FACILITATORS

Professor Willi H. Hager is a hydraulic engineer supervising hydraulic research at the Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich. He has authored more than 500 scientific papers with over 220 in peer-reviewed journals, and published books in Dam Hydraulics, Wastewater Hydraulics, Energy Dissipation, Environmental Engineering, History of Hydraulics, and Retention Basins. He holds memberships in the International Association for Environment Engineering and Research (IAHR); the Swiss Association for Wastewater Engineering (VSA); was Editor of the Journal of Hydraulic Research (2006-2011); Associate Editor of the Journal of Hydraulic Engineering (JHE, ASCE) and is a Fellow of the American Society of Civil Engineers (ASCE).

Professor Gyan Shrivastava is a hydraulic engineer and lecturer of Hydraulic Engineering at UWI. He received his education at the Indian Institute of Technology in New Delhi, Imperial College in London and at UWI, St. Augustine. He has worked for many years in the Commonwealth Caribbean in the design and construction of hydraulic structures. He is a Chartered Civil Engineer and a Member of the Institution of Civil Engineers, London and a Registered Engineer in Trinidad and Tobago, .

Dr. Pramenath Narinesingh has been lecturing in the Department of Civil and Environmental Engineering at the UWI, St. Augustine Campus since August 2010. He holds a BSc in Civil Engineering (UWI), an MSc in Hydraulic Engineering (UNECSO-IHE), and a Ph.D in Fluvial Geomorphology (UD, USA). Dr. Narinesingh's MSc. thesis entitled Nature Restoration and Floodplain Sedimentation is referenced in the ASCE Manual of Sedimentation Engineering (2010). He is also a registered engineer in Trinidad and Tobago.

Ms. Marina Narinesingh is an Attorney-at-law and was called to the bar in 2006. She received her education at the University of Waterloo, Ontario, Canada and at UWI, St. Augustine. Her practice over the past eight years has focused on environmental and planning law issues through public interest litigation. Ms.Narinesingh is also a part time lecturer at UWI, St.Augustine. She currently sits on the Green Fund Advisory Committee and Board of Directors of the Asa Wright Nature Trust.

Dr Mary Alkins-Koo is a senior lecturer in the Department of Life Sciences, Faculty of Science and Technology at the UWI. She holds a BSc (UWI), an MSc in Conservation from University College London and a PhD in Zoology from UWI, St Augustine. She teaches freshwater biology and ecology, human ecology and environmental issues. Her research interests are in freshwater invertebrates, river ecology, bio-monitoring and assessment. She was co-author of the EMA 2004 State of Environment Report 'Report of an Assessment of the Northern Range of Trinidad, Trinidad and Tobago'.

To register and for further information please go to: **engineering.institute@sta.edu**

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UWI
ST. AUGUSTINE CAMPUS

Engineering Institute
in collaboration with
Department of Civil and Environmental Engineering
Faculty of Engineering
The University of the West Indies
St. Augustine, Trinidad

DAM HYDRAULICS

January 14th &15th, 2015

THE SEMINAR

Welcome to the second meeting in the series on Water, Rivers, and the Environment by the Department of Civil and Environmental Engineering and the Engineering Institute. Our theme – **Dam Hydraulics** - focuses on the hydrology and hydraulics of dams, the threats of dam failure, loss of storage and useful life due to sedimentation, the potential impact on the riverine ecology, and the role of stake holders in protecting the environment and the public interests.

Dams create reservoirs of water that serve a variety of purposes including providing water for homes and industry, irrigation for farming, sports and recreation, hydro power, pollution control and even flood management. There are common design considerations in Detention and Retention Basins as in the design of Dams such as hydrological and hydraulic considerations since they all impound sediment and water. Their designs are equally challenging given the highly variable nature of storm events both in intensity and duration.

The construction of dams has paved the way for the development of our present society, however, at an unknown cost to the environment including reduction of migratory fish population, changes in riverbed morphology, loss of floodplain ecology and fertility, changes in wetland hydrology and habitat, loss of coastlines and reduction of many stakeholders assets such as fisheries, and wetland expansion. Since Dams are usually expensive state-funded projects that have high impact on the land and the environment, the spotlight will be on the public and stakeholders participation.

The ecological system and its sensitivity to environmental changes will also be examined as reservoirs and detention systems usually lie in the flow path of channels.

TARGET AUDIENCE

The seminar is geared towards engaging engineering practitioners and technicians in:

✓Civil, Agricultural and Environmental Engineering and management.

✓Water Resources Agency, Departments of Drainage Division and Highways Division, and Regional Corporations.

✓Designs of embankments, retention and detention structures, flood management and water management.

✓Land developers

✓Students and lecturers in the fields of water resources management and flood control will also find the topics enlightening.

SEMINAR DETAILS

Wednesday 14th January 2015
Dams in Context
Environmental Democracy
Visit to the Hollis Dam & Reservoir ½ day
Thursday 15th January 2015
Hydrodynamics of Dam-Break Waves
Fresh water Ecology of the Northern Range
Sediment Dynamics of Dams

http://www.wasa.gov.tt/Images/ArenaPics/Arena5_lg.jpg

Optional Field Trip – 13th January, 2015
Exploring the Northern Range fluvial geomorphology, hydraulic structures and sedimentation.

PRESENTERS' SUMMARY

1) Professor of Hydraulics
Dr. Willi H. Hager, ETH, Zurich, Switzerland.

2) Professor of Hydraulic Engineering
Dr. Gyan Shrivastava of UWI.

3)Environmental and Planning Issues **Ms. Marina Narinesingh** of UWI.

4) Senior Lecturer in Ecology
Dr. Mary Alkins-Koo of UWI.

5) Researcher in sedimentation
Dr. Pramenath Narinesingh of UWI.

January 14 &15, 2015
Venue: Faculty of Engineering
Fee: $ 2,200.00
Full Time Registered UWI Students: $600.00

January 13, 2015
Optional Field Trip: Fluvial Geomorphology & Sedimentation
Fee: $500.00 Students $250.00

Includes Course Materials, lunch and refreshments on both days.

Narvet Lower Dam
http://i1.ytimg.com/vi/kmpStM5hQ7M/hqdefault.jpg