



**IHE DELFT** Institute for Water Education offers graduate education in Delft, The Netherlands, and carries out research and capacity building projects all over the world. The mission of IHE Delft is to contribute to the education and training of professionals and to build the capacity of sector organizations, knowledge centres and other institutions active in the fields of water, the environment and infrastructure in developing countries and countries in transition.

IHE Delft has a permanent staff of 200 of which more than 100 are scientific staff, while about 250 guest-lecturers from academia and industry contribute to the educational programme. Each year 750 participants (incl. about 200 new MSc students per year) from all over the world attend the various regular and short courses at IHE Delft. The institute has an international staff & student community with English as 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:

## **Lecturer/Analyst in Remote Sensing Crop Water Productivity – 38 hours**

### **Responsibilities**

The candidate is responsible for the implementation of concepts related to Crop Water Productivity in the Global South. 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 crop water productivity in the irrigation system management. Fields with the best practices will be identified. The diagnosis will be presented to case studies and tailor- made courses on energy balance and biomass production modelling will be provided by the selected candidate. IHE Delft is encouraging its staff members to develop international publications, and it would be preferred to do this together with the recipient organizations.

The successful candidate will:

1. Support research and capacity building projects
2. Be able to work and collaborate within a team and communicate with stakeholders
3. Conduct research and implement projects on crop water productivity analyses including:

- a. Collection and processing of 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. Implement research and capacity building projects in the Global South

### Requirements

IHE Delft is searching for a candidate with preferably a doctoral degree in either (i) energy balance modelling and/or (ii) irrigation water management. The candidate 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 temporary position for one year with a possibility for an extension, subject to available resources. 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), Prof. Dr. Wim Bastiaanssen ([w.bastiaanssen@un-ihe.org](mailto:w.bastiaanssen@un-ihe.org)) or Dr. Marloes Mul ([m.mul@un-ihe.org](mailto:m.mul@un-ihe.org)).

Applications (in English) should respond specifically to the requirements and should be sent before **10 December 2018 (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 UNESCO-IHE, attn. Human Resource Management (E: [recruitment@un-ihe.org](mailto:recruitment@un-ihe.org)), PO Box 3015, 2601 DA Delft, The Netherlands, stating vacancy-number **18-IWSG-10**.

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