United Nations Educational, Scientific and Cultural Organization

Japanese National Committee for the International Hydrological Programme

Intergovernmental Hydrological Programme (IHP)

The Twenty-ninth IHP Training Course in Nagoya

"Changing Global Water Cycle and the Regional Responses"

27th November– 6th December, 2019
Nagoya, Japan

Institute for Space-Earth Environmental Research (ISEE), Nagoya University

Virtual laboratory (VL) for diagnosing the earths climate system , Nagoya University

Disaster Prevention Research Institute (DPRI), Kyoto University

名古屋大学
NAGOYA UNIVERSITY

ISEE
Institute for Space-Earth Environmental Research

VL
CCSR - HyARC - CERES - CAOS

DPRI-KU

Outline

UNESCO-IHP's 10-day training course for young researchers of Asia-Pacific region will be held in the Institute for Space-Earth Environmental Research (ISEE), Nagoya University, from 27 November to 6 December, 2019. This is a part of Japanese contribution to the International Hydrological Programme (IHP) of the United Nations Educational, Scientific and Cultural Organization (UNESCO). The foci of this training course are on the global water cycle and the regional impacts – responses including aspects of water-related disasters under changing climate. This training course includes series of lectures and modelling practices covering various aspects of meteorology, hydroclimatology, ecohydrology, glaciology, oceanography, and atmospheric chemistry.

Objectives

Under current climate change, as detected in increasing frequency of extremes such as severe floods and droughts, development of resilient society is an inevitable task for researchers focusing on the "hydrosphere – atmosphere" sciences. In order to make our society more resilient, social adaptation to hydrohazards in a changing environment should be based on "basics" of the hydrosphere – atmosphere sciences and technologies, and it should be assessed based on projected future conditions of water resources. In light of the Theme 1 "Water-related Disasters and Hydrological Changes" and the Theme 5 "Ecohydrology, Engineering Harmony for a Sustainable World" of the IHP-VIII (IHP eighth phase), the 29th IHP training course focuses on following three objectives;

1) to learn latest knowledge on climate change and changing global water cycle,
2) to make practice on water-related phenomena, and
3) to discuss strategies on social adaptation to hydrohazards to realize resilient society in changing climate.

Dates 27th November– 6th December, 2019

Venue ISEE, Nagoya University, Nagoya, Japan

Conveners

Main Convener:	HIYAMA Tetsuya (ISEE, Nagoya University)
Sub Convener:	SHINODA Taro (ISEE, Nagoya University)
Secretary:	NAGAHIRO Jun (ISEE, Nagoya University)
	TANAKA Tomoko (ISEE, Nagoya University)

Lecturers

Lecture 1: Global warming and hydrological sensitivity

MASUNAGA Hirohiko (ISEE, Nagoya University)

Lecture 2: Meso-scale meteorology and tropical cyclones

TSUBOKI Kazuhisa (ISEE, Nagoya University)

Lecture 3: Radar meteorology and remote sensing of cloud and precipitation

TAKAHASHI Nobuhiro (ISEE, Nagoya University)

Lecture 4: Hydroclimatic variability in the Arctic circum-polar region

HIYAMA Tetsuya (ISEE, Nagoya University)

Lecture 5: Glaciers in the high-mountain Asia

FUJITA Koji (Graduate School of Environmental Studies, Nagoya University)

Lecture 6: Introduction of isotope hydrology

KURITA Naoyuki (ISEE, Nagoya University)

Lecture 7: Satellite view of physical and biological response of the ocean

ISHIZAKA Joji (ISEE, Nagoya University)

Lecture 8: Atmospheric chemistry and its connection to cloud formation

MOCHIDA Michihiro (ISEE, Nagoya University)

Indoor practices

Exercise 1: Cloud resolving atmospheric model and ocean circulation model

SHINODA Taro (ISEE, Nagoya University)

AIKI Hidenori (ISEE, Nagoya University)

Exercise 2: Atmospheric reanalysis and satellite remote sensing of precipitation

FUJINAMI Hatsuki (ISEE, Nagoya University)

MASUNAGA Hirohiko (ISEE, Nagoya University)

Exercise 3: Glacier mass balance model

SAKAI Akiko (Graduate School of Environmental Studies, Nagoya University)

FUJITA Koji (Graduate School of Environmental Studies, Nagoya University)

Exercise 4: Laboratory experiment of stable isotopes and atmospheric aerosol

MINO Yoshihisa (ISEE, Nagoya University)

KURITA Naoyuki (ISEE, Nagoya University)

OHATA Sho (ISEE, Nagoya University)

Note for the application

In the exercises, we use atmospheric reanalysis data, satellite remote sensing data, and several nonhydrostatic models which are available in Linux OS PC. Thus, applicant needs basic skills of handling Linux OS.

Training course documents

The training course documents will be available on our website in due course. The participants are requested to download them in advance as a preparation to the lectures of the training course.

Schedule and Program

27th November– 6th December, 2019

Please see the next page.

Schedule (27th November– 6th December, 2019)

Date		Time	Contents	Lectures
27 Nov.	Wed.	08:30～09:00	Registration & Guidance	HIYAMA T.
		09:00～09:20	Opening ceremony	SHIOKAWA K.
		09:30～10:45	Self-introduction	HIYAMA T.
		11:00～12:30	Lecture 1	MASUNAGA H.
		14:00～17:00	Exercise 1	AIKI H.
28 Nov.	Thu.	09:00～10:30	Lecture 2	TSUBOKI K.
		11:00～12:30	Exercise 1	AIKI H.
		14:00～17:00		SHINODA T.
		17:30～19:00	Welcome Party	HIYAMA T. & SHINODA T.
29 Nov.	Fri.	09:00～10:30	Lecture 3	TAKAHASHI N.
		11:00～12:30	Exercise 2	SHINODA T.
		14:00～17:00		MASUNAGA H.
30 Nov.	Sat.	Whole day	Free	
1 Dec.	Sun.	Whole day	Free	
2 Dec.	Mon.	09:00～10:30	Lecture 4	HIYAMA T.
		11:00～12:30	Exercise 2 (Follow up)	FUJINAMI H.
		14:00～17:00		
3 Dec.	Tue.	09:00～10:30	Lecture 5	FUJITA K.
		11:00～12:30	Exercise 3	SAKAI A.
		14:00～17:00		FUJITA K.
4 Dec.	Wed.	09:00～10:30	Lecture 6	KURITA N.
		10:45～12:30	Exercise 4	MINO Y.
		14:00～17:00		KURITA N.
5 Dec.	Thu.	09:00～10:30	Lecture 7	ISHIZAKA J.
		11:00～12:30	Exercise 3 (Follow up)	FUJITA K.
		14:00～17:00		SAKAI A.
6 Dec.	Fri.	09:00～10:30	Lecture 8	MOCHIDA M.
		10:45～12:30	Exercise 4	OHATA S.
		14:00～15:45	Presentations (Reports)	HIYAMA T.
		16:00～17:00	Completion ceremony	HIYAMA T.
		17:00～19:00	Farewell party	HIYAMA T. & SHINODA T.