

## Inaugural Editorial by Michele Mossa

# Pressing and fascinating



**Prof. Michele Mossa is professor at the Technical University of Bari, Italy and has been appointed first Editor of Hydrolink by the IAHR Council as part of the process of restructuring approved in Vancouver.**

[m.mossa@poliba.it](mailto:m.mossa@poliba.it)

This issue of the IAHR members magazine - Hydrolink - represents another step in the renewal policy of the entire association, approved in last year's Council meeting and symbolised by its name change to the International Association for Hydro-Environment Engineering and Research. Regarding these fundamental changes underway I would like to draw your attention to the article published in Hydrolink, Issue 3, 2008 by Prof. Roger Falconer of the Hydro-environmental Research Centre at the University of Cardiff (UK), in which he observed that IAHR membership has shifted in recent years from Europe and N. America towards Asia (especially China), that the word "hydraulics" has been substituted by "water management", "river basin management" etc..., implying a more interdisciplinary approach to water issues, and that all research in hydraulics is now linked with environmental concerns.

To the observations made by Prof. Falconer I would add that in the latest conferences the term "environment" is used more and more together with that of "hydraulics", as in the recent "Fifth International Symposium of Environmental Hydraulics", held in Tempe, Arizona, in December 2007. This congress was preceded by a workshop entitled "Hydro-Epidemiological Futures Workshop", the publicity for which observed that "contaminated water and poor sanitation is still a major cause of illness, with diarrhoeal disease being the principal cause of morbidity and mortality in children under 5 years in developing nations. [...] Engineering solutions drove the reduction of water-related illness in the nineteenth century emergent conurbations of the industrialized nations of today. The on-going problems of the 21st Century require new approaches, which are inherently inter-disciplinary and inter-agency and operating at the river basin scale to effect the commitment to the implementation of further health improvements."

The European Union funded Hydralab Concerted Action (a network of research

institutes started in 1997, in the context of the EU Research Framework Programme, to enhance access to physical modelling laboratories in hydraulics, geophysical fluid dynamics, ship and ice engineering), recently organized a workshop on the theme of Ecology (Toulouse, 2008), highlighting the need for a programmed plan of research and environmental development in sectors such as flows with vegetated boundaries, flow models with the presence of bivalves and micro-invertebrates, numerical models which simulate also the presence of algae and eutrophication phenomena.

Themes which are ever more current and complex, also linked to climate change and the recent debate on this topic, "climate controversy", together with social pressure on water quantity, to an ever greater demand for new sources of energy, result in the organization of regular congresses, workshops, partnerships or the constitution of new agencies and boards. For example, consider the congresses of UNEP, of UNESCO, of the World Water Council, of the Global Water Partnership or the World Water Day on 22 March each year, which are organized all over the world dedicated to Water as a resource for human kind.

Prof. Robert T. Watson, Chief Scientist and Senior Scientific Advisor of ESSD, The Environmentally and Socially Sustainable Development Network of the World Bank, in his speech at the International Congress of IAHR in 2003, Thessaloniki, highlighted that



# challenges

the challenge of the new development cannot ignore the problems of climate change, observing that in this context, at the World Summit on the Sustainable Development held in Johannesburg, the General Secretary of ONU Kofi Annan proposed 5 areas of intervention, summarized in the acronym WEHAB, which stands for:

- **W**e should be able to help at least one billion people without drinking water and two billion without sanitation.
- **E**lectricity and other modern energy services should reach the more than two billion without them, while reducing over-consumption, promoting renewable energy and addressing climate change through a ratified Kyoto Protocol
- **H**alt the deaths of three million people each year from air pollution, addressing effects of toxic and hazardous materials, and lower the incidence of malaria and African guinea worm-spread through polluted water and poor sanitation.
- **A**ssure protection to two thirds of the world's agricultural lands affected by land degradation by reversing it.
- **B**uild "a new ethic of global stewardship", challenging processes that have destroyed about half of the world's tropical rainforest and mangroves, threatened more than two thirds of the world's coral reefs and decimated the planet's fisheries.



Furthermore on the consequences of environmental disasters we should remember also the enormous economic commitment made by the USA which has dedicated around 20 billion dollars to redevelopment and protection of New Orleans and the coast of Louisiana following the devastating floods of hurricane Katrina in 2005. In his speech at the International Congress of IAHR in Venice, 2007. Gerald Galloway, Professor at the University of Maryland and former General US Corps of Engineers, underlined that: "Retrospectives have indicated 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 restoration and protection of coastal Louisiana that will be environmentally sustainable, financially supportable, and risk manageable. Such harmonization will occur only if the diverse groups are brought together and are willing to deal with the stark realities of the challenges they will face in solving the problems of this fragile physical and cultural environment."

The present and future challenge of our Association consists in taking into account these changes and requirements from all over the world and in developing activities set against the background of a "globalized" world. The role of our association must take into account two main lines of (interconnected) activity: one which is largely professional and political linked to the needs of society, and the other which is largely scientific and linked with research. Therefore, in this context, the IAHR community needs to reply promptly to new pressing and fascinating challenges, in which each IAHR Technical Committee, local Chapter, Regional Division plays the main role of promoting a greater involvement of its member group, whose knowledge and interactions with our association are a vital and unavoidable resource. Our magazine Hydrolink is changing in order to help to respond to these new challenges.

For this reason in the new Hydrolink we plan to increase the number of articles devoted to up-to-date news regarding different aspects of the research and engineering in hydraulics, hydrology, fluid mechanics and water engineering fields. Generally, in each issue there will be a technical and/or a scientific main article, linked to the main event of the previous two months, and articles such as "Ten questions to...", where a researcher, an engineer or a politician will be invited to comment on overriding issues. In this issue "ten questions" are addressed to Prof. Jean Paul Chabard, IAHR Vice-President, and Senior Manager in the Research Division of EDF, France.

Furthermore, the present issue is mainly dedicated to identify relevant features and people carrying on highlighted initiatives related to water in Europe – coinciding with the first IAHR Europe Congress which takes place in Edinburgh in May!

I would like to conclude this first editorial of Hydrolink by sending my warmest greetings to all our readers.