



Technische
Universität
Braunschweig



EXCELLENCE CENTER FOR
DEVELOPMENT COOPERATION
SUSTAINABLE WATER MANAGEMENT

LWI



Expert Seminar on

Risk Management of Flash Floods

October 14 – 21, 2012 / Nakhon Pathom, Thailand



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and Development

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EXCELLENCE CENTER
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Expert Seminar on Risk Management of Flash Floods

Overview

Flash floods are among the most destructive types of natural disasters with a high potential of economic and environmental damage, often combined with loss of human life. Flash floods are severe flood events caused by extreme cloudbursts, glacial lake outbursts or the failure of man-made dams or dams. Landslides, debris and ice flows also pose serious hazards that may trigger flash floods. Reversely, landslides and debris flow may be initiated by natural flash floods. Despite the severe exposure to flash flood risks, most countries do not have forecasting and warning systems to mitigate the impacts of flash floods. There is an urgent need for developing and implementing suitable tools and procedures for forecasting and real time warning of flash floods.

The Expert seminar will provide a fundamental scientific and technical knowledge on all relevant aspects of the end-to-end system of flash flood risk management from monitoring and prediction through warning and appropriate on-the-ground action to save lives and minimize the flood damage costs. It will be shown how such a system can be best possibly adapted to the specific conditions of the endangered region and the available data.

Objectives

- Representing the main issues about flash floods caused by heavy rainfall, glacial lake outbursts, failure of hydraulic structures
- Getting fundamental knowledge about modeling of the rainfall-runoff and dam

breaching processes with special attention to flash floods including dam break floods

- Assessment of consequences like loss of life, land slide, debris flow, economic damage
- Getting acquainted with flash flood forecast and warning techniques, possibilities and limitations of application
- Prevention and mitigation measures
- Identification of common problems and local differences related to flash floods with respect to the participants' home countries

Topics

- Meteorological processes, modeling and forecast of heavy rainfall
- Hydrological processes, modeling and forecast of flash floods
- Processes and modeling of dam break floods, debris flow and land slides
- Flash flood warning and evacuation measures
- Precautionary measures: flash flood hazard and risk mapping
- Prevention and mitigation of flash flood disaster

Course Organization

The course will consist of lectures and discussion sessions. Lectures will be given by invited experts and be supplemented by selected presentations of the participants. An excursion will be planned to visit flood prone areas and relevant nearby sites. The language of the seminar will be English.

Schedule		
Sunday	10/14/2012	Arrival of participants
Monday	10/15/2012	Opening ceremony and lectures, icebreaker party
	Morning	Inventory of dealing with flash floods in the past and present
	Afternoon	Weather and heavy rainfall analysis and forecasting
Tuesday	10/16/2012	Lectures
	Morning	Hydrological processes of flash floods
	Afternoon	Hydrological and hydraulic modeling of flash floods
Wednesday	10/17/2012	Lectures
	Morning	Flash flood forecasting and warning
	Afternoon	Processes and modeling of debris flow and landslide
Thursday	10/18/2012	Lectures
	Morning	Flash flood hazard and risk mapping
	Afternoon	Disaster prevention and mitigation
Friday	10/19/2012	Excursion
	Morning	Royal Irrigation Dept., Disaster Prevention and Mitigation Office
	Afternoon	Flood prone areas, Amphawa Floating Market
Saturday	10/20/2012	Lectures, closing ceremony
	Morning	Overall discussion, closure session
Sunday	10/21/2012	Departure day

Lecturers

Prof. Tawatchai Tingsanchali, Dr. Phatcharasak Arlai, Dr. Supatchaya (Nakhon Pathom Rajabhat University);

Prof. Günter Meon, Dr. Gerhard Riedel (University of Braunschweig);

Prof. Thanh Van Ngo, Dr. Tran On (Water Resources University, Hanoi);

Mr. Kamol Promsakha Na Sakolnakhon (Thailand Meteorological Dept.);

Assoc. Prof. Kenji Tanaka (Kyoto University), and international experts for debris flow etc.

Target Audience

PhD students, post-doctoral researches, senior scientists and engineers with a strong professional affiliation to flood risk management.

Number of participants

The number of participants is confined to 25.

Application

Please apply online until July 15, 2012:

<http://www.exceed.tu-braunschweig.de/apply/summerschool>

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