PhD position: Clean agricultural water with Nature-based Solutions

The environmental impact of agriculture on water quality is in the news every day. It is an important social issue with many stakeholders. People from all corners of society are therefore working to find future-proof solutions. As a PhD candidate, you too can make a contribution!
Do you get excited by scientific research with a direct application in daily practice? Do you like to regularly work in muddy boots and are you interested in applying green solutions (Nature-based Solutions) yourself? Then we have an appealing job for you!
We are looking for a PhD candidate for the EU-funded project GREENHOOD. Read on quickly below.

What to expect as a PhD candidate 'Clean agricultural water with Nature-based Solutions'

GREENHOOD is your project for the next 4 years! The full project name is *Nutrient balance and Resource Optimisation in Regional Ecosystems through holistic, sustainable, and zero-pollution solution*s. The aim is to demonstrate Nature-based Solutions for reducing nutrient losses from agricultural fields towards surface water. Your focus is on measuring and modelling effects of Nature-based Solutions, such as buffer strips along ditches, sedimentation ponds and woodchip filters for subsurface drainage systems.
As a PhD candidate, you will work with the international project team on developing new knowledge about the effects of Nature-based Solutions on water quality, based on your own measurement data. Besides the effect on nitrogen and phosphorus losses to surface water, you will investigate additional benefits such as water retention, carbon sequestration and biodiversity. You will focus on two test areas in the Dutch sandy area; the Vinkenloop in southeast Brabant and the upper reaches of the Baakse beek in the Achterhoek.
Project results include both scientific publications and policy-oriented advice. Specific tasks include:

- Designing and constructing, in cooperation with the project team and stakeholders, 1 or more area-specific agricultural measures, such as buffer strips, sedimentation ponds and woodchip filters;
- Designing and implementing a measurement strategy at the interface of soil, ground- and surface water to quantify the effects of the Nature-based Solutions on nitrogen and phosphorus losses to surface water and on additional benefits such as increasing water availability, carbon storage and biodiversity;
- Modelling the Nature-based Solutions so that the influence of environmental factors is better understood and measures can be better constructed, managed and scaled up;
- Communicating the new knowledge in scientific articles, at scientific conferences and at meetings with water managers and farmers;
- Supporting project partners, for example by providing measurement results for model calculations at river basin level.

You will work directly with the Dutch part of the project team with specialists from Deltares, KWR, WUR and UU. As a result, you will operate at the interface between applied knowledge (Deltares and KWR) and academic research (WUR and UU). But practice is also important: water boards and farmers in the pilot areas are closely involved in the research. Within the GREENHOOD project, you will exchange knowledge and results with researchers from Spain, Belgium, Finland and Norway, among others.

What we expect from a PhD candidate

- An Msc (or equivalent) in earth sciences, environmental sciences, hydrology or a related course;
- Strong interest in socially relevant scientific research for a future-proof rural area;
- Demonstrable affinity with field research, data processing in programming languages such as R, Python and/or Matlab;
- Demonstrable experience with modelling of water and solute transport;
- Ability to work independently, as well as collaborate well in the interdisciplinary and international research team;
- Good communication skills in Dutch or willingness to learn this quickly. Excellent oral and written communication skills in English.

Supervision

You will work closely with your supervisors Dr Joachim Rozemeijer and Dr Stefan Jansen from Deltares, Dr Arnaut van Loon from KWR, Prof Dr Ir Ruud Bartholomeus from KWR and WUR and Prof Dr Stefan Dekker from UU. You will be employed by Deltares and work partly at Deltares at location Utrecht and partly at KWR in Nieuwegein.

What we offer

- You will receive a temporary appointment (1.0 fte) for the duration of the PhD (4 years);
- The gross salary is in accordance with the Collective Labour Agreement for Dutch Universities (CAO NU);
- Excellent training opportunities for personal and professional growth;
- Deltares has an open, inclusive and collaborative culture;

Interested?

Has this vacancy sparked your interest and do your qualities match the job profile? Then apply directly via the application button and upload your CV and motivation letter.

Deadline 1 November. First job interviews will take place on November 18. Do you have any questions about the vacancy? Please contact Brian de Bruin (HR Recruitment Officer; sollicitatie@deltares.nl; +31(0)88 335 8438).

Preferable starting date: 1 January 2025 (end date: 31 December 2029).