

inventWater ESR-5

PhD Innovative forecasting approaches to assess future trends in pollutant flows from land to water systems for advancing sectoral water quality services

WE ARE LOOKING FOR

Are you passionate about water quality and quantity modeling and developing innovative modeling approaches for pollution management? And interested in scenario analysis, seeking solutions, and evaluation of water-related policy? Then you maybe the candidate we are looking for!

Within the inventWater consortium on "Innovative forecasting approaches to assess future trends in pollutant flows from land to water systems for advancing sectoral water quality services" we are looking for a PhD candidate. The research will focus on multiple pollutants in water systems. Many reservoirs, lakes and rivers suffer from pollution problems. Examples are increasing levels of nutrients, chemicals (e.g., pesticides), pathogens, and plastics. These pollutants decrease the availability of clean water for domestic, agricultural, recreation, and nature sectors. These pollutants in water often result from common sources such as agriculture and urbanization. In addition, climate change may influence water quality: e.g., flooding from over fertilized agricultural fields that bring nutrients to water. However, the current knowledge is limited in integrating existing modelling approaches of individual pollutants into an innovative tool for comprehensive water quality assessments and management at different scales for different water systems and sectors, where impacts of climate change and socio-economic drivers are integrated.

The PhD candidate will focus on developing new modelling tools to forecast future trends in pollutant flows from land to water systems for advancing sectoral water quality services while integrating impacts of climate change and socio-economic drivers. The project will strongly build up on existing tools at the host group where a multi-pollutant model is under development for the world (MARINA-Global) and for China (MARINA-China). The project will establish water quality services for sectors such as agriculture, domestic, and recreation. The focus will be on 10,226 sub-basins in the world.

The objectives of this research are: i) to integrate existing modelling approaches into multi-pollutant modelling tools for effective water pollution management, ii) better understand the impacts of future climate change and socio-economic drivers on water quality for different sectors taking a multi-pollutant perspective, and iii) provide new insights on solutions to reduce future multi-pollutant problems and increase the availability of clean water for different sectors.

Secondments

The PhD candidate will do a secondment (internship as visiting researcher) at the International Institute for Applied Systems analysis (IIASA) for a shorter period of time (up to 3 months). The PhD candidate will interact with Fellow ESR6 within the inventWater project for global water quality modelling and receive insights on water resources management in different countries for scenario analysis.

The PhD candidate will be supervised by Dr. Maryna Stokal, Prof Carolien Kroeze from WUR, and Dr. Ting Tang and Yoshihide Wada, from the International Institute for Applied Systems Analysis, Laxenburg, Austria.

WE ASK

- A passion for environmental, water quality and quantity modelling (e.g. substance flow analysis, environmental pollution management), spatial analysis (e.g. ArcGIS), and with an interest in scenario analysis seeking for solutions, and evaluation of water-related policies
- Master degree in Environmental Sciences or similar
- Programming skills (e.g., R) and data analysis. Willingness to face complex modelling problems.
- Basic knowledge about environmental processes affecting water quality and quantity in rivers
- Proficiency in the English language (a minimum of CEFR C2 level, [language page](#)), as well as good communication skills, both oral and written. Applicants from non-Anglophone countries or for those that have not completed their higher education with English as the language of instruction must have an English certificate in the application package (e.g. IELTS, TOEFL, Cambridge English).
- Experience with cross-disciplinary and/or multi-cultural collaboration will be an advantage
- You meet all the entry requirements of the [WUR PhD programme](#).

As a mobile and early-stage researcher you have to also fulfil the following conditions: you are in the first four years of your research career at the time of the recruitment (full-time equivalent research experience); and you do not already have a doctoral degree. Applicants of any nationalities are eligible and you must comply with the European Commission's Horizon 2020 Guidelines mobility rules. In particular, you must not have resided or carried out your main activity (work, studies, etc.) in the Netherlands for more than 12 months in the 3 years immediately prior to the recruitment date. Compulsory national service, short stays such as holidays, and time spent as part of a procedure for obtaining refugee status under the Geneva Convention are not considered. You must work exclusively for the project during the employment contract and fulfil the conditions to be admitted in the PhD programme indicated in the job vacancy. These conditions must be fulfilled at the starting date of the contract.

WE OFFER

In principle this is a 48-month PhD position. We offer you a temporary contract for 12 months which will be extended with three years if you perform well (after go/no go evaluation). Salary will increase from € 2395,- gross per month in the first year up to € 3061,- in the last year, based on a full-time appointment (38 hours per week).

In addition, we offer:

- 8% holiday allowance;
- a structural year-end bonus of 8.3%;
- excellent training opportunities and secondary employment conditions;
- flexible working hours and holidays can possibly be determined in consultation so that an optimal balance between work and private life is possible;
- excellent pension plan through ABP;
- 232 vacation hours, the option to purchase extra and good supplementary leave schemes;
- a flexible working time: the possibility to work a maximum of 2 hours per week extra and thereby to build up extra leave;
- a choice model to put together part of your employment conditions yourself, such as a bicycle plan;

- a lively workplace where you can easily make contacts and where many activities take place on the Wageningen Campus. A place where education, research and business are represented;
- use the sports facilities on campus for a reduced fee.

YOUR TERMS OF EMPLOYMENT

Wageningen University & Research offers excellent [terms of employment](#). A few highlights from our Collective Labour Agreement include:

- sabbatical leave, study leave, and paid parental leave;
- working hours that can be discussed and arranged so that they allow for the best possible work-life balance;
- the option to accrue additional holiday hours by working more, up to 40 hours per week;
- there is a strong focus on vitality and you can make use of the sports facilities available on campus for a small fee;
- a fixed December bonus of 8.3%;
- excellent pension scheme.

In addition to these first-rate employee benefits, you will receive a fully funded PhD position and you will be offered a course program tailored to your needs and the research team.

The gross salary for the first year is € 2.395,- per month rising to € 3.061,- in the fourth year in according to the [Collective Labour Agreements for Dutch Universities \(CAO-NU\)](#) (scale P). This is based on a full-time working week of 38 hours. We offer a temporary contract for 18 months which will be extended for the duration of the project if you perform well.

Wageningen University & Research encourages internal advancement opportunities and mobility with an internal recruitment policy. There are plenty of options for personal initiative in a learning environment, and we provide excellent training opportunities. We are offering a unique position in an international environment with a pleasant and open working atmosphere.

You are going to work at the greenest and most innovative campus in Holland, and at a university that has been chosen as the "[Best University](#)" in the Netherlands for the 16th consecutive time.

Coming from abroad

Wageningen University & Research is the university and research centre for life sciences. The themes we deal with are relevant to everyone around the world and Wageningen, therefore, has a large international community and a lot to offer to international employees. Applicants from abroad moving to the Netherlands may qualify for a special [tax relief](#), known as the 30% ruling. Our team of advisors on Dutch immigration procedures will help you with the visa application procedures for yourself and, if applicable, for your family.

Feeling welcome also has everything to do with being well informed. Wageningen University & Research's [International Community page](#) contains practical information about what we can do to support international employees and students coming to Wageningen. Furthermore, we can assist you with any additional advice and information about helping your partner to find a job, housing, schooling, and other issues.

Do you want more information?

For more information about this position, please contact Maryna Strokal, researcher, e-mail maryna.strokal@wur.nl

For more information about the procedure, please contact Edgar Tijhuis, corporate recruiter, edgar.tijhuis@wur.nl

Do you want to apply?

To apply for this position, you need to do two things. First download an application form from the <http://u.pc.cd/LP8ctalk> website and fill in it, and add all required documents and merge them in one Pdf file. Secondly, use the **apply now button** on the vacancy page on our website (<https://www.wur.nl/en/vacancy/PhD-Innovative-forecasting-approaches-to-assess-future-trends-in-pollutant-flows-from-land-to-water-systems-for-advancing-sectoral-water-quality-services.htm>) and upload the pdf both where a "letter" is asked for, and upload it where a "CV" is asked for.

This vacancy will be listed up to and including 22 April 2021. We hope to schedule the first job interviews soon afterwards.

Equal opportunities

Wageningen University & Research (WUR) employs a large number of people with very different backgrounds and qualities, who inspire and motivate each other. We want every talent to feel at home in our organisation and be offered the same career opportunities. We therefore especially welcome applications from people who are underrepresented at WUR. For more information please go to our [inclusive webpage](#). A good example of how WUR deals with inclusiveness can be read on the page working at WUR with a [functional impairment](#).

WE ARE

Wageningen University & Research

The mission of Wageningen University and Research is "To explore the potential of nature to improve the quality of life". Under the banner Wageningen University & Research, Wageningen University and the specialised research institutes of the Wageningen Research Foundation have joined forces in contributing to finding solutions to important questions in the domain of healthy food and living environment.

With its roughly 30 branches, 6.500 employees and 12.500 students, Wageningen University & Research is one of the leading organisations in its domain. An integrated approach to problems and the cooperation between various disciplines are at the heart of Wageningen's unique approach. WUR has been named Best Employer in the Education category for 2019-2020.

The Water Systems and Global Change (WSG) group is a solution oriented multidisciplinary research group where staff and students can develop new skills and excel in their science. In our research, we analyze and assess the impacts of climate change and population growth on water systems and propose and test adaptation strategies. We use simulation models, earth system observations, scenario analysis and field studies. We actively invite students from different backgrounds, and skills and interests to take part in our courses and research. Also our staff comes from very different backgrounds.

These are the points our employees list as good reasons to come work at WUR: [read the 5 reasons to come work at WUR](#)