



IHE Delft is the largest international graduate water education facility in the world and is based in Delft, the Netherlands. The mission of IHE Delft is to work in partnership to strengthen capacity in the water sector, to achieve global sustainable development. IHE Delft has a permanent staff of 200 of which more than 100 are academics from all over the world, while about 250 guest lecturers from academia and industry contribute to our educational programmes. Each year 750 professionals (including about 200 new MSc students per year) from all over the world attend various water-

related courses at IHE Delft. The Institute has an international staff & student community with English as the working language.

Integrated Water Systems and Governance Department

The Integrated Water Systems & Governance Department covers a broad range of disciplinary knowledge – sociology, law, economics, public administration, political science, information technology, mathematics, hydrological and hydraulic modelling sciences, engineering, knowledge management and innovation studies. With our research we seek to contribute to a better understanding of what makes water systems sustainable, resource efficient, resilient and how they contribute to social and environmental justice, in particular in, but not limited to, the Global South.

IHE Delft is developing together with its partners IWMI and FAO an international framework for the determination and reporting of crop water productivity. By doing so, it helps the implementation of UN and Dutch policies to make water management in the agricultural sector more efficient.

The Integrated Water Systems and Governance Department is looking for a:

Senior Lecturer/ Analyst in Remote Sensing Crop Water Productivity – 1.00 FTE/38 hours

Responsibilities

The candidate is responsible for the implementation of concepts related to Crop Water Productivity in Africa, Asia and the Middle East. While the concept has been promoted by many international agencies, the implementation of crop water productivity is hindered by a lack of tools to measure it at different scales and to set targets for the near future. IHE Delft has collaborated with partners to develop remote sensing software to facilitate a fast computation of crop water productivity on the basis of Landsat images. This tool needs to be developed further for routine implementation. In addition, a Water Productivity Analyser tool needs to be developed that estimates the package of best practices during the growing season.

The candidate will apply these analytical tools and validate the predictions on crop yield and soil moisture where feasible with local field measurements. The irrigation community (Farmers, Departments of Agriculture, but also for Irrigation and for Environmental Protection Agencies) needs to receive capacity building on the difference between water use efficiency and water productivity.

The successful candidate should contribute to the imbedding of the concept of crop water productivity in irrigation system management, and will be applied to case studies. The successful candidate will develop and deliver tailor-made courses on energy balance and biomass production modelling. The candidate is expected to prepare a set of manuals on image processing and water productivity ranking. IHE Delft is encouraging its staff members to develop scientific publications, preferably together with partner organizations. It is expected that the candidate supervises MSc students and provides lectures in water management related modules.

The successful candidate will:

1. Lead and implement projects, timely and adequately reporting project and, supervising junior research staff.
2. Be able to work and collaborate with project partners and stakeholders
3. Conduct research and implement projects on crop water productivity analyses including:
 - a. Collecting and processing Landsat images using pySEBAL model
 - b. Validating remote sensing products with field data
 - c. Summarizing the crop water productivity statistics by crop type and by irrigation sub-systems
 - d. Defining gaps of crop yield and crop water productivity
 - e. Analysing yield gaps, and identifying plausible reasons for the gaps detected, including socio-economic factors and issues related to water governance
 - f. Identifying target values of attainable water productivity in geographical contexts
4. Prepare scientific publications for peer reviewed journals
5. Acquire and implement research and capacity building projects in the Global South
6. Contribute to teaching in the MSc programmes at IHE Delft on topics related to crop water productivity
7. Assist with supervision of MSc students on topics related to crop water productivity

Requirements

IHE Delft is searching for a academic person with a doctoral degree in either (i) energy balance modelling and/or (ii) irrigation water management. The applicant should have proven excellent analytical and communication skills, and have an interest in agriculture. The candidate should have demonstrable programming skills in Python and QGIS. Overseas working or training experience is preferred, particularly in the Global South.

Terms of employment

This position is a permanent position. The position is based in Delft, The Netherlands, with short missions abroad. A competitive salary is offered depending on qualifications and experience in accordance with the conditions of employment for Dutch Universities. The appointment implies entry into the Netherlands' Civil Service Pension Fund (ABP).

Information and application

Additional information can be obtained from Dr. Janez Susnik, Deputy Head of the Integrated Water Systems and Governance Department (+31 (0)15 215 2368) or Prof. Dr. Wim Bastiaanssen (w.bastiaanssen@un-ihe.org) or Dr. Marloes Mul (m.mul@un-ihe.org).

Applications (in English) should respond specifically to the requirements and should be sent before **22 January 2019 (closing date)** including curriculum vitae, statement of teaching and research interests, motivation letter and the names and contact details of two contactable referees (*as one PDF file with your family name as the filename*), to IHE Delft, attn. Human Resource Management (E: recruitment@un-ihe.org), PO Box 3015, 2601 DA Delft, The Netherlands, stating vacancy-number **18-IWSG-11**.

Reactions from staffing agencies and other 3rd parties are not appreciated.