

## 2009 Annual Report to IAHR (August, 2009)

### 1. Section: Working Group on Applied Hydrology

#### 2. Vision of the WGAH:

To focus on the civil and environmental engineering aspects of hydrology, and serve as a link between hydraulic engineering and the wider hydrological community. The IAHR Strategic Plan approved at the Seoul General Members Assembly in 2005 explicitly identifies the need for water specialists to adopt a more inter-disciplinary approach to our activities, and hydraulics and hydrology, in particular, are highly synergistic.

#### 3. Goals of the WGAH:

- To provide a focus within IAHR on the needs of engineering hydrologists
- To act as a link with the wider hydrological community and to bridge the gap between theoretical advancement in hydrology (with a focus on surface hydrology) and engineering applications.
- To promote hydrological data exchange on experimental basins and model intercomparison.
- To contribute to plan and co-ordinate a more extended programme on specific hydrology topics in future IAHR Biennial Congresses.
- To collaborate with other international bodies such as WMO, IAHS, UNESCO to plan research initiatives and jointly organize conferences or workshops of relevance for hydrology from the perspective of water engineering applications.

#### 4. Section Roster, approved by the IAHR Council in fall 2007, after an informal meeting of interested people in Venice IAHR Congress, 2007

<i>Name</i>	<i>Address</i>	<i>E-Mail</i>
<b>Roberto Ranzi</b> – <i>Professor, Chair</i>	<i>DICATA-Department of Civil Engineering, Architecture, Land and Environment Universita' di Brescia Via Branze 43 I-25123 BRESCIA ITALY</i>	<i>ranzi@ing.unibs.it</i>
<b>Kai Uwe Graw</b> – <i>Professor, Vice Chair</i>	<i>Department. of Civil Engineering, University of Leipzig Leipzig 04109 Germany</i>	<i>Kai-uwe.graw@tu-dresden.de</i>
<b>Kang Boosik</b> - <i>Professor, Secretary</i>	<i>Department of Civil &amp; Environmental Engineering Dankook University Jukjeon, Yongin 448-701 Republic of Korea</i>	<i>bskang@dankook.ac.kr</i>

### 3. Activities 2007 to date

#### A. Two visits to WMO

##### 1) Preparatory meeting at the 3rd session of the WMO-Commission of Hydrology Advisory Working Group on behalf of IAHR(Feb 11 – 13, 2008) :

- Objectives
  - The setup of the World Hydrological Cycle Observing System (WHYCOS)
  - The setup of INFOHYDRO, a metadata base aiming at distributing information on Networks of hydrological observing stations

##### 2) Invited visit to XIII<sup>th</sup> Session of the WMO CHy (Nov, 2008)

- Objective
  - To provide IAHR expertise to the WMO CHy-Commission for Hydrology in the accomplishment of its Programme
  - To organize short courses dedicated to engineers, hydrologists and staff of Hydrological Services about principles and methods of stream gauging also on the basis of the forthcoming new edition of the WMO Manual of Streamgauging.



**Figure 1** Arthur Askew (right), former Director of the Hydrology and Water Resources Department of WMO and current President of IAHS welcomes Roberto Ranzi, Chairman of the IAHR-Applied Hydrology Working Group, to Geneva where they later attended the XIII<sup>th</sup> session of WMO's Commission for Hydrology

#### B. Preliminary Design of a Joint Course on Streamgauging

- **Motivation** :  
WMO and IAHR have agreed to cooperate in the development of a course on streamgauging based principally on the (soon to be published) 2<sup>nd</sup> edition of the Manual of Streamgauging (WMO N° 519).
- **Target** : professionals and technicians of hydrological and hydrometeorological services, private companies, water engineers (30 people)

- **Duration** : 2 speeds: 5 days for developing countries / 3 days for others.
- **Where**: Kick off course: Brescia, 2010, Edimburgh (To Be Confirmed)  
IAHR European Division meeting, Korea, 2 African countries possibly not covered by WHYCOS projects,....
- **Instructors:**
  - Local Committee Experts
  - IAHR expert(s)
  - WMO officers or experts (especially in the initial courses)
  - Sponsors experts
- **Language**: local + English

### C. IAHR Joint Working Group on Climate Change Impact on the Hydrological Cycle, Water Management and Engineering

- **Motivation** : To report on the current state of knowledge of the impact of projected climate change on the hydrological regime in the different regions of the world and on the extent to which these impacts are recognized and taken into account by national water authorities, engineering organizations and other regulating bodies in setting their standard practices and procedures for the planning, design and operation of water works.

#### • **Members of the Working Group**

For IAHR

**Prof. Toshiharu Kojiri** Water Resources Research Center, Kyoto University, Japan,  
Working Group on Climate Change in IAHR

**Prof. Arthur Mynnet**, WL Delft Hydraulics, The Netherlands, NESCO International  
Flood Initiative

**Prof. Roberto Ranzi**, *Chair for 2009*, University of Brescia, DICATA, Italy, Applied  
Hydrology WG in IAHR

For IAHS

**Nigel Arnell**, Walker Institute for Climate System Research, University of Reading,  
UK

**Valentina Krysanova**, *Vice Chair for 2009*, Potsdam Institute for Climate Impact  
Research, Germany

**Esko Kuusisto**, Finnish Environment Institute, Finland

#### • **Project Objective :**

to encourage a close co-operation between the scientific and engineering communities in taking appropriate and timely action in response to the impact of climate change on the hydrological regime and on water resource projects.

#### • **Project Period : 2008-2012**

#### • **The Expected outputs and Products :**

- Inventory of climate change impact studies and the engineering feedback for the adaptation to climate change impact on the hydrological cycle
- Scientific Report(s) to be approved by IAHR and IAHS in 2011.

**D. IAHR Sponsored one session at the EGU Congress in Vienna, April 2009**

**E. WGAH Co-sponsored the Dresden Wasserbaukolloquim, March 2009**

**F. WGAH Co-sponsored the meeting of the British Hydrological Society**

#### **4. Planned Activities for the Period August, 2009 ~ Brisbane 2011**

- Organise one or two WMO-IAHR short courses on Streamgauging, likely in Italy and Korea within the 8<sup>th</sup> International Symposium on Eco-hydraulics, at least
- Complete the work programme of the IAHR-IAHS WG on Climate Change
- Contribute to the Brisbane Scientific Programme

Vancouver, 12 August 2009

Boosik Kang

Secretary of the IAHR WG Applied Hydrology

Approved by Roberto Ranzi, Chair of the IAHR WG Applied Hydrology