The hydraulic engineers were at the forefront of science for millennia: for example, the engineers who designed the Roman aqueducts, the Chinese engineers who built the Grand Canal between Guangzhou and Beijing, and the scientists who devised the water gardens of Villa d’Este (Italy), Nishat Bagh (India) and Versailles (France). The last fifty years marked a change of perception in our community with a focus on environmental sustain-ability particularly in developed countries. I am convinced that the future of Hydraulic Engineering lies in a combination of innovative engineering, some outstanding research scholarship and a higher education of quality. Let us not forget that the technical challenges in hydraulic engineering are enormous and closely linked with the wide range of relevant length scales, from a few millimetres for the wall region of a turbulent boundary layer to over 1,000 km for the length of a major river, the broad range of time scales from less than 0.1 s at the turbulent dissipation scale to about 108 s for reservoir situtation, the huge variability of river flows, the non-linearity of the basic governing equations... and most importantly with the total dependence of Mankind on water. Who would forget that Life on our Planet is impossible without water resources?

Hydraulic engineering is not a virtual discipline but a real-world vocation. Professional experience is critical, including field experience and individual observations, to comprehend the variability of river flows from zero during droughts to gigantic floods, natural fluid instabilities, interactions between water, solid, air and biological life [...]. Virtual resources cannot explain the present political instabilities or the broad and complex scope of floods, droughts. Hydraulic engineering is a real-world science for a better society; it is not an electronic toy, a playstation or a game box [2,3].

The forthcoming 34th IAHR Congress is part of a long series of major event, formerly known as IAHR national conferences. The 34th IAHR Congress will take place in Brisbane, Australia, together with the 33rd National Hydrology and Water Resources Symposium and the 10th National Conference on Hydraulics in Water Engineering. The Congress theme "Balance and Uncertainty: Water in a Changing World" reflects upon the central roles of hydraulic engineers, hydrol ogists and water resource experts in our rapidly changing world. The theme is directly relevant to the Australasian region as well as to the broad interna tional community.

This event will provide an unique opportunity for hydraulic researchers and hydraulic engineers to work together for the betterment of our society. Despite new communication means including emails, Skype, Facebook, Twitter ...., nothing will ever replace the face-to-face meetings. The 34th IAHR Congress is the ultimate opportunity for all of us working in hydraulic engineering to meet the real hydraulicians. What a thrill to meet the true experts! I remember my first international meeting in 1990 in Belgrade where I met Professor Roger Arndt; I read many of his works on cavitation and cavitation damage, and it was enlightening to discuss with him one-on-one. During the last decade, some contributions in hydraulic engineering have involved unethical behaviour, and the trend seemed to have accelerated with the proliferation of publications. Recent journal editorials presented some experience of unscrupulous activities [...]. Each researcher and professional should read these because cheating and dishonesty are very serious matters discrediting the entire profession. As a senior expert reviewer, editorial board member and editor, I am regularly engaged in peer-reviews, and I have seen some appalling ethical standards [...].

The forthoming 34th IAHR Congress is committed to a high standing of the congress proceedings papers with a thorough, independent peer-review process combined with high ethical standards. This will ensure some high-quality proceedings papers and presentations for the benefits of the profession and more broadly of the community. The IAHR should endorse such a rigorous peer-review process for all major IAHR events, and it should adopt some stringent ethical standards for all publications including its journals.

Hydraulic engineers must be broad-minded and acknowledge that excellence and scholarship has no linguistic nor geographical boundaries. The 34th IAHR Congress will be another demonstration of the broad-based interests in hydraulics. Engineers and researchers will be able to gain first hand experience in real professional situations, interact with the world-leading experts and comprehend the complex interactions between engineering and non-engineering constraints. The great Albert Einstein himself studied river hydraulics [...]; our discipline is not for the fainthearted. In fact I believe that hydraulic engineering is a true challenge for the finest minds of our society!

I am a hydraulician with several years of professional experience and two decades in academia. I am proud to be a hydraulic engineer!

References


Banaue Rice Terraces: An Engineering Marvel Faces Uncertainties

Changing the way we think about water
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