

## **Call for applications - PhD fellowship linked to the intelWATT H2020 project**

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 centers and other institutions active in the fields of water, the environment and infrastructure in developing countries and countries in transition.

IHE Delft Institute for Water Education is member of a consortium of 20 partners who was recently awarded a grant by the European Commission for the project Intelligent Water Treatment Technologies for water preservation combined with simultaneous energy production and material recovery in energy intensive industries (**intelWATT**). This 3.5-year project (2020-2024) focuses on developing innovative, cost efficient, smart separation technologies applied in energy and water intensive industries. In this context Water Supply, Sanitation and Environmental Engineering (WSSEE) department of IHE Delft is recruiting a **PhD fellow, who will graduate in co-operation with Delft University of Technology**.

### **Project description**

Historically, industrial infrastructures around the world were commonly developed within a context of unconstrained water resource availability. However, unsustainable uses of water resources, population dynamics, along with climate change affect to this critical resource becoming scarce – a trend which is expected to continue. Water use has been increasing worldwide by about 1% per year since the 1980s. Global water demand is expected to continue increasing at a similar rate until 2050 due to rising needs of the industrial and domestic sectors, and will lead to an increase of 20 to 30% above the current level of water use.

In this context, the main aim of IntelWATT is to develop innovative, cost efficient, smart separation technologies applied in energy and water intensive industries. The goal of the project is to demonstrate 3 TRL7 case studies that will achieve water preservation along with energy production and material recovery. The proposed solutions will also target at zero liquid discharge while implementing maximum water reuse. Tailor made sensors and automated decision making mechanisms will optimize the process conditions in real time. The case studies will be implemented in crucial EU and global industrial applications such as electricity production, mining and metal plating.

### **PhD fellowship - information**

- The PhD fellow will work directly with the Project leader for IHE Delft, Dr. Nirajan Dhakal, and will be hosted by the WSSEE Department of IHE delft in Delft, The Netherlands.
- The PhD fellow will participate in the activities and deliverables of the project under the supervision of Prof. Maria D. Kennedy and Dr. Nirajan Dhakal (IHE Delft) and Prof. Luuk C. Rietveld (TU Delft).
- The PhD fellow will be attending the project meetings (in Europe)
- The PhD fellow will be expected to publish the obtained results in peer reviewed journals and to present the results at international conferences.
- The expected starting date is November 1, 2020.

### **Position requirements**

- The PhD fellow must have an MSc degree in chemical engineering with a strong focus on desalination. (If candidates with this profile will not emerge, candidates with a background in, civil engineering, environmental engineering and environmental sciences will also be considered.)
- The PhD fellow must be familiar with working in the laboratory; previous experience on water quality analyses (both chemical and microbiological) and with operation of pilot plants is required.

- The PhD fellow must be proficient in oral and written English;
- The PhD fellow must be able to work independently and as a member of a team; she/he must be creative, flexible, and eager to learn and to expand his /her scientific network.

### **Conditions**

We follow the allowance as stipulated by the Immigration Office IND of **1270.08 Euros/month (net)**. In addition insurance, residence permit and book allowance will be provided. The duration of the fellowship is four years. The position is based in Delft, The Netherlands.

### **How to apply?**

Additional information about the vacancy can be obtained from Dr. Nirajan Dhakal ([n.dhakal@un-ihe.org](mailto:n.dhakal@un-ihe.org)) or Prof. Maria D. Kennedy, Head of WSSEE Department ([m.kennedy@un-ihe.org](mailto:m.kennedy@un-ihe.org)).

Applications in English must be sent to [n.dhakal@un-ihe.org](mailto:n.dhakal@un-ihe.org) by **October 10, 2020** including curriculum vitae (with a passport photo), , motivation letter, abstract of MSc thesis, a sample of scientific writing and the contact details of two referees (as one PDF file with your family name as the filename).

Only shortlisted candidates will be requested to send originally certified photocopies of academic transcripts and originally certified photocopies of academic diplomas (of BSc and/or MSc degrees), two reference letters, copy of your passport, and the result of an IELTS or TOEFL test (if applicable).