



International
Water Association

IAHR/IWA Joint Specialist Group on URBAN DRAINAGE

Newsletter No. 20 **February 2007**

For updated information, please regularly visit our website at:
http://www.iwahq.org/templates/ld_templates/layout_633184.aspx?ObjectId=633912

CONTENTS

1. Joint Committee Contacts	2
2. Chairman's Thoughts	3
3. From the Secretary's Desk	5
4. Working Group Reports	6
5. News from IAHR and IWA	11
6. News from IWA Publishing	14
7. News from around the World	21
8. Reports on Conferences and Workshops	38
9. Future Meetings and Conferences	39
10. Recent Publications of Interest	44
11. Working Group Contacts	45

Prepared by:
Dr Jiri Marsalek
Joint Committee Secretary
c/o National Water Research Institute, Environment Canada
867 Lakeshore Road, Burlington, Ontario L7R 4A6, Canada
jiri.marsalek@ec.gc.ca

Disclaimer: *This is not a journal, but a Newsletter issued by the IAHR/IWA Joint Committee on Urban Drainage. Statements made in this Newsletter do not necessarily represent the views of the Joint Committee or of IAHR/IWA. The use of information supplied in the Newsletter is at the sole risk of the user, as the Joint Committee and the IAHR/IWA do not accept any responsibility or liability.*

IWA is a registered charity (England) 1076690 at Alliance House, 12 Caxton Street, London SW1H 0QS, UK.
Tel: +44 (0)207 654 5500; Fax: +44 (0)207 654 5555;
E-mail: water@IWAhq.org.uk; Web: www.IWAhq.org.uk

IAHR is at Paseo Bajo Virgen del Puerto 3, 28005 Madrid, Spain.
Tel: +34 91 335 7908; Fax: +34 91 335 7935; E-mail: iahr@iahr.org; Web: <http://www.iahr.org>

1. JOINT COMMITTEE CONTACTS

Dr Jean-Luc Bertrand-Krajewski (Chairman)

LGCIE (Laboratory of Civil and Environmental Engng)
INSA - Lyon
34 avenue des Arts
F-69621 Villeurbanne cedex
FRANCE
Ph.: 33 4 72 43 81 80; Fax: 33 4 72 43 85 21
E-mail: jean-luc.bertrand-krajewski@insa-lyon.fr

Prof D. Butler

Director, Centre for Water Systems
School of Engng, Computer Science and Mathematics
University of Exeter
Harrison Building, North Park Road
Exeter, EX4 4QF
UK
Ph.: 44(0)1392-264064, Fax: 44(0)1392-217965
E-mail: d.butler@exeter.ac.uk

Dr Ana Deletic

Institute for Sustainable Water Resources
Dept. of Civil Engineering, Building 60
Monash University
Clayton, Vic 3800
AUSTRALIA
Ph: 61 3 9905 2940, Fax: 61 3 9905 4944
E-mail: ana.deletic@eng.monash.edu.au

Prof J H W Lee

Department of Civil Engineering
The University of Hong Kong
Pokfulam Road
HONG KONG, PRC
Phone: 852 2859-2672, Fax: 852-2559-5337
Email: hreclhw@hku.hk

Prof Nilo de Oliveira Nascimento

Federal University of Minas Gerais
Dept. of Hydraulics and Water Res. Engineering
Av. do Contorno, 842/8a.
30110-060 - Belo Horizonte, MG.
BRAZIL
Tel.: (+55.31)3238.1872, Fax: (+55.31)3238.1001
e-mail: niloon@ehr.ufmg.br

Mr Eric W. Strecker

Geosyntec Consultants
55 SW Yamhill Street, Suite 200
Portland, OR 97204
USA
Ph.: 001-503-222-9518; Fax 001-503-242-1416
E-mail: Estrecker@GeoSyntec.com

Dr Maria do Céu Almeida

Sanitary Engineering Division
Laboratório Nacional de Engenharia Civil
Av. do Brasil, 101
PT-1700-066 Lisbon
PORTUGAL
Ph: +351 21 844 3627; Fax: +351 21 844 3032
E-mail: mcalmeida@lnec.pt

Dr Alberto Campisano

Dept. Civil and Environmental Engineering
University of Catania, Viale Andrea Doria 6
95125 Catania
ITALY
Ph: 39(0)95 738 2730, Fax: 39(0)95 738 2748
E-mail: acampisa@dica.unict.it

Prof H. Furumai

Department of Urban Engineering
The University of Tokyo
7-3-1, Hongo, Bunkyo-ku
Tokyo, 113-8656
JAPAN
Ph: 81-3-5841-6239, Fax: 81-3-5841-8535
Email: furumai@env.t.u-tokyo.ac.jp

Dr Peter Steen Mikkelsen

Institute of Environment & Resources
Technical University of Denmark
Bygningstorvet, Building 115,
DK-2800 Kgs. Lyngby
DENMARK
Phone: 45 4525 1600, Fax: 45 4593 2850
Email: psm@er.dtu.dk

Dr Mohd Nor bin Mohd Desa

Director, Humid Tropics Centre Kuala Lumpur (HTC)
No 2 Jalan Ledang off Jalan Duta
50480 Kuala Lumpur
MALAYSIA
Phone: 603 2095 8700, Fax: 603 2095 3366
Email: drmohdnor@water.gov.my

Dr Maria Viklander

Division of Sanitary Engineering
Lulea University of Technology
S-971 87 Lulea
SWEDEN
Ph.: 46 920 491 634, Fax: 46 920 491 493
E-mail: Maria.Viklander@sb.luth.se

Dr Jiri Marsalek (Secretary)
National Water Research Institute
867 Lakeshore Road
Burlington, ON L7R 4A6
CANADA
Ph: 001-905-336-4899; Fax: 001-905-336-4420
E-mail: jiri.marsalek@ec.gc.ca

2. CHAIRMAN'S THOUGHTS

Dear friends and colleagues,

I am writing these lines in January 2007 and, even if you will read this Newsletter in February (or later, who knows ...), I wish you a very happy, peaceful and fruitful year in 2007, in both professional and personal aspects of your life.

Regarding the JCUD itself and its Working Groups, I have no doubt that 2007 will be a very active and rich year. First, I congratulate the three new JCUD members who have been elected in October 2006 after our annual call for nominations: Maria do Céu Almeida (LNEC, Lisbon, Portugal), David Butler (Exeter University, UK) and Alberto Campisano (Catania University, Italy). According to its statutes, the JCUD Committee is composed of twelve elected members: consequently, three members left in October 2006, after six years of service. Let me express my warmest thanks for active contributions during those six years to Richard Ashley (UK), Rafaela Matos (Portugal) and Peter Krebs (Germany). I am confident that they will continue to serve efficiently the urban drainage community in Working Groups, conferences, workshops and in other events or activities. The next call for nominations will be launched in June 2007.

The JCUD will hold its annual meeting in Lyon on Sunday, 24 June 2007, the day before the Novatech 2007 conference. I remind you that JCUD meetings are open to all interested persons: we will welcome you with great pleasure. Do not hesitate to contact me or our secretary Jiri Marsalek in advance, if you are interested, to facilitate the organisation.

During the meeting on 24 June, the JCUD will work, among others, on questions that have a great importance for our future activities:

1. Our revised mission statement, because urban drainage can no longer be considered as an isolated field, but as a significant part of urban water systems, for which integrated approaches, integrated management and sustainable development are key questions we share with other groups. The main objective is to work simultaneously in two directions: (i) reinforcing our competences and our international recognition in urban drainage, which is and will remain the core of our activities, and (ii) developing more interactions with other groups working on other elements of urban water systems and/or of the urban environment and city planning. This will lead to more formally defined collaborations with other WGs in both our parental organisations IWA and IAHR, and with other groups or institutions, which pursue activities involving, or dealing with, urban drainage.

2. Our revised statutes, with added or clarified rules of operation, management, etc.
3. Our financial resources: up to now, the JCUD had no funds at all. A bank account, operated under the IWA supervision, will be opened and rules for obtaining and using funds for the JCUD and its WGS will be decided. One way of raising funds is to add a few Euros to registration fees for all conferences and workshops organised by the JCUD and its WGs and thereby collected funds will be used for collective needs of the JCUD and its WGs.
4. Our website will have to be more responsive and dynamic in the future: proposals will be discussed to improve the present site.

In 2007, many activities will be organised by, will involve, or will be supported by the JCUD and its WGs. You will find more information about them in the following pages of this Newsletter. A (non-exhaustive) list includes:

- Novatech 2007, 25–28 June 2007, in Lyon, France
- The workshops organised by four of our WGs on ‘Urban Rainfall’, ‘Data and Models’, ‘Real Time Control’ and ‘Water Sensitive Urban Design’ on Sunday, 24 June 2007, in Lyon, France just before Novatech.
- The “Urban Drainage” special session during the IAHR Biennial Congress, on 1–6 July 2007 in Venice, Italy.
- The “Diffuse Pollution” international conference, organised by our colleagues from the IWA Specialist Group on “Diffuse Pollution”, who kindly invited the JCUD to join them for this event to be held on 26-31 August 2007, in Belo Horizonte, Brazil.
- The 5th SPN “Sewer Processes and Networks” international conference, organised by our WG on ‘Sewer Systems and Processes’, on 28–31 August 2007, in Delft, The Netherlands.

In 2007, 73 selected papers from the successful conference UDM 06 ‘Urban Drainage Modelling’ held in Melbourne, Australia, in April 2006 by the WG ‘Data and models’ will be published in *Water Science and Technology*, in the online journal *Water Practice and Technology*, and in the *Australian Journal of Water Resources*. Selected papers from the conference SOM 06 ‘Sewer Operation and Maintenance’ held in Vienna, Austria in October 2006 will be published in *Water Practice & Technology* as well as in the *Urban Water Journal*.

After this review of our planned activities for 2007, I would like to conclude with some personal thoughts. In France, we will have presidential elections in April–May 2007. For the first time, sustainable development, climate change, global warming and ecology-related issues have emerged on the public scene and started (but slowly ...) to be discussed. This is thanks to the French independent ecologist Nicolas Hulot who, in collaboration with a scientific committee, wrote a book to explain these questions to the public and to define actions to change our habits and our policy (more information at <http://www.pacte-ecologique-2007.org/nicolas-hulot/index.php>, with an English version of his proposals). In our field, many of us claim that our research and activities on urban water aim to contribute to sustainable development. It could be also valuable to assess our conferences and events with the sustainable development criteria: what is the carbon mass balance of our conferences and events? Do we try to compensate the carbon emissions of our travels? Do we systematically use eco-friendly items (pens, papers, bags, etc.)? Do we really need all these items (most of us already have pens, paper, bags, etc.). Maybe, in the future, because of higher costs of worldwide travelling, more conferences will offer internet and/or distance participation. Can

we imagine a future ICUD with different groups around the world, participating with on-line communication and interactions? Reduced fees for colleagues travelling by trains instead of planes or individual cars? Proceedings printed on recycled or chlorine-free paper? Can we invent something like a really and fully sustainable international conference, advertising and promoting these aspects? Maybe new ideas could be developed for the ICUD 2008 in Edinburgh, UK (too early?), the ICUD 2011 in Porto Alegre, Brazil (why not?), or the future ICUD 2014 (mandatory to include such aspects in the proposals?). Let's try to think about these questions and find new ideas.

Best regards,

Jean-Luc Bertrand-Krajewski,
Chairman, IAHR/IWA Joint Committee on Urban Drainage

P.S. Since I have written the above lines, the IPCC conference was held in Paris, from 29 January to 1 February 2007. The conference was fully 'carbon compensated'. A guide is available (unfortunately only in French at the moment) on the organisation of 'carbon compensated' conferences. You can download it at:

http://www.climatmundi.fr/climat_images/divers/Guide_Methodologique_conferences_neutres_en_carbone.pdf.

More information can be found, for example at the following two websites (French sites with an English version):

a NGO site: <http://www.actioncarbone.org> and a small company site: <http://www.climatmundi.fr>.

Undoubtedly, similar sites exist in your own countries and regions.

3. FROM THE SECRETARY'S DESK

Committee Newsletter – we will continue publishing our annual newsletter to serve the needs of our international community and meet the requirements of our parental organisations. Please keep in mind that the main purpose of the newsletter is to facilitate communications and interactions among specialists in our field, rather than presenting detailed information.

Both IWA and IAHR now distribute newsletters only electronically, and place our newsletter on their websites. IAHR also distributes some excerpts from our newsletter in their Newsflash. Furthermore, thanks to the past efforts of Mitsuyoshi Zaizen and Shoichi Fujita, our newsletter was translated into Japanese and 200 hard copies were distributed in Japan. We will also distribute the Newsletter to more than 1,200 colleagues on our JC mailing list, which is based on the IWA and IAHR memberships, and participation in ICUD and NOVATECH conferences.

Please share your electronic newsletter copy with colleagues, or refer them to the IAHR and IWA websites. Your comments on this issue and contributions to future newsletters are welcome.

Joint Committee Activities – The annual Committee meeting was held in Melbourne, Australia, on April 8, 2006. A summary of information items discussed at the meeting and not covered elsewhere in the newsletter follows.

The Joint Committee currently comprises 12 regular members and the following seven associate (non-voting) members: Richard Ashley (UK), James Ball (Australia), Bernard Chocat (France), Bryan Ellis (UK), Wolfgang Rauch (Austria), Wolfgang Schilling (Norway), and Mitsuyoshi Zaizen (Japan).

Activity reports were presented by Working Groups on Data and Models, Sewer Systems and Processes, SOCOMA, WSUD and Cold Climate Drainage. Discussions were held on reinventing the temporarily suspended Technology Exchange, Transfer and Training Group.

Special projects: progress reports were presented on the master urban drainage email list (compiled by Jean-Luc, it contains 1,200+ names); and a JC account with IWA to be established. Reports on several recent conferences were presented.

The status and boundaries of the ICUD were discussed; a discussion paper will be prepared for considerations by the 11th ICUD conference to be held in Edinburgh, UK, in 2008. Further work is needed on updating the JC statutes.

Future JC meetings: 2007 – Lyon, France (24 June 2007) at the NOVATECH conference, and in 2008, just before the 11th ICUD in Edinburgh, UK.

From the Personnel Department – At the 2006 fall convocation and installation of new professors, Lulea University of Technology granted honorary doctorates to three individuals recognized for outstanding contributions to the cultural sphere, industry, and science and engineering. In the last category, this year's choice was Jiri Marsalek who has been cited "for contributions to scientific and engineering advances in urban water management, collaboration with the Lulea University of Technology, and serving as a role model for researchers in this field." The official ceremony, at which Jiri was granted the degree of Doctor of Philosophy in Engineering, honoris causa, was held in Lulea, Sweden, on 11 November 2006. At the same ceremony, our colleague Gilbert Svensson was installed as professor at the Lulea University of Technology.

Jiri Marsalek
JC Secretary

4. WORKING GROUP REPORTS

4.1. International Working Group on Data and Models (IWGDM) (Chairman: Dr. Lothar Fuchs, ITWH, Engelbosteler Damm 22, 30167 Hanover, Germany; Phone: +49-511-971-9321, Fax: +49-511-971-9377, E-mail: L.Fuchs@itwh.de). Secretary: Ana Deletic, Institute for Sustainable Water Resources, Dept. of Civil Engineering, Building 60, Monash University, Clayton, Vic 3800, Australia, Ph: 61 3 9905 2940, Fax: 61 3 9905 4944, E-mail: ana.deletic@eng.monash.edu.au).

Following the 10th ICUD in Copenhagen, Denmark, the group has been greatly invigorated and organized the 7th International Urban Drainage Modelling conference in Melbourne from April 3 to 7, 2006. The conference was hosted by the Institute for Sustainable Water Resources at Monash University, as well as by the International Water Association, Engineers Australia, and the Stormwater Industry Association. Over 400 people attended; for further

details, see section reports on conferences later in the newsletter. The working group's web page is hosted by the Institute for Sustainable Water Resources (Monash University, Australia). (<http://iswr.eng.monash.edu.au/iwgdm>).

4.2. The Real-Time Control of Urban Drainage Systems (RTCUDS) Working Group (Chairman: Dr H. Colas, BPR-CSO, 5100 Sherbrooke St. E., Suite 400, Montreal, Quebec H1V 3R9, Canada; Phone: 001-514-257-2439, Fax: 001-514-257-2414, E-mail: Hubert.Colas@bpr-cso.com). Secretary: Dr Alberto Campisano, Department of Civil and Environmental Engineering, University of Catania, Viale Andrea Doria 6, 95125 Catania, Italy, Phone: +39 (0)95 7382730, Fax: +39 (0)95 7382748, e-mail: acampisa@dica.unict.it). Web site: <http://www.dica.unict.it/users/acampisa/rtcwg/>.

Some members of the RTCWG, who also belong to the German RTC WG, worked on the preparation of guidelines for planning RTC systems, including a CD publication titled "PASST – Planungshilfe Abflusssteuerung", which offers criteria for quick pre-assessment of the RTC potential of urban drainage systems. This guideline document provides thorough and detailed guidance in the essential steps of RTC planning.

The organisation of the European Junior Scientist Workshop in Barcelona (locally organised by CLABSA), which was among the group's activities planned for 2006, was rescheduled for unspecified future dates, because of the lack of submitted papers. Event information will become available on the group's website.

The possibility of updating the old RTC State-of-the-art report published by IWA in 1989 was explored by the WG members. The updated version would focus only on case studies.

The WG will organise the 5th Seminar on Real-Time Control in conjunction with the Novatech 2007 Conference in Lyon, on 24 June 2007. Experts and practitioners working in the field will discuss the state-of-the-art advances in Real Time Control technology and applications. The event will be publicised through the WG web site, the Novatech 2007 conference web site and the urban drainage mailing list.

4.3. Sewer Systems and Processes Working Group (SS&PWG) (Chairman: Prof. José Saldanha Matos, Technical Superior Institute of the Technical University of Lisbon, Av. Rovisco Pais, 1049-001 Lisbon, Portugal: jsm@civil.ist.utl.pt. Vice-Chairman and Secretary: Prof Francois Clemens, Faculty of Civil Engineering and Geoscience, Delft Technical University, Stevinweg 1, Postbus 5048, 2600 GA Delft, The Netherlands. Ph: 31 (0) 15 278 5450, Fax: 31 (0) 15 278 4918, E-mail: F.H.L.R.Clemens@CitG.TUdelft.nl. Web site: <http://www.sspwg.civil.auc.dk/>).

The group contributed to the organisation of the 2nd International IWA conference on Sewer Operation and Maintenance (SOM 06) held in Vienna, Austria, Oct. 26-28, 2006. The event was successful with good attendance and high quality papers. The organisers are currently working on secondary publications of selected conference contributions in refereed journals, namely, Urban Water and the new IWA on-line journal of Water Practice & Technology.

The main forthcoming activity is the 5th International Conference on Sewer Processes and Networks, to be held in Delft, The Netherlands, Aug. 28-31, 2007. The objective of the conference is to account more explicitly for sewer sediment structural aspects in relationship to the processes. In addition, the subject of acquisition of field data will be given more attention, including addressing data quality and methods of data analysis. The objective is to bring together scientists and practising engineers in the area of environmental process engineering and management of sewer systems to present their results, express their views

and discuss physical, chemical and biological processes in sewers, and related sewer structural aspects.

4.4. Working Group on Source Control for Stormwater Management (SOCOMA)
(Chairman: Gilles Rivard, Aquapraxis Inc, 948 Donat-Belisle, LAVAL (Qc), Canada H7X3W5; Phone: 001-450-689-2967, Fax: 001-450-689-2969, E-mail: GRivard@aquapraxis.com; Vice-chair: Sylvie Barraud; Sylvie Barraud, INSA Lyon - URGC - Bâtiment Coulomb, 34 Avenue des Arts, F-69621 Villeurbanne Cedex. Tel : 04 72 43 83 88 - Fax : 04 72 43 85 21 - E-mail : sylvie.barraud@insa-lyon.fr; Secretary: Carsten Dierkes, Hydrocon, HefeHof 25, 31785 HAMELN, Germany, Ph.: 49 5151 100295, Fax: 49 5151 100296, E-mail: dierkes@hydrocon.de).

The working group studies source controls, which are defined as all measures applied to control stormwater before it enters sewers or surface receiving waters. The group's objective is to facilitate the development of these techniques, by conducting research and experiments, and disseminating the results.

Gilles Rivard and Sylvie Barraud (resp. chair and vice-chair of SOCOMA) attended the WSUD meeting during the UDM conference held in April 2006. They met with Richard Ashley and Tony Wong of the WSUD Working Group on Thursday 6 April 2006 and, recognising that the scope of the WSUD would somewhat be larger than the one associated with the SOCOMA Group, it was agreed that the two groups would merge into one group (potentially with sub-groups as required). The re-naming of the Groups is being considered, although a final recommendation has not been made. The members of each group will be consulted on the name at the next meeting, which should be held during the Novatech Conference in June 2007. A circular will be sent out before the Novatech Conference, seeking input on the appropriate name.

The European research project DayWater is aimed at the development of knowledge and tools to support European water managers with sustainable Urban Storm Water Management. Hydropolis consists of information on Best Management Practices, Priority Pollutants, Case Studies and Urban Dynamics. Furthermore an experienced user can model the effects of BMPs on the water system with STORM and SEWSYS. One main deliverable of the project, which ended in 2005, is the Adaptive Decision Support System (ADSS) for the Integration of Storm Water Source Control into Sustainable Urban Water Management Strategies. Information can be obtained at <http://daywater.enpc.fr/www.daywater.org/>.

Currently, the SOCOMA group is working on a list of source control manuals and is preparing a dedicated web site that will give information on source controls and links to relevant sites. Recent Guides include in Canada the one developed by the Halifax Regional Municipality in Eastern Canada (<http://www.halifax.ca/environment/documents/HRMStormwaterManagementGuidelines2006.pdf>) and in the USA the Minnesota Manual (<http://www.pca.state.mn.us/water/stormwater/stormwater-manual.html>), which are particularly relevant for application of source controls to Cold Climates. Any organisation that has developed guidelines is welcomed to share information and communicate with the Chairman of the Group. The site will be put on-line shortly after the Novatech Conference in June 2007, when the merger with the WSUD will be finalised. The Group will contribute to special sessions dedicated to source controls at Novatech, with special forums and discussion. It is envisioned that these sessions could provide the framework to write a Summary report highlighting international practice for source controls in different parts of the world.

4.5. Working Group on Urban Rainfall (GUR) (Chairman: Dr Guido Vaes, HydroScan, Tiensevest 26/4, B-3000 Leuven, Belgium; Phone: +32-16-240501, Fax: +32-16-240509, e-mail: guido.vaes@hydroscan.be. Secretary: Dr Thomas Einfalt, Einfalt & Hydrotec GbR, Breite Strasse 6-8, D-23552 Lübeck, Germany. Ph: +49-451-7027333 Fax: +49-451-7027339, E-mail: thomas@einfalt.de. Group's web site: <http://www.kuleuven.be/hydr/gur>

The GUR met at the 7th International Workshop on Precipitation in Urban Areas in St. Moritz, Switzerland in December 2006 for their annual meeting. The minutes of these annual meetings can be found on the group's website. The next annual meeting will be held during Novatech 2007 (June 25-28, 2007, Lyon, France). At the annual meeting, the GUR members who have attended different meetings around the world where topics on urban rainfall were addressed, reported on these events.

The GUR co-organised the 7th International Workshop on Precipitation in Urban Areas in St-Moritz, Switzerland, from 7 to 10 December 2006. It was a great success with 68 participants from 20 countries. There were 32 oral presentations and 18 posters. The GUR awarded a prize to the best poster of a junior scientist with a financial contribution for the attendance of a future conference or similar event. The winner was Miloslav Müller from the Czech Republic for his contribution "The Extremeness of Meteorological Quantities as an Indicator of Extreme Precipitation Events".

A topical discussion session, headed by Prof. Waldvogel (ETH Zurich) and introduced by three renowned scientists, focused on the future of rainfall measurement and provoked numerous discussion contributions. Selected papers of the workshop will be published in Atmospheric Research by the appointed committee headed by Paolo Burlando. The 8th International Workshop on Precipitation in Urban Areas will be organised in St. Moritz in December 2009 by the key organising group of Peter Molnar, Thomas Einfalt and Paolo Burlando.

The GUR will organise a 'Radar seminar for hydrologists' at the Novatech 2007 conference in Lyon on 24 June 2007. This is a second event of this kind after the successful seminar during the ICUD conference in Copenhagen (August 2005) where the attendance was 22 persons.

The GUR members also contributed to the reviewing process for the Novatech 2007 conference, especially on topics involving rainfall data and their urban design applications.

The most recent information related to GUR activities can be found on the GUR website which is regularly updated, see www.kuleuven.be/hydr/gur.

4.6. Technology Exchange, Transfer and Training Working Group (TETTWG) – the group's operation has been suspended; opportunities for its re-activation as a "Global Outreach Working Group" (GOWG) are currently under discussion. Dr. M. Nor has volunteered to lead this re-organisation.

4.7. Urban Drainage in Cold Climate Working Group (UDCCWG) (Chair: Dr Maria Viklander, Division of Sanitary Engineering, Lulea University of Technology, S-971 87 Lulea, Sweden, Ph. 46 920 491 634, Fax: 46 920 491 493, Email: Maria.Viklander@sb.luth.se; Secretary Dr John J. Sansalone, Department of Environmental Engineering Sciences, 110 Black Hall, University of Florida, Gainesville, FL 32611-6450, USA, Ph.: 001-352-846-0176, Fax: 001-352-392-3076, Email: jsansal@ufl.edu

4.8. Working Group on Water Sensitive Urban Design (Chair: Dr Tony Wong, Ecological Engineering, PO Box 453, Prahran, Victoria 3181, Australia, tel +613 9533 8445; fax +613 9533 7781; tony@ecoeng.com.au; Secretary: Prof Richard M. Ashley, Pennine

Water Group, Dept. of Civil and Structural Engineering, University of Sheffield, Sir Frederick Mappin Building, Mappin Street, Sheffield S1 3JD, UK, Phone: 44(0) 114 222 5766, Fax: 44(0) 0114 222 5700, E-mail: r.ashley@sheffield.ac.uk)

Water Sensitive Urban Design pertains to the synergies within the urban built form (including urban landscapes) and the urban water cycle (as defined by the conventional urban water streams of potable water, wastewater, and stormwater). WSUD may thus be viewed as integrating the holistic management of the urban water cycle into the planning and design of the built form in an urban environment.

Working Group Meeting – 4th April 2006. The working group met in Melbourne in conjunction with the 4th International Conference on Water Sensitive Urban Design (WSUD) and the 7th International Conference on Urban Drainage Modelling. Discussions at this meeting covered a range of issues, most notably the possible overlap of activities with the SOCOMA Working Group, the need for this working group to engage with and invite participation by professionals and practitioners from disciplines which normally do not participate in activities of the Joint Committee on Urban Drainage. The meeting also discussed how funds generated from working group activities (approximately 4,500 Euros) can be used to promote participation by a range of non-traditional practitioners in JCUD activities or to sponsor attendance of delegates from Africa or South America to the ICUD conference in Edinburgh in 2008.

There were also discussions on a possible merger of the working group with the Working Group on SOCOMA. It appears sensible to merge these two groups as the concept behind WSUD is somewhat more encompassing than the Source control aspects and the recent discussion of future directions of the working group on SOCOMA included the expansion of activities and issues related to structural and non-structural catchment management initiatives that would invariably encompass issues of urban design and urban catchment management. Those interesting in obtaining the minutes of the meeting should contact Professor Richard Ashley (r.ashley@sheffield.ac.uk).

Other information on group's activities can be found in Sections 8–10 of this newsletter.

5. NEWS FROM IAHR AND IWA

IAHR News

IAHR Secretariat contacts: IAHR, Paseo Bajo Virgen del Puerto 3, 28005 Madrid, Spain; Tel: +34 91 335 7908; Fax: +34 91 335 7935; E-mail: iahr@iahr.org, URL <http://www.iahr.org>. For more information on IAHR activities and free subscription of the IAHR e-newsletter 'NewsFlash', please contact the IAHR Secretariat: IAHR@IAHR.org

Note that the 2007 membership fees are now due (for more information, visit the IAHR website). Since 2005, IAHR offers an "electronic" membership which includes all normal membership benefits except the printed Journal of Hydraulic Research. Electronic access to the Journal of River Basin Management and the subscription to the *Urban Water Journal* are offered at a special reduced rate for IAHR members.

The XXXII Congress of IAHR on Harmonizing the Demands of Art and Nature in Hydraulics, Venice, Italy, July 1–7, 2007, promises to be a great event. The four congress themes: THEME A: Engineering and Management of Fresh-water Systems; THEME B: Data Acquisition and Processing for Scientific Knowledge and Public Awareness; THEME C: Fluid Mechanics and Hydraulics; and, THEME D: Maritime and Coastal Research and

Engineering, offer topics close to urban drainage. Furthermore, JC is organising two or more special sessions on urban drainage at the congress. More than 800 papers have been submitted to the congress. For more information, see Section 9 of this bulletin and visit the congress website at www.iahr2007.corila.it.

News from IWA HQ

A note from the Specialist Group Programme Officer: Frances Lucraft.

Dear Members of the Specialist Group on Urban Drainage,

Many new and exciting developments have taken place with the Specialist Groups in the past few months. We have two new specialist groups under the IWA Specialist Group umbrella: Winery Wastes Management and Rainwater Harvesting & Management.

Winery Wastes Management

The Specialist Group on Winery Wastes Management, lead by Dr Rene Moletta, covers all issues related to achieving the correct treatment and management of solid and liquid wastes generated during winery activities. The focus of the group will be on the development and application of appropriate treatment technologies, correct use of aquatic and land resources, and reuse and recycle of water, nutrients and energy.



The vineyards of Stellenbosch

Reducing environmental impact of winery activities offers several challenges and opportunities related to the very special characteristics of this agro-industrial activity. Some of these are highly seasonal activities, and big opportunities for water and nutrient re-use, among others.

The main objectives of the group are as follows:

1. To establish IWA as an international focal point and promote the views of water professionals on winery wastes management.
2. To promote the development and application of new treatment technologies in winery production processes.
3. To promote communication between professionals involved in winery waste management.

For more information about this group, please click on the link to access this Specialist Group webpage at:

http://www.iwahq.org/templates/ld_templates/layout_633184.aspx?ObjectId=653146.

Rainwater Harvesting and Management

The Rainwater Harvesting and Management Group had been recently approved, and will have a webpage created in the next couple of weeks. Many communities around the world have always harvested rainwater for their freshwater needs because it is the simplest solution. It has been a traditional strategy for islanders and dry land inhabitants and it has helped them to conserve their ecosystems. Now other communities drastically affected by changing climate and rainfall patterns are using RWH to help their adaptation to these conditions.



Rainwater harvesting collection jars

The objective of the group is to be a forum for water professionals to promote and support rainwater harvesting initiatives worldwide as an important component in the sustainable provision of freshwater to individuals and communities. The group seeks to achieve this by the sharing of expertise and experience among its members and with other interested individuals and organisations, by organising specialist workshops and conferences, the issuance of newsletters, and undertaking cooperative projects and activities with other groups of the International Water Association. This group is chaired by Mooyoung Han from Korea.

Specialist Group Standards and Monitoring merged with Specialist Group Institutional Governance and Regulation

You may also be interested to know that it has been decided that the IWA Specialist Group on Standards and Monitoring has widened its remit and merged with the Specialist Group on Institutional Governance and Regulation. This decision came as the specialist group has been without a functioning committee for over 3 years and has shown no activity. There is a natural fit between the institutional governance and regulation aspects and the associated standards and monitoring.

For a full list of IWA's specialist groups, their objectives, activities and open meeting minutes, please view the IWA website: <http://www.iwahq.org.uk/template.cfm?name=groups>.

Young Water Professional Programme (YWP)



The YWP programme Team is glad to announce that Dr. Michael V. Storey has accepted the position of Chair of the Young Water Professionals Programme for the next two years. Michael, after obtaining a BSc (Hons) in Microbiology and PhD in Environmental Engineering, is currently working as a Project Manager at Sydney Water Corporation and researcher with the CRC for Water Quality and Treatment. Michael's research interests lie in microbial ecology and public health microbiology.

YWP Newsletter

The Young Water Professionals Programmes will launch its first Newsletter in March 2007. This Biannual communication aims to provide an inside of the activities/news from IWA and the water sector that are relevant to the YWP. The YWP will have an important role in the creation of their Newsletter; their stories will be considered for the "Around the World" section. The Newsletter will be distributed electronically to all the members of the YWP Programme. IWA members could also have access to it through the YWP website.

It's time to renew!

It is now time to renew your membership for 2007 and you should by now have received your membership renewal invoice. Individual members have the option to either pay the renewal invoice as instructed or you can renew your membership online at:

http://www.iwahq.org/templates/ld_templates/layout_633184.aspx?ObjectId=639516

IWA would like to encourage our members to renew as soon as possible, in order to avoid any delay in receiving their member benefits!

We are constantly exploring ways to improve communications with our members and the benefits that you receive as part of your membership package. IWA will be introducing the following changes to the current member benefits packages:

- From January 2007, institutional members (i.e. universities, etc.) will now be referred to as Medium Sized Corporates; this will not affect their membership package and benefits.
- IWA has revised the membership multi-year options so that it is now possible to subscribe to IWA membership for either 1 year or 3 years at the current years subscription rate.

2007 IWA Membership Fees

INDIVIDUAL MEMBERSHIP RATES								
Membership Type	High Income Countries				Low Income Countries			
Individual (1yr: 2007)	£55	\$104	€82	JPY12,257	£25	\$48	€38	CNY387
Individual (3yr: 2007–2009)	£165	\$310	€248	JPY36,857	£75	\$141	€113	CNY1,163
Student/Retired (1 yr: 2007)	£25	\$48	€38	JPY5,586	£15	\$28	€23	CNY233
Student/Retired (3 yr: 2007–2009)	£75	\$141	€113	JPY16,755	£45	\$84	€68	CNY697

If you have any questions about renewing your membership, please contact us at: iwamembership@portland-services.com quoting your membership number in the subject line of the e-mail. We look forward to continued collaboration with you in 2007!

Finally, on behalf of all of us here at IWA headquarters, best wishes for the New Year!

Frances Lucraft
frances.lucraft@iwahq.org.uk

6. NEWS FROM IWA PUBLISHING

CARE-S

Computer Aided Rehabilitation of Sewer and Storm Water Networks

Editors: Sveinung Saegrov

CARE-S presents the result of an extensive EU project, Computer Aided Rehabilitation of Sewer and Storm Water Networks. The projects developed a complete management system for sewer and storm water assets, including methods and software. It comprises methods and models for the three levels necessary of management, namely the long-term planning, the project ranking and the technology selection. The results of a comprehensive testing of *CARE-S* in representative European cities are also included in the book.

Long-term planning relies on state-of-the-art description, judgement of future service-life and available measurements, including CCTV. This information is handled in tools for Performance Indicators, network condition prediction and investment needs.

Project ranking is conducted by an elimination system and includes analysis by tools for structural condition, hydraulic performance and customer requirements. The system identifies projects that can be included within actual budget limits.

Selection of appropriate technologies relies on a comprehensive database for renovation and repair techniques and their properties, applied into the conditions of the single projects.

The purpose of this book is to present a new generation management system of sewer and storm water assets. Owing to ageing systems and increasing demands to these networks, and the complexity of systems and problems, advanced management systems are necessary to secure an optimal use of limited resources for repair, maintenance and renewal.

In the future, management should be based on solid objective information given by computer programs and databases, and judged by professional management engineers. The market for modern urban water network management including software and consulting services is expected to increase substantially during the coming years.

ISBN: 1843391155 · April 2006 · Paperback

IWA Members Price: £ 45.00 / US\$ 90.00 / € 67.50

<http://www.iwapublishing.com/template.cfm?name=isbn1843391155>

Urban Water Resources Toolbox

Integrating Groundwater into Urban Water Management

Editors: Leif Wolf, Brian Morris, Stuart Burn

Holistic but applicable approaches are urgently needed to help plan long-term, cost-effective and sustainable urban water management systems. Groundwater is a central element in the urban water cycle of all cities located on aquifers, yet it remains inadequately integrated into urban water management practices.

This book describes holistic approaches for quantification and balancing of urban water and solute fluxes that have been developed by the joint Euro-Australian research project AISUWRS. The new tools comprise a chain of interconnected models that link urban water supply, urban drainage and urban groundwater resources. These include a new sewer exfiltration, model that is based on pipe asset conditions which permits flows to the environment to be estimated. The book provides details on the further processing of this information through the unsaturated zone down to aquifer, where numerical groundwater flow and transport models are applied. Concise documentation is provided on each of the models. The practicability of applying the chain of models was tested by applying it in four case study cities in Australia, Germany, Slovenia and the United Kingdom that have diverse conditions in terms of hydrogeologic setup, climate and data availability. This permitted additional validation by field investigations, including problem-oriented monitoring campaigns aimed at assessing the impact of wastewater practice on groundwater.

The book provides guidance and examples of the application of multilevel piezometers, on adapted monitoring strategies, and the use for interpretation purposes of microbiological parameters, pharmaceutical residues and related marker species.

The socio-economic analysis in the case study cities sometimes uncovered distinctively different problem perceptions and priorities, both in the groups of experts responsible for the water management and with the remaining stakeholders. The AISUWRS project has developed tools to foster these urgently required deliberation processes. Methodologies for formal sustainability assessment with a triple bottom line background were also elaborated and tested during the case studies.

The case studies have shown that the approach is valid and constitutes an important step towards integrated urban water management.

ISBN: 1843391384 · January 2007 · 298 pages · Hardback

IWA Members Price: £ 67.00 / US\$ 134.00 / € 100.50

<http://www.iwapublishing.com/template.cfm?name=isbn1843391384>

Strategic Planning of Sustainable Urban Water Management

Authors: P-A Malmqvist, G Heinicke, E Korrman, TA Stenstrom, G Svensson

The strategic planning of urban water systems is a complex task.

The Urban Water programme covered projects from various disciplines at nine Swedish Universities, from 1999 to 2006. The projects developed a "toolbox" for strategic planning of drinking-, waste- and stormwater management, covering aspects such as the environment, health and hygiene, financing, organisation, households, and technical function.

Strategic Planning of Sustainable Urban Water Management synthesises the results and presents a comprehensive approach, which includes not only the technical, economic and environmental aspects, but also the challenges of institutional capacity and public participation in the planning process. Furthermore, the experience from a number of case studies are summarised and can offer readers inspiration for their own planning situations.

ISBN: 1843391058 · July 2006 · 284 pages · Hardback

IWA Members Price: £ 62.25 / US\$ 124.50 / € 93.38

<http://www.iwapublishing.com/template.cfm?name=isbn1843391058>

Infiltration vs. Surface Water Discharge

Development of Guidance for Stormwater Managers (Phase 1) (WERF Report 03-SW-4)

Author: SE Clark

Stormwater managers are increasingly faced with the need to address many potentially-conflicting issues as part of their activities, ranging from flood prevention to protection of downstream habitat. New philosophies, such as a post-development goal of mimicking pre-development hydrology, have been promoted as addressing both the goals of water quality and water quantity control.

These new management plans incorporate both infiltration and surface treatment/discharge into the development.

A flowchart was developed to aid stormwater managers in stepping through the process of selecting an appropriate management/treatment technology.

This title belongs to [WERF Report Series](#)

ISBN: 1843397641 · December 2006 · 288 pages · Paperback

IWA Members Price: £ 77.25 / US\$ 154.50 / € 115.88

<http://www.iwapublishing.com/template.cfm?name=isbn1843397641>

For more information on IWA Publishing products or to buy online visit www.iwapublishing.com

Or contact one of IWA Publishing's distributors:

UK, Europe and Rest of World:

Portland Customer Services

Commerce Way

Colchester

CO2 8HP, UK

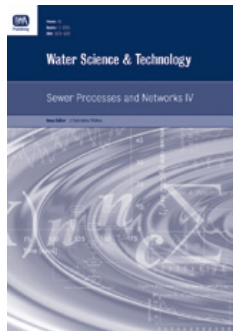
Tel: +44 (0)1206 796 351

Fax: +44 (0)1206 799 331

Email: sales@portland-services.com

North America:
BookMasters, Inc.
P.O. Box 388
Ashland
OH 44805, USA
Tel: +1 800 247-6553 (+1 419 281-1802 from Canada)
Fax: +1 419 281-6883
Email: order@bookmasters.com

Urban Drainage 2005. Selected proceedings of the 10th international conference on urban drainage. *Water Science & Technology*, Vol. 54, No. 6–7, pp. 1–503.



Editors: P.S. Mikkelsen, J. Vollertsen, T. Hvitved-Jacobsen & A. Ledin

This issue of *Water Science & Technology* contains the 59 best scientific papers from the 10th ICUD, including the three candidate papers for the “Poul Harremoës Award for Best Urban Drainage Paper by a Young Author”. The papers are organised in the following thematic sections: (i) Spatial and temporal variation of rainfall, (ii) Urban hydrology and runoff modelling, (iii) Urban flooding, (iv) Sediment transport, (v) Sewer system data and processing, (vi) Sewer infiltration and exfiltration, (vii) Occurrence and behaviour of heavy metals and xenobiotic organic compounds, (viii) Pollution control in combined systems, (ix) Pollution control in separate systems, (x) Receiving water impacts and impacts mitigation, (xi) Modelling of integrated urban water systems, (xii) Urban water and society, and (xiii) Planning, assessment and decision support. Table of contents is available at: <http://www.iwaponline.com/wst/05406/06/default.htm>.

Urban Drainage 10: Selected proceedings of the 10th International Congress on Urban Drainage, 21-26 August 2005, held in Copenhagen, Denmark. *Water Practice & Technology*, Vol. 1, No. 1.



Issue Editor: Peter Steen Mikkelsen

In parallel with the above WST issue, the best 22 papers from the 10th ICUD with a strong focus on practical applications are published in *Water Practice & Technology*. The papers are organised in the following thematic sections: (i) Urban drainage practice, (ii) Urban water and society, (iii) Decision support for planning, (iv) Modelling and monitoring in combined sewer systems, and (v) Sewer infiltration and exfiltration. IWA's new online journal *Water Practice & Technology* has been launched under the control of the Water Science and Technology Editorial Board to provide the widest possible dissemination of high-quality material that is of interest to practitioners rather than researchers. By publishing these articles electronically *Water Practice and Technology* provides a much-needed searchable archive that makes these practice-focused articles rapidly available worldwide. Table of contents is available at: <http://www.iwaponline.com/wpt/001/01/default.htm>.



Urban Stormwater Management in Developing Countries

Authors: J Parkinson, O Mark

The purpose of this book is to disseminate contemporary knowledge and practical experiences concerning problems and solutions related to urban hydrology and drainage. Although the focus is on developing countries, the book draws from experiences in many other parts of the world. Based upon numerous practical examples and case studies, the book provides information to assist in the management, planning and engineering design processes.

This book encourages the reader to adopt an integrated approach towards stormwater management and considers the importance of institutional arrangements, participation of local stakeholders in planning, as well as aspects of financing and cost recovery.

ISBN: 1843390574 · October 2005 · 240 pages · Paperback

IWA Members Price: £26.25 / US\$47.25 / €37.50

Non Members Price: £35.00 / US\$63.00 / €50.00



**Sewer Networks and Processes within Urban Water Systems
Selected Proceedings of the 18th European and 1st Asian Junior
Scientists Workshops**

Editors: J-L Bertrand-Krajewski, M Almeida, J Matos, S Abdul-Talib

The papers in this volume of the Water and Environmental Management Series (WEMS) were originally presented at the 18th European Junior Scientists Workshop (EJSW), Portugal, on 8–11 November 2003 and at the 1st Asian Junior Scientists Workshop (AJSW), Malaysia, on 7–10 February 2004.

The workshops were organised by the SS&PWG (Sewer Systems and Processes Working Group) of the IWA/IAHR Joint Committee on Urban Drainage. From the 37 full papers presented at the two workshops, 16 papers have been selected by independent reviewers from the SS&PWG for publication in Sewer Networks and Processes within Urban Water Systems. They reflect rather well the variety of topics presented during both workshops, and bring the high-quality work of these junior authors to the wider audience it merits.

Water and Environmental Management Series (WEMS)

ISBN: 1843395061 · November 2004 · 172 pages · Paperback

IWA Members Price: £48.75 / US\$87.75 / €78.00

Non Members Price: £65.00 / US\$117.00 / €104.00

**Post-Project Monitoring of BMP's/SUDS to Determine Performance and Whole-Life
Costs**

WERF Report (Project 01-CTS-21T)

Author: LK Lampe

Over the past 20 years, the use of Best Management Practices (BMPs) in the United States has been instrumental in reducing both the detrimental impacts to receiving water quality and the exacerbated flooding caused by urbanization and storm water drainage. More recently, Sustainable Urban Drainage Systems (SUDS) have started to be used in the United Kingdom. Both SUDS and BMPs attempt to mimic the drainage patterns of the natural watershed, and can provide a degree of treatment needed to improve the quality of the water discharged to an acceptable level.

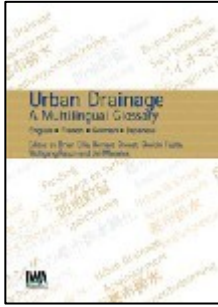
This project includes a literature review and a survey of stormwater authorities and organizations in the U.S. and U.K. to identify the most commonly used BMPs and SUDS and to determine the availability of data on their cost and performance. It also involves establishment of protocols for whole-life costs and performance data for BMPs and SUDS.

WERF Report Series

ISBN: 1843397161 · November 2004 · 400 pages · Paperback

IWA Members Price: £77.25 / US\$124.00 / €124.00

Non Members Price: £103.00 / US\$165.00 / €165.00



Urban Drainage A Multilingual Glossary

Editors: JB Ellis, B Chocat, S Fujita, J Marsalek, W Rauch

Urban Drainage: A Multilingual Glossary has been written by research engineers and scientists with substantial experience in the urban drainage field. It provides definitive descriptions of urban drainage terms in English, French, Japanese and German, giving guidance on their appropriate usage and context. The glossary also contains many diagrams, tables and technical discussions, and is a very practical tool to facilitate international technical communication in the urban drainage field.

ISBN: 190022206X · March 2004 · 528 pages · Paperback

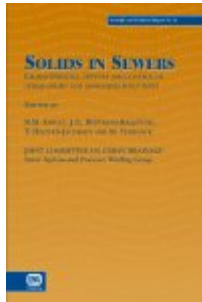
IWA Members Price: £66.75 / US\$113.25 / €93.75

Non Members Price: £89.00 / US\$151.00 / €125.00

Solids in sewers

Editors: RM Ashley, JL Bertrand-Krajewski, T. Hvitved-Jacobsen, M. Verbanck (2004).

Scientific & Technical Report No. 14, Publication Date: May 2004 · Pages: 360 · ISBN: 1900222914 · Paperback.



7. NEWS FROM AROUND THE WORLD

Australia and New Zealand (reported by Ana Deletic and Tim Fletcher)

Institute for Sustainable Water Resources (ISWR, <http://iswr.eng.monash.edu.au/>), Monash University (Melbourne) and Ecological Engineering, Ltd are intensively working on development and implementation of stormwater biofiltration technologies (also known as bioretention or rain gardens). This large research program is done under the umbrella of Facility for Advancing Water Biofiltration (FAWB) and is backed by Victorian government and seven industrial partners. It also includes researchers from INSA de Lyon, France, and Lulea Technical University, Sweden. Preliminary results from a large-scale laboratory investigation showed that biofilters have high potential in removing solids, metals and nutrients from stormwater. Novel designs have been trialled aiming to improve their removal efficiency of nitrogen and its species. The soil specification for biofilter design has been recently published. Social research into transition that happened within stormwater industry in Victoria over the past two decades has been completed. Key drivers in a widespread adoption of Water Sensitive Urban Design technologies (that biofiltration technology belongs to) have been identified. Finally, over 40 already installed biofilters have been surveyed and tested. For more information visit FAWB web site: <http://www.monash.edu.au/fawb/index.html> or contact Tony Wong (tony@ecoeng.com.au) or Ana (ana.deletic@eng.monash.edu.au).

ISWR has continued to work on a number of projects such as stormwater harvesting, clogging of stormwater treatment systems, modelling of stormwater pollution generation in Australian conditions, modelling surface stormwater treatment systems, Aquifer Storage and Recovery (ASR) for stormwater in Melbourne, characterization and modelling of pathogens in stormwater, ecological responses to urbanization, and nitrogen treatment in constructed wetlands. New research project on uncertainty of stormwater models has just commenced. For more information, contact Tim (tim.fletcher@eng.monash.edu.au) or Ana (ana.deletic@eng.monash.edu.au).

The Australian National Urban Water Governance Program led by Rebekah Brown from the School of Geography and Environmental Science at Monash University, has produced some highly valuable insights into the current ‘barriers’ and ‘drivers’ experienced with advancing sustainable urban water management. This program is comprised of a group of social research projects that aim to provide a credible knowledge base that will effectively inform and assist urban water managers to build institutional capacity, improve water governance and deliver more sustainable forms of water management. For more information please visit <http://www.arts.monash.edu.au/ges/research/nuwgp/>, or contact Rebekah Brown (Rebekah.Brown@arts.monash.edu.au).

The eWater Cooperative Research Centre (eWater CRC), a major partnership between private and public water businesses and research groups across eastern Australia, has two projects related to urban water: (1) Urban water management, and (2) Innovative approaches urban. The main deliverable of this 7 year program will be Urban Water Systems package that will allow users to assess the effects of land-use change, population growth, climate change, and new technologies in urban areas. For more information please visit eWater web site (www.ewatercrc.com.au) or contact Grace Mitchell (Grace.Mitchell@eng.monash.edu.au), or Peter Coombes (p.coombes@newcastle.edu.au).

Melbourne Water in Victoria (www.melbournewater.com.au) and Brisbane City Council in Queensland (www.bbc.gov.au) are actively championing adoption of stormwater treatment and harvesting. A key focus is on institutional capacity and implementation of treatment facilities (for example rain gardens and wetlands are highly popular) in both green and brown

field developments. With prolonged drought that Australian cities are experiencing, stormwater harvesting is becoming reality. Stormwater industry is actively looking into innovative solutions to tap into stormwater as a new water resource; a number of systems that use swales, wetlands and biofilters for capturing and treatment of stormwater for urban irrigation and toilet flushing have been implemented across Australia.

Stormwater treatment is now institutionalised in Victoria. The new Sustainable Neighbourhoods provisions (Clause 56) introduced by the Department of Sustainability and Environment in the second part of 2006 require all new residential subdivisions to meet the stormwater treatment targets within each subdivision.

In a similar way Auckland Regional Council (ARC), NZ, is championing application of stormwater treatment in Auckland, which is the most populated part of New Zealand. ARC is pushing both structural options such as porous pavements, green roofs, and rain gardens, as well as non-structural measures such as prohibiting the use of galvanised roofing materials.

Austria (reported by Stefan Fach)

Conceptual design of management and renovation of the sewer system in the city Linz. The Environmental Engineering Institute of Infrastructure, Civil Engineering, University of Innsbruck is conducting this 2-year project for the City of Linz. In Austria the requirements of combined sewage treatment are at present in a state of flux. On the one hand, the European Union Water Framework Directive this defines standards, boundary conditions and objectives for a sustainable and adaptive management in terms of water conservation. On the other hand, the revised version of the OeWAV regulation No. 19 for the design of stormwater overflow structures in combined sewers determines minimum transmission efficiencies. The efficiencies have to be proven by means of long-term simulation with a model. The institute of Environmental Engineering at the University of Innsbruck has examined the effects of stormwater discharge exemplarily on the drainage system of the City of Linz, in order to develop planning alternatives and to improve the combined sewage situation. Apart from the development of a management concept for the drainage system a recapitulative representation of the direct and absolutely imperative reconstruction took place on the basis of existing data. Using such data, the pros and cons of database-based reconstruction concepts were considered.

First the hydrological fundamentals of the catchment area were collected and analysed, in order to determine possible weak points in the hydrologic data base. From the existing precipitation data design rainfall intensity, model rainfall and rain series were extracted. Furthermore the effect of the spatial distributed precipitation on future computations was examined. Parallel discharge data, water level data and pumping time were analysed with statistic tools, in order to obtain additional knowledge about the system performance. Measurements of the wastewater treatment plant were also included in the analysis. The transmission efficiency was determined by means of long-term simulation with the calibrated model of the drainage system. Linz has been using the conceptual software CITY DRAIN developed by the unit of environmental engineering. The significant stormwater overflow structures were analysed by comparing the building-specific with the entire combined sewage discharge loads. Furthermore a parameter study of the significant stormwater overflow structures was carried out, in order to determine the effect of the basin volume and the maximum effluent flow on the entire discharge volume. Firstly, the parameter study was computed applying Euler rains with return frequencies of 0.5/a, 1/a and 5/a as well as secondly some alternatives with a one-year rain continuum were estimated. The transmission

efficiency of the most realizable drainage system configuration was computed additionally with a hydrodynamic model. The knowledge from the simulation results can be used for optimisation of the drainage system with regard to the combined sewage treatment.

Brazil (reported by Nilo Nascimento)

ReCESA. The National Network on Environmental Sanitation Training – ReCESA - was conceived by the Brazilian Government as means of improving the low qualification level of personnel that operates the sanitation companies throughout the country. It consists of a network of Brazilian institutions that are involved in the sanitation sector (water, wastewater, municipal solid waste and urban drainage), involving universities, technological centres, state and municipal sanitation companies, among others. The network integration is guaranteed by four regional nuclei constituted in the south, southeast, northeast and central regions of Brazil (congregating 13 federal states in total), under the leadership of four previously qualified universities, one in each nucleus. The main objectives of the project are to develop appropriate training material and to qualify around 5 thousand workers during the period 2007-2008.

11th International Conference on Diffuse Pollution and the 1st Joint Meeting of the IWA Diffuse Pollution and the IWA-IAHR Urban Drainage Specialist Groups. For the first time, a joint conference is planned by two IWA Specialist Groups, the Diffuse Pollution and the IWA-IAHR Joint Committee on Urban Drainage. The meeting will be held in Belo Horizonte, Brazil, from 26 to 31 August 2007, jointly with the 11th International Conference on Diffuse Pollution. For further details, see Section 9 and visit the conference website at: www.acquacon.com.br/dpud2007.

SWITCH project. Four Latin American organisations became partners in the 6th EU Framework project, SWITCH (Sustainable Water Management to Improve Tomorrow's Cities' Health. The SWITCH project aims to achieve a paradigm shift in urban water management to create sustainable, healthy and safe urban water systems. This paradigm shift will be realised by a consortium of 32 organisations from 13 countries under coordination of UNESCO-IHE in partnership with the European Union - DG Research. The SWITCH project combines different innovative research approaches, including “action research, learning alliances, and a multiple-level integrated approach, considering the urban water system (city level) in relation to its impacts on, and dependency on, the natural environment at the river basin level, and in relation to Global Change pressures”. The project is led by the UNESCO-IHE Institute for Water Education and has a total of 32 participants from 12 different countries, including those in Latin America - Peru, Colombia and Brazil. CINARA (Centro Inter-Regional de Abastecimiento y Remocion de Agua), from Colombia, IPES-Promocion del Desarrollo Sostenible, from Peru, and UFMG (Federal University of Minas Gerais) and the Belo Horizonte City Council, from Brazil, are the Latin American institutions participating in SWITCH. Belo Horizonte is one of the nine demonstration cities in the project where most of the innovative integrated urban water management approach will be implemented and evaluated. Further information on the project may be found at www.switchurbanwater.eu.

Canada (reported by Jiri Marsalek and Gilles Rivard)

Innovative Stormwater Management Project. The Canadian Water Network agreed to support the new project on stormwater management. The main goal of the project is to persuade planners, developers, and engineers to increase applications of the most recent options to conventional stormwater management, often referred to as low impact development of water sensitive urban design. The anticipated results from this study comprise the following:

Workshop - bringing together researchers and practitioners in innovative stormwater management to discuss knowledge gaps and research need and highlight innovative approaches in Canada. The results of the workshop will be published as a state of the knowledge proceedings. This is to be accomplished at the beginning of the project. Successful case studies will then be highlighted using a linked website.

Reduce the amount of stormwater generated on-site: the water balance model developed in British Columbia will be promoted as an innovative tool to be used nationally by developers and planners to reduce the stormwater generation at the site level. The program focuses on retaining and infiltration rainwater on individual properties as a source control measure based on rainfall patterns, soil type and slope (visit <http://www.waterbalance.ca/waterbalance/home/wbnIndex.asp>).

Reduce stormwater pollution – the existing stormwater BMPs will be identified and their effectiveness in detaining and reducing pollutants will be examined. The focus will be on metal and organic contaminant entering and leaving these systems, retention of pollutants in sediments, and the effectiveness in reducing pollutants, pathogens and nutrients. The project will also address how to deal with accumulated pollutants, and what to do with the contaminants once they are removed. The results of these evaluations will be made available using the Internet and in the form of reports.

Integrate stormwater infiltration and pollution reduction in urban watersheds - many innovative systems have been built for retaining water in subdivisions but there is a need to scale up to the watershed level, because it is critical to determine the cumulative effect on flood generation and pollution impacts downstream. This requires an integrated approach and efforts will be made to not only determine the effectiveness of innovations at the site level but how this translates into watershed level impacts.

The main partners in this project headed by the University of British Columbia include other Canadian universities, municipalities, Environment Canada (the National Water Research Institute), and the Toronto Area Conservation Authority. For more information, contact Jiri Marsalek (jiri.marsalek@ec.gc.ca). The study builds on the efforts initiated in Western Canada concerning the Water Balance Model, which promotes a watershed-based approach that manages the natural environment and the built environment as integrated components of the same watershed (<http://www.waterbalance.ca/waterbalance/home/wbnIndex.asp>). Initially developed as a British Columbia-based Inter-Governmental Partnership as an extension of *Stormwater Planning: A Guidebook for British Columbia*, it led to the decision by Environment Canada, Canada Mortgage & Housing Corporation (CMHC) and the Province of British Columbia to join forces to create a truly national Water Balance Model for Canada that now includes many provinces in Canada. Recent Guides on Source controls include the one developed by the Vancouver Region in 2005 (http://www.gvrd.bc.ca/sewerage/stormwater_reports.htm).

In Western Canada, the City of Calgary has embarked on an ambitious program to reduce non-point source discharges to the Bow River and its tributaries. Building on its 2005 Stormwater Strategy, the City of Calgary is looking at ways to protect watershed health by reducing both rates and volumes of stormwater runoff. One of the driving factors for these

initiatives were the findings of various studies conducted within the Nose Creek watershed, see also <http://www.airdrie.com/Content/environment/nosecreek/>, where the impacts of urbanisation on the fluvial morphology of the local, lower-order streams were quantified. In order to support these initiatives, a Best Management Practices and Source Control Handbook, with special emphasis on cold climate issues, is currently being developed. Several pilot projects including bioretention, permeable pavement, green roof systems, and capture and re-use of stormwater for irrigation are ongoing. Cold climate issues as well as the long-term performance receive particular attention, with the latter being examined in the Hydraulics Laboratory of the Schulich School of Engineering at the University of Calgary to replicate the impacts of 20 to 30 years of sediment build-up within the source controls of interest. For more information about these initiatives, please contact Bert van Duin at bert.vanduin@shaw.ca.

The Sustainable Technologies Evaluation Program (STEP) is a multi-agency program based in Ontario (Canada), led by the Toronto and Region Conservation Authority (TRCA) (<http://www.sustainabletechnologies.ca/>). The program was developed to provide the data and analytical tools necessary to support broader implementation of sustainable technologies and practices within a Canadian context. Its main objectives are to:

- Monitor and evaluate sustainable technologies in the areas of water and air
- Assess potential barriers to implementing sustainable technologies
- Provide recommendations for guideline and policy development
- Disseminate study results and recommendations and promote the use of effective technologies at a broader scale through education and advocacy.

Technologies evaluated under STEP are not limited to physical structures; they may also include preventative measures, implementation protocols, alternative urban site designs, or other practices that promote more sustainable lifestyles.

The mandate and organizational structure for the water component builds upon experiences from the Stormwater Assessment Monitoring and Performance (SWAMP) program and feedback from various agency and industry representatives. A number of reports can be downloaded from the site.

Denmark (reported by Peter Steen Mikkelsen)

A long-term effort in analysing high-resolution rainfall data relevant for urban drainage started when the Danish Water Pollution Committee established a nationwide network of tipping-bucket gauges in 1979. Data from this system allowed showing in the mid-1990s that significant regional-scale spatial variations of extreme peak intensities exist and may partially be explained by variations of the mean annual precipitation. A new analysis in 2006, based on 66 stations with more than 10 years of data (about 1250 station years), showed a general increase in the peak intensities compared to previously (<http://svk28.er.dtu.dk>; currently only available in Danish). Studies of output from regional climate models furthermore indicate that up to 40% increased peak intensities may be expected during the next century, and several investigations have therefore been launched looking into options for mitigation of climate change impacts on urban drainage systems. The Danish EPA has set out to develop guidelines for sewer systems that already suffer from flooding problems, and the Danish Water and Wastewater Association (DANVA, <http://www.danva.dk>) has initiated a range of projects looking into various aspects of climate change. Further information may be obtained from Ole Mark (OMJ@dhigroup.com), Jens Jørgen Linde (jjl@er.dtu.dk) and Karsten Arnbjerg-Nielsen (kar@cowi.dk).

Small X-band rainfall radars give insight in small-scale spatial variations of rainfall. More than 20 Local Area Weather Radars (LAWR) are now installed worldwide, the process of integrating radar precipitation measurement in the operation of urban drainage systems is gaining momentum, and simulations tools now facilitate the use of radar data as input to urban run-off simulations. Analysis of the high-resolution radar images from this radar type reveals unprecedented information on clustering of high intensity areas during extreme rainfall. For further information, visit <http://radar.dhigroup.com> or contact Niels Einar Jensen (nej@dhigroup.com).

“Black, blue and green – Integrated infrastructure planning as key to sustainable urban water systems” (2BG) is a new Danish R&D project running from 2007 to 2011, focusing on large-scale infiltration of stormwater, control of stormwater quality, and exploitation of stormwater facilities as assets in the urban green infrastructure. The aim of the project is to develop IT tools for dimensioning catchment-scale solutions: tools that communicate with an urban groundwater model and an urban landscape model, and hold recommendations for water quality control. The project ambition is to contribute to sustainable urban water systems in developed and developing countries by favouring solutions that allows for water re-use and groundwater recharge. Read more about the project at www.2BG.dk or contact Marina Bergen Jensen (mbj@kvl.dk).

“Source Control Options for Controlling Emissions of Priority Pollutants” (ScorePP) is a new European research project that aims to develop comprehensive and appropriate source control strategies that authorities, cities, water utilities and chemical industry can employ to reduce emissions of priority pollutants (PPs) from urban areas into the receiving water environment. The ScorePP project focuses on the 33 priority substances identified in the Water Framework Directive (WFD), and specifically on the 11 priority hazardous substances. However, this list may be expanded to include emerging pollutants or reduced if appropriate model compounds can be identified, depending on the local context. The project is coordinated by the Technical University of Denmark and 8 other partners from United Kingdom, Belgium, France, Slovenia, Spain, Sweden and Canada participate. Read more about the project on: www.scorepp.eu or contact Anna Ledin (anl@er.dtu.dk) or Peter Steen Mikkelsen (psm@er.dtu.dk).

To serve as a frame for future activities and to boost the research activities in general, the Technical University of Denmark and Aalborg University are establishing the “Urban Water Technology Research School” (UWT). The aim is to conduct research a high international level in collaboration with the relevant water utilities, consulting companies, technology providers, research institutes and authorities. The topics of the research school include the whole (urban) water cycle, i.e. water abstraction in nature, treatment in waterworks and transport in distribution systems, use and recirculation of water in cities including water sensitive urban design, urban drainage systems and treatment systems for stormwater and wastewater before discharge into nature. The first eight PhD fellowships will be advertised in early spring 2007 – keep an eye on www.urbanwatertech.dk for the announcement or contact Peter Steen Mikkelsen (psm@er.dtu.dk) or Thorkild Hvitved-Jacobsen (thj@bio.auc.dk).

France (reported by Sylvie Barraud and Jean-Luc Bertrand-Krajewski)

ECOPLUIES (reported by Sylvie Barraud)

ECOPLUIES is a French multidisciplinary project gathering eight research teams and three end-users (a municipality and two consulting companies) whose competencies are hydrology, chemistry, soil science, hydrogeology, treatment and process engineering, biology and socio-economy. The project aims at studying the performance of urban stormwater infiltration facilities according to: (i) physical aspects (clogging, ageing, possibility of water transfer through preferential soil pathways, groundwater temperature modifications ...), (ii) environmental features (pollutant transfer and role of the particulate, colloidal and dissolved phases flowing through the topsoil, the unsaturated and the saturated zone, role of micro-organisms in the pollutant transfer, possible treatment methods of solid wastes trapped by infiltration systems, ...) and, (iii) socio-economic aspects. The research mainly uses *in situ* observations and measurements from the OTHU sites (Field Observatory for Urban Hydrology). This research has begun in January 2006 and will finish in December 2008. The final deliverable will be a French guideline for designing and monitoring stormwater infiltration systems. For further information, contact: Sylvie BARRAUD LGCIÉ, INSA-Lyon, 34 avenue des Arts, F-69621 Villeurbanne cedex, France – sylvie.barraud@insa-lyon.fr; <http://www.ecopluiies.org> ; <http://www.graie.org/othu/>.

The website of the French working groups on Urban Drainage (reported by Jean-Luc Bertrand-Krajewski)

In France, two national working groups are dealing with urban drainage: (i) the “Urban Hydrology” working group of the SHF (Société Hydrotechnique de France – French Hydrotechnical Society) and (ii) the “Storm Water Discharges” working group of the ASTEE (Association Scientifique et Technique pour l’Eau et l’Environnement). SHF and ASTEE have special links respectively with IAHR and IWA. Since many active members were in both working groups, it was proposed in 2003 to have common meetings and activities, while keeping some specific actions within each parental organisation. This is now a kind of a French JCUD.

In October 2006, the groups launched a common website: <http://shfastee.free.fr>. The minutes of all meetings are available (there are approx. five meetings a year) and all activities of the groups are mentioned on the website (unfortunately only in French at the moment ...): workshops, conferences, papers, etc. If you are interested in information about French activities on urban drainage, or in contacting some active members, etc., please visit the website.

In 2007, the groups will have a poster during the Novatech 2007 conference to inform the participants about their activities.

JDHU 2006: the second French PhD Students Workshop on Urban Hydrology. After the first one held in 2004 in Lyon, France, the second JDHU (Journées Doctorales en Hydrologie Urbaine - PhD Students Workshop on Urban Hydrology) has been organised in Nantes, France. In these workshops, only PhD or post-doc students give presentations and chair sessions. But all interested people are welcome to participate: in addition to researchers, the workshops attract participants from private and public sewer utilities, water agencies and consulting companies. The objective is to increase the participation of municipalities in 2008. In 2006, 23 presentations were given, reflecting the diversity of the research topics in various French universities and laboratories. As in 2004, selected papers will be revised and published in the two French journals “*La Houille Blanche*” and “*TSM*”. All papers and presentations are available at: <http://www.lcpc.fr/fr/sources/seminaires/jdhu2006/programme.dml>.

The OTHU project. The OTHU - Field Observatory for Urban Water Management - was launched in Lyon (France) in 1999. It is a long term field-observatory, which is set up on the drainage system of the Greater Lyon and on some water bodies receiving its effluents. The project objectives are to collect reliable data on urban wet weather effluents and on their impacts on receiving waters, in order to provide results, knowledge and methodologies to assess the sustainability of urban water systems. From a scientific point of view, the OTHU project relies on a research consortium of eight universities or research institutes in Lyon, with multidisciplinary researchers interested in most fields of environmental research (climatology, biology, chemistry, hydrology, hydrogeology, hydraulics, health sciences, sociology, economy, ...). From an operational point of view, the OTHU project benefits from the support of the Greater Lyon, the Rhône-Méditerranée and Corse Water Agency and of the Rhône-Alpes Regional Council, keeping the project in touch with public management and decision making. The OTHU observatory is an open project that has been implemented to encourage collaboration among scientists from all over the world.

Each year, an OTHU event is organised:

- either Technical Conferences, to disseminate methods, results and techniques to practitioners. Technical worksheets are produced for these events.
- or Scientific Seminars, for researchers.

The 2nd Scientific Seminar was organised on 25 January 2006. The next Technical Conference will be held in Lyon on 25 January 2007, on “Small semi-urban rivers: knowledge of risks, quality assessment, decision making”.

For all information about these events, and also to download all Technical Worksheets available in PDF format, visit <http://www.othu.org> or contact: info@othu.org

Papers about the OPUR project published in TSM. The OPUR project (« Observatoire des Polluants URbains », Urban Pollutants Observatory) is carried out by the Cereve, in partnership with the City of Paris, the SIAAP and the AESN. OPUR is composed of a network of six experimental catchment areas on the Right Bank in Paris, along the axis of the Clichy trunk. The catchments studied cover areas of 40 to 3,000 hectares, with network lengths from 1 to 13 km and populations from 12,000 to 650,000 inhabitants. It is a combined network. The experimental equipment used can quantify and describe the hydraulic flows and the pollutant flows at the outlets of the catchment areas studied. The pollution parameters studied are suspended solids, organic matter, nutrients and inorganic and organic micropollutants. Two research programs are carried out on the OPUR site: (1) The spatial evolution of the characteristics and origins of wet-weather flow pollution in combined sewers, and (2) The analysis and development of operational calculation models for stormwater pollutant flows in sewer networks. For more information, contact Ghassan Chebbo (chebbo@cereve.enpc.fr) or Marie-Christine Gromaire (gromaire@cereve.enpc.fr) CEREVERE (ENPC) – France. A special issue of the French journal *TSM* presented papers describing the first results of the OPUR project (*TSM*, 2006, n° 11).

Italy (reported by Alberto Campisano, Gabriele Freni, Marco Maglionico, Umberto Sanfilippo)

Centro Studi Idraulica Urbana (CSDU) has been working on a number of recent research projects, including (a) performance indicators for water distribution systems, (b) urban water management in drought conditions, (c) water pollution impacts on receiving water bodies, and (d) standardisation of urban drainage structures.

Great attention to these topics has been paid by the Italian *Ministero dell'Istruzione, dell'Università e della Ricerca* that have recently financed four biennial research projects involving a large number of academic research groups in Italy. These research projects are respectively focused on the following topics:

- Theoretical and experimental characterisation of the impact on receiving streams due to conservative and non-conservative pollutants transported by urban runoff waters (project partners: *Politecnico di Milano, Università degli Studi di Pavia, Università degli Studi di Bologna, Università della Calabria, Università degli Studi di Palermo*);

- Performance indicators for the planning, design and management of water supply systems (project partners: *Università degli Studi di Pavia, Politecnico di Milano, Università degli Studi di Bologna, Università degli Studi di Palermo, Università degli Studi di Catania*);

- Standard design of hydraulic structures in urban drainage systems (project partners: *Università degli Studi di Napoli "Federico II", Università degli Studi di Catania, Università degli Studi di Roma Tre, Università della Calabria*)

- Drought forecast and mitigation (project partners: *Università degli Studi di Palermo, Università degli Studi di Catania, Università della Calabria, Università degli Studi di Salerno, Università degli Studi di Brescia*)

Moreover, *Università degli Studi di Palermo*, in collaboration with the Water Authorities of *Regione Sicilia*, is developing a number of research projects in the field of integrated urban drainage modelling defining standard approaches for data collection and validation.

CSDU coordinates and manages, in collaboration with the local agency for integrated water systems (*Lura Ambiente S.p.A.*), a number of research studies on both quantitative and qualitative issues in the watershed of the Lura river, a heavily urbanised and industrialised catchment north of Milan exploited as a large multidisciplinary field-laboratory on eco-hydraulics.

Among its activities, the *CSDU* is also coordinating research groups for the proposal of research projects within the VII EU Framework Program.

A progressively increasing attention is being addressed to the topic of the first flush pollution control in urban environments. In particular, some engineering aspects were recently discussed at a one-day conference on "Water management and sustainable urban environment" organised in Genoa by *Università degli Studi di Genova* and *CSDU* on 24 November, with large participation (about 500 people) of academics, professionals, water agencies and private companies.

The same topic is also the main topic of a new sewer design manual that is under preparation to be edited by *CSDU* in 2007.

A short course on Advanced Systems and Technologies for Modern Urban Drainage organised by *CSDU* will take place at the *Politecnico di Milano* in spring 2007. Such a course is developed for professionals and technicians of water agencies, municipalities, system managers and will cover new developments in the fields of urban drainage management and flood mitigation measures, urban drainage rehabilitation, pollutant control in urban streams, and interactions between drainage systems and aquifers. For additional information please visit the web-site: www.csdu.it.

The 2nd National Conference on Water and Cities will be held in a resort nearby Cagliari (Sardinia) in late September 2007. Following the successful outcomes of the first one

organised in Sorrento in 2005 (about 200 people attending) and focused on urban supply, drainage and wastewater treatment, such an event is expected to offer an excellent opportunity for sharing knowledge and technologies among scientists, technicians and managers involved in all the three fields of urban water systems. The participation of a few selected international academic experts delivering special lectures is scheduled.

Japan (reported by Hiroaki Furumai)

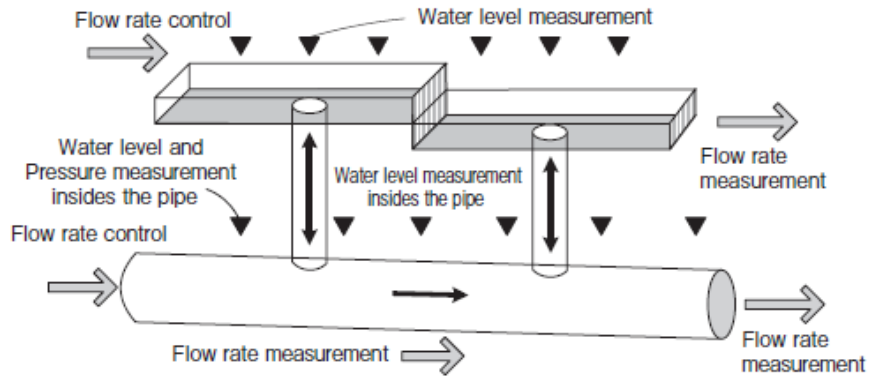
Establishment of the International Centre for Water Hazard and Risk Management: On 6 March 2006, the International Centre for Water Hazard and Risk Management under the auspices of UNESCO (ICHARM) was officially launched in the Public Works Research Institute (PWRI), Tsukuba, Japan. The goal of this agency is to be the world centre of excellence and provide the best practical strategies to municipalities, countries, regions and the world with respect to managing the risk of water related disasters including floods, droughts, landslides, debris flow, storm surges, tsunamis and water contamination. For more information, visit: <http://www.icharm.pwri.go.jp/>.

English version of the JIWET homepage. The Japan Institute of Wastewater Engineering Technology (JIWET) newly published its homepage also in English. The website serves to present JIWET research results, including the detailed report of the SPIRIT 21 project on the Development and Evaluation of CSO Control Technologies. For more information, visit: <http://www.jiwet.or.jp/english/>.

Flood control policy in Tokyo: The Bureau of Sewerage of the Tokyo Metropolitan Government has changed the conventional paradigm and formulated “New Quick Plan for Stormwater” placing emphasis on abating flood damage at flood-prone areas by taking every possible measure while effectively utilising the hydraulic capacity of existing sewers. For more information, visit: <http://www.gesui.metro.tokyo.jp/english/no06.htm>.

Draft manual for integrated planning of control measures for urban inundation: As described in the previous newsletters, the ‘Law Concerning Damage Control for Designated Urban River Inundation’ came into effect in 2004 and was designed to promote cooperation between sewer system operators and river authorities. This manual aims to establish a concrete planning process for urban flooding control by sewerage works administrators as the main body, and cooperating with river and road works administrators and inhabitants and other stakeholders, such as enterprises. For more information, please visit: http://www.jiwet.jp/english/e_result/plan/pdf/e-plan2005a-09.pdf

Experimental study of urban flood phenomena. The Flood Disaster Prevention Division of The National Institute for Land and Infrastructure Management has been developing and upgrading a flood analysis model (called NILIM) for urban areas. Experimental work started to improve the understanding of the hydraulic phenomena in water transport between the road surface and stormwater pipes under inundated conditions and to review the hypothetical conditions of flow rate calculation inside the pipe that were used in the NILIM version 1. The experimental equipment shown below is used for measuring hydraulic parameters under different inundation situations. The results will be useful to improve the calculation procedure in the model. For more information, visit: http://www.jiwet.jp/english/e_result/plan/pdf/e-plan2005b-05.pdf.



Mexico (reported by Leonardo Cisneros)

The Hydraulic Division of the Engineering Institute of the National Autonomous University of Mexico (II-UNAM) organised a series of conferences where the main subject was the crossroad between Hydrology and Urban Hydrology. The first event took place on the 23rd and 24th May 2006 and featured participation of Ximena Vargas (University of Chile), Juan Carlos Bertoni (National University of Cordoba, Argentina), Nabil Mobayed (Autonomous University of Queretaro, Mexico) and Leonardo Cisneros (II-UNAM). Recent developments, modern procedures in hydrology and innovative sustainable techniques were presented and discussed. On the second opportunity (25th and 26th October 2006), Bernard Chocat (INSA-Lyon, France) talked about some of the advances in urban drainage derived from the Urban Hydrology Field Observatory (OTHU). This laboratory is the result of a common effort on behalf of the confederated laboratories and has its headquarters in the city of Lyon. Academics and students from the UNAM, but also professionals interested in these subjects represented the audience at these conferences. The meetings gave the participants an opportunity to establish future cooperation in academic matters.

As proposed by the Mexican delegates, the subject Urban Hydrology and Hydraulics was unanimously accepted as the main subject for the forthcoming Latin-American Congresses on Hydraulics (LACH). The decision was taken at the Main Session of the XXII LACH, held at Ciudad Guayana, Venezuela (8th to 14th October 2006). Even though these subjects have been already presented at technical sessions of LACH's previous meetings, the agreement gives a framework for the development and consolidation of these disciplines among the Latin-American specialists.

During the XIX Mexican Congress on Hydraulics (9th to 12th November 2006 at Cuernavaca) a group of Mexican specialists in Urban Drainage was invited to join and establish a national organisation on this subject. The purpose of this meeting was to bring together the country's academic and professional competences in order to form a platform for Mexican works and research on this subject and to strengthen the Mexican presence in national and international events. The meeting was kindly supported by Poliopro Martínez, president of the Mexican Association on Hydraulics (AMH) and headed by Juan Carlos García-Salas (Mexican Institute of Water Technology) and Leonardo Cisneros (II-UNAM). The meeting was quite successful judging by the interest of the attendees, mostly colleagues from Institutions in the central part of the country. One of the priority objectives of the newly formed group is to extend the collaboration to other regions of the country.

In order to share the current state of the professional practice in Urban Drainage, a course on this subject was given by Manuel Gómez-Valentin (Polytechnic Catalan University) at Guadalajara from 21st to 23rd November 2006. Held at the Jalisco's Industrial Club and

under the title of the Potable Water and Drainage Inter-municipal Systems, the course was mainly attended by professionals in urban drainage from the municipalities of Guadalajara city, but also from other cities of the country. One day was devoted to the Analytical and Discussion Forum of International Experiences on Pluvial Waters Management in Urban Areas, where specialists from Spain, France, England, Argentina and Mexico presented the adopted solutions to stormwater problems in their own particular urban environments.

United Kingdom (reported by David Butler)

Urban flooding. In the UK, the government has been making significant strides to advance its policies on Urban Flood Risk Management. The Department for Communities and Local Government (DCLG) has recently issued Planning Policy Statement (PPS) 25 - Development and Flood Risk which now addresses many of the issues in urban areas not dealt with by its predecessor Planning Policy Guideline 25. The PPS is shortly to be given the support of a practice guide and further advice on climate change is being prepared. Further details may be found at: www.communities.gov.uk/index.asp?id=1504639.

At the same time the Department for the Environment, Food and Rural Affairs (DEFRA) is taking the lead role in 'Making Space for Water', the Government's response to the Foresight Future Flooding Report. As part of the development of methodologies for integrated urban drainage, a scoping review was completed in 2006 (www.defra.gov.uk/environ/fcd/policy/strategy/scoperev.pdf), sites for pilot studies have been identified and the pilot studies are shortly to commence. An official announcement is expected in January 2007 and further information may be obtained at: www.defra.gov.uk/environ/fcd/policy/strategy/ha2.htm.

Much of the research work in this area is focussed around the Flood Risk Management Research Consortium (www.floodrisk.org.uk). The overall aim is to undertake an integrated programme of research to support effective flood risk management by:

- establishing a programme of cutting edge research to enhance flood risk management practice worldwide;
- short-term delivery of tools and techniques to support short term improvements in flood risk management in the United Kingdom; and,
- development and training of the next generation of flood risk management professionals through their involvement in and exposure to the consortium's research.

On a similar theme, CIRIA have just published a report that aims to provide best practice advice for the design and management of urban sewerage and drainage systems to reduce the impacts that arise when flows occur that exceed their capacity. It includes information on the effective design of both underground systems and overland flood conveyance. It also provides advice on risk assessment procedures and planning to reduce the impacts that extreme events may have on people and property within the surrounding area. The guidance is relevant to areas drained by piped systems or SUDS. (Digman, C., Balmforth, D., Kellagher, R and Butler, D. Designing for exceedance in urban drainage - good practice, Report C635, May 2006. Available for free at www.ciria.org.uk/downloads.htm).

Urban pluvial flood modelling is also receiving considerable attention at the moment with work on the sewer-surface interface being led by the Centre for Water Systems (www.exeter.ac.uk/cws) at the University of Exeter (s.djordjevic@exeter.ac.uk) and that on aboveground flow modelling being carried out at Imperial College London. A paper describing the methodology (Advanced overland flow modelling for urban pluvial flood

analysis) has been presented at the 14th Congress of the Serbian Association for Hydraulic Research and is available from Prof. Cedo Maksimovic (c.maksimovic@imperial.ac.uk).

Climate change. Research into the implications of climate change continues apace in the UK, with a major study recently completed by HRWallingford, MWH and Imperial College London on the impact of climate change on sewerage hydraulic design. The investigations ranged widely, but with a principal focus on the performance of sewerage systems under future (year 2080) rainfall and what changes might be needed in the hydraulic design of systems to address any problems that climate change might pose. Other issues include a summary of international drainage practice and predicted changes in, sea levels and river flows.

The findings of the project were that, while there are significant uncertainties in the prediction of changes in rainfall over the next century the analysis carried out under this project indicates that for many areas of the UK, rainfall events are likely to become more extreme. This would result in a significant reduction in system performance particularly in respect of flood protection and CSO discharges and suggests the need for changes in the design of sewerage systems.

A set of national rainfall maps in digital or and paper form have been produced to present the results of the rainfall analysis and illustrate the possible changes to extreme rainfall over the coming century. A summary report and 12 other detailed reports collated in 4 volumes are available for sale from UKWIR (www.ukwir.org).

In another study, completed by the Pennine Water Group, University of Sheffield, (*21st Century Sewerage Design*) climate change drivers and other socio-economic drivers were used to examine the future for UK sewerage systems up to 2080. This highlighted the need to change current practice in a number of areas. Recommendations were made as to the new approaches and tools required to provide flexible and adaptable responses, in order to make sewerage systems more resilient and capable to cope with future change.

A full report on the outcome of this work is available for sale from UKWIR (www.ukwir.org).

Sewer processes. New work on sewer processes is being initiated at the University of Sheffield's Pennine Water Group (www.group.shef.ac.uk), by developing and applying microbiology expertise to study urban water systems through an EU funded Marie Curie Transfer of Knowledge Programme. The concept is to recruit research fellows with specialisms in differing microbiological techniques and environmental application. The fellows will integrate into existing PWG projects and develop future multi-disciplinary research projects in which microbiological expertise is required. The work is led by Dr Catherine Biggs (c.biggs@sheffield.ac.uk).

SUDS. CIRIA is launching a SUDS manual in February 2007, which will provide comprehensive advice on the implementation of sustainable drainage systems (SUDS). The publication will include information on all aspects of the life cycle of SUDS, from initial planning and design through to construction and their management in the context of the current regulatory framework. It will also supply information about landscaping and waste management and costs as well as explaining how to maximise opportunities for community engagement. Further information can be found at www.ciria.org.

Miklas Sholz and Piotr Grabowiecki of the Urban Water Research Group at The University of Edinburgh (www.see.ed.ac.uk/research/IIE/research/enviro/urban.htm) are currently working with the manufacturer Formpave Ltd on novel applications of their permeable pavement systems. One project looks at the physical, biochemical and

microbiological processes that take place within the pavement systems in order to assess their suitability for water harvesting. Guidance documents based on latest research findings will be available in 2007.

Taking things a step further, the researchers have also teamed up with Water Furnace (Europe) Plc and others to develop a geothermal heat-exchange system that can be installed just above the impermeable membrane within the permeable pavement sub-base. Depending on the temperature of the harvested water, the below-ground heat pump and its associated equipment could then also be used for heating or cooling adjacent buildings – potentially reducing carbon dioxide emissions from burning fossil fuels. The main focus of the research, however, is on improving the growth of useful bacteria and other micro-organisms during the temperature fluctuations induced by the heat pump.

Markus Englmeier and Miklas Scholz are researching a novel [method](#) to find out the influence of urban trees on rainfall runoff, and how they can be incorporated in modern design guidelines. The study showed that for areas with $\geq 15\%$ tree area cover, the area for ponds as part of a SUDS treatment train, for example, can be reduced by integrating trees into the design of SUDS such as infiltration trenches and bioretention areas, which could save $\geq 10\%$ of the capital costs. Swales combined with ponds were the most suitable SUDS options for most sites. The type of tree is important, with green broadleaf trees being preferable. Additionally, the exact site location of existing trees is an important factor in detailed design.

Sustainable water management. The main vehicle for UK work in this area remains the WaND (water cycle management for new developments) consortium (www.wand.uk.net). As the project moves into its final year, the research partners are in the process of assembling the key messages resulting from the work with the ambition to construct the conceptual context in which the various tools, guidelines, analyses and methodologies produced can be seen and better understood. The messages range from insights into the regulatory system which privilege widespread technocratic solutions that are efficient to regulate and mandate, yet not always sensitive to local and/or regional contexts, to the realisation that new ultra low water using toilets, tested within WaND, are both socially acceptable and can dramatically decrease water demand but have to be coupled with appropriate wastewater collection systems. Significant progress is also being made in providing appropriate deliverables to appropriate stakeholders through the development of the WaND ‘portal’. Further details can be obtained from the project manager Fayyaz Memon (f.a.memon@exeter.ac.uk).

Much of the work of the consortium will be presented at a conference to be held at De Montfort University, Leicester, UK on 3–5 September 2007: *Water Management Challenges in Global Change*. The conference website is www.dmu.ac.uk/ccwi2007_suwm2007.

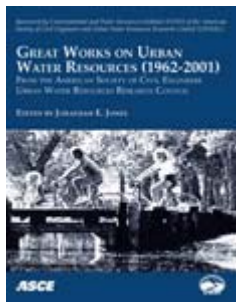
Centre for Water Systems. The Centre for Water Systems at the University of Exeter (www.exeter.ac.uk/cws) has recently gone through a significant expansion with the arrival of Professor David Butler, Dr Fayyaz Memon and Dr Christos Makropoulos from Imperial College London. They bring greater urban water expertise to a strong hydroinformatics group. The emphasis of the group remains in applying quantitative approaches and computational techniques to water systems in urban areas. The Centre has recently launched a new MSc in Urban Water Systems, building on the work of the staff, which can be studied both full and part-time. Further details can be obtained from David Butler (d.butler@exeter.ac.uk).

University of East London. UEL continues to offer an MSc in Pipeline Technology and Network Management, but since September 2006 this is under the new programme leadership of Dr Dominic Hames at the London Docklands Campus (d.p.hames@uel.ac.uk).

United States (reported by Eric Strecker)

The Urban Water Resources Research Council (UWRRC) of the Environmental and Water Resources Institute (EWRI) of the American Society of Civil Engineers (ASCE) held their annual meeting of the research council on May 21 of 2006 at the EWRI annual conference in Omaha, Nebraska. The next meeting of the UWRRC will be held in Tampa, Florida at the EWRI 2007 World Water & Environmental Congress. The next UWRRC annual meeting will be held on May 21 at the conference. Richard Field, US EPA (field.richard@epa.gov) is the Chair of the UWRRC. The UWRRC committee and activities include:

- A. History of the UWRRC: A committee has been working over the past few years to develop a book of selected publications of the UWRRC. This last year, a book has been published by ASCE titled: Great Works on Urban Water Resources (1962–2001) From the American Society of Civil Engineers Urban Water Resources Research Council. Jonathan E. Jones (Editor) ISBN # 0784408432.



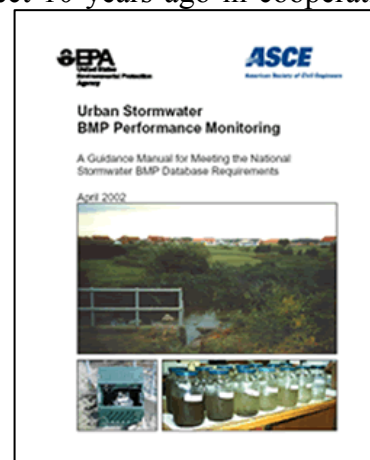
Abstract:

This book contains 29 select papers spanning over 40 years that deal with urban water resources. For the past four decades, members of the ASCE Urban Water Resources Research Council (UWRRC) have made extraordinary contributions to the field of urban water resources planning, design, and management. They have collaborated to prepare reports,

technical memoranda, conference proceedings, and other documents on wide-ranging subjects. This book documents these four decades of unique contributions by the UWRRC, with papers that are as timely and provocative today as when they were first published. Readers will be struck by the foresight and perspectives of the Council members from decades ago on such subjects as: drainage and flood control, stormwater quality management, water supply planning, risk assessment, public involvement and participation, and the role of the water engineer in society. This book presents the evolution and primary underpinnings of urban stormwater management, and will be beneficial to all stormwater management professionals. The book is available at:

<http://www.asce.org/bookstore/book.cfm?book=6181> (Jonjones@wrightwater.com).

- B. BMP Database Project—Jonathan Jones and Eric Strecker provided an update on the International BMP Database. UWRRC initiated this project 10 years ago in cooperation with EPA. The database has grown extensively while maintaining a high standard for studies that are accepted into the database. The list of sponsors has grown in recent years with support from Water Environment Research Foundation (WERF), American Public Works Association (APWA) and Federal Highway Administration (FHWA) as well as continued support from US EPA and EWRI. The database continues to grow but adequate funding is an issue. Several regional organizations (Harris County, Washington DOT) are using the database as their BMP performance monitoring database. Modifying the database to include LID studies is a current priority and Ben Urbonas is working on a Technical Advisory Committee to achieve this objective. The BMP Database is up to about 250 BMP performance studies. There are also new summaries on BMP performance



analyses ([Analysis of Treatment System Performance](#)) and detailed BMP Monitoring Guidance available (photo is linked). The Database and related information is available at: www.bmpdatabase.org. (estrecke@geosyntec.com; Jonjones@wrightwater.com)

- C. Urban Streams Standing Committee—Work is progressing on a monitoring guidance document. A draft is expected 2007 and the committee is looking for reviewers (contact James Gracie if interested). This will be a guidance document rather than a Manual of Practice. John Schwartz has been instrumental in creating this document. John has been elected as the new chair of the Urban Streams Committee. Urban Streams has formed several new Task Committees focused on stream restoration data (adding to the International BMP Database is a goal), review of papers from the latest International Conference on Urban Drainage (potentially creating a book to come out of the Tampa meeting) and urban hydrology for stream restoration. (jschwart@utk.edu)
- D. LID Standing Committee—The 2nd LID Conference planned in Wilmington, NC, 11–14 March 2007. North Carolina State University (Bill Hunt) is taking the lead organizing this conference (see conference website <http://www.soil.ncsu.edu/swetc/lid/home.htm> for more information). The LID committees will meet again in Wilmington as a part of this conference. Conference papers will be available as pdf files for participants, and conference proceedings will likely be posted on the web. EWRI will be the publisher of conference proceedings. (Conference: Bill_Hunt@ncsu.edu; LID committee: MClar@ecosite.biz)
- E. LID Computations—Dan Medina reported that LID computational methods are a lively topic and that the committee is working on creating a summary of research and discussion topics. LID computation is a timely topic for the ECI conference. Dan will coordinate with Wayne Huber to integrate this topic into the ECI conference. (Daniel.Medina@ch2m.com)
- F. LID Bio-retention—This committee is working on a draft state of technology for LID bioretention. A committee report is expected by the end of the year. (MClar@ecosite.biz)
- G. Urban Watershed Management Symposium—Scott Struck is the Chair of the Urban Watershed Management Symposium Committee. The committee has planned a full set of sessions for the Tampa EWRI meeting. Topics of special interest include urban streams, shallow water table issues and pathogens. There will be special sessions on local Florida issues. (struck.scott@epa.gov)
- H. Pathogens - A new Task Committee addressing pathogens under the Urban Watershed Management Standing Committee is being formed. Contact Richard Field for more information. (field.richard@epa.gov)
- I. Gross Solids—The Committee is working on guidance for characterizing gross solids (> 75 microns) and addressing sampling difficulties. These guidelines will be out for peer review by December of 2006 and then are planned to be published in 2007. (bettyrs@atlantic.net)
- J. Wet Weather Flow Technology (Previous CSO/SSO) The committee is currently working on redefining its objectives to encourage more widespread participation and to recruit new members. Focus areas include treatment technology, CSO modeling, asset management,

trading blending and other technical issues. The committee is to sponsoring sessions at the Tampa EWRI meeting. The committee is looking for peer reviewers for a position paper. (srangarajan@hydroqual.com)

- K. Manual of Practice Update A committee of UWRRC members and a WEF panel, headed by Larry Roesner, will work collaboratively on the update of the WEF/ASCE Urban Runoff Quality Management” MOP 87. Larry has assembled an outline of chapters and topics, and he provided an overview of the outline for the group. One change in store for the manual is a more descriptive title including “Design,” which will be a focus of the updated manual. Geomorphology, ecology and maintenance were identified as important topics to include in the updated manual. The updated MOP will be published through WEF. (roesner@engr.colostate.edu)

- L. ECI Modeling Conference- Wayne Huber reported on this conference. The conference will be held next summer (July 22-27, 2007) at Humbolt State University in Arcata (very Northern) California and will focus on Urban Runoff Modeling—Intelligent Modeling to Improve Stormwater Management (see: <http://www.engconfintl.org/7as.html>) The conference will follow the traditional ECI format, including longer papers and a single track. Emphasis will be placed on posters and panels, emphasizing the importance of discussion a conference objective. Wayne welcomes input on the conference. (Wayne.Huber@orst.edu)

- M. International Urban Watershed Management Conference. This conference (5th in series) is now planned for 3–6 April 2007 in Chendu, China. Chendu is the capital of the Sichuan province in southwestern China and is known as the “gateway to Tibet”. The conference will be held in partnership with a Sichuan University and will focus on topics including hydraulics and sediment transport in mountain environments (high-gradient streams), urban runoff quality, flood control, watershed management and ecological engineering. UWRRC and the EPA Urban Watershed Management Branch are co-sponsors of the conference. IAHS may publish select papers as a part of Hydroinformatics, and Shaw would like EWRI to consider a potential special publication. (sly@virginia.edu)

- N. 2008 EWRI Conference – details are not yet available.

8. REPORTS ON CONFERENCES AND WORKSHOPS

Workshop on Interdisciplinary Urban Water Research, Melbourne, 2 April 2006. Dr Rebekah Brown facilitated an interdisciplinary workshop at the recent 4th International Conference on Water Sensitive Urban Design (WSUD) and the 7th International Conference on Urban Drainage Modelling, held in April at the Grand Hyatt in Melbourne. The workshop, entitled Interdisciplinary Urban Water Research: Lessons in How to Integrate the Social and Physical Sciences, focussed on sharing insights across high profile projects that are employing, and attempting to integrate, the social and physical sciences for addressing contemporary sustainable urban water management problems. Local and international experts were invited to speak on the day, drawing from their own experiences with interdisciplinary urban water research projects. The presentations provided important experiential insights into some of the challenges and benefits associated with integrating the social and physical sciences, creating a platform for interactive and open discussion. Visit http://www.arts.monash.edu.au/ges/research/nuwgp/news_archive_oct2006.html to see the workshop programme and download proceedings).

4th International Conference on Water Sensitive Urban Design (WSUD) and the 7th International Conference on Urban Drainage Modelling was held in Melbourne, Apr. 3-7, 2006, hosted by the Institute for Sustainable Water Resources at Monash University, and co-sponsored by the International Water Association, Engineers Australia, and the Stormwater Industry Association. Over 400 people attended the conference (with approximately 120 coming from overseas) and 156 papers were presented. Several workshops were held in conjunction with the conference.

The conference discussed the latest advances in modelling urban water issues (including climate change, water quality processes, decision making and risk management). The WSUD theme showcased not only the latest in technological development (a highlight was the advances in biofiltration technology), but also case studies in greenfield and retrofit situations. Social and institutional issues were discussed, with new insights into capacity building being presented.

A special WSUD edition of the Australian Journal on Water Resources was published with papers selected from the proceedings of the conference with Associate Professor Ana Deletic and Dr Tim Fletcher as guest editors. A copy of this publication will be available to participants of the workshop on Designing Water Sensitive Cities being planned for the NovaTech 2007 conference in Lyon, France. It is anticipated that there will be a limited number of addition copies of this publication available following the workshop at Lyon and those interested in obtaining a copy of this publication should contact Dr Tony Wong (tony@ecoeng.com.au).

Furthermore, thirty papers were selected for a special issue of *Water Science and Technology* (now in press). Further 31 papers with practical focus were selected for publication in an issue of *Water Practice and Technology* (IWA).

9. FUTURE MEETINGS AND CONFERENCES

A table listing proposed JC and WG conferences and workshops appears below; additional information on some events is also presented. All information about conferences, seminars, workshops, summer schools, etc. dealing with urban drainage is welcome and will be added this table. Please send such information to Jiri Marsalek or Jean-Luc Bertrand-Krajewski. You should also use this table when proposing new events - to avoid overlaps in time and topics.

Urban drainage events (as at January 2007)

Year	Month	JCUD	Data and Models WG	RTC in urban drainage	Sewer Systems & Processes WG	WGUR (urban rainfall)	WSUD WG
		JLBK	L. Fuchs	H. Colas	J. Matos	G. Vaes	
		J. Marsalek	A. Deletic	A. Campisano	F. Clemens	T. Einfalt	
2007	June	25-28, June Novatech, Lyon, France	A seminar/ workshop will be held on June 24, 2007, at Novatech	A seminar/ workshop will be held on June 24, 2007, at Novatech		A seminar/ workshop will be held on June 24, 2007, at Novatech	A seminar/ workshop will be held on June 24, 2007, at Novatech
2007	July	2-7 July, 32nd IAHR Congress, Venice, Italy					
2007	August	26 – 31 Aug. DiffPoll 2007, Belo Horizonte, Brazil			29-31 Aug., 5th SPN, Delft, The Netherlands		
2008	August	31 Aug. – 5 Sept., 11th ICUD, Edinburgh, UK					
2008	Sept.	IWA Congress, Vienna, Austria					

For updated information, please regularly visit our website at:
http://www.iwahq.org/templates/ld_templates/layout_633184.aspx?ObjectId=633912

2nd International Short Course on Advances in Knowledge of Urban Drainage: from the Catchment to the receiving waters - Comparing International Experiences, the University of Calabria, Rende, Italy, 24–25 May 2007. This course, organised by Centro Studi Acquedotti e Fognature, Dipartimento di Difesa del Suolo (University of Calabria), Laboratorio di Idraulica Urbana (LIU) and Associazione Idrotecnica Italiana – Calabria division, will focus on stormwater control and management.

Pollution caused by the stormwater and wastewater discharges into the receiving waters is a well-known problem, much debated among the researchers; however, the solution of this problem has been evolving towards a combined strategy that provides multiple-level solutions, such as stormwater flow reduction through local retention capacity, infiltration through permeable surfaces, real-time control in order to optimise pipes capacity, tanks for storing overflows, and stormwater and wastewater treatment.

Research and professional practice have always been considered to be territorial management tools, but only through synergy it is possible emphasise peculiarities of specific geographic areas, promoting environmental recovery, supporting main infrastructures for urban and regional economy, and boosting activities capable of improving the living conditions.

The aim of the course is to provide a theoretical basic knowledge as well as practical approaches, by comparing international experiences. The course is divided into two didactic parts: (i) presentations of research findings by world-renown experts and (ii) direct comparison with a specialised company that will present new solutions; hence, a great opportunity for exchanges among researchers, private companies and the course attendees. The course duration is two days (with suitable breaks) and it will be held on the campus of the University of Calabria in Rende. Furthermore, attendees can take advantage of visiting the equipment exhibition held during the course and talk to technical representatives of exhibitors.

The course is designed for practising hydraulic and environmental engineers, as well as graduate students and researchers.

The course tuition fee is € 300, which includes coffee-breaks and a social dinner. A special arrangement will be made for attendees to stay in the University residence at reduced costs.

Simultaneous translations (English-Italian) will be provided.

For further information, contact the course Secretariat (segreteria@liu-cs.it), or visit the website <http://www.liu-cs.it/corso2007.htm>.

Workshops/seminars held in conjunction with the Novatech 2007 conference, in Lyon, France, 24 June 2007

Workshop on Building Water Sensitive Cities, Lyon, 24 June, 2007. The WSUD working group is planning a workshop on 'Building Water Sensitive Cities' at the 2007 NovaTech Conference in Lyon, France on Sunday 24th June 2007. This workshop will explore the characteristics of a Water Sensitive City by way of four invited presentations describing the perspectives and visions for a Water Sensitive City in Europe, America and Australia. The presentations will include envisioning of future applications of technologies for sustainable urban water management, the integration of these technologies into the urban form in both the landscape architecture and built form and the socio-technical governance structure. The second half of the workshop will be devoted to facilitated workshop sessions involving registrants. It is envisaged that registrants will come from various disciplines from both the social and physical sciences, including (but not limited to) town planning, estate and facilities management, landscape architecture, building design, ecology and infrastructure engineering.

Radar seminar for hydrologists at the Novatech 2007 conference in Lyon on the 24 June 2007. This is the second event of this kind, following the successful seminar during the ICUD conference in Copenhagen (August 2005) where the attendance was 22 persons. For information, contact Dr Guido Vaes, HydroScan (guido.vaes@hydroscan.be), or Dr Thomas Einfalt, Einfalt & Hydrotec GbR (thomas@einfalt.de), or visit the Group's web site: <http://www.kuleuven.be/hydr/gur>

5th Seminar on Real-Time Control, to be held in conjunction with the Novatech 2007 Conference in Lyon, 24 June 2007. Experts and practitioners working in the field will discuss the state-of-the-art advances in real-time control technology and applications. The event will be publicised through the WG web site, the Novatech 2007 conference website and the urban drainage mailing list.

Workshop on uncertainties in data and models, to be held in conjunction with the Novatech 2007 Conference in Lyon, 24 June 2007, organised by the International Working Group on Data and Models (IWGDM).

Workshop objective: Exploration of the methods used for identification and quantification of uncertainties in urban drainage monitoring and modelling.

The workshop will explore the latest findings in the field of quantifying uncertainties in both data collection and processing and in urban drainage modelling. The morning session will cover such topics as quantifying the uncertainties in rainfall, flow and water quality records. The afternoon session will focus on uncertainties in modelling, covering the sources of uncertainties in input data, model structure, and model parameters. The workshop will finish with a general discussion of the concept of Total Uncertainty Framework and the follow-up framework that may include development of guidelines for the assessment of uncertainties.

NOVATECH 2007, 6th international conference on sustainable techniques and strategies in urban water management, June 24–28, 2007, Lyon, Eurexpo, France. Call for registration and the 2nd announcement (see also <http://www.novatech.graie.org>).

The NOVATECH conferences are held in Lyon every three years, since 1992. During the 6th NOVATECH conference, 230 papers will discuss three complementary aspects of urban wet-weather water management:

- Day 1: Integrated approaches to urban planning: general strategies and specific approaches, from construction to urban design, including decision-making processes, social and economic issues.
- Day 2: Innovative technologies will be the main focus of the second day: design, implementation and operation of devices and techniques for storage, infiltration, treatment and control of stormwater and wet-weather flows, and
- Day 3: Integrated approaches to the protection and enhancement of receiving water bodies: practical assessment methodology, sensors, data acquisition, validation and use, integrated models, integrated water management strategies and control of urban wet-weather flows and their impacts. The final plenary conference will focus on stormwater reuse and on the protection of the quality of Bathing Waters.

The participation of technical professionals and municipal decision makers, engineering firms, manufacturers and researchers specialising in water management is well-balanced and still growing. This international conference is progressively becoming ‘a must’ for urban planners and aquatic environment professionals. Therefore, NOVATECH represents one of the rare opportunities to meet and share the latest technical innovations, case studies and research works.

Other special features of the conference include: (a) A welcome social event held on the top floor of the highest tower of Lyon on Sunday 24th; an unforgettable culinary experience of dining at the Abbaye de Collonges of Paul Bocuse on Tuesday 26th; two post-conference technical tours organised by the Urban Community of Lyon and the Rhone-Alps Region, on Thursday 28 June; and a technical exhibition held for three days during the conference. The exhibition will feature nearly 60 selected posters and displays of thirty companies, presenting innovative products/services dealing with the knowledge, management, control or treatment of urban wet-weather effluents.

English and French are the two official languages of the conference; simultaneous translation will be provided for all sessions and the technical tours.

The City of Lyon, a major European metropolis, is listed in the UNESCO World Heritage List, together with such places as Venice, Prague or Saint Petersburg. It has evolved from the

Roman 'Lugdunum' to today's modern city, preserving two millennia of outstanding architectural heritage, at the confluence of the Rhone and the Saone rivers. Lyon is also well known as a main capital of gastronomy, with its famous Chef Paul Bocuse, whom we will have the pleasure of meeting at the conference gala dinner.

Practical information:

Registration – can be done on-line, at the conference website; a discounted preferential rate applies before 1 April 2007. A special rate is granted to the members of partner organisations and to the paper authors. Fees: 3-day registration, 515 € - 745 € (including proceedings, breaks, lunches, welcome reception, and the gala dinner). 1-day registration (only for Wednesday June 27, 2007): 240 € - 350 € (includes proceedings, breaks, and lunch). A social programme is available for accompanying persons.

Important dates

- January 2007: Online registration opens.
- March 2007: final conference programme is available.
- 1 April: deadline for the discounted preferential (early bird) rate.
- From 1 February on: the preliminary programme, paper and organisation details are available the conference web site.

Conference presidents: Bernard CHOCAT, INSA of Lyon, France and Michel DESBORDES, University of Montpellier, France.

For information, contact: GRAIE - Novatech Secretariat, B.P. 2132 - F- 69603 VILLEURBANNE CEDEX – FRANCE, Tel: 33 (0) 4 72 43 83 68; Fax: 33 (0) 4 72 43 92 77; E-mail : novatech@graie.org, or visit <http://www.novatech.graie.org>.

XXXII IAHR Congress, Venice, Italy, 1–6 July 2007. The congress themes are:

THEME A: Engineering and Management of Endangered Fresh Water Systems (water flow resources, quality, biology water and sediment),

THEME B: Data Acquisition and Processing for Scientific Knowledge and Public Awareness (Hydrology and Meteorology; Statistics and Informatics),

THEME C: Fluid Mechanics and Applied Hydraulics for Social and Economical Development (Fluid Mechanics; Hydraulics of Water Works), and

THEME D: Maritime and Coastal Research and Engineering Processes (Inland Processes and Offshore Processes).

Two or three special sessions on urban drainage are being prepared.

Deadline for paper submissions was Dec. 15, 2006. Contacts: Congress Secretariat, CORILA San Marco 2847, 30124 VENEZIA; Ph. 39.041.2402511, Fax: 39.041.2402512, e-mail: iahr2007@corila.it, website: www.iahr2007.corila.it

The next WSUD conference is scheduled for Sydney, Australia on 21–23 August 2007.

This conference combines the 13th International Rainwater Catchment Systems Association and the 5th International Water Sensitive Urban Design conferences and will host delegates from over 40 countries, who will share their knowledge and expertise of rainwater catchment systems, and water sensitive designs. (<http://www.rainwater2007.com>).

11th International Conference on Diffuse Pollution and the 1st Joint Meeting of the IWA Diffuse Pollution and the IWA-IAHR Urban Drainage Specialist Groups, Belo Horizonte, Brazil, 26–31 August 2007. For the first time, a joint conference is planned by two IWA Specialist Groups, the Diffuse Pollution and the IWA-IAHR Joint Committee on Urban Drainage. The meeting will be held in Belo Horizonte, Brazil, from 26th to 31st August 2007, jointly with the 11th International Conference on Diffuse Pollution. Belo Horizonte is the capital of the State of Minas Gerais, located in the southeastern part of the country, surrounded by beautiful mountains and just one-hour flight from São Paulo or Rio de Janeiro. The joint conference will certainly offer an opportunity for a fruitful exchange of ideas between scientists and specialists working in both domains. A wide spectrum of topics related to diffuse pollution and urban drainage will be presented at the conference. Further information on the conference program and deadlines may be found at www.acquacon.com.br/dpud2007. Deadline for abstract submission: 31 March 2007.

A Conference entitled **Water Management Challenges in Global Change will be held in Leicester, UK, September 3–5, 2007**, organised by De Montfort University, UNESCO-IHE and the University of Exeter. This is a combined event of the CCWI (‘Computing and Control for the Water Industry’) biennial conference series and the Sustainable Urban Water Management (SUWM) conference proposed by the WaND research consortium. Details can be found at: www.dmu.ac.uk/ccwi2007_suwm2007.

International Symposium on New Directions in Urban Water Management, 12–14 September, 2007, UNESCO Headquarters, Paris, France. This symposium is sponsored by UNESCO and its main objectives include: (i) bringing together leading international urban water management experts to discuss new concepts, approaches and technologies for dealing with urban water problems under various settings, covering both developed and developing countries, (ii) exchange of ideas for new directions in urban water management, as well as drawing recommendations for the formulation of new strategies and implementation elements such as guidelines and educational tools, and (iii) presentation and delivery of the results and outputs of the IHP-VI Urban Water Management Programme (UWMP) and gathering feedback from the participants regarding their applicability, gaps and possible extensions. These elements will also feed the design of the next phase of IHP-VII (2008–2013). The language of the symposium will be English; there will be no registration fees, though some modest costs (e.g., for printing materials) may be charged to the participants. The number of participants will be limited to 200. For further information, contact SymposiumUWM2007@unesco.org.

LESAM 2007. The IWA sponsored Leading Edge conference on Strategic Asset Management will take place in Lisbon, Portugal, Oct. 17-19, 2007. The conference will examine the ways of improving asset management by addressing such topics as: Global approaches to asset management, Target definition and assessment of performance, Cost and benefit valuation, Target definition and assessment of risks, Asset data and information systems, Engineering developments, Institutional and organisational aspects, Financial management, and Social and economical dimensions. Abstract submission closed on Jan. 15, 2007. For more information on this conference, contact: LESAM Secretariat (LNEC / DSLM / DIEAG), Av. Brasil, 101. 1700-066 Lisbon, Portugal; Fax: +351 218 443 014, E-mail: lesam@lesam2007.org, or visit the Website: www.lesam2007.org

11th International Conference on Urban Drainage, the Edinburgh International Conference Centre, Edinburgh, UK, August 31 – September 5, 2008. The conference will be organised by the UK community of urban drainage specialists. Please add these dates to your diary. More details will be available in the next newsletter, or from Prof R. Ashley (r.ashley@sheffield.ac.uk).

10. RECENT PUBLICATIONS OF INTEREST

For a comprehensive listing of IWA publications, see Section 6 (News from IWA Publishing).

Thorne, C R, Evans, E P and Penning-Rowsell, E (2006) Future Flooding and Coastal Erosion Risks, Thomas Telford, London, UK, ISBN 978-0-7277-3449-5, 514 pages.

This book details the UK Government's Future Flooding Foresight study that scoped the likely risks up until 2080 and the possible responses. It concluded that traditional and structural approaches would not be affordable and that alternatives are needed. This project explains how to use scenarios to scope the future.

Australian Runoff Quality: A Guide to Water Sensitive Urban Design (ISBN 0 85825 852 8)
An initiative of the National Committee on Water Engineering, *Australian Runoff Quality: A guide to Water Sensitive Urban Design* was published in April 2006. The book is aimed at providing an overview of the current best practice in the management of urban stormwater in Australia, drawing on the latest findings and recommendations from Australian and International research. The book provides guidance to the profession in the following:

- Procedures for the estimation of a range of urban stormwater contaminants
- Design guidelines for commonly applied stormwater quantity and quality management practices
- Procedures for assessing the performance of stormwater quality measures
- Advice with respect to the development/consideration of integrated urban water cycle management practices.

Australian Runoff Quality draws on the latest research in the area and includes practical recommendations from the results of both Australian and International research. A pre-production copy of the document will be made available to participants of the workshop on Designing Water Sensitive Cities being planned for the NovaTech 2007 conference in Lyon, France. It is anticipated that there will be a limited number of addition copies of this publication available

following the workshop at Lyon and those interested in obtaining a copy of this publication should contact Dr Tony Wong (tony@ecoeng.com.au).

Elsevier have recently (2006) published a new book written by **Dr Miklas Scholz** entitled **‘Wetland Systems to Control Urban Runoff’**. The first part of the text introduces the fundamentals of water quality management and wastewater treatment. The remaining focus is on reviewing treatment technologies, sludge treatment options, and current case studies related to constructed wetlands applied for runoff and diffuse pollution treatment. Professionals and students will be interested in the detailed design, operation, management, process control and water quality monitoring and applied modelling issues.

11. WORKING GROUP CONTACTS

Int. Working Group on Data & Models (IWGDM) Web site: http://iswr.eng.monash.edu.au/iwgdm	
<i>Chairman:</i> Dr L. Fuchs Institut für Technische und Wissenschaftliche Hydrologie Engelbosteler Damm 22 30167 Hannover GERMANY Ph.: 49-511-971-9321, Fax: 49-511-971-9377 E-mail: L.Fuchs@itwh.de	<i>Secretary:</i> Dr Ana Deletic Institute for Sustainable Water Resources Dept. of Civil Engineering, Building 60 Monash University Clayton, Vic 3800 AUSTRALIA Ph: 61 3 9905 2940, Fax: 61 3 9905 4944 E-mail: ana.deletic@eng.monash.edu.au
Real-Time Control of Urban Drainage Systems (RTCUDS) Web site: http://web.tiscali.it/RTCUSD/	
<i>Chairman:</i> Dr H. Colas BPR-CSO 5100, Sherbrooke St. E., Suite 400 Montreal, Quebec H1V 3R9 CANADA Ph.: +001 514 257 2439, Fax: +001 514 257 2414 E-mail: hcolas@bpr-cso.com	<i>Secretary:</i> Dr A.. Campisano Dept. Civil and Environmental Engineering University of Catania, Viale Andrea Doria 6 95125 Catania ITALY Ph: 39(0)95 738 2730, Fax: 39(0)95 738 2748 E-mail: acampisa@dica.unict.it
Sewer Systems and Processes Working Group (SS&PWG) Web Site: http://www.sspwg.civil.auc.dk	
<i>Chairman:</i> Prof J. Saldanha Matos Architecture and Civil Eng. Department Technical Superior Institute, University of Lisbon Av. Rovisco Pais 1049-001 Lisboa PORTUGAL Ph.: 351 21 841 8371, Fax: 351 21 849 8371 E-mail: jsm@civil.ist.utl.pt	<i>Secretary:</i> Prof Francois Clemens Faculty of Civil Engineering and Geoscience Delft Technical University Stevinweg 1, Postbus 5048 2600 GA Delft The Netherlands Ph: 31 15 278 5450, Fax: 31 15 278 4918 E-mail: F.H.L.R.Clemens@CiTG.TUDELFT.nl
Working Group on Source Control for Stormwater Management (SOCOMA)	
<i>Chairman:</i> Gilles Rivard Aquap Praxis Inc. 948 Donat-Belisle LAVAL (Qc), CANADA H7X3W5 Ph: 001-450-689-2967, Fax: 001-450-689-2969 E-mail: GRivard@aquap Praxis.com	<i>Secretary:</i> Carstens Dierkes Hydrocon Hefe Hof 25 31785 Hameln GERMANY Ph.: 49 5151 100 295, Fax: 49 5151 100 296 E-mail: dierkes@hydrocon.de

Working Group on Urban Rainfall (GUR) Web Site: http://www.kuleuven.ac.be/hydr/gur	
<p><i>Chairman:</i> Dr Guido Vaes HydroScan Tiensevest 26/4 B 3000 Leuven BELGIUM Ph.: +32-16-240501, Fax: +32-16-240509 E-mail: guido.vaes@hydroscan.be</p>	<p><i>Secretary:</i> Dr Thomas Einfalt Einfalt & Hydrotec GbR Breite Str. 6-8 D-23552 Lübeck GERMANY Ph.: 49-451-7027333, Fax: 49-451-7027339 E-mail: thomas@einfalt.de</p>
Technology Exchange, Transfer and Training (TETTWG) - operation temporarily suspended.	
Urban Drainage in Cold Climate Working Group	
<p><i>Chair:</i> Dr Maria Viklander Div. of Sanitary Engineering Lulea University of Technology S-971 87 Lulea SWEDEN Ph.: 46 920 491 634, Fax: 46 920 491 493 E-mail: Maria.Viklander@sb.luth.se</p>	<p><i>Secretary:</i> Dr John J. Sansalone Department of Environmental Engineering Sciences 110 Black Hall, University of Florida Gainesville, FL 32611-6450 USA Ph.: 001-352-846-0176, Fax: 001-352-392-3076 Email: jsansal@ufl.edu</p>
Water Sensitive Urban Design	
<p><i>Chairman:</i> Dr Tony Wong Ecological Engineering PO Box 453 Prahran, Victoria 3181 Australia Ph: 61 3 9533 8445; Fax: 61 3 9533 7781 Email: tony@ecoeng.com.au</p>	<p><i>Secretary:</i> Prof Richard M. Ashley Dept. of Civil and Structural Engineering University of Sheffield Sir Frederick Mappin Building, Mappin Street Sheffield S1 3JD UK Phone: 44(0) 114 222 5766, Fax: 44(0) 0114 222 5700 E-mail: r.ashley@sheffield.ac.uk</p>



**International
Water Association**

Alliance House 12 Caxton Street London SW1H 0QS
United Kingdom
Tel: +44 (0)20 7654 5500 · Fax: +44 (0)20 7654 5555
Email: water@iwahq.org.uk · Web: www.iwahq.org.uk
Company registered in England No. 3597005
Registered Charity (England) No. 1076690

