquaculture Science (CEFAS, United Kingdom, Ioanna Katsiadaki), 2 months: Comparative invertebrate and fish toxicological effects and tests
- Interdisciplinary: Masaryk University (Czech republic, Klára Hilscherová), 3 weeks: Mammalian toxicological effects and tests

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What we offer

- The selected candidate will be employed full-time by University of Southern Denmark on the MSCA-DN project for a period of **36 months**
- Doctoral candidates are offered an employment contract, with a **competitive remuneration** based on the MSCA allowances in line with the MSCA WP 2023-2025
- The gross monthly amount at University of Southern Denmark corresponds to the accordance with the Salaried Ph.D. Research Fellow governed by the agreement of December 20, 2021, on Collective Agreement for Academics in the State between the Ministry of Taxation and Academics, appendix 5 – protocol on Ph.D. Research Fellows. The employment is otherwise covered by the 2020 job structure for academic staff at universities and the provisions for the position as Ph.D. Research Fellow, as described herein
- Funding is available for technical and personal skills training and participation in international research events
- The **expected start date** is between September and November, 2025. Last-year master students expected to graduate by this time are encouraged to already apply
- Read more about working at University of Southern Denmark here

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 administrative information about this vacancy, please contact Christina Kastrupsen, ckas@sdu.dk. If you have any questions about the job itself, please contact Prof. Elvis Genbo Xu, elvis@biology.sdu.dk.

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