

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 180, of which 90 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.

The **Integrated Water Systems & Governance (IWSG) 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 such systems sustainable, resource efficient, resilient and how they contribute to social and environmental justice, in particular in, but not limited to, the Global South. The Integrated Water Systems and Governance Department is looking for a:

Postdoctoral Researcher on integrated water-food-energy systems modelling (m/f) – 0.84 FTE (4 days per week)

Responsibilities

This work is directly related to the ongoing EC Horizon2020 project 'SIM4NEXUS' (www.sim4nexus.eu). SIM4NEXUS is a 4-year project (June 2016-June 2020) that aims to robustly and quantitatively explore the water-energy-food-land use-climate nexus at a range of scales from regional to global, and to incorporate policy directions into this assessment, greatly extending the current state-of-the-art in nexus research and science. One key element of the project is to design and develop system dynamics models for 12 project case studies. The outputs from the systems models will feed into a Serious Game, also being developed within the project.

The candidate will work closely with Dr. Janez Sušnik (IHE Delft project leader) in developing system dynamics models for the 12 case studies involved in the SIM4NEXUS project. The case studies cover a range of scales from regional (e.g. south-west England) to national (e.g. The Netherlands), European and Global.

This position requires the candidate to engage in intense collaboration with the 12 project case study leaders, with project thematic model experts, and with Serious Game developers in order to:

- i) Initially qualitatively conceptualise case study systems according to local stakeholder requirements and interests using causal reasoning and causal diagrams;
- ii) Together with case study and thematic model leads, use the output from (i) to define the thematic model input data requirements and model structure, and;

iii) Use (i) and (ii) to build quantitative system dynamics models for each of the 12 case studies for baseline conditions and for a suite of future scenarios based on the Representative Concentration Pathways (RCPs) and Shared Socioeconomic Pathways (SSPs), along with locally-specific requirements based on stakeholder interactions and policy analysis.

The candidate will also be expected to liaise with partners in assisting in Knowledge Engine and Serious Game development, using the system modelling outputs as required in this process. This position requires knowledge of system dynamics modelling and the R programming language in order to interface with the Knowledge Engine and Serious Game. The candidate will be expected to contribute to the writing of reports and Deliverables as part of part of project requirements. In addition, the candidate will be expected to contribute to the presentation of results at conferences as appropriate, and to contribute to peer-reviewed journal articles as opportunities arise. The candidate should be expected to travel to project meetings as required.

The candidate will also be expected to engage in teaching activities as necessary, along with the co-mentoring of MSc and potentially PhD students as required.

Requirements

- IHE Delft is searching for an early- to mid-career academic researcher with a doctoral degree (PhD) in a water-related subject with a strong quantitative component in water/food/energy resources analysis and/or systems modelling in a related subject.
- He/she should have proven excellent analytical and communication skills with a solid track record commensurate with the career level being sought.
- The candidate must have an academic interest in global water, food and energy systems analysis.
- The candidate must have proven experience with System Dynamics Modelling, have familiarity with systems thinking concepts, and be competent with the R programming language.
- The candidate should be able to communicate and work with partners from a diverse range of European countries, from both academia and the private sector.

Terms of employment

This position is a temporary (project-based) position until the end of May 2020. The starting date is aimed at October 1st, 2017. The position is based in Delft, The Netherlands.

A competitive salary (scale 10 or 11) 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). A Dutch work permit will be required.

Information and application

Additional information can be obtained from Dr. Janez Sušnik, Deputy Head of the Integrated Water Systems and Governance Department (+31 (0)15 215 2368; j.susnik@un-ihe.org).

Applications (in English) should respond specifically to the requirements and should be sent before **Friday 2 June 2017 (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: vacancies@un-ihe.org), PO Box 3015, 2601 DA Delft, The Netherlands, stating vacancy-number **17-IWSG-04**.

It is anticipated that a first selection will be made in early June, with interviews to be held in late June or early July. Applying candidates should ensure availability in this period for the interviews.

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