The development of hydroinformatics

This is the sixth issue of the *Journal of Hydroinformatics* and it is worth noting that this issue contains two papers outlining advances in numerical engines, in a field which has traditionally been referred to as computational hydraulics or computational fluid dynamics. Numerical engines are an essential component of most hydroinformatics software tools – both industrial and research orientated – which are primarily used for predicting hydrodynamic, water quality and/or sediment transport processes in coastal, estuarine and inland waters. In many universities and specialist industrial organisations worldwide there are research groups currently continuing to develop these engines further and, hence, papers outlining novel developments or refinements to such engines are very appropriate for publication in this journal.

An area of growing interest for the development and application of hydroinformatics tools is the use of such tools in the design and on-line operation of key processes in industrial and domestic wastewater treatment works. As new wastewater treatment works are continuously designed and built or upgraded, all over the world, and as effluent discharge standards become increasingly stringent, then financial investors and water companies are continuously striving to design and operate such plants more efficiently. Hydroinformatics tools have a major part to play in meeting these demands and are currently being developed or refined to predict the hydrodynamic and effluent treatment processes in such plants. These tools are of considerable interest to many of the corporate and individual members of the IWA and it is particularly relevant that papers in this field should be published in this journal. It is therefore appropriate to see the first of several papers in this field to be published in this issue. The complexity of the biological processes in wastewater treatment plants, and the interaction of these processes with the hydrodynamic processes, offers considerable opportunities for relatively new modelling approaches, such as artificial neural networks, to be combined with more traditional computational hydraulics or CFD approaches. Such integrated modelling tools can then be used to design and operate wastewater treatment works to provide an effluent of a relatively consistent standard. Any researchers working in this field and wishing to submit their work for publication are encouraged to send their paper to any of the editors.

The growing world-wide interest in hydroinformatics as a discipline in itself was, yet again, borne out by the success of the fourth hydroinformatics conference, Hydroinformatics 2000, held at Cedar Rapids, USA, over four days at the end of July. Dr Jacob Odgaard and his colleagues at Iowa Institute of Hydraulic Research are to be congratulated on organising the first Hydroinformatics conference in the USA. Over 300 delegates attended the conference, with a wide range of quality papers being presented on the topics cited for publication in this journal. If any authors or delegates at the conference wish to submit a paper for consideration in this journal, then it should be submitted for review to any of the five editors.

It is hoped that the success of the biennial hydroinformatics conference will be continued at the next conference, to be held in Cardiff, UK, 1–5 July 2002, organised jointly by Cardiff University and the University of Bristol. The conference will be held at Cardiff City Hall, the centrepiece of one of the world's finest civic centres. It stands in Cathays Park, an area of prestigious buildings, gardens and broad avenues, only a short stroll from the city centre and the heart of the capital – its castle. For further details, please contact:

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Finally, you may already be aware that hydroinformatics evolved primarily through the initiative of Professor Michael Abbott – from the International Association of Hydraulics Research (IAHR) section on Computational Hydraulics. At the IAHR Hydroinformatics Section meeting, held at the Hydroinformatics 2000 Conference, it was agreed to propose to the IAHR Council that this section should become a joint IAHR/IWA committee and conference, etc. I am pleased to report that the IAHR Council held immediately after the Hydroinformatics

2000 Conference endorsed this decision and the IAHR Section Committee Chairman and Secretary, Professor Arthur Mynett of Delft Hydraulics and Dr Vladan Babovic of the Danish Hydraulic Institute, will be working with me to include IWA members with an interest in this subject into the new IAHR/IWA Hydroinformatics Section. If any IWA or IAHR member has an interest in joining this section then they should contact Professor Mynett, Dr Babovic or myself.

I hope that you will find this issue of the *Journal of Hydroinformatics* to be of interest and Professor Cluckie (Bristol), myself and our colleagues look forward to welcoming you to Hydroinformatics 2002 at Cardiff University.

Roger Falconer
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