

General Information for Applicants of ICHARM Research Assistantship available at Public Works Research Institute (PWRI)

The Public Works Research Institute (PWRI) of Japan is seeking candidates for ICHARM research assistant positions as follows.

1. Purpose

The International Centre for Water Hazard and Risk Management (ICHARM) of PWRI offers an opportunity to work as ICHARM Research Assistant (ICHARM RA) for doctoral students enrolled in the disaster management Ph.D. program, which was launched jointly by PWRI and the National Graduate Institute for Policy Studies (GRIPS). This will be an excellent opportunity for them to learn and experience research and practical work at ICHARM, which will in turn contribute to improvement of their overall research capability.

2. Position

ICHARM Research Assistant

3. Enrollment Limit

A few ICHARM Research Assistants

Applicants must be the applicants for the disaster management Ph.D. program.

4. Position Description

ICHARM RA will be assisting ICHARM staff in research and other related activities. ICHARM RA will also instruct training participants in the master's and other training programs in water-related disaster management as necessary.

ICHARM RA of this year (starting from November 2020) will support one of the following topics.

1. Sediment Transport Process-Modeling-Planning Study

1) Impacts of sediment transport on flood hazards in mega-size rivers:

In order to contribute to construction of disaster prevention measures, the research focuses on developments of numerical simulation about the river bed evolution and disaster phenomena related to it based on field measurements, satellite based information, sediment hydraulics.

2) Process and basin-wide management of sediment transport:

The research focuses on developing a model about the sediment transport processes in drainage basins, and forming sediment management plans in the specific target area related to degradation/aggradation of the river channel.

2. Hydro-Meteorological Modeling and Prediction Study

1) Hydrological extremes under climate change in developing regions:

The selected candidates will work on cutting edge studies related to the prediction of hydrological extremes under climate change by investigating the applicability of satellite observations on Earth's water cycle (e.g. precipitation, soil moisture, and snow), climate model simulations, and state of the art rainfall-runoff-inundation models in data limited regions.

2) Flood forecast coupled with numerical weather prediction in ungauged region:

The selected candidates will work on development of numerical weather prediction model, including optimization for the specific ungauged region in terms of model parameterization schemes, and available data assimilations such as satellite data, to obtain good performance in rare experienced area.

3) Compound flood hazard analysis:

The topic focuses on development of modelling framework to address compound flood hazard in coastal low-lying basins where are vulnerable to river flood from upstream and storm surge from coastlines. Such hazards can be exacerbated when their occurrence coincide.

3. Flood Risk Assessment, Communication and Capacity Building

1) Development of disaster response scenarios:

The selected candidates will work on developing disaster response scenarios for local governments and disaster-related organizations with focusing on the role sharing of local and national governments in flood-prone area based on scientific approaches such as flood inundation simulation, damage/risk assessment. They will also develop capacity building programs using these scenarios.

5. Qualifications

- I. Earned a master's degree in areas related to water-related disaster

management, such as civil engineering.

- II. Applied for the doctoral program in disaster management established by PWRI and GRIPS
- III. Good research paper writing and communication skills in English.

6. Selection

Suitable applicants will be selected for the positions through the application review (stage I) and interviews (stage II), based on multiple factors including expertise, experience, previous research achievement, motivation, and English communication skills.

7. Application Documents

The following documents must be in A4 size and written in either English or Japanese. No set format is specified. They must be sent together with the Ph.D. program application. Refer to the application guideline for the disaster management Ph.D. program for the application deadline and the address of the application acceptance office. The documents submitted including the application will **not** be returned to applicants.

- (1) Curriculum vitae
- (2) Previous achievements
- (3) List of published research papers
- (4) Copies of principal published research papers (up to one paper)
- (5) Certificate of the degree
- (6) Academic transcript
- (7) Outline of previous research achievements (This document must be written in English within a single A4 page. No Japanese is allowed.)
- (8) Additional information (as necessary)

8. Employment Period

1 November 2020 to 31 March 2021

The employment will be extended as necessary up to three years.

Note that the ICHARM RA positions are available only for those enrolled in the disaster management Ph.D. program. The contract will be renewed each Japanese fiscal year.

9. Employment Conditions

Salary: The salary will be provided within the following range depending on work

experience and other considerations.

Master's degree holders: JPY 9,300 to 12,800 per day.

(As of October 2019, and it's subject to change)

Hours: 5 hours per day in principle. (Up to 28 hours per week.)

Holidays: Saturdays, Sundays, national holidays, and New Year holidays

(29 December to 3 January)

Leave: 1) Annual paid leave: 10 days per year (3 days for the initial 3 months of the employment. Up to 5 days within a single month.)

2) Special paid leave: funerals and other special occasions

3) Unpaid leave: sickness and other similar cases

Allowance: overtime work, holiday work, bonuses (June, December), commuting, housing subsidy etc.

Insurance: work-related injury