



Doctoral Candidate (DC1) – Chemodynamics, bioavailability and bioaccumulation

About QTOX

Chemical risk assessment typically involves extrapolation of effects observed *in-vitro* and *in-vivo* under laboratory conditions to predictions of effects at the ecosystem level. This is a very challenging task and current extrapolation models have limitations, notably due to a number of ecological processes that are disregarded by the models and the paucity of data for parameterisation and validation. QTOX (www.qtox.eu) will develop mechanistic knowledge and data-efficient modelling tools to bridge the gap between standard toxicity data (typically acute effects of single chemicals) and ecologically relevant endpoints arising from chronic, time variable exposures to chemical mixtures. The results will be achieved through an interdisciplinary and intersectoral research and training program in which 10 doctoral candidates will characterise the mechanistic processes describing the successive events from exposure to ecosystem-level effects and develop models for extrapolation of adverse effects across levels of biological organization under environmentally realistic conditions. Notably, the effects of chemical mixtures, dynamic exposure conditions, and their interaction with climate change scenarios will be characterised in a series of mesocosm experiments at three sites in central and southern Europe. The mesocosm work will serve as a uniting training element and a rich source of data for testing and validating the modelling framework. QTOX will produce an open access toolbox for quantitative extrapolations in ecotoxicology and a cohort of researchers equipped with the knowledge and skills necessary to implement and develop rigorous approaches for predicting adverse effects of chemicals.

About the University of Antwerp

The [University of Antwerp](http://www.uantwerpen.be) is a young, dynamic and forward-thinking university. It is a merger (2003) of the former three university institutions in Antwerp. It ranks 18th in the “QS Top 50 Under 50 2020”. The University has ca. 1850 PhD students, 680 tenured professors, over 350 assistants and over 3400 tenured researcher and education staff members. It produces over 3600 peer-reviewed scientific publications per year. The European Commission has awarded the University the “HR Excellence in Research” quality label and the University has a Gender equality Plan in place.

Tasks description

This DC position will be hosted by the ECOSPHERE group, <https://www.uantwerpen.be/en/research-groups/ecosphere/about-us/about-ecosphere/>

In this position, you will:

- Measure uptake and elimination rates, bioaccumulation and intracellular speciation of selected compounds in several invertebrates under dynamic and mixture exposure scenarios
- Develop and test a flux-based model for predicting chemical speciation-bioavailability-biouptake relationships
- Write project reports for your local and network supervisors on a regular basis
- Enrol in the University of Antwerp Doctoral School and comply with the doctoral training requirements.
- Participate actively in the QTOX training, dissemination, communication, and valorization program.
- Prepare a doctoral thesis, and publish scientific articles related to the research project.

Furthermore, the selected candidate will take part in the following planned secondments:

- Academic secondment: Helmholtz-Centre for Environmental Research – UFZ (Germany)
- Industrial secondment: Aquafin (Belgium)

Profile & requirements

- Applicants must hold a master's degree or equivalent in the field of biology, chemistry, earth sciences, bioscience engineering, or related fields.
- Applicants must have a solid knowledge of environmental physical chemistry and invertebrate biology.
- Transcripts of the master's degree must be available by the date of the recruitment.
- Applicants should have obtained outstanding academic results.
- Applicants must have an ability to understand and express themselves in both written and spoken English to a level that is sufficiently high for them to derive the full benefit from the network training.
- Applicants must be eligible to enrol on a PhD programme at the host institution (or at a designated university, in case the host institution is a non-academic organisation).
- Applicants must have the necessary academic skills and background to make the success of a doctoral degree.



Funded by
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- Applicants can be of any nationality but must comply with the Horizon Europe MSCA eligibility criteria:
 - **HORIZON MSCA Mobility Rule:** researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of the host organisation for more than 12 months in the 3 years immediately before the recruitment date. Compulsory national service, short stays such as holidays and time spent by the researcher as part of a procedure for obtaining refugee status under the Geneva Convention are not taken into account.
 - **HORIZON MSCA eligibility criteria:** supported researchers must be doctoral candidates, i.e. not already in possession of a doctoral degree at the date of the recruitment. Researchers who have successfully defended their doctoral thesis but who have not yet formally been awarded the doctoral degree will not be considered eligible.

Benefits

- The selected candidate will be employed by the host organisation for **36 months**. In line with University of Antwerp regulations and following a positive evaluation by the doctoral committee, the host institution may provide additional funding for a maximum of 12 months to complete a 4-year doctoral degree.
- **The start date will be as of January 1st, 2023**
- Doctoral candidates are offered a competitive remuneration based on the MSCA allowances in line with the [MSCA WP 2021-2022](#). The [gross monthly amount at the University of Antwerp](#) corresponds to the amount for doctoral scholarship holders. Moreover, funding is available for technical and personal skills training and participation in international research events.
- The opportunity to be part of an MSCA Doctoral Network: the selected candidate will benefit from the designed training programme offered by the host organisation and the QTOX consortium.
- The selected candidate will participate in international secondments to other organisations within the QTOX network.

Please, find additional information in the [Horizon Europe Work Programme MSCA](#) from p.75 onwards.

Application

- Interested candidates are invited to apply for this position by submitting the application form: <https://www.uantwerpen.be/en/projects/quantitative-extrapolation-ecotoxicology/job-openings/application/>
- The closing date for applications is **November 13th, 2022**.
- The selection committee will review all the applications upon the application deadline.
- The recruitment process of QTOX is in line with the principles set out in the [European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers](#).
- Ukrainian researchers are eligible to benefit from the Science4Refugees initiative without the need of holding the refugee status.

Additional information

For additional information about the research project and this individual position, please contact:

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