

# Newsletter 5

Volume 24 / 2007 (Supplement to JHR - Vol 45 - No 5)



## IAHR Venice Congress Report

The 32<sup>nd</sup> IAHR Congress in Venice from July 1-6<sup>th</sup> will be remembered by all those who attended as a unique event!



### New Initiatives

## Rushing Rivers Institute

see page 71



## Rivers'07

2<sup>nd</sup> International Conference on Managing Rivers in the 21st Century

see page 69





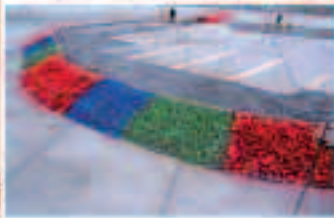
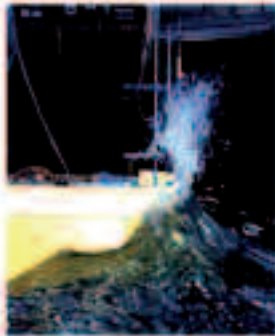
# CHC

CANADIAN HYDRAULICS CENTRE  
CENTRE D'HYDRAULIQUE CANADIEN

Canada's Largest Coastal and Hydraulic Engineering Laboratory  
Specializes in 4 Technology Areas:

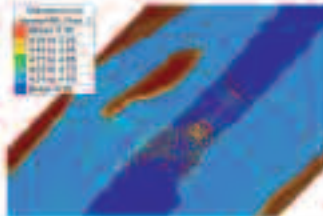
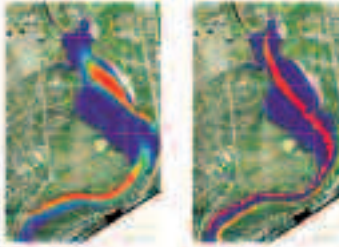
**Maritime, Offshore Structures, Port & Coastal Engineering**

Modeling of shorelines, port & harbour development, moored ship response, coastal and offshore structures



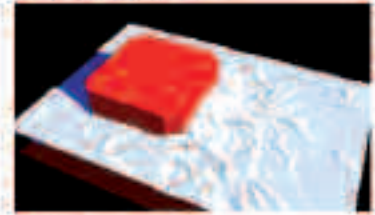
**Environmental Hydraulics**

Simulation of water quality, oil spill migration, pollutant circulation, short/long term flooding & consequence modelling, turbidity and dredged soil disposal



**Cold Regions Technology**

Solutions to ice problems on rivers, lakes and oceans, and modelling of ice forces on structures



**Laboratory Technologies**

Technical advice on the design of hydraulic laboratory facilities, wave machines and control systems; active and passive wave absorbers; data acquisition and analysis software; and institutional training



National Research Council Canada

Conseil national de recherches Canada

## Engineering Water

**We are experts in Coastal & Hydraulic Engineering with 20 years of experience in and around Asia.**

We work in collaboration with consultants from world over for Field Investigations, Mathematical Modelling and Physical Model Testing using our laboratories and state-of-the-art equipment. Our Web Cam facility allows you to work with us, on-line real-time and we also provide virtual joint work spaces within LHI's intranet.

**Our Expertise Cover :** Coastal Engineering / Ports and Harbours / Inland Water / River Hydraulics and other related fields.

Moratuwa, Sri Lanka. Tel: +94 (0)11 2650409, 2650472, 2650473 Email: admin@lhi.lk, www.lhi.lk



ISO 9001:2000 certified by SGS Switzerland

# In this issue

## Introducing...

Peter Davies  
Page 67

## Introducing...

Constantine Memos  
Page 68

## Introducing...

Francisco Taveira Pinto  
Page 68

## Conference Report

Rivers '07 – 2 nd International Conference  
on Managing Rivers in the 21st Century  
Page 69

## New Initiatives

Rushing Rivers Institute  
Page 71

32nd IAHR Congress Report - Venice  
Page 72  
IAHR 2007 General Members Assembly  
Page 75

## Section Report

Hydraulic Structures Section  
Page 76

## Workshop Report

International Junior Researcher and  
Engineer Workshop on Hydraulic Structures  
Page 78

## Obituary

Prof. Frank Henderson  
Page 79

### Contact us:

**IAHR Secretariat**  
Paseo Bajo Virgen del Puerto, 3  
28005 Madrid SPAIN  
Tel. : +34 91 335 79 08  
Fax. : +34 91 335 79 35  
website: <http://www.iahr.org>  
General e-mail address: [iahr@iahr.org](mailto:iahr@iahr.org)

Direct lines:  
Dr. Christopher George, Executive Director  
tel.: +34 91 335 79 64  
e-mail: [christopher.george@iahr.org](mailto:christopher.george@iahr.org)

Estibaliz Serrano

Editor Newsletter/NewsFlash  
tel.: +34 91 335 79 08  
e-mail: [publications@iahr.org](mailto:publications@iahr.org)  
Membership and subscriptions  
tel.: +34 91 335 79 19  
e-mail: [membership@iahr.org](mailto:membership@iahr.org)

Elsa Incio

Carmen Sanchez  
Medina

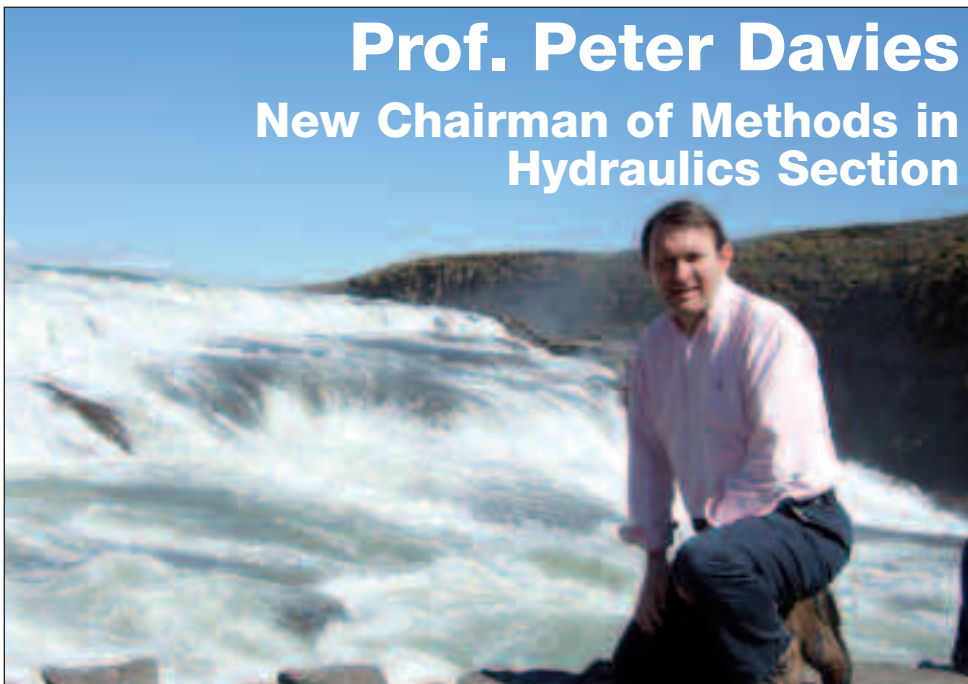
Accounts  
tel.: +34 91 335 79 48  
e-mail: [accounts@iahr.org](mailto:accounts@iahr.org)  
Office Administration  
tel.: +34 91 335 79 86  
e-mail: [office@iahr.org](mailto:office@iahr.org)

Cristina Moreno

Our monthly electronic newsletter "NewsFlash" complements the bi-monthly IAHR Newsletter. "NewsFlash" publishes information which would be outdated if published only in our bi-monthly Newsletter "NewsFlash" is available free of charge to anyone interested in hydraulics; if you know of anyone who would like to receive it please ask them to forward their e-mail address to us. "NewsFlash" is also available on our homepage: <http://www.iahr.org>

## Introducing....

# Prof. Peter Davies New Chairman of Methods in Hydraulics Section



Peter Davies has recently assumed the Chairmanship of Technical Division 1 (*Methods in Hydraulics*) after serving for over 8 years as a committee member (including 4 years as Chair) of the Fluid Mechanics Section. The interests of the Division are wide ranging, covering the activities of five Technical Sections and dealing not only with theoretical, experimental and computational methods in hydraulics but also the development of new hydraulic instrumentation at lab and field scale and the promotion of education and professional development provision within IAHR.

Davies graduated in Physics and Mathematics from the University of Newcastle upon Tyne, UK in 1966



and was awarded a PhD by the same university for his thesis on topographic effects in rotating fluids. Following a 2-year post-doctoral Fellowship at the University of Stockholm, he returned to the University of Newcastle upon Tyne where he worked as a Research Associate on a number of problems involving rotating and stratified flows. In 1980, following a short period as a Visiting Scientist at the University of

Wyoming, he moved to a Lectureship position in the Department of Civil Engineering at the University of Dundee where he has remained since that time. He was awarded a full Professorship in 1996. He has research interests in all aspects of Environmental Fluid Mechanics, particularly in fundamental problems that involve stratified and buoyancy-driven flows. In 1980 he served as Vice President of the

European Geophysical Society and he holds Visiting Professorships in China at Chengdu University of Technology (now Sichuan University) and Kunming University of Science and Technology.

*Prof. Davies may be contacted at [p.a.davies@dundee.ac.uk](mailto:p.a.davies@dundee.ac.uk)*

## Prof. Constantine Memos New Chairman of Maritime Hydraulics Section

Constantine Memos, Professor of Maritime Hydraulics and Port Engineering at the National Technical University of Athens (N.T.U.A.), has been involved in a variety of port and coastal projects since 1980. His research interests include water wave mechanics, shallow water effects, seismic design of port structures, etc. He has published over 100 articles on related subjects. He holds an MEng degree of Civil Engineering, NTUA, a Maths Diploma (University of Patras), a DIC and a PhD in Maritime Hydraulics (Imperial College). Apart from IAHR, he is an ASCE Fellow and a member of PIANC and The New York

Academy of Sciences.

The objectives of the Section are firstly to gather more momentum, especially by attracting new members, and secondly to follow up initiatives that could have end results useful primarily to the maritime engineers of IAHR membership. These may include contributing to the Outfalls Monograph, examining beach dewatering issues, developing useful data bases, upgrading the Newsletter, etc.

*Prof. Memos can be contacted at [evelinakal83@yahoo.gr](mailto:evelinakal83@yahoo.gr)*



## Prof. Francisco Taveira Pinto, Portugal New Secretary of the Maritime Hydraulics Section

Francisco Taveira Pinto, Professor of General Hydraulics and Coastal Engineering in the Civil Engineering Department of the Faculty of Engineering of the University of Porto (FEUP), received his Diploma of Civil Engineering from the University of Porto in 1989, his equivalent M.Sc in Sediment Transport from the University of Porto in 1993 and his Ph.D in Experimental Study of Submerged Breakwaters, also from the University of Porto in 2002.



He is a teacher in the Civil Engineering Department since 1990, becoming Assistant in 1993, Assistant Professor in 2002 and Associated Professor in 2006. He is also the Director of the Hydraulics, Water Resources and Environment Division of the Civil Engineering Department of the Faculty

of Engineering of the University of Porto and the Director of the Hydraulics, Water Resources Institute.

He is also responsible for the Coordination of the Erasmus Program in the same department.

Internationally he belongs to the board of EUCC-The Coastal Union Mediterranean Center, based in

Barcelona, Spain.

His main research interest is applied maritime hydraulics and coastal engineering, by participating in several National and European projects, like "EUrosion", "CoPraNet", "ELAMCAM", "ENCORA". He has been the coordinator of the Portuguese Network for Coastal Research (PoCoast),

participating in the respective European action ENCORA.

He has also been involved with the organization of several national and international conferences, namely the Littoral Series from Eurocoast Federation (Lisbon, Porto, Aberdeen, Gdansk, and Venice), the ICCCM Series (Algarve, Hammamet) and more recently CoastLab.

"My Planned Contributions as Secretary of the Maritime Hydraulics Section from IAHR is to help the chairman in the development of MHS, namely to increase the number of members and activities, within the goals of IAHR. CoastLab Conference Series, launched by FEUP in 2006, with the support of IAHR will be one of the main tasks of the MHS among others".

*Prof. Taveira Pinto may be contacted at [fpinto@fe.up.pt](mailto:fpinto@fe.up.pt)*

## Conference report

# Rivers'07 – 2nd International Conference on Managing Rivers in the 21st Century:

## Solutions towards Sustainable Urban Basins

June 6th – 8th, 2007, Sarawak, Malaysia

Rivers'07 was co-organised by River Engineering and Urban Drainage Research Centre (REDAC) of Universiti Sains Malaysia (USM) and the Sarawak River Board (SRB). The conference is the second of a series of triennial International Conferences on Managing Rivers in the 21<sup>st</sup> Century. This series of conferences is aimed to provide a major forum for researchers and engineers to present and exchange their views on the latest research issues and application methods to solve existing problems related to rivers in Malaysia and worldwide.

The conference was supported by government agencies, research institutions and professional societies, which include Department of Irrigation and Drainage (DID), Malaysia, Malaysian National Committee on Irrigation and Drainage (MANCID), Humid Tropics Centre (HTC), Institute for Environment and Development (LESTARI), Universiti Teknologi MARA (UiTM), National Hydraulic Research Institute of Malaysia (NAHRIM), Water Watch Penang (WWP), Sarawak Development Institute (SDI) and the International Association of Hydraulic Engineering and Research (IAHR).

The three-day conference was attended by 170 participants from twenty countries including UK, Sweden, USA, Canada, Libya, Nigeria, Bangladesh, India, Iran, China and Malaysia. The official opening was made by YB Datuk Patinggi Tan Sri Dr Alfred Jabu Anak Numpang, Deputy Chief Minister of Sarawak, and four keynote speeches were delivered by established speakers namely, YB Datuk Patinggi Tan Sri Dr. Alfred Jabu Anak Numpang (Deputy Chief Minister of Sarawak, Malaysia), Datuk Paduka Ir. Hj. Keizrul Abdullah (Director-General of DID, Malaysia), Prof. Roger A. Falconer (Cardiff University, UK), and Prof. Jörg Imberger (University of Western Australia, Australia). The keynote addresses touched on river management, river restoration and developments in river modelling which were followed by a state dinner, sponsored by the Sarawak State Government.

The second day of the conference was dedicated to the presentation of papers. There were two parallel technical sessions held concurrently, covering eight sessions in total. Various issues and new developments were presented and discussed by participants from various backgrounds. Among the topics brought up were Integrated River Basin Management (IRBM), advancement in 2-D hydraulic modelling, real time water quality monitoring and forecasting, localised effort in restoring and managing rivers, as well as inland river navigation systems. Prof. Dr. Nor Azazi Zakaria (Universiti Sains Malaysia, Malaysia) addressed his keynote speech on the final day of the event, highlighting on the importance of Sustainable Urban Drainage Systems (SUDS). Two technical ses-



YB Tan Sri Dr Alfred Jabu Anak Numpang (Deputy Chief Minister of Sarawak) on managing the rivers in Sarawak to meet multiple demands



Prof. Falconer highlighted his recent research on extreme flood events and methods of monitoring the health risks of such events in his keynote address.

sions followed, before the participants were treated to a river cruise ride down the Sarawak River to the Sarawak River Barrage and back. Participants were briefed through the operation of the barrage system in mitigating flood and protecting the city against intruding tide in the half-hour stay at the barrage.

The Conference Proceedings include 88 papers, systematically arranged into ten topics of, Integrated River Basin Management (12 papers), Watershed Land Use Planning and Management (5 papers), Flood Forecasting and Flood Risk Management/ Mitigation (10 papers), Floodplain, River and Estuarine Rehabilitation (13 papers), Hydrology and Sustainable Drainage System (17 papers), Stream Heritage Restoration and Conservation (1 paper), Water Quality Treatment (9 papers), Inland Water Transport (3 papers), Soil Erosion and Sedimentation (16 papers), and Legislative and Policy (2 papers). 40% of the papers were from international participants whereas the remaining 60% were from local participants including research institutions, NGOs and government agencies.

The CD-ROM proceeding is priced at USD 75 and can be obtained from Assoc. Prof. Dr. Aminuddin Ab. Ghani (redac02@eng.usm.my).

Assoc. Prof. Dr. Aminuddin Ab. Ghani, Deputy Director  
River Engineering and Urban Drainage Research Centre (REDAC),  
Malaysia  
redac02@eng.usm.my



Conference report

# Indo-Japan Workshop on Coastal Problems and Mitigation Measures- including the effects of Tsunamis

July 16-17, 2007, Chennai, India

The Indo-Japan Workshop on Coastal Problems and Mitigation Measures- including the effects of Tsunamis was organized by the Department of Ocean Engineering, Indian Institute of Technology Madras, INDIA and the Port and Airport Research Institute, Japan during 16-17 July, 2007. The workshop was sponsored by IAHR. The workshop focussed on an exchange of Japanese and Indian experiences in facing coastal problems and mitigation measures.

Prof. R. Sundaravadivelu, Head, Department of Ocean Engineering, IIT Madras welcomed the Japanese counterparts and workshop delegates. The organising secretaries, Prof. V. Sundar, IIT Madras and Dr. T. Hiraishi, PARI briefed the coastal problems in their respective countries. The inaugural address was delivered by Shri. L.P. Sonkar, Advisor, Planning commission, Government of India. Prof.M.S.Ananth, Director, IIT Madras delivered the presidential address. Dr. S.A.

Sannasiraj, one of the organizing secretaries of the workshop delivered the vote of thanks.

Prof. V. Sundar delivered an inaugural lecture of the workshop titled "Coastal Erosion and Protection – An Overview". This was followed by twenty-one invited lectures discussed in six technical sessions. The lectures covered a wide spectrum of topics related to coastal problems including erosion, mud banks, river mouth dynamics and impact of natural coastal hazards including the effects of tsunamis..The total number of delegates was 60 - mainly senior level practicing engineers and decision makers from Governmental and private agencies. The workshop identified application of geo-synthetics in coastal protection, development of numerical models for coastal hazards and preparedness, tsunami forces on structures and control of sedimentation near river mouths as few areas of possible col-

laboration for future. It was also emphasized that special areas like estuarine hydraulics could be considered as another area which could be taken up for a possible workshop in the future. Such a joint workshop enabled the researchers from both countries in sharing their knowledge and experience in topics of mutual interest. It has evinced keen interest among young researchers and students in the subject areas that were discussed. It felt that such joint workshops among a few countries could be supported by IAHR in future.

The lecture material is brought out as a printed volume. The entire proceeding is also brought out in the form of CD-ROM. A photograph of the key members of the organizing committee and the invited lecturers is given below.

*Dr. Dr-Ing.E.h. V. Sundar  
Chairman, IAHR-Asia Pacific Division, India  
vallamsundar@gmail.com*





# Rushing Rivers Institute

## New Initiatives

The Rushing Rivers Institute is a non-profit with a mission to help secure water resources for the environment and future human use. The Institute was inaugurated on January 25, 2007 kick-off event at Hampshire College with more than fifty environmentalists from a broad spectrum of organizations and academic institutions throughout New England in attendance. The event demonstrated that many prominent individuals, scientists, and organizations are engaged in promoting the protection of rivers and water resources, and recognize the need for a new initiative that will act as a *conduit between managers and river scientists world wide* "Both the number of people there, and who was there, was very impressive and testifies to the interest in what the Rushing Rivers Institute is undertaking," said Sandra Postel of the Global Water Policy Project.

Initially, the work of the Rushing Rivers Institute will build on and disseminate the technology and expertise developed by our sister organization, the *Northeast Instream Habitat Program* ([www.neihp.org](http://www.neihp.org)). Currently located at Mount Holyoke College, NEIHP has seven years of experience working with state and federal environmental agencies and various academic institutions on numerous projects throughout the Northeastern U.S. aimed at developing science and research methods that foster the *ecologically sensitive management of rivers and streams*. Through the use of the *Mesohabitat Simulation Model* (MesoHABSIM) - a computer modeling sys-

tem developed by NEIHP that uses physical models to analyze and predict ecosystem potential - NEIHP has been able to assess the consequences of human induced alterations (e.g. dams, water withdrawals, channel alterations, pollution) and facilitate significant improvements in watershed management and river restoration practices.

Through its work with state and local governments and industry and watershed management groups, NEIHP scientists came to realize that water resource managers are concerned with the inadequacy of available management tools with which to address complex hydrological/ecological and societal issues. The lack of applicable environmental management tools is not caused by underdevelopment in science, but by *limited access to integrative applications of available state-of-the-art research*. The key drawback in the application of cutting-edge research in water management planning is [the] "*disconnect between needs of resource managers for simple and effective solutions on the one hand, and cost-independent needs for innovation and basic understanding of complex processes, that motivates scientists on the other hand*" (Acreman M. 2005 Linking science and decision-making: features and experience from environmental river flow setting. *Environmental Modelling & Software* 20, 99-109).

The Rushing Rivers Institute will bridge this gap between resource managers and river scientists worldwide by fostering the

timely application of cutting edge science in resource management practices and protecting and restoring river and stream ecosystems. Over time, the Rushing Rivers Institute will serve as an information and resource *clearinghouse* that will enable professionals from diverse fields to work collaboratively and build relationships that will further the long term vision of establishing a network of individuals and organizations who are committed to promoting healthy riverine ecosystems through the application of *multidisciplinary* river restoration research and methodologies.

To this end, we are hopeful that two of our primary initiatives will be of interest to the IAHR members:

### Join the Rushing Rivers Associates Program

Rushing Rivers has created an online profile of river science associates with the purpose of promoting their research and of creating a network of experts and professionals to encourage collaboration and communication. Those interested in participating should send their professional information to [piotr@RushingRivers.com](mailto:piotr@RushingRivers.com). You can visit <http://www.rushingrivers.org/About-Us/Associates/Associates.htm> to see a list of professionals who have already become Rushing Rivers Associates.

*Dr. Piotr Parasiewicz, Director, Rushing Rivers Institute, USA*  
[piotr@rushingrivers.org](mailto:piotr@rushingrivers.org)





*The 32<sup>nd</sup> IAHR Congress in Venice from July 1-6<sup>th</sup> will be remembered by all those who attended as a unique event!*

## IAHR Venice Congress Report



*Venetian musicians serenade outgoing IAHR President Etienne Mansard and incoming President Nobuyuki Tamai*



*LOC Secretary General PierPaolo Campostrini*



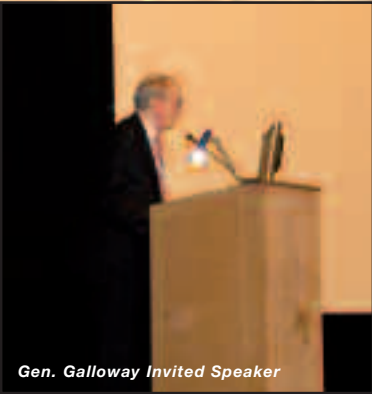
*LOC Chairman Giampaolo di Silvio*

The 32<sup>nd</sup> IAHR Congress entitled “Harmonizing the Demands of Art and Nature in Hydraulics” in Venice from July 1-6<sup>th</sup> will be remembered by all those who attended as a unique event! Over one thousand delegates (with a record number of about 900 papers submitted and 737 accepted and published in the proceedings) filled both the main buildings of the Venice Convention Centre located right opposite the famous Lido di Venezia beach. The Congress was unique not only for its beautiful location in Venice, but in many other respects. For example, it was co-located with the ASCE COPRI Coastal Structures 2007 International Conference with around three hundred participants. This experiment, an attempt at rationalisation of an ever-increasing number of international scientific events, was well-received – albeit at the expense of more work for the local organisers. Delegates for both events were free to attend sessions in either Congress, and the exhibition was shared. Venice was unique for the importance given to the exhibition – with 39 exhibitors present including instrument suppliers, contractors,

major research institutes, etc. For the first time the Congress included a special non-peer-reviewed Exhibitors Seminar to close the gap between purely scientific and more commercial presentations. Venice also hosted meetings of European Union projects such as the EU FLOODSITE project (in a special Session), and Management Board of the EU HydraLab project, as well as a number of Seminars and Fora promoted by IAHR in collaboration with International Agencies and Organizations. Venice as usual served as a backdrop for people to meet – including the IAHR Sections on the Sunday. Special meetings were also held to consider starting new groups on Sea Outfalls, Hydrology, and Fast Transients.

The Congress consisted of a few plenary Sessions and eight to ten parallel technical activities including a record number of Special Sessions covering: downstream environmental effects of reservoir operations, retrofitting existing dams with fish passes, modelling of flood inundation, reservoir sedimentation, field measurements: new technologies and methods, smoothed particle hydrodynamics, cop-





*Gen. Galloway Invited Speaker*

*First Selim Yalin award goes to Gary Parker*



*Koen Blanckaert, one of the Schoemaker prize winners*

*Ippen Award winner Mohamed Ghidaoui*

*JHR Editor Marcelo Garcia (right) hands over to the new Editor, Willi Hager (left)*

ing with risk, integrated water resources management in trans-boundary rivers, flow hydrodynamics and mass dispersion in the presence of vegetation, shallow flows over irregular topography, urban drainage, fluid phenomena and thermal hydraulics in nuclear reactors, and hydro- and morpho-dynamics of tidal lagoons. An excellent opening address was given by Prof Gerry Galloway (President of the American Water Resources Association) on “Restoring and Protecting New Orleans and Coastal Louisiana: Harmonizing the Efforts of Engineers, Scientists, Politicians and the People”. Prof Galloway highlighted the tenuous ability of the human race to occupy fragile landscapes subject to ever-changing climate and geomorphic conditions. He discussed the friction that has existed over the years among engineers, physical scientists, social scientists, the public, special interest groups, and politicians in setting goals for use of this landscape. The challenge ahead is to develop processes that will enable these diverse groups to harmonize their visions of a future in a science-based approach to restora-

tion and protection of coastal Louisiana that will be environmentally sustainable, financially supportable, and risk manageable. Other keynote speakers at the Congress included Prof Gilberto Muraro of Padua University on “the Economics of Investments on large Public Works”, Prof Ignacio Rodriguez-Iturbe on “River Networks Templates for landforms, vegetation and disease dynamics”, and Prof Gary Parker on “Is there enough Sediment in the Mississippi River to Build the Delta”. Another unique feature of the Congress was being physically alongside the world’s largest hydraulic engineering project currently underway. On the Thursday technical visits were organised to see this fascinating (and controversial) project which when completed will protect Venice from flooding. On the last day of the Congress, a Special Joint Workshop IAHR-COPRI was organised to discuss Highwater and Environmental Issues in the Venice Lagoon and Similar Situations”. The Biennial Congress is the occasion for the hydraulic engineering community to give public recognition to the achievements



IAHR council



Advertising the next Congress in Vancouver



39 exhibitors present including instrument suppliers, contractors, major research institutes



AHR Asia Division meeting

of its members. During the Opening Ceremony at Venice President Mansard welcomed three new Honorary Members to IAHR: Prof. Costantino Fasso' (Italy), Prof. Li Guifen (China), and Prof. Forrest Holly (USA). He also granted the first Selim Yalin Lifetime Achievement Award to Prof. Gary Parker (USA), the Arthur Ippen Award for 2007 to Prof. Mohamed Ghidaoui (Hong Kong, China), and the Harold Jan Schoemaker Award jointly to Eric Wannamaker & Eric Adams (USA), and K. Blanckaert & U. Lemmin (Switzerland). The award-winners were described in more detail in Issue 4. On a sad note the passing away of one of our most well-known Honorary Members, Prof. Selim Yalin, was remembered by Dr. Mansard during the Opening Ceremony and by Gary Parker during the week. Prof Selim's son Azer was present for the granting of the first Selim Yalin Award.

A vast amount of work went into the preparations for the Congress. It was especially difficult organising such a big Congress (in fact two important Congresses) in the unique location of Venice. Its success was due to the efforts of the staff of CORILA and other organisers, and in particular, the total commitment of the Congress Chairman, Prof. Giampaolo di Silvio, and Secretary General, Ing. PierPaolo Campostrini and his staff for which IAHR is most grateful.

*Dr. Christopher George, Executive Director  
IAHR, Spain  
christopher.george@iahr.org*

*The Biennial Congress is the occasion for the hydraulic engineering community to give public recognition to the achievements of its members.*

### IAHR 2007 Schoemaker Prize

ERRATUM: In Issue 4 of the Newsletter we inadvertently omitted the paper by Blanckaert and Lemmin. We apologise for this mistake.

The 2007 IAHR Schoemaker Award for the most outstanding paper published in the Journal of Hydraulic Research during the period January 2005- December 2006 was jointly awarded to:

"Means of noise reduction in acoustic turbulence measurements," by K.Blanckaert and U. Lemmin, JHR, vol 44(1), 3-17. and  
"Modelling descending carbon dioxide injections in the ocean" by E.E.Wannamaker and E.E Adams, JHR, vol 44 (3), 324-337





## IAHR 2007 General Members Assembly

The IAHR 2007 General Members Assembly was opened by President Dr. Etienne Mansard (Canada) at 15:30 on Friday 6<sup>th</sup> July as part of the Closing Ceremony of the IAHR 2007 Venice Congress with an estimated 100 in the audience.

The Assembly began with a presentation by the Executive Director, Dr Christopher George, of the Audited 2006 Financial Statement. The results show an operational surplus for the year of €47,538.07 compared with €54,558.90 in 2005. This figure does not take into account the bulk of the Secretariat staff costs (estimated at around €140,000) which are borne by our host organisation CEDEX in Spain for which we offer grateful thanks. Nor does it include other benefits such as office accommodation which is provided by CEDEX at no cost. The main reason for the slightly lower value of the surplus is a large increase in publication costs due to the 33% increase in JHR thickness from Issue 5, 2005. Allowing for a €7,500 replenishment of our professional fund we were able to return a surplus to CEDEX of €19,070.09 in accordance with our agreement. The Statement was approved unanimously by acclamation. Dr George stated that it was not possible to present a meaningful estimated turnout for 2007 at this early stage in the financial year; however, he was optimistic that IAHR will improve its financial performance this year.

The Executive Director moved on to present the 2008 Budget and business prior-

ities which has a focus on improving our financial performance. The Plan and Budget were approved by Council at its meeting earlier in the week. The key objectives associated with the Budget are shown in the accompanying Table. The Assembly voted unanimously to approve the 2008 budget.

IAHR Vice President, Prof Gerhard Jirka (Germany), provided a brief summary of the IAHR Strategic Plan introducing the Mission and Aims, and indicating the role of Council in constantly updating this Plan. As part of IAHR strategy to develop a more inter-disciplinary approach to our discipline Dr. Mansard announced the start of an open debate amongst the membership over the coming year on the name of IAHR, and informed the Assembly that Council had discussed a possible change of name – while keeping the IAHR acronym. There was a mixed response from the GMA on this matter.

Finally, the President, Dr. Mansard, introduced to the GMA the Chairman of the 2007 Council Election Nominating Committee, Prof Young Kim (USA) and asked him to give the results of the 2007 IAHR Council Elections. Prof. Kim explained that, in accordance with the By Laws, the election was carried out by postal ballot of the membership with more than 15% of the ballots returned by the deadline. Prof. Kim proceeded to introduce the new Council as follows:

### IAHR 2007-2009 Council

President:

Prof. Nobuyuki Tamai, Japan

Vice Presidents:

Prof. Gerhard Jirka, Germany

Prof. Joseph Hun-wei Lee, Hong Kong, China

Prof. Peter Goodwin, USA

Secretary General:

Dr. Ramón M. Gutiérrez Serret, Spain

Council Members:

Prof. Philippe Gourbesville, France; Prof. Massimo Greco, Italy; Dr. Marian Muste, USA; Prof. Arthur Mynett, The Netherlands; Dr. Jaime Ivan Ordóñez, Colombia; Prof. Panayotis Prinos, Greece; Prof Zhaoyin Wang, China; and Dr. Farhad Yazdanddoost, Iran

The new Council takes effect immediately. A profile of the individual council members (as candidates) was included in Newsletter Issue 2.

Following applause from the assembly for the new Council, the out-going President, Dr. Mansard concluded the proceedings and announced the 2007 General Members Assembly closed.

## Section report



# Hydraulic Structures

*Stepped spillway from the Pedrógão dam, Portugal (Courtesy of Mariana Correia)*

### Background and Scope

Hydraulic Structures includes a broad spectrum of applications to engineering practice. The purpose of the Section is to champion the subject area of hydraulic structures in an era of increasing specialization in the hydraulic profession. There are important new developments in the planning, design, construction, and life cycle maintenance of hydraulic structures.

The Hydraulic Structures Section was established with the following objectives:

- to champion the area of hydraulic structures in an era of increasing specialization;
- to bridge the gap between researchers and practitioners;
- to identify knowledge gaps where hydraulic research can be applied;
- to address the subtle changes in the use of hydraulic structures to manage water in an environmentally sound manner;
- to provide a solid knowledge and experience base for design of hydraulic structures;
- to encourage continuing education in hydraulic structures through specialty conferences; short courses and educational curriculum;
- to gather competent data bases from laboratory and field to encourage hybrid modeling (numerical/physical);
- to collaborate with other organizations in the advancement and understanding of hydraulic structures in the natural environment.

The flow fields in and around most hydraulic structures are complex, three-dimensional, and highly turbulent and can cause phase changes resulting in air entrainment or sediment transport. Safety evaluation of existing structures is another growing area of need as materials age, hydrologic methods improve, and evaluation technologies improve.

The topic of hydraulic structures is changing as an engineering and research area. In recent years, the focus has expanded to include water management as well as improvements in the design, construction and operation and maintenance of locks, dams, spillways, and outlet works. The section will embrace the traditional use of hydraulic structures in water resource development and in addition focus attention on the role hydraulic structures have in improving water management practices, water quality, and restoration of natural habitats. It is hoped that a practice oriented research agenda will draw the attention of the global design community.

### Outgoing Section Committee

Prof. Jorge Matos (Chair)/Portugal, Prof. Hubert Chanson (Secretary)/Australia, Phil Burgi (past Chair, co-opted)/USA, Willi Hager/Switzerland, Arturo Marcano/Venezuela, Clifford Pught/USA, Corrado Gisonni/Italy, Helmut Knoblauch/Austria, Jalal Atari/Iran, Jun Guo/China, Juergen Koengeter/Germany, Stefano Pagliara/Italy, Youichi Yasuda/Japan



### Incoming Section Committee (after Section Meeting, July 1, Venice)

Jorge Matos (Chair)/Portugal, Hubert Chanson (Secretary)/Australia, Phil Burgi (past Chair, co-opted)/USA, Willi Hager (co-opted)/Switzerland, Jun Guo (co-opted)/China, Stefano Pagliara/Italy, Helmut Knoblauch/Austria, Corrado Gisonni/Italy, Victor Elviro Garcia/Spain, Robert Janssen/Australia, Celso Castro Gómez/Venezuela, Fabián Bombardelli/USA.

### Recent Section Publications

- Marcano, A., and Martinez, E. (2006). "Recent Developments on Hydraulic Structures: From Hybrid Modeling to Operation and Repairs." *Proceedings of the International Symposium on Hydraulic Structures*, 12-14 October, Ciudad Guayana, Sociedad Venezolana de Ingeniería Hidráulica, Caracas, Venezuela, 725 pages (ISBN 980-12-2177-1).
- Matos, J., and Chanson, H. (2006). "Hydraulic Structures: a Challenge to Engineers and Researchers." *Proceedings of the International Junior Researcher and Engineer Workshop on Hydraulic Structures (IJREWHS'06)*, 2-4 September, Montemor-o-Novo, Hydraulic Model Report No. CH61/06, Div. of Civil Engineering, The University of Queensland, Brisbane, Australia, Dec., 205 pages (ISBN 1864998687).

### Recent Past activities

The main activities were the following<sup>1</sup>:

#### 31st IAHR Congress, September 11-16, 2005, Seoul, Korea

- Theme D. Design of Hydraulic Structures, 55 papers.
- Chairs: W. Hager, Y. Yasuda, J. Matos (Theme D), and B. Westrich, H. Chanson, H. Knoblauch, P. Burgi, W. Hager (other Themes).
- Hydraulic Structures Section Meeting – September 11, 2005 in Seoul, Korea with 25 in attendance.

#### International Symposium on Hydraulic Structures, October 12-14, 2006, Ciudad Guayana, Venezuela (jointly with the XXII IAHR-LAD Congress)<sup>2</sup>

- A total of 674 people from 29 countries attended the event. A 725 page Proceedings of the International Symposium on Hydraulic Structures was published in 2006 by the Venezuelan Society of Hydraulic Engineering, Caracas, Venezuela. The book was edited by Arturo Marcano and Emilio Martinez.
- Chairman of the LOC: A. Marcano.
- Scientific Steering Committee (HS Section): A. Marcano, H. Chanson, J. Matos and P. Burgi.
- International Scientific Committee (HS Section): A. Marcano, C. Gisonni, H. Chanson, H. Knoblauch, J. Attari, J. Guo, J. Matos, P. Burgi, S. Pagliara, T. Nakato, and Y. Yasuda.
- Chairs: A. Marcano, H. Knoblauch, J. Guo, J. Königeter, J. Matos, P. Burgi, S. Pagliara, T. Nakato, and Y. Yasuda.
- Keynote Lecture: J. Guo ("Recent Developments in Hydraulic Structures in China").
- Hydraulic Structures Section Meeting – October 13, 2006 in Ciudad Guayana, Venezuela, with 9 in attendance.

#### International Junior Researcher and Engineer Workshop on Hydraulic Structures, September 2-4, 2006, Montemor-o-Novo, Portugal<sup>3</sup>

- A total of 36 people from 8 countries attended the event. A 205 page Proceedings of the International Junior Researcher and Engineer Workshop on Hydraulic Structures was published (electronic version) in 2006 by the Division of Civil Engineering, The University of Queensland, Brisbane, Australia. The book was edited by Jorge Matos and Hubert Chanson.
- Chairman of the LOC: Jorge Matos.
- Executive Committee (HS Section): H. Chanson and J. Matos.
- International Scientific Committee (HS Section): A. Marcano, C. Gisonni, H. Chanson, H. Knoblauch, J. Matos, R. Janssen, S. Pagliara, W. Hager and Y. Yasuda.
- Round table Chairs (HS Section): H. Chanson and J. Matos.
- Keynote Lecture: H. Chanson ("Research Quality, Publications and Impact in Hydraulic Engineering into the 21st Century. Publish or Perish, Commercial versus Open Access, Internet versus Libraries?").

#### International Conference on Fluvial Hydraulics, September 6-8, 2006, Lisbon, Portugal

- International Scientific Committee (HS Section): W. Hager.
- Chairs: H. Chanson and W. Hager.
- Hydraulic Structures Section Meeting – September 7, 2006 in Lisbon, Portugal, with 8 in attendance.

#### Future Activities

- International Symposium on Hydraulic Structures, October 20-23, 2008, Nanjing, China (<http://IAHR2008nanjing.hhu.edu.cn>).
- 2<sup>nd</sup> International Junior Researcher and Engineer Workshop on Hydraulic Structures - Pisa, Italy, July/August\* 2008 (\* to be confirmed).
- Active Support to 33<sup>rd</sup> IAHR Congress - Vancouver, Canada, August 9-14, 2009.
- Consider and act on expression of interest from South Africa for the 4<sup>th</sup> International Symposium on Hydraulic Structures - Gaborone, Botswana, 2010.
- Consider and act on expression of interest from Germany for the 3<sup>rd</sup> International Junior Researcher and Engineer Workshop on Hydraulic Structures - Stuttgart, Germany, 2010.

Jorge Matos, Chairman, Hydraulic Structures Section  
[jm@civil.ist.utl.pt](mailto:jm@civil.ist.utl.pt); [jorge.matos@oniduo.pt](mailto:jorge.matos@oniduo.pt)

<sup>1</sup> The information included herein is intended to illustrate the main activities of our Section members, directly or closely related to the scope of our Section. Several members have had a broader activity within IAHR which is not reflected in the present list of activities. Examples include Philip Burgi (Chairman of the Applied Hydraulics Division), Arturo Marcano (Chairman of the Latin American Division) Bernhard Westrich (Chairman of the IAHR Section "Experimental Hydraulics"), Clifford Pugh (Secretary of the IAHR Section "Experimental Hydraulics"), and Willi Hager (member of the Council and Editor of the Journal of Hydraulic Research).

<sup>2</sup> The Symposium Report prepared by A. Marcano is included in Appendix I.

<sup>3</sup> The Workshop Report and Proceedings Statistics prepared by J. Matos and H. Chanson are included in Appendix II.

# Hydraulic Structures

## Workshop report

### International Junior Researcher and Engineer Workshop on Hydraulic Structures September 2-4, 2006, Montemor-o-Novo, Portugal

Following the idea and concept of the European Junior Scientist Workshops of the IWA/IAHR Joint Committee on Urban Drainage, the IAHR Hydraulic Structures Section, jointly with the Instituto Superior Técnico (IST) and the Portuguese Water Resources Association (APRH), organised the International Junior Researcher and Engineer Workshop on Hydraulic Structures (IJREWS'06). The International Junior Researcher and Engineer Workshop on Hydraulic Structures (IJREWS'06) was held at Hotel da Ameira, Montemor-o-Novo, on 2-4 September 2006. A half-day technical tour included a visit to some relevant hydraulic schemes in Alentejo region, namely the Alqueva and Pedrógão dams on the Guadiana River.

The IJREWS'06 workshop addressed conventional and innovative aspects of hydraulic structures design, operation, rehabilitation, and interaction with the environment. The main themes of the workshop embraced the hydraulics of dams and hydropower schemes, river structures, hydraulic structures in urban drainage and sewer systems, as well as coastal protection systems.

This workshop provided an opportunity for young researchers and engineers (typically post-graduate students, but also young researchers and engineers in both public and private sectors) to present ideas, plans, and preliminary results of their own research in an inspiring, friendly, co-operative, and non-competitive environment. The event was attended by a total of 36 participants, including 24 junior and 8 additional experts from consultancy and research in hydraulic engineering. A total of 8 countries were represented during the event, namely Australia, Germany, Italy, Netherlands, Portugal, Spain, Switzerland, and the United States of America. In total 15 lectures were presented during the five sessions.

In the workshop, the junior participants themselves chaired sessions, played the



Lunch time (Courtesy of Rüdiger Siebel)

role of "advocatus diaboli" (devil's advocate) and prepared the reports for all sessions to identify key scientific elements and pending questions. Such an active involvement in the workshop organization and management is considered a main feature of these junior workshops. In order to help junior participants in these tasks, specific guidelines were provided. These were prepared by the occasion of the 18<sup>th</sup> European Junior Scientist Workshop, and permission for its distribution was kindly given by Prof. Jean-Luc Bertrand-Krajewski. Another interesting mark of this workshop was the presence of engineering consultants and research experts, with the aim to stimulate the debate during the presentations, as well as during the subsequent round table discussion.

The results of the *Participant Satisfaction Survey* were very positive: 9 in a 0-10 scale. These included the level of satisfaction with the format of the workshop, the learning environment, the technical quality and scientific contents of the presentations and discussions, and the level of satisfaction given the initial expectations. Such result is very encouraging towards the

organization of the 2<sup>nd</sup> International Junior Researcher and Engineer Workshop on Hydraulic Structures!

The publication of the workshop papers marked the conclusion of this event. The Proceedings were edited by the current executive committee, Chairman and Secretary, of the IAHR Hydraulic Structures Section. They contain 16 papers involving 31 authors from 9 countries and 3 continents, plus 5 session reports, and 5 pages of photographs of hydraulic structures from around the world, in addition to the photographs of the workshop and of the technical visit. Each paper was peer-reviewed by a minimum of two experts. The discussion reports were included for the benefit of the readers. The full bibliographic reference of the proceedings book is :

Matos, J. and Chanson, H. (2006). "Hydraulic Structures: a Challenge to Engineers and Researchers." *Proceedings of the International Junior Researcher and Engineer Workshop on Hydraulic Structures (IJREWS'06)*, 2-4 Sept., Montemor-o-Novo, Hydraulic Model Report No. CH61/06, Div. of Civil Engineering, The University of



Queensland, Brisbane, Australia, Dec., 205 pages (ISBN 1864998687).

The proceedings may be freely downloaded from: <http://espace.uq.edu.au/view.php?pid=UQ:3982>. To date the proceedings file was downloaded more than 1600 times with strong interests from Europe, Central Asia, America and Australia.

Jorge Matos  
jorge.matos@oniduo.pt  
and Hubert Chanson  
h.chanson@uq.edu.au

## 2nd International Junior Researcher and Engineer Workshop on Hydraulic Structures

July 30 -1 August 2008, Pisa, Italy

The main topics of the workshop will include:

- A. New developments in the design, construction, operation, monitoring, maintenance and rehabilitation of hydraulic structures
- B. Instrumentation and technology in the laboratory experiments and field tests
- C. Intakes and outlets, spillways, fish ways and energy-dissipating structures
- D. Two-phase flow, pipe flow, cavitation, vibration and aeration
- E. Environmental and ecological impact of hydraulic structures
- F. Interaction between sediment transport and structures

Different approaches are welcome, namely experimental, theoretical and numerical modelling.

obituary

## Frank Henderson 1921 - 2006

Frank Henderson, known for his 1966 book *Open channel flow*, passed away on August 25, 2006 in Port Stephens NSW. He has added considerably to the hydraulic community both in research and in education and will be remembered as a fine friend and colleague. Henderson was born on December 28, 1921 in Christchurch NZ. He graduated in 1943 as a civil engineer from the University of Canterbury. After war service, he gained the MSc from Victoria University, Wellington. He joined in 1952 the staff of the University of



In 1998, the National Water Committee of the Institution of Engineers, Australia decided to mark the life-long achievements of Emeritus Professor Frank Henderson. During the *Henderson Oration*, his educational, professional and scientific achievements were highlighted. Therein he describes highlights of his professional career, including model tests with shock wave reduction, vortex generation at intakes and computer works to investigate fluid transients. Victor Streeter (1909-) has had a great influence on Henderson's profes-

sional knowledge during his visit to Canterbury University in 1952, and during Henderson's stay at University of Michigan. The latter stay was also the initiation of two papers on flow over ski jumps published in the French journal *La Houille Blanche* in the early 1960s. Later, Henderson was involved in the preparation of his 1966 book. This work contains in addition to the concepts of open channel hydraulics also Computational examples that even raise questions by insiders. In parallel, Henderson was active in the university organisation so much, both in Canterbury and in Newcastle, that he was unable to continue research. The 1966 book may therefore be considered Henderson's legacy.

and there was particularly involved in the development of the first axial flow jet boat. After two sabbaticals at University of Michigan in 1956 and Cambridge University in 1964, he was appointed hydraulics professor and deputy head of Department at his Alma Mater. In 1968, Henderson took over the position of Head of the Civil Engineering Department at the University of Newcastle, NSW Australia. During the following 15 years until retirement, he served as a Dean of Engineering, and he spent sabbaticals at the University of London in 1974, and at the University of Alberta, Edmonton, Canada in 1977. From 1983, Henderson kept busy with consulting work, with projects in Australia, Southeast Asia and New Zealand. He is survived by his wife Jean, four children and nine grandchildren.

Willi H. Hager, ETH Zurich



Challenge:

Controlling  
Waves

Solution:

Apply our  
Experience

Rexroth Research Systems, for controlled waves

Research and development institutes target for best performance, high accuracy, repeatability and reliability. Only first class equipment suppliers can combine these demands in research equipment. From deep water and shallow water wave generators, single- and multidirectional to active wave absorption and motion systems for sloshing tank research. From carriages, to system upgrades, overhaul & maintenance, including software. Bosch Rexroth is your partner for the supply of tailor made Research Systems, to put your research on a high level. Bosch Rexroth. The Drive & Control Company

Systems & Engineering, Kruisbroeksestraat 1 - 5281 RV - Boxtel - The Netherlands, [research@boschrexroth.nl](mailto:research@boschrexroth.nl)

Bosch Rexroth B.V.  
[www.boschrexroth.com/s&e](http://www.boschrexroth.com/s&e)

Electric Drives  
and Controls

Hydraulics

Linear Motion and  
Assembly Technologies

Pneumatics

Service

**Rexroth**  
Bosch Group



## Conference report

# Rivers'07 – 2nd International Conference on Managing Rivers in the 21st Century:

## Solutions towards Sustainable Urban Basins

June 6th – 8th, 2007, Sarawak, Malaysia

Rivers'07 was co-organised by River Engineering and Urban Drainage Research Centre (REDAC) of Universiti Sains Malaysia (USM) and the Sarawak River Board (SRB). The conference is the second of a series of triennial International Conferences on Managing Rivers in the 21<sup>st</sup> Century. This series of conferences is aimed to provide a major forum for researchers and engineers to present and exchange their views on the latest research issues and application methods to solve existing problems related to rivers in Malaysia and worldwide.

The conference was supported by government agencies, research institutions and professional societies, which include Department of Irrigation and Drainage (DID), Malaysia, Malaysian National Committee on Irrigation and Drainage (MANCID), Humid Tropics Centre (HTC), Institute for Environment and Development (LESTARI), Universiti Teknologi MARA (UiTM), National Hydraulic Research Institute of Malaysia (NAHRIM), Water Watch Penang (WWP), Sarawak Development Institute (SDI) and the International Association of Hydraulic Engineering and Research (IAHR).

The three-day conference was attended by 170 participants from twenty countries including UK, Sweden, USA, Canada, Libya, Nigeria, Bangladesh, India, Iran, China and Malaysia. The official opening was made by YB Datuk Patinggi Tan Sri Dr Alfred Jabu Anak Numpang, Deputy Chief Minister of Sarawak, and four keynote speeches were delivered by established speakers namely, YB Datuk Patinggi Tan Sri Dr. Alfred Jabu Anak Numpang (Deputy Chief Minister of Sarawak, Malaysia), Datuk Paduka Ir. Hj. Keizrul Abdullah (Director-General of DID, Malaysia), Prof. Roger A. Falconer (Cardiff University, UK), and Prof. Jörg Imberger (University of Western Australia, Australia). The keynote addresses touched on river management, river restoration and developments in river modelling which were followed by a state dinner, sponsored by the Sarawak State Government.

The second day of the conference was dedicated to the presentation of papers. There were two parallel technical sessions held concurrently, covering eight sessions in total. Various issues and new developments were presented and discussed by participants from various backgrounds. Among the topics brought up were Integrated River Basin Management (IRBM), advancement in 2-D hydraulic modelling, real time water quality monitoring and forecasting, localised effort in restoring and managing rivers, as well as inland river navigation systems. Prof. Dr. Nor Azazi Zakaria (Universiti Sains Malaysia, Malaysia) addressed his keynote speech on the final day of the event, highlighting on the importance of Sustainable Urban Drainage Systems (SUDS). Two technical ses-



YB Tan Sri Dr Alfred Jabu Anak Numpang (Deputy Chief Minister of Sarawak) on managing the rivers in Sarawak to meet multiple demands



Prof. Falconer highlighted his recent research on extreme flood events and methods of monitoring the health risks of such events in his keynote address.

sions followed, before the participants were treated to a river cruise ride down the Sarawak River to the Sarawak River Barrage and back. Participants were briefed through the operation of the barrage system in mitigating flood and protecting the city against intruding tide in the half-hour stay at the barrage.

The Conference Proceedings include 88 papers, systematically arranged into ten topics of, Integrated River Basin Management (12 papers), Watershed Land Use Planning and Management (5 papers), Flood Forecasting and Flood Risk Management/ Mitigation (10 papers), Floodplain, River and Estuarine Rehabilitation (13 papers), Hydrology and Sustainable Drainage System (17 papers), Stream Heritage Restoration and Conservation (1 paper), Water Quality Treatment (9 papers), Inland Water Transport (3 papers), Soil Erosion and Sedimentation (16 papers), and Legislative and Policy (2 papers). 40% of the papers were from international participants whereas the remaining 60% were from local participants including research institutions, NGOs and government agencies.

The CD-ROM proceeding is priced at USD 75 and can be obtained from Assoc. Prof. Dr. Aminuddin Ab. Ghani (redac02@eng.usm.my).

Assoc. Prof. Dr. Aminuddin Ab. Ghani, Deputy Director  
River Engineering and Urban Drainage Research Centre (REDAC),  
Malaysia  
redac02@eng.usm.my