



**International
Water Association**

IAHR/IWA Joint Specialist Group on URBAN DRAINAGE

Newsletter No. 25 **February 2012**

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http://www.iwahq.org/Home/Networks/Specialist_groups/List_of_groups/Urban_Drainage/ and
<http://www.jcud.org>

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2. CHAIRMAN'S THOUGHTS

20 December 2010

Dear friends and colleagues,

I'm very pleased write my first introduction to the IWA Urban Drainage Newsletter as the new chair of the Joint Committee on Urban Drainage (JCUD). It is indeed an honour to be 11th in succession to some of the great names in our profession: Yen, Harremoes, Sjoberg, Marsalek, Ellis, Schilling, Chocat, Rauch, Betrand-Krajewski and Mikkelsen. The very first committee, chaired by Professor Ben Yen, was created in those early days to ensure the continuity of our urban drainage conferences, and given we have now had our 12th such event evidently it has done rather a good job! However, in more recent years the committee has assumed a bigger role, and I quote our mission statement: "The JCUD aims to foster fundamental and applied research on urban drainage, taking into account meteorological, hydrological, hydraulic, water quality and socio-economic aspects, and to promote innovative approaches to urban drainage worldwide. It considers its activities in the wider context of urban water systems, with the ambition of developing and promoting sustainable and integrated urban water management." We actually do this by:

- Operating a number of working groups
- Holding our triennial conference
- Sponsoring speciality conferences such as UDM, Novatech and others
- Collaborating with other like-minded groups especially in IWA and IAHR.

As I write this, the memory of our most recent triennial conference this September in Porto Alegre is still fresh in my mind. If you weren't there you missed a treat! If you were there, I'm sure you will want me to thank the organisers on your behalf for a great event with particular thanks to the conference chair Professor Nilo Nascimento for his leadership and hard work and to the chair of the scientific committee, Professor Joel Goldenfum. Of course, any conference of this type is an enormous collaborative effort and we need to thank and acknowledge the work of all the reviewers, the session chairs and the speakers for the high quality of their work. It was a pleasure this year to not only give the Poul Harremoës award for Best ICUD Paper by a Young Author but also two new prizes for Mid-Career Achievement and Career Achievement awarded to respectively: Nuno Eduardo da Cruz Simões, Dr. Manfred Schütze and Professor Bernard Chocat. Congratulations to them all!

Of course, we are looking forward already to the 13th ICUD 'Urban Drainage in the Context of Integrated Urban Water Management: A Bridge Between Developed and Developing Countries'. This will be held in Kuching, Sarawak, Malaysian Borneo on 7-11th September, 2014 and will be organised by past JCUD member Prof. Ir. Dr. Mohd Nor bin Mohd Desa. Please do put it in your diary and keep an eye out for conference announcements.

Thinking even further ahead we are now calling for bids to organise the 14th ICUD in 2017 (see section 6 of the newsletter). We are looking for bids from any region and any country in the world, provided there is sufficient local interest to support the conference both in terms of the number of likely delegates and organisational capacity. All bids should be made in detailed co-operation with the Joint Committee. I know from personal experience that organisation of a conference is very hard work but immensely satisfying and very well worth the effort. We look forward to receiving your bids!

However even before the 13ICUD several important JCUD activities will take place and you will find further information about all of these inside this newsletter. A (non-exhaustive) list includes:

- Water Sensitive Urban Design (WSUD) Conference, Melbourne, Australia, 22-24 February 2012
- Urban Drainage Modelling (UDM) Conference, Belgrade, Serbia, 3-7 September, 2012
- NOVATECH Conference, Lyon, France, 23-27 June, 2013

The Joint Committee is due to meet in Belgrade and Lyon in association with the latter two conferences and then again in 2014 in Sarawak. Talking of the Joint Committee, I'd like to say a little now about its members and how to become one. Current members are: Neil Armitage of South Africa, Alberto Campisano of Italy, Tim Fletcher of Australia, Manfred Schütze of Germany, Elizabeth Fassman of New Zealand, Bill Hunt of USA and Fumiyaka Nakajima of Japan. Retiring this year (2011) are Maria Viklander of Sweden, Hiroaki Furumai of Japan, Mohammed Nor of Malaysia and last, but not least our most recent chair Peter Steen Mikkelsen of Denmark. I should also mention Jiri Marsalek of Canada, our long serving secretary who has agreed to continue in that important role. I'd like to record my thanks to those members stepping down this year and particularly to Peter for his leadership, commitment and hard work.

As you can see, Joint Committee membership is not a job for life – new members are elected once a year or so for a three-year term, extendable for another three. In section 5 of the newsletter you will see a call for new members. Please do consider putting yourself forward for election if you are active in the field, are willing to contribute fully and can attend meetings once a year. We only allow one member per country on the committee at any one time, but we are anxious to have as wide a global representation as possible. Also, there is no gender or age limit! Please feel free to contact me or JCUD Secretary, Jiri Marsalek, if you have any questions.

Finally, earlier this year in Porto Alegre I reflected on my own 20 plus year involvement with ICUDs. I went back to the Osaka proceedings and extracted 20 keywords and compared them with a similar number in this year's conference. What I saw was both continuity and change. Still there were the core subjects of hydraulics and hydrology, sewers and drains, models and simulations, data and tools, but now we see much wider appreciation of urban drainage in the context of the integrated urban water cycle, an appreciation of the performance and potential of more natural and spatially disaggregated approaches, the role of urban planning and significantly we are also increasingly seeking to understand the importance of the many stakeholders in UD and its place in society. In the future, I expect to see emphasis changing again as we grapple with the global challenges of our era - climate change and adaptation, population growth and water security. My impression of today's urban drainage community is of a vibrant, multi-disciplinary, forward looking group of experts who have a lot to contribute to addressing these global issues. Our joint challenge, and one of my specific challenges, is to use every opportunity to remind others in the wider water community and beyond of this important fact!

David Butler

Chairman of the IAHR/IWA Joint Committee on Urban Drainage

3. FROM THE SECRETARY'S DESK

Committee Newsletter – our annual newsletter is published to serve the international urban drainage community and meet the requirements of our parental organisations. The main purpose of the newsletter is to facilitate communications and interactions among specialists in our field, rather than to present detailed information. The latest newsletter can be found on our website <http://www.jcud.org>.

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 ongoing efforts of Mitsuyoshi Zaizen and Shoichi Fujita, our newsletter has been regularly translated into Japanese and 200 hard copies have been 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 (or the link to our website) with colleagues, or refer them to the IAHR, IWA and Joint Committee websites. Your comments on this issue and contributions to future newsletters are most welcome.

Joint Committee Activities – The annual Committee meeting was held in Porto Alegre, Brazil, on Sep. 11, 2011. The minutes of the meeting can be found on our website (thanks to Alberto Campisano). Highlights include a report on the 13th International Conference on Urban Drainage to be held in Kuching, Sarawak, Borneo, Malaysia, Sep. 7-11, 2014 (for details, visit the website www.13icud2014.com); selection of the winner of the Poul Harremoes Award; working group reports; report on IWA Strategic Council deliberations; and future conferences (UDM to be held in Belgrade, Serbia, Sep. 9-11, 2012, and the 8th NOVATECH conference to be held in Lyon, France, June 23-27, 2013; both conferences are further described in this newsletter). Future JC meetings: in 2012 in Belgrade, Serbia, in conjunction with the UDM conference; in 2013 in Lyon, France, in conjunction with the 8th NOVATECH conference, and in 2013, at the 13th ICUD in Sarawak, Malaysia (Sep. 7-11, 2014). Please note that the JC meetings are public – all are welcome.

From the Personal Department

Richard Field's Retirement



Richard has retired from his position of Leader, Urban Wet Weather Flow Research, Urban Watershed Management Branch, US EPA in December 2011, after a long and illustrious engineering career spanning almost 50 years, with the last 41 years working for EPA. His main research interests included urban watershed management, combined sewer overflow control, and aging urban water infrastructure. His numerous awards and honours include chairing the Urban Water Resources Research Council of the American Society of Civil Engineers (2005-2008), 2002 Scientific and technological Achievement Award (2003), Awards for Exemplary Service in Wet-Weather Flow Management (2001-2010), Serving on the Environment Canada Technical Committee for high-rate CSO treatment (2001-2003), ASCE/UWRRC Special Award for Long-Standing Contribution and Leadership to Improvement of Urban Stormwater Management (2002), Diplomat, American Academy of Water Resources Engineers (D. WRE) (2005), and many others. For several decades, Richard provided leadership in controlling urban

wet-weather pollution and generously shared his and his agency's knowledge with the international community. He was a true visionary, drawing attention to emerging issues (such as accumulation of sediment in stormwater management facilities and the need to deal with such contaminated sediment) and promoting innovative solutions, such as high-rate treatment of CSOs. On behalf of our professional community, we would like to express our thanks to Richard for being always ready to help with controlling stormwater and CSO pollution and wish him good health and all the best in his future endeavours.

Jiri Marsalek's Retirement



Congratulations to Jiri on his retirement from the Canadian National Water Research Institute, where he was Research Scientist and Chief of the Urban Water Management Section, after a 40 year career of noted achievements and significant service. Jiri's interest over these years has ranged widely across urban water resources and infrastructure, water pollution research and control, stormwater management, CSO control and treatment, environmental hydrology and hydraulics. He has some 380 publications to his name including 130 refereed journal papers. He has had more than 30 years of active collaboration with UNESCO and organised many NATO Advanced Research

Workshops. He has given numerous national and international keynote speeches and served on many committees. His commitment to the international urban drainage committee has been extraordinary, first as a member of the Joint Committee, then as chair and since 1993 as secretary. Such dedication was recognised in 2002 with a special award granted 'in appreciation of longstanding contributions to the activities of the IWA/IAHR JCUD and improvements of urban stormwater management around the world' and then in 2010 with an honorary membership award from IWA in recognition of his contributions to the water sector and the association. Jiri has been at the forefront of our discipline over these 40 years and has made an outstanding contribution in that time. He truly is the 'father' of the urban drainage community. Of course, for 'ironmen' like Jiri, retirement is more of a state of mind than a fact and Jiri retains a position at the National Water Research Institute as Scientist Emeritus, is Adjunct Professor at the Technical University of Lulea in Sweden, remains secretary of the JCUD and most important of all becomes assistant babysitter to his four lovely grandchildren!

(Contributed by David Butler on behalf of the Joint Committee)

Remembering Professors Urcikan and Niemczynowicz

With great sadness, I have to report that in October 2011 we lost two of our colleagues and former members of the Joint Committee.

Prof Pavel Urcikan, D.Sc. (1929–2011) passed away on October 6, 2011, in Bratislava, Slovakia. Pavel was professor of Civil Engineering at the Slovak Technical University (STU) in Bratislava



and specialized in research on design rainfall. One of his first presentations at an international forum was his talk at the 1983 seminar on rainfall as the basis for urban run-off design and analysis, organized by Poul Harremoes in Copenhagen, Denmark, in August 1983. Pavel has been elected to the Joint Committee in the early 1990s and served until his retirement from the University. Among his achievements, one should mention a great foresight in leading the Department of Sanitary Engineering

at STU and bringing up a group of young researchers/teachers at the university. By now, they have advanced to the positions of leaders in both academia and industry.

Prof Janusz Niemczynowicz (1938–2011) passed away on October 21, 2011. Janusz had worked at the University of Lund since 1971 until his retirement in 2003, specializing in urban hydrology. His



early work on urban rainfall earned him a nickname “Doctor Rainfall” and dealt with dynamics of storm cells, their movement and dynamics of rainfall intensities. Janusz was a very enthusiastic teacher and presenter at international conferences. His concerns for water and climate led him to organise international courses in water resources at the University of Lund, for about 30 years. Through this work, he has realized that the current problems of humankind reached beyond the water cycle and devoted his efforts to the issues of sustainability and the interconnections between food, water and sanitation, particularly in the developing countries. It should be noted that he contributed the first paper to the journal *Urban Water* (*Urban Water*, Vol. 1, No. 1, 1999, pp. 1–14) and the last sentence of his paper’s Conclusions reflects well his philosophical position with respect to water science and management – “Technical matters cannot be seen in isolation from social, political and economic factors”. Janusz had been an active member of the Joint Committee and contributed greatly to many of our activities. He also worked actively with UNESCO on the issue of urban water management. His warm smile, enthusiasm, friendliness and wisdom will be sorely missed by our community.

Jiri Marsalek
JC Secretary

4. 2011 JCUD AWARD WINNERS

The IAHR/IWA Joint Committee on Urban Drainage continuously works towards acknowledging contributions from its membership at large and increasing the visibility of urban drainage in the international water community. As a part of these efforts, the JCUD granted the following three awards at the 12th ICUD in Porto Alegre, Brazil: (a) The Poul Harremoës Award for Best Urban Drainage Paper by a Young Author, (b) JCUD Career Achievement Award, and (c) JCUD Mid-Career Achievement Award.

The Poul Harremoës Award for young scientists (not older than 35 years) was introduced in 2005 and this was the third time it has been granted. In a tough competition of more than 100 entries, the three finalists, Briony Ferguson (Monash University, Clayton, Australia), Ida Bulow Gregersen (Technical University of Denmark, Lyngby, Denmark), and Nuno Eduardo da Cruz Simonez (Imperial College, London, UK) presented their papers to the judges and the conference audience on the first day of the 12th ICUD in Porto Alegre. The three finalists were congratulated at the conference banquet by the JC Chair, David Butler, who announced the 2011 Poul Harremoës Award winner Nuno Eduardo da Cruz Simonez. Congratulations Nuno from all of us!

Our first ever Mid-career Achievement Award, for the significant contribution to the field of urban drainage and on-going leadership and service, has been awarded to Dr Manfred Schütze, ifak, Magdeburg, Germany. Manfred has been working in urban drainage for over 25 years and is recognized as one of the most renowned German-speaking experts in the field of Real Time Control

(RTC) and integrated modelling of urban wastewater systems. Based at ifak in Magdeburg, he manages several national and international projects related to modelling, simulation and control of urban water systems, including integrated modelling, real time control, pumping station management, mathematical optimisation, and macro-modelling. He has been very active in several professional communities of practice, including the HSGSim group (a group of researchers from German speaking countries focusing on dynamic simulation in urban water management) and the Working Group on “Integral Real Time Control” of the German Association for Water, wastewater and Wasdte (DWA) (noted for developing a demonstrator software package for real-time control of urban drainage systems). Manfred is also actively involved in research activities and networking with urban drainage researchers and practitioners in many parts of the World. He is Project Coordinator of the German–Peruvian cooperation project “Sustainable Water and Wastewater Management in Urban Growth Centres Coping with Climate Change - Concepts for Lima Metropolitana”, which promotes sustainable planning and management of water and sanitation services in the capital city. This is an innovative application of simulation technology to support the development and application of fundamental procedures and tools for participatory decision making, based on informed discussions. He also operates the “Urban drainage” email list (on behalf of JC) and serves on the Editorial Board of Urban Water. It is most fitting and gratifying to see Dr. Schütze winning this inaugural award and we wish him much success in the future!

Our first-ever Career Achievement Award has been granted to former JC Chairman, Prof Bernard Chocat of INSA Lyon, France, for great leadership and service to the field of urban drainage over many years. Bernard has worked in urban drainage research for almost 40 years and contributed greatly to improving the knowledge and modelling of the urban water cycle and the development computer aided tools which are widely used in France and French speaking countries (e.g., the software package CANOE for the design and modelling of urban drainage systems used by more than 100 municipalities and consultants). Bernard has been recognised as one of the most productive and influential researchers in urban hydrology in France and a valuable contributor to international projects. He has published extensively and served as Chairman of JC from 1999 to 2002. During this period, he has led many activities resulting special journal issues and professional reports (including the authoritative encyclopaedia of urban hydrology (1997), and the Multi-lingual Glossary of Urban Drainage (IWA, 2004). One of his lasting legacies is the Novatech conference series started in 1992. The most recent conference in this series brought to Lyon more than 700 participants from 40 countries and also served as a venue for releasing the film “Water, nature and the city (developed by Bernad Chocat and Elodie Brelot, GRAIE). This film reflects well Bernard’s efforts in bridging the gap between research and practice, and bringing various professional communities together (A 13 min version of the film is available on <http://www.media-protv.com/index.php?c=0&v=3&s=eau>). Shortly after the 12th ICUD, Bernard retired from his position with INSA (in October 2011), but remains very active pursuing his passion – research. Many thanks Bernard for your continuing leadership and above all, friendship, and all the best in the future.

Following the granting of these inaugural awards, we are looking forward to the next round of awards, to be granted at the 13th ICUD in Kuching, Malaysia. Please keep this activity in mind and, when the time comes, be prepared to submit nominations of deserving candidates.

5. JCUD MANAGEMENT COMMITTEE - CALL FOR NEW MEMBER NOMINATIONS

The Management Committee of the IWA/IAHR Joint Committee on Urban Drainage (JCUD) has now potentially four vacancies (i.e., the table on p. 2 lists 10 members, but two of them are retained temporarily until new members are elected), and we are looking for new members as a part of continuous revitalization of the Committee. Details follow below.

Job description: each member operates in their own way and contributes accordingly. Typical contributions include proposing to organize workshops/conferences and training courses (usually in collaboration with our working groups), organizing or contributing to publications (monographs, or journal review papers), contributing news from their country or region to the Committee's annual newsletter, participating in email discussions, attending JC meetings held annually in conjunction with drainage conferences, and promoting JC activities and visibility in general.

Qualifications: we are looking for colleagues actively involved in any aspect and sector of urban drainage. However, perhaps the most important qualification is having some time to devote to the committee activities and personal initiative in proposing and implementing new activities. One reason why our Committee has been successful in its more than 30 years of operation is our ability to attract highly motivated members to serve on the Committee. The elected candidates must be (or become) members of one of the parental organizations (IAHR or IWA), and our statutes allow only one member per country; if your country is already represented on the committee, you may have to wait till there is a vacancy, or even better, simply join in the meantime one of our working groups and start contributing to our efforts that way. The information on Joint Committee and the current membership can be found on our website: www.jcud.org.

Application procedure: you can either nominate yourself for JCUD membership, or you can nominate another person (ideally after establishing their willingness to serve, otherwise this will have to be done by JCUD), and submit electronically the following two documents to the current JC Chairman, Prof David Butler (d.butler@exeter.ac.uk), copied to JC secretary Dr Jiri Marsalek (jiri.marsalek@ec.gc.ca): (a) A brief CV, and (b) a statement of activities you would like to contribute to the JC program. Neither document must exceed one page, using a font Point 10 or larger.

Deadline: April 30, 2012. The applications received will be distributed to the JCUD members for assessment and voting; the results will be announced no later than in July 2012.

6. CALL FOR PROPOSALS TO ORGANISE THE 14th INTERNATIONAL CONFERENCE ON URBAN DRAINAGE IN 2017

The Joint Committee on Urban drainage of IAHR and IWA is inviting the interested parties to submit proposals to host the 14th International Conference on Urban Drainage in 2017. This conference will build on success of the previous conferences in this series which were held in Southampton (UK, 1978), Urbana-Champaign (USA, 1981), Gothenburg (Sweden, 1984), Lausanne (Switzerland, 1987), Osaka (Japan, 1990), Niagara Falls (Canada, 1993), Hannover (Germany, 1996), Sydney (Australia, 1999), Portland (USA, 2002), Copenhagen (Denmark, 2005), Edinburgh (UK, 2008), and Porto Alegre (2011). The 13th conference is scheduled to be held in Kuching (Malaysia) in 2014.

The proposal format is fairly flexible, but it is a good practice to include the following information:

1. Conference title (sub-themes), dates and duration
2. Proponent team (conference chair or co-chairs, conference guarantor (i.e. who is ultimately responsible for the event), and how the team is connected, or will connect, to the Joint Committee)
3. Conference organization and management (Program committee, international committee)
4. Proposed conference program and format (list of concurrent sessions, seminars, workshops, oral and poster sessions, technical exhibition, technical tours)
5. Poul Harremoës prize competition
6. Selection of contributions (abstract/paper review) and publishing of papers/proceedings
7. Conference venue (meeting rooms)
8. Accommodation (with approximate 2012 pricing)
9. Financial issues (budget, registration fees – discounts for IAHR and IWA members, potential sponsors – documented by letters of support, if and where applicable)
10. Social program and post-conference tours; and
11. Any other points you may consider important.

Mandatory requirements

The proposals (in English) must be submitted electronically in PDF or Microsoft Word (2003 version or later) format, and the size of the file should not exceed 7 MB; the proposal layout should not exceed 20 pages, using 12 point font. The proposals must reach the Joint Committee Chair (David Butler, d.butler@exeter.ac.uk) or Secretary Jiri Marsalek (jiri.marsalek@ec.gc.ca) by June 1st, 2012. The Joint Committee will review the proposals in summer 2012 and notify all proponents of its decision in the autumn/fall of 2012.

If you require any clarification of the proposal specifications, please contact Jiri Marsalek.

7. WORKING GROUP REPORTS

7.1. International Working Group on Data and Models (IWGDM) (Chairwoman: 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 ; Secretary: Prof Simon Tait, Pennine Water Group, School of Engineering Design and Technology, University of Bradford, Bradford, West Yorkshire, BD7 1DP, UK, Ph: 44 1274 233 878, E-mail: s.tait@bradford.ac.uk). Web site: <http://iswr.eng.monash.edu.au/iwgdm>

The 9th International Conference on Urban drainage Modelling (9UDM) will be held from Sep. 3 to 7, 2012, in Belgrade, Serbia, to honour Prof Cedo Maksimovic's contributions to urban drainage modelling (Website: <http://hikom.grf.bg.ac.rs/ocs/index.php/9UDM/9UDM>). Prof Maksimovic started the group almost 25 years ago and the Belgrade conference will offer a great opportunity to celebrate his service to our profession. A group of Cedo's co-workers is organizing this event, with Prof Dusan Prodanovic from the Belgrade University serving as conference Chair. The conference will address a broad list of issues arranged into three tracks, Data issues, Modelling, Applications, Management, and Special Topics. Authors of accepted abstracts have been notified in Dec. 2011.

7.2. The Real-Time Control of Urban Drainage Systems (RTCUDS) Working Group (Chairman: Dr M. Pleau, BPR-CSO, 5100 Sherbrooke St. E., Suite 400, Montreal, Quebec H1V 3R9, Canada; Phone: 001-418-871-8151, Fax: 001-418-871-9569, E-mail: Martin.Pleau@bpr-cso.com), Prof. Dirk Muschalla, Graz University of Technology, Institute of Urban Water Management and Landscape Water Engineering, Stremayrgasse 10/I, 8010 Graz, Austria; Phone: +43-(0)316-873-8370, Fax: +43-(0)316-873-8376, E-mail: muschalla@sww.tugraz.at, Web: <http://www.sww.tugraz.at>

Recent activities

The Group sponsored an RTC session at the 12th ICUD in Porto Alegre (September 2011). The session featured nice presentations by Mortem Grum, Ronald van Nooijen, Geert Dirckx and Manfred Schütze. About 60 people attended the session confirming a large interest of the community in RTC topics. Considering this success, the RTC WG is likely to sponsor other RTC sessions in next conferences.

The new RTC WG Web site is now available at <http://www.rtcwg.org>. It includes information on RTC WG status, WG members, minutes of previous meetings, RTC WG events, conferences, literature, recent publications, RTC news, RTC concepts and links to other web sites of interest. The RTC WG group is looking for contributions to the web site's news section. The RTC WG also offers a section for short presentations of interesting and innovative projects and real world installations. For more information or for submitting contributions please contact Dirk Muschalla at muschalla@sww.tugraz.at.

A new manual on RTC edited by CSDU is now available in Italian. To get more information or to purchase a copy, please contact Alberto Campisano at: acampisa@dica.unict.it.

Upcoming activities

The Group is preparing a special issue on RTC for urban drainage systems in the Urban Water journal. Detailed information about the special issue is available on our web site at www.rtcwg.org and for further information please contact the guest editors Dirk Muschalla (muschalla@sww.tugraz.at) or Manfred Schütze (manfred.schuetze@ifak.eu).

Position paper on RTC “hardware” – the Group is preparing a paper specifically focused on RTC hardware performance.

The 8th RTC Workshop on Real Time Control of Sewer Systems – various options for holding this workshop are currently explored, including e.g. the Novatech conference in Lyon (June 2013).

Finally, a survey examining the level of interest among the various potential clients, including municipalities, private companies, and universities, in a course on Real Time Control for Urban Drainage System will be conducted.

WG Web Site: <http://www.rtcwg.org>

7.3. Sewer Systems and Processes Working Group (SS&PWG) (Chairman: Dr Zhiguo Yuan, The University of Queensland, Sta. Lucia, QLD 4072, Australia, Phone: + 61 733 654 374, Fax:

+61 733 654 726, E-mail: zhiguo@awmc.uq.edu.au; Secretary: Dr. Jeroen Langeveld, Delft University of Technology, Stevinweg 1, 2628 CN Delft, the Netherlands. Phone: +31 6 22409565. Email: j.g.langeveld@tudelft.nl; WG Website: <http://www.sspwg.org> (Webmaster: Assoc Prof A.H. Nielsen, Aalborg University, ahn@bio.aau.dk)

The SS& PWG management committee met in Porto Alegre on Tuesday 13, 2011. The main topics discussed were a change in membership policy, election of a new management committee (see details above) and planned activities.

The former membership policy, allowing only two members per country, has been abolished. The group is now open to any scientist/engineer/researcher that is actively interested in sewer processes and networks. The group members will attempt to recruit new active members, whilst maintaining the geographical diversity.

The 7th International Conference on Sewer Processes and Networks (SPN 7) will be held in Sheffield, UK, on 28-30 August 2013. It will be chaired and organized by Simon Tait on behalf of the Pennine Water Group. The conference will use a single session format, run for 3 days, and with an expected audience of 120 participants, it will aim to enhance interactions and discussions between scientists and engineers working on sewer processes and networks. The themes will include sewer system impacts, in sewer processes, design and operational aspects, monitoring and new technologies and emerging issues. For further information, contact the conference chair, Prof Simon Tait, Pennine Water Group, School of Engineering Design and Technology, University of Bradford, Bradford, West Yorkshire, BD7 1DP, UK, Ph: 44 1274 233 878, E-mail: s.tait@bradford.ac.uk), or visit the conference website: <http://www.sheffield.ac.uk/spn7>

A Junior Scientist Workshop on sewer processes and networks will be organized by Günter Gruber in Austria in autumn/winter 2012 (Email: gruber@sww.tugraz.at).

A new edition of the Scientific and Technical Report on Sewer Solids is planned to be published in 2013, edited by Jean-Luc Bertrand-Krajewski, Simon Tait, Jeroen Langeveld and Adrian Saul.

7.4. Working Group on Source Control for Stormwater Management (SOCOMA)
(Chairman: Gilles Rivard, Genivar Inc, 2525, blvd Daniel-Johnson, 525, LAVAL (PQ), Canada H7T 1S9; Phone: 001-450-686-8839, Fax: 001-450-689-2969, E-mail: gilles.rivard@genivar.com ; Vice-chair & Secretary: Sylvie Barraud, INSA Lyon - LGCIE - Bâtiment Coulomb, 34 Avenue des Arts, F-69621 Villeurbanne Cedex. Phone: 04 72 43 83 88 - Fax: 04 72 43 85 21 - E-mail: sylvie.barraud@insa-lyon.fr); Secretary: Tim Fletcher, Melbourne School of Land & Environment, The University of Melbourne, 221 Bouverie St, Parkville, Vic, 3010, Australia. Tel: +61 3 8344 0621, E-mail: tim.fletcher@unimelb.edu.au).

Working Group Report

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

As compared to the WSUD (Water Sensitive Urban Design) working group, which has related interests but in a more holistic and institutional outlook, SOCOMA focuses more on technical aspects related to source control technologies as applied to urban drainage. The activities and participation at workshops would therefore be more oriented to provide a forum for exchanging technical details of design and implementation or research results and approaches of source control mechanisms or best management practices (BMPs).

The SOCOMA WG met at the 12th ICUD Conference in Porto Alegre, Brazil. The Group participated in organizing three sessions specifically on Source Control and Best Management Practices. Other relevant papers were also presented in sessions on LID and WSUD.

The following activities were discussed during the specific SOCOMA meeting:

- Terminology paper. Tim Fletcher, Peter Steen Mikkelsen, Sylvie Barraud, other members of SOCOMA and the JCUD more broadly have initiated this paper which has as main objective to allow newcomers to the stormwater management field to understand the history and context of current terminology and approaches. The field has seen many different acronyms, names and conceptual approaches over the years and the JCUD thus considers it useful to present some historical background for the integrated urban stormwater management. A first draft of the paper was discussed during the meeting, which was conducted with the WSUD working group. Contributions to the paper will come from both groups and from other JCUD members and the urban drainage community.
- Other possible papers, which have been discussed at the Novatech Conference in 2010, were also examined. Topics include: Hydrologic performance of source control for low-flow and high-flow restoration; Modelling source control techniques; Water quality performance unit processes in source control measures; Targets for source control: review and rationale. Some of these topics could be addressed by SOCOMA members in 2012 and 2013.
- A more general report on source control or stormwater management measures was also discussed but it was agreed that, in the short term, more emphasis should be put on journal papers.
- The SOCOMA web site (<http://graie.org/SOCOMA>) was updated and other references and documents will be added in 2012. Proceedings from the different Workshops can be downloaded from the site.

Upcoming conferences.

As the new provincial Stormwater Management Guide has been officially published in 2011 for the Province of Quebec (Canada) (<http://www.mddep.gouv.qc.ca/eau/pluviales/guide.htm>), it is possible that a Workshop will be organized in 2012, with invited guest speakers. This item was not discussed during the Porto Alegre meeting but later. The Workshop would be held in Montreal (Canada), probably in September or October 2012 and it could be organized jointly with the CWRA (Canadian Water Resources Association), with participation from Quebec ministries (Environment and Urban Affairs).

In 2013, the Novatech Conference will hold its 6th edition, from July 23 to 27. A SOCOMA workshop will most probably be organized during this event and the topic and agenda should be planned partly during 2012.

Other future activities

Members of the SOCOMA were encouraged to provide relevant documents, references and sites for the web site so that it can become more useful for the community. Another item that was discussed was to develop a Wikipedia-type of glossary that could be put on-line and provide basic technical information on topics associated with source control and stormwater management measures. The next SOCOMA meetings will be at UDM in 2012 and Novatech in 2013.

7.5. International Working Group on Urban Rainfall (IGUR) (Chairman: Dr. Patrick Willems, Katholieke Universiteit Leuven, Hydraulics Division, Kasteelpark Arenberg 40, B-3001 Leuven, Belgium; Phone: +32-16-321658, Fax: +32-16-321989, e-mail: Patrick.Willems@bwk.kuleuven.be. Secretary: Dr. Thomas Einfalt, hydro & meteo GmbH & Co. KG, Breite Strasse 6-8, D-23552 Lübeck, Germany. Phone: +49-451-7027333 Fax: +49-451-7027339, e-mail: einfalt@hydrometeo.de. Group's web site: <http://www.kuleuven.be/hydr/gur>

WG report (Nov. 2011)

- The IGUR was the guest editor of a Special Issue of Atmospheric Research on “Precipitation in Urban Areas - Rainfall in the urban context: forecasting, risk and climate change”. In that Special Issue, extended papers are being published of the 8th Workshop on Precipitation in Urban Areas (St.Moritz, 10-13 December 2009). The members of the Guest Editorial Board are Patrick Willems (chair), Peter Molnar, Thomas Einfalt, Karsten Arnbjerg-Nielsen, Christian Onof, Van-Thanh-Van Nguyen and Paolo Burlando. In total, 17 papers have been submitted, of which 12 were accepted (with minor or major revision). The IGUR guest editorial board also prepared a foreword for the special issue. The Special Issue was published in early 2012 (Vol. 103).
- Currently, the IGUR is finalizing a review document on the topic of “climate change and urban drainage”. A summarized version has been presented as paper at the 8th Workshop on Precipitation in Urban Areas, and in press as paper for Atmospheric Research:
Willems, P., Arnbjerg-Nielsen, K., Olsson, J., Nguyen, V.T.V. (2011), ‘Climate change impact assessment on urban rainfall extremes and urban drainage: methods and shortcomings’, Atmospheric Research, 10.1016/j.atmosres.2011.04.003
For a more extensive review report, intended to be published as an IWA book, seven IGUR members are currently involved in its preparation.
- A contribution to the new IWA publication on global trends and challenges in water science, research and management was prepared by P. Willems & Th. Einfalt and entitled “Rainfall extremes and urban drainage”. The publication has been already released: “A compendium of hot topics and features from IWA Specialist Groups.” Editor: Hong Li. IWA, London, UK, January 2012 (ISBN 9781780401065).
- The IGUR has participated in the review of several urban rainfall related papers for the Novatech 2010 Conference. We also supported the organisation of the 2nd Regional Rainfall Conference of the Balkans, and were involved in the scientific committee of that conference. The conference was held in Belgrade (Serbia) on 3-5 November 2010 and focused on the topic of “Regional rainfall and climate change”. For the 12th ICUD conference, urban rainfall and climate change related papers

were reviewed by members of the IGUR, and three technical sessions on “urban rainfall” coordinated by the IGUR.

- The 2011 annual meeting of the IGUR was held during the 12th ICUD. Four experts requested new membership of the IGUR: Jonas Olsson (Swedish Meteorological Institute, Sweden), Marie-Claire ten Veldhuis (TU Delft, The Netherlands), Assela Pathirana (UNESCO-IHE and Sr Lanka) and Søren Thorndahl (Aalborg University). The IGUR accepted their membership. Jonas Olsson, Assela Pathirana and Marie-Claire ten Veldhuis are new members (a second seat was available for Sweden and The Netherlands). Søren Thorndahl will replace Michael Rasmussen.
- The next workshop on Precipitation in Urban Areas is scheduled for 6–9 December 2012 in St. Moritz, Switzerland.

The most recent information on IGUR activities as well as the meeting reports can be found on the regularly updated IGUR website: www.kuleuven.be/hydr/gur.

7.6 Urban Drainage in Cold Climate Working Group (UDCCWG) (Chair: Prof Maria Viklander, Dept. of Civil, Mining and Environmental 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; the Secretary position is currently open).

Group report. Currently, there are three PhD-students working on Cold Climate in Scandinavia. At Luleå University of Technology (LTU), Luleå, Sweden, Helen Galfi is working on stormwater quality variation. Her PhD program is part of the Day and Net cluster and involves the investigation of pollutant fluxes in different subcatchments in central urban areas during different seasons. Since surface water bodies receiving effluents from urban stormwater systems have high quality standards, the emerging concern focuses on direct discharges from the stormwater network with high pollutant loads endangering the natural, recreational and drinking water uses serving Swedish cities. Pathways and variation of different pollutants between the source and receiving waters are poorly understood in the seasonal and spatial context. Research is needed particularly concerning microorganisms and micropollutants in urban stormwater. The overall aim of the project within the Day and Net is to create a source-based method for pollutant standard values with emphasis on snowmelt, and wet and dry-weather sources in urban catchments.

Also at Luleå University of Technology, Shahab Moghadas is working on snowmelt runoff from urban areas. Although intense rainfall is assumed to be the main cause of flooding in cities, snow accumulation and melt in cold climate conditions have significant effect on the pattern of the peak flows during the snowmelt periods. Previous studies focused mostly on the degree day method and show the need to enhance snowmelt simulations, for instance, by improving the time resolution from daily to hourly. Some researchers have worked on the energy budget methods. Despite its data demands, the energy budget method could be a good alternative. However, more investigation is needed to account for the diversity of snow characteristics and the relatively big demands on input data. In this research project, an energy and mass balance model will be applied for different types of snow to simulate the snowmelt runoff. The goal is to investigate the potential use of the model with the data

available from SMHI for Luleå, in the northern part of Sweden. The focus is to identify and analyze the sensitivity of the model to the different input parameters recognizing the fact that the model needs number of inputs, but not all the measured values may represent best the local climatic condition.

At NTNU, Trondheim, Norway, Kim Aleksander Diesen Paus is working on bioretention in cold climate. Previous experiences demonstrate that strategies for urban water management must be climatically adapted to local conditions before implementation. Bioretention is a relatively new field and there is a particular lack of research on hydrologic performance and the fate of contaminants in cold climates. Abundant stormwater contaminants such as heavy metals will accumulate over time and are not removed from the system by biological or chemical degradation. Retention processes in these cells are poorly known and as much of the contaminants is retained in the filter media, they also hold potential to be subsequently mobilized. The focus of the research is the time frame of this mobilization and the impacts of specific cold climate conditions on these processes.

In September, 2011 the Cold Climate Working Group met in Porto Alegre, Brazil, during the 12th International Conference on Urban Drainage. Nine researchers from five different countries participated in the meeting chaired by Prof. Ćedo Maksimović, with the overall aim to exchange cold climate research interests and engage more researchers in the area.

Finally, a draft proposal of a Junior Workshop for PhD students in Sweden has been discussed and the workshop would take place in the beginning of 2013. The workshop will be organised by the Urban Water research group chaired by Prof. Maria Viklander and will engage PhD students working in stormwater research. Since it will be the first Junior Workshop taking place in Sweden, the focus will be on research aims and issues related to cold climate. For further information contact: Helen Galfi [helen.galfi@ltu.se] or Shahab Moghadas [shahab.moghadas@ltu.se].

7.7 Working Group on Water Sensitive Urban Design (Chair: Dr Rebekah Brown, Monash University, Faculty of Arts, Menzies Building, Victoria 3800, Australia, tel +61 3 9905 9992; fax +61 3 9905 2948; E-mail: Rebekah.Brown@arts.monash.edu.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).

7.8 Working Group on Urban Streams (USWG) - (Chair: Dr Ivana Kabelkova, Department of Sanitary and Ecological Engineering, Faculty of Civil Engineering, Czech Technical University in Prague, Thakurova 7, 166 29 Prague 6, Czech Republic, Phone: +42 (0)2 24321292, e-mail: kabelkova@fsv.cvut.cz.)

USWG was established in 2009 and held its first meeting during the NOVATECH 2010 conference in Lyon, France. Its main objective is to bring together water resources engineers, biologists and landscape planners and to encourage information exchange and co-ordination of research activities.

The group is currently conducting a survey of the research issues to be addressed by the group, in preparation of a workshop on this topic.

8. NEWS FROM IAHR AND IWA

8.1 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 2012 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 34th IAHR World Congress was held in Brisbane, Australia, from June 26 to July 1, 2011, together with the 33rd National Hydrology and Water Resources Symposium and the 10th National Conference on Hydraulics in Water Engineering. The Congress theme “Balance and Uncertainty: Water in a Changing World” focused on the central roles of hydraulic engineering, hydrology and water resources in our changing world, and how these roles link to the broader issues.

8.2 News from IWA HQ

New from IWA – the IWA Water Wiki!

Invitation to Participate



www.iwawaterwiki.org

The **WaterWiki** is a website providing a place for the water community to interact, share knowledge and disseminate information online.

Since the site was launched, we have been working with IWA Specialist Groups, offering them the opportunity to set up their own group work spaces on the WaterWiki – we now have over **20** Groups using the site to communicate and network online.

Want to get involved? We would like to invite members of the **Urban Drainage** Specialist Group to share information and materials using a [dedicated Group Space on the WaterWiki](#).

WaterWiki Group Spaces – Why participate?

A Group Space on the WaterWiki is excellent way to share information within your group. You can:

- Include contact details of key members in the group
- Upload PDFs, Word documents, presentations etc.
- Circulate minutes from meetings, events, conferences etc.
- Plan up coming events and webinars
- Discuss research developments and group activities

Once you have established your group space on the Wiki, members can add, remove, or edit content at anytime – and we have a dedicated support team on hand to answer any technical queries.

If you are a member of the **Urban Drainage** IWA Specialist Group and would like more information on creating and using a dedicated Group Space on the WaterWiki please contact Chloe Parker (cparker@iwap.co.uk).

New Contributions

Feel free to use the wiki as your online reference point for all things water-related! Some of the material that may be of interest to you can be found here:

[Sustainable Urban Drainage System](#), [Recent Papers on Urban Hydrology](#), [Stormwater Treatment, Reuse: Urban, Residential, Commercial and Municipal](#), [Transmission Main Water Loss Reduction in Urban Centers](#), [Urban Hydroinformatics](#), etc.

We are always looking to add new material to the WaterWiki in your subject area. If you are able to write on any of the above subjects (about 600-1000 words), please do submit an article.

To see how other IWA Specialist Groups have been using the wiki, visit the [Specialist Groups home page](#).

Chloe Parker
IWA WaterWiki Community Manager
cparker@iwap.co.uk

World Water Monitoring Day Re-launches with New Name, Look and Interactive Website
Newly dubbed World Water Monitoring Challenge encourages greater participation in the program that recorded more than 300,000 monitored sites worldwide in 2011

The Water Environment Federation and The International Water Association proudly announce that the World Water Monitoring Day program will be known as the **World Water Monitoring Challenge** (WWMC). We think this new name better reflects the efforts that so many of our participants make year-round. We hope that you will accept the Challenge to **test** the quality of your waterways, **share** your findings, and **protect** our most precious resource. To commemorate the

launch of WWMC, we are pleased to unveil our new website. In addition to the familiar resources, you will find some new items such as an [events calendar](#) and [blog](#) where you can upload your event details and your WWMC stories. Check it out at www.MonitorWater.org!

An international education and outreach program that builds public awareness and involvement in protecting water resources around the world, WWMC engages citizens to conduct basic monitoring of their local water bodies. An easy-to-use test kit enables everyone from children to adults to sample local water bodies for a core set of water quality parameters including temperature, acidity (pH), clarity (turbidity) and dissolved oxygen (DO). Results are shared with participating communities around the globe through the WWMC Web site.

We are thrilled to report that nearly **340,000 people** in 77 countries monitored waterways for World Water Monitoring Day in 2011. This represents a **62% increase** over 2010! Additionally, the number of sites monitored increased from 6,325 to 6,655. Congratulations to all and particularly to our participants in Malaysia, the U.S., Spain, Romania, and India who led our global efforts.

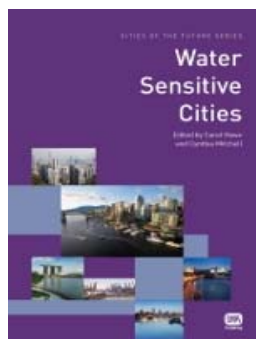
To view full results for 2011, please check out the [2011 Year in Review](#) report, featuring cover art from our Water Monitoring Around the World Photo Contest winner Mr. Javier Laureano of the San Juan Bay Estuary Program.

We would also like to take this opportunity to encourage you take part in WWMC in 2012! For further information about how to participate please click [here](#) In addition, WWMC coordinators receive requests for thousands of free test kits from groups in low- and middle-income countries who would like to participate in WWMC but cannot afford to purchase a test kit. While we have been able to honor many of these requests via the generous support of our sponsors, the number is quickly increasing, so please put in your requests early!

If you have any questions about the programme, would like to get involved in activities for 2012, please contact frances.lucraft@iwahq.org

9. NEWS FROM IWA PUBLISHING

Water Sensitive Cities



Carol Howe and Cynthia Mitchel

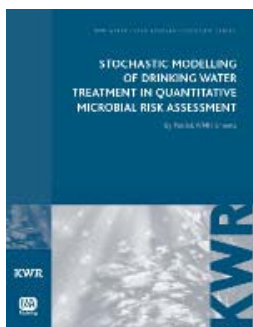
ISBN: 9781843393641 • October 2011 • 304 pages • Hardback
IWA members' price: £ 71.25 / US\$ 128.25 / € 96.19

<http://www.iwapublishing.com/template.cfm?name=isbn9781843393641&type=category>

Today's urban water managers are faced with an unprecedented set of issues that call for a different approach to urban water management. These include the urgent changes needed to respond to climate change, population growth, growing resource constraints, and rapidly increasing global urbanization. Not only are these issues difficult to address, but they are facing us in an environment that is increasingly unpredictable and complex. Although innovative, new tools are now available to water professionals to address these challenges, solving the water problems of tomorrow cannot be done by the water professionals alone. Instead, the city of the future, whether in the developed or developing world, must integrate water management planning and operations with other city services to meet the needs of humans and the environment in a dramatically superior manner.

Water Sensitive Cities has been developed from selected papers from 2009 Singapore Water Week "Planning for Sustainable Solutions" and papers taken from other IWA events. It pulls together material that supports the water professionals' need for useful and up-to-date material.

KWR Drinking Water Treatment Set



Wim Hijnen, Gertjan J Medema, Patrick WMH Smeets, Jan Vreeburg, Bas Wols

ISBN: 9781780400488 • October 2011 • Paperback
IWA members' price: £ 278.00 / US\$ 500.40 / € 375.30

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KWR Drinking Water Treatment Set

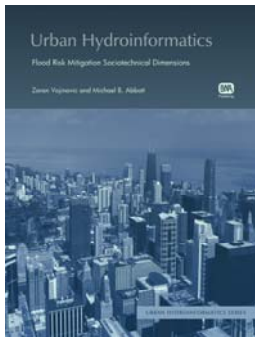
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- Patrick WMH Smeets
- ISBN: 9781843393740 • £ 56.25 / US\$ 101.25 / € 75.94

- *Discolouration in Drinking Water Systems*
- Jan Vreeburg
ISBN: 9781843393757 • £ 56.25 / US\$ 101.25 / € 75.94
- *Elimination of Micro-organisms by Water Treatment Processes*
- Wim A M Hijnen and Gertjan J Medema
ISBN: 9781843393733 • £ 58.50 / US\$ 105.30 / € 78.98

Urban Hydroinformatics: Data, Models and Decision Support for Integrated Urban Water Management



Roland Price and Zoran Vojinovic

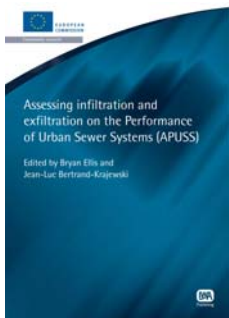
ISBN: 9781843392743 • January 2011 • 552 pages • Paperback
IWA members' price: £ 81.75 / US\$ 147.15 / € 110.36

<http://www.iwapublishing.com/template.cfm?name=isbn9781843392743&type=category>

Urban Hydroinformatics: Data, Models and Decision Support for Integrated Urban Water Management is an introduction to hydroinformatics applied to urban water management. It shows how to make the best use of information and communication technologies for manipulating information to manage water in the urban environment.

The book covers the acquisition and analysis of data from urban water systems to instantiate mathematical models or calculations, which describe identified physical processes. The models are operated within prescribed management procedures to inform decision makers, who are responsible to recognized stakeholders.

Assessing Infiltration and Exfiltration on the Performance of Urban Sewer Systems



Bryan Ellis and Jean-Luc Bertrand-Krajewski

ISBN: 9781843391494 • February 2010 • 200 pages • Paperback
IWA members' price: £ 53.00 / US\$ 95.40 / € 71.55

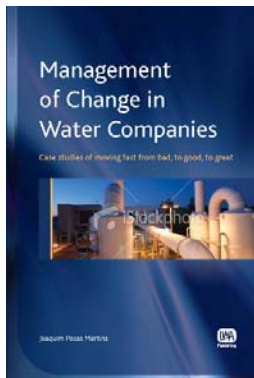
This title belongs to European Water Research Series

<http://www.iwapublishing.com/template.cfm?name=isbn184339149x&type=category>

The European research project APUSS (**Assessing infiltration and exfiltration on the Performance of Urban Sewer Systems**) was devoted to sewer infiltration and exfiltration questions. It was structured in three main Work Areas dealing respectively with i) the development of new measurement methods based on tracer experiments and accounting for detailed uncertainty analyses, ii) the implementation of models and software tools to integrate structural and experimental data and to facilitate data display, operational management and decision-making processes and iii) the integration of economic and operational questions by means of cost estimation, economic evaluation, performance indicators and multi-criteria methods applied to investment/rehabilitation strategies.

Management of Change in Water Companies:

Case Studies of Moving Fast from Bad to Good to Great



Joaquim Pocas Martins

ISBN: 9781843391951 • December 2012 • 200 pages • Paperback
IWA members price: £ 51.75 / US\$ 93.15 / € 69.86

<http://www.iwapublishing.com/template.cfm?name=isbn9781843391951&type=category>

Management of Change in Water Companies tells real stories of real water companies that went through processes of change and achieved their best results ever in just a few years. It reflects the personal experience of the author from leading processes of change in five different water supply/sewage companies, between 10 and 120 years old and serving from 200,000 to 4,000,000 people.

This practical and effective book shows:

- how to change, modernize and make profitable old-fashioned organizations,
- how to reduce water loss and promote efficiency in water companies,
- how to use the savings to rehabilitate and expand infrastructure without increasing tariffs,
- how to deal with overstaffing,
- how to plan, finance, build and maintain infrastructure,
- how to introduce innovation,
- how to motivate people,

- how to deal with clients, regulators, unions, shareholders, politicians and the press
- how to achieve sustainability.

SELECTED RESEARCH REPORTS

Strategic Asset Management and Communication: Gaining Public Support - Experience with Citizen Advisory Committees

WERF Report SAM1R06f

Authors: Linda Blankenship

Publication Date: Dec 2010 • ISBN: 9781843393399

Pages: 42 • Paperback

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

<http://www.iwapublishing.com/template.cfm?name=isbn9781843393399&type=category>

Research Digest - Infiltration vs. Surface Water Discharge: Guidance for Stormwater Managers

WERF Report 04-SW-3a

Author(s): Shirley E. Clark

Publication Date: June 2010 • ISBN: 9781843393382

Pages: 22 • Paperback

IWA Members price: £ 77.25 / US\$ 139.05 / € 104.29

<http://www.iwapublishing.com/template.cfm?name=isbn9781843393382&type=category>

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10. NEWS FROM AROUND THE WORLD

AUSTRALIA AND NEW ZEALAND (REPORTED BY TIM FLETCHER AND ELIZABETH FASSMAN)

Urban drainage remained a topic of significant public interest during 2011. For example, Australia moved from a period of long-term drought (over the last 15 years) to a situation where much of the eastern part of the country was impacted by floods, including some urban flash flooding. These floods resulted in the loss of both life and property and reignited public debates about how to manage flooding (a topic that had been largely forgotten during the long-term drought).

The increased interest in stormwater is demonstrated by the strengthening of the Stormwater Industry Association (www.stormwater.asn.au), with branches in most states of Australia. The Association plays many roles, one of which is the running of a national awards scheme for stormwater projects – in categories such as infrastructure, research, planning and capacity-building. The Association also runs technical tours, such as the Stormwater Harvesting and Reuse Technical Tour held in Adelaide in August 2011. The choice of this location is quite appropriate, as Adelaide (capital city of South Australia) and surrounds is the host to the largest network of stormwater harvesting projects in Australia.

In the capacity-building field, two standout organisations include Clearwater (www.clearwater.asn.au) in Victoria and the WSUD.org program in Sydney. Both are very active in running training courses, hosting seminars, as well as providing a digital library of relevant resources.

Significant stormwater-related conferences will occur in both Australia and New Zealand in 2012. The Centre for Water Sensitive Cities and Engineers Australia will host WSUD 2012 (see www.wsud2102.com). The conference has a broad and interdisciplinary program, covering everything from integrated water supply, flood mitigation and climate-responsive design, urban water economics to planning, architecture and urban ecosystems. The conference runs from 21-23 February, at the famous Melbourne Cricket Ground (MCG). The Water New Zealand will host the *Stormwater 2012* conference on May 10 and 11, at the Amora Hotel in Wellington (see www.waternz.org.nz/stormwater_conference.html). The conference includes a range of themes from catchment management planning, stormwater monitoring and modelling, treatment and technology and asset management. Then, the 2nd National Stormwater conference will be held in Melbourne 15-19th October (see www.gemsevents.com.au/stormwater2012/). The conference is aimed at practitioners and is run by the Stormwater Industry Association.

Stormwater researchers have been very active in 2011. The Centre for Water Sensitive Cities, based at Monash University, launched its “Blueprint 2011” – providing industry with a blueprint for the use of stormwater harvesting as a tool for the development of water sensitive cities. In November, the Australian Minister for Innovation announced that the Centre had been successful in its \$30 million application to become a “Cooperative Research Centre” (see www.watersensitivecities.org.au/30-million-for-the-crc-for-water-sensitive-cities/). Meanwhile, the Centre’s “Cities as Water Supply Catchments” project continues to have a major influence on the management of urban water in Australia. Along with its research themes – on sustainable

technologies, climate changes, green cities & microclimate, stream ecology, risks & human health, society and institutions, economic valuation – the program has a major focus on integration and demonstration through urban design. As part of this focus, it is conducting a number of demonstration sites around Australia. The Centre has a wide range of other research programs, along with a major effort in capacity-building.

The Little Stringybark Creek project (see: www.urbanstreams.unimelb.edu.au) is an attempt to retrofit an entire 450 ha urban catchment (with a mixture of residential, commercial and industrial land uses) with a range of stormwater retention and treatment systems (including stormwater harvesting, infiltration systems, rainwater tanks and biofiltration systems). The ultimate aim is to create a measurable improvement in the health of the receiving water: Little Stringybark Creek. The major retrofit projects are underway, with the research team hoping to continue monitoring for a number of years in order to follow the post-retrofit trends. As part of this project, Melbourne Water is working with the local municipality to develop the first Environmental Significance Overlay related to stormwater. The Little Stringybark Creek project team ran a joint workshop with the US EPA in Melbourne in June, to compare results with the similarly-motivated Shepherd Creek project. In South Australia, the team led by Simon Beecham continues to undertake work on permeable pavements and on siphon roof harvesting systems. The group is doing work on the modelling and design of permeable pavements as part of an Australian Research Council project.

Living (green/vegetated) roofs for stormwater management have been a major focus of research for Elizabeth Fassman (with Robyn Simcock from Landcare Research) for several years, culminating in a detailed technical report on design and construction for stormwater management (available from <http://www.aucklandcouncil.govt.nz/EN/AboutCouncil/PlansPoliciesPublications/technicalpublicationsandresearch/Pages/default.aspx#2010>). A PhD thesis by Emily Voyde, supervised by Elizabeth Fassman at the University of Auckland, looked at the hydrologic performance of vegetated roofs in the Auckland climate. The research tested various models of evapotranspiration for application to vegetated roofs, using a series of empirical studies. The thesis was the first such research on vegetated roofs in New Zealand. Elizabeth has run several technical training courses (most often with Robyn Simcock) on living (green/vegetated) roof design in Philadelphia (USA) in September 2011, and in Christchurch and Wellington in November and December 2011. Training courses will be offered in Auckland in early-mid 2012 and in North Carolina (USA) in July/August 2012. Together with fellow JCUD member, Bill Hunt (NC State University), stormwater design training programmes have been offered for professional development on bioretention design, and BMP inspection and maintenance in Auckland and Christchurch in 2011 and 2012.

Sam Trowsdale remains a very active stormwater researcher in New Zealand. He has been undertaking studies of the spatial scale of rainwater harvesting on water supply and hydrology – in work that is closely related to that of Matthew Burns in Australia. Sam has also been working on the relationships between urbanisation and stream ecology. He has been attempting to get a major urban retrofit project in order to monitor the effects on hydrology, water quality and stream ecology. The rebuild of Christchurch following major earthquakes in September 2010, February and December 2011 has a strong sustainability initiative, with interest in reflecting its historic name of “The Garden City”. As a substantial extent of infrastructure must be replaced, there is hope to incorporate LID principles and practices while creating a resilient city.

Stormwater harvesting has seen increasing popularity in Australia over the last ten years. One practical impediment to stormwater harvesting is the space constraints that limit available storage in urban settings. There is thus considerable research and investigation of the use of aquifers for temporarily storing stormwater – called *Aquifer Storage and Recovery (ASR)*. For example, the use of ASR forms a major part of the Parafield Stormwater Recycling Scheme in South Australia. Barwon Water in Victoria is undertaking pilot drilling to test the technology. Peter Dillon from CSIRO has been very active in these studies.

The eWater Cooperative Research Centre has released version 5.0 of MUSIC (the Model for Urban Stormwater Improvement Conceptualisation). **music** can simulate urban stormwater systems ranging from a suburban block up to a whole town or suburb (0.01 km² to 100km²). The time scale can start at 6 minutes and stretch up to 24 hours. The new features in **music** v5 include capacity to:

- examine water quality outcomes pre and post development
- model alternative pollutants for better assessment of water quality outcomes
- link stormwater quality and flooding management initiatives using the new detention basin node
- import spatially aware background images and lock your music design to them
- multi-node edit, for more efficient comparison of node setup and design
- import and export from other modelling tools with ease
- apply more rainfall data types with the new data ingestion tool
- improve reporting and charting
- apply more refined bioretention science
- simulate rainwater and stormwater harvesting options
- examine all inputs and outputs (water balance) at any point in the model so you can see exactly where infiltration, overflows and bypasses are occurring

BRAZIL (REPORTED BY PROF NILO NASCIMENTO)

The 12th International Conference on Urban Drainage was held in Porto Alegre, September 11-16, 2011, and was organized by the IWA-IAHR Joint Committee on Urban Drainage. The host institutions were IWA, IAHR and the Brazilian Association for Water Resources (ABRH). 373 participants attended the conference, 147 (39%) from the developing world. The number of students attending the conference reached 71; 27 from developing countries. All the continents were represented, with 43% of participants coming from Europe, 34% from South America, 10% from Oceania, 7% from Asia, 4% from North America, and 2% from Africa. During the Conference, 347 papers were presented, 56 of them in poster sessions. Sessions covered topics such as (i) urban rainfall; (ii) rainwater harvesting; (iii) integrated urban water management and urban water planning; (iv) urban water pollution, including impacts on receiving bodies and stormwater treatment; (v) processes in sewer systems; (vi) climate change and adaptation; (vii) modelling urban water systems and data processing; (viii) hydraulics of urban water systems; (ix) eco-hydrology and eco-hydraulics; (x) participatory processes; (xi) education and training; and, (xii) real time control, among other topics. A special plenary session was organised as a part of the competition for the Poul Harremoës Award for the best urban drainage paper by a young author, with the presentation of the three selected papers in this final phase of the competition: (i) “*Towards a socio-technical framework for mapping and diagnosing transformational dynamics in urban water systems*”, by B.

Ferguson, R. Brown and A. Deletic, presented by B. Ferguson, from Monash University (Australia) ; (ii) “*Decision strategies for handling the uncertainty of future extreme rainfall under influence of climate change*”, by I.B. Gregersen and K. Arnbjerg-Nielsen, presented by I.B. Gregersen, from the Technical University of Denmark; and (iii) “*Urban drainage models for flood forecasting: 1D/1D, 1D/2D and hybrid models*”, by N. Simões, S. Ochoa, J. P. Leitão, R. Pina, A. Sá Marques, Č. Maksimović, presented by N. Simões from the Imperial College London (UK). The winner of the Poul Harremoës Award was N. Simões, as selected by the referee panel comprising David Butler, Jiri Marsalek, Mohamed Bin Nor Mohamed Desa and Nilo Nascimento. Two other JCUD awards were given during the 12 ICUD, the Career Achievement Award to Prof. Bernard Chocat, from the INSA-Lyon (France) and the Mid-Career Achievement Award to Dr. Manfred Schütze (Ifac, Germany). The referee panel for the Career and the Mid-Career Achievement Awards comprised David Butler, Peter Steen Mikkelsen and Tim Fletcher.

Two workshops, sponsored by UNESCO were organised during the conference, the first one focusing on sustainable strategies for urban drainage and flood protection and the second one on the challenges for integrated urban water management in developing countries. Six keynote lectures were given in plenary sessions by Daniela Bemfica (Municipality of Porto Alegre); Eduardo Mendiondo (USP, Brazil); Bernard Chocat (INSA-Lyon, France); Kapil Gupta (IIT, India); Manfred Schütze (Ifac, Germany) and Mário Thadeu Lemos (USP, Brazil). Additional 13 lectures were given during the two UNESCO Workshops, by Sarantuyaa Zandaryaa, from UNESCO; Jiri Marsalek, from Environment Canada (who also chairs the UNESCO Working Group on Sustainable Urban Water Strategies, which sponsored the two workshops were organised), Carlos Tucci and Luiz Orsini (Brazil), Maria Rafaela Matos (Portugal), Jean-Claude Deutsch (France), Tim Fletcher (Australia), Alessandro Paoletti (Italy), Neil Armitage (South Africa), Chris Jefferies (UK), as well as representatives of municipalities and local organisations: Cesar Buzatto (Municipality of Porto Alegre); Sônia Knauer (Municipality of Belo Horizonte); Carmen Sterling (Cali, Colombia) and Maximo Lanzetta (Buenos Aires metropolitan area). During the Conference, the JCUD Working Groups SOCOMA, WSUD, Urban Rainfall, RTC, SS&P, Data and Models also organised their respective meetings. Based on the indications of the 12th ICUD Scientific Committee, about 35 papers presented in the conference were selected and submitted to the Water Science and Technology journal for publication.



CANADA (REPORTED BY JIRI MARSALEK)

Water Balance Model and Related Activities. The Water Balance Model 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/>). The model is described as public domain tool promoting rainwater management and green development policies, and is undergoing continual development and refinement. For the latest, please visit the above website which features many innovative activities taking place in British Columbia, Canada.

The Sustainable Technologies Evaluation Program (STEP) is a multi-agency program based in Ontario (Canada) and 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, and
- Disseminate study results and recommendations and promote the use of effective technologies at a broader scale through education and advocacy.

STEP website is continually updated and certainly worthwhile to visit.

Two large governmental programs, dealing with water management in Lake Winnipeg and Lake Simcoe, spurred new interest in specific aspects of stormwater – control of nutrients. New research studies are conducted on the effectiveness of stormwater BMPs in controlling nutrient export from urban catchments. Some of this work is being done under the NSERC Strategic grant awarded to Trent University, working with the National Water Research Institute as one of the research partners. A fair number of stormwater ponds are surveyed for nutrient cycling and looking at management options to control nutrient export. A number of journal papers are in various stages of completion and address thermal and chemical stratification of stormwater management ponds and effects of road salt on nutrient retention by benthic organisms.

A multi-year collaborative project between the French water research institute IRSTEA (Formerly Cemagref) and the National Water Research Institute has been completed by publication of several papers on the ecological conditions in stormwater ponds and the use of oligochaete metrics in conjunction with the traditional sediment quality Triad system for evaluation of quality of fine urban sediments and habitat conditions in stormwater ponds. For further information, contact Jiri Marsalek (jiri.marsalek@ec.gc.ca), or check the available publications: Tixier, G. et al. (2011): In search of effective bioassessment of urban stormwater pond sediments: enhancing the sediment quality triad approach with oligochaete metrics. *Water Science & Technology* **64**(7): 1503–1510; Tixier et al. (2011): Ecological risk assessment of stormwater ponds: literature review and proposal of a conceptual approach combining two integrated sediment bioassessment methodologies. *Ecological Indicators* **11**(6): 1497–1506; and finally Tixier et al. (2012): Toxicity in stormwater ponds: a new method for assessing spatial vs. seasonal trends. *Water Research* Special issue on stormwater, published on line.

CZECH REPUBLIC (REPORTED BY DAVID STRANSKY, IVANA KABELKOVA AND VOJTECH BARES)

Discussions of the second round of River Basin Management Planning started among Czech water management specialists. Within the first round of planning, the majority of measures were applied in a blanket manner with respect to the construction and intensification of WWTPs for agglomerations above 2 000 PE, as prescribed by the accession treaty of the Czech Republic to the EU. Thus, deficits in reaching the goals of WFD, especially the good ecological status of water bodies, has remained. The second round of planning should involve more site-specific measures, including wet-weather pollution issues. A grant was given to the Czech Technical University (CTU) in Prague and DHI Czech Republic to create an information system for storing data on combined sewer overflows (CSOs) and data concerning the assessment of their impacts on rivers, which will enable classification of CSOs as to the seriousness of their impacts and will assist in setting priorities of measures for the fulfilment of the WFD requirements.

The legal framework promoting the principles of sustainable urban drainage (SUDS) was set in 2010. In 2011 the implementation of SUDS principles continued by elaboration of new technical standards for infiltration and for sustainable stormwater management (both led by CTU in Prague). Thus, also methodologies for the engineering practice have become available. The pilot study of SUDS implementation in urban planning activities and day-to-day decision-making was completed in city of Hradec Kralove. Introduction of the stormwater fee without the current exemptions is going to be discussed during the revision of the Water Distribution and Drainage Act in 2012. As the discussion of the social and economic aspects of the act is intensifying, complicated negotiations are expected.

Research activities: CTU in Prague and EAWAG, Switzerland are cooperating on the application of the microwave link rainfall estimation approach. A selected region of Prague will serve as a pilot catchment to employ MWL technologies in urban drainage modelling. The project is supported by Veolia, Czech Republic and T-Mobile, Czech Republic. At the Brno University of Technology a project addressing the design of the technology for use of grey water and stormwater in buildings is underway.

Conferences: The 11th Conference on Optimization of design and control of sewer systems and WWTPs focused on technical and ecological topics, and on financing of and strategies for renewal of the engineering infrastructure. The 9th biennial conference of CzWA Water 2011 was the first conference held after the transformation of the Association of Wastewater Experts to the Czech Water Association (CzWA). Stress was put on covering the full range of the water sector and on the interdisciplinarity of topics arising from the collaboration of CzWA working groups.

DENMARK (REPORTED BY KARSTEN ARNBJERG-NIELSEN)

Urban water research is booming these years. Two factors are responsible for this: 1) establishment of a Danish Strategic Research Council (DSF), focusing on research projects with high societal value, and 2) a significant increase in the occurrence and magnitude of precipitation extremes. In 2011, Copenhagen, the capital city, was hit by one of the largest storms ever recorded, resulting in insured losses in excess of 1 billion US\$. Also the election of a new government has put higher focus on management of urban water. A status of the key activities is briefly mentioned below:

Black, Blue and Green. The research project has the full title Integrated infrastructure planning as the key to sustainable urban water systems and contributes to stage landscape based stormwater

management as a potential alternative to sewer enlargement. The project finished officially in 2011, but publications and dissertations are still coming out. In 2011 Simon Toft Ingvertsen and Antje Backhaus graduated. Publication list are available on the project website. Contact person Marina Bergen Jensen, mbj@life.ku.dk , www.2BG.dk

Storm and Wastewater Informatics. The aim of this project is to close the knowledge gaps within prediction and control of current and future conditions in integrated urban wastewater systems; contact Peter Steen Mikkelsen, psmi@env.dtu.dk, www.swi.env.dtu.dk

Centre for Regional Change in the Earth System, CRES. The centre focuses on both natural and engineering science to bring together the leading Danish scientists in climate change research. One of the major research components is downscaling of hydrological variables and modelling of non-stationarity in precipitation extremes. The centre also serves as an umbrella for future research projects concerning climate change, including Risk Change, as described below. Contact person Jens Hesselbjerg Christensen, jhc@dmi.dk, www.cres-centre.dk

Risk Change. The projects aims at establishing a framework for risk-based design in a non-stationary climate. The project extends the work on hydrological variables carried out in CRES and establishes the framework for analysis of adaptation strategies for climatic extremes, using Copenhagen and Oslo as case study areas. Contact person Henrik Madsen, hem@dhigroup.com.

Fixed media sorption filters for treatment of highway runoff. The Danish Road Directorate together with Aalborg University has started a project on design of full-scale sorption filters for advanced treatment of highway runoff. The objective is to apply naturally occurring materials and design the treatment facilities for long life expectancy. In the coming years, two full-scale treatment facilities will be built in connection with the construction of a new highway. After the facilities are put into operation in 2015, extensive monitoring will take place for at least 4 years. Contact person: Jes Vollertsen, jv@bio.aau.dk .

Weather radar activities in Denmark. Aalborg University have been working with a new Test site at Verring, south of Aarhus. At the site both a conventional dual polarisation C-band and a LAWR X-band radar are installed. PhD students from the SWI project are working on improving rainfall adjustment for the radars. This year version of the Mike Urban software tool from DHI now includes a facility to apply radar rainfall data as input to urban runoff modelling. Contact person: Niels Einar Jensen, nej@dhigroup.com

The Partnership Water in Urban Areas. More than 100 utilities, municipalities, industries, NGOs, and academia are active in the partnership. The partnership aims at developing and testing technologies and methods that enable climate resilient cities through enhancement of the innovation capacity in Denmark and collaboration with international partners. The activities comprise both dissemination and focused development projects. Contact person is Karsten Arnbjerg-Nielsen, karn@env.dtu.dk, www.vandibyer.dk/english

The Urban Water Technology (UWT) graduate school serves as a forum for PhD students working with technologies within the urban water cycle. UWT offers a professional framework for PhD students, universities, utility companies, consultants, technology providers, public research

institutions and authorities, where the participants can develop shared professional outlooks and discuss future research initiatives. By the end of 2011, 13 PhD students have graduated from UWT and 27 are enrolled, among which many are in the urban drainage field. The website (www.urbanwatertech.dk) lists the topics and students and contains links to more detailed information including contact details.

FRANCE (REPORTED BY JEAN-LUC BERTRAND-KRAJEWSKI)

IS.Rivers – 1st International Conference – Integrative sciences and sustainable development of rivers, 26-28 June, 2012 – Lyon, France

The expertise of the Novatech organisers has been put to a good use by organising a new international conference ‘IS.Rivers’ that will focus on the sustainable management of the world’s rivers, and especially those in Europe. It will highlight the state of art management strategies and lessons learned from individual case studies. 400 delegates are expected with a balanced distribution between practitioners and scientists. The conference has two main objectives:

- To identify and discuss the most recent scientific advances on the complexity and diversity of rivers, in terms of their functioning, uses, stakeholders involvement and management strategies; and,
- To share experiences in research and actions, implementation of local policies and strategies at different scales with various human and geographic contexts: hydrographic districts, corridors, main cities, transition zones and estuaries.

Conference themes

- New advances in river science theory for the development of management strategies:
 - ✓ Understanding river forms and processes
 - ✓ Socio-economic functions and the use of fluvial hydrosystems
 - ✓ Management strategies for rivers
- From knowledge to actions: feedbacks on management at various spatial-temporal scales
 - ✓ Rivers and their corridors
 - ✓ Rivers and large cities
 - ✓ Rivers and within-channel exchanges/linkages
 - ✓ Rivers and their mouths

Programme and registration: March 2012 (call for papers was closed in December 2011)

Full details about the IS.Rivers international conference can be found on its website: <http://www.isrivers.org>

Organisers:

The GRAIE (*the Rhône-Alpes Group of Research on Infrastructures and Water*) - <http://www.graie.org/> - Contact: Elodie BRELOT

ZABR (*the Rhône Long Term Environmental Research Observatory*) – <http://www.zabr.org/> - Contact: Anne CLEMENS

Novatech 2013

Since 1992, GRAIE has organised the 'Novatech conferences' once every three years in Lyon, with the support of the JCUD. These conferences are among the key international scientific and technical symposia on urban water management, with a particular reference to wet-weather conditions. The 8th edition of Novatech will be held from June 23rd to 27th, 2013 in the prestigious Lyon Congress Centre in the heart of Lyon, between the Rhône River and the wonderful "Parc de la Tête d'Or" (as in 2010). Novatech 2013 will be co-chaired by Jean-Luc Bertrand-Krajewski, INSA Lyon, France and Tim D. Fletcher, University of Melbourne and Monash University, Australia.

The Novatech conference focuses on sustainable solutions for management of wet-weather flows in developed areas (i.e., in urban and suburban areas). It covers both stormwater management and CSOs. It will deal with three complementary dimensions of urban and suburban water management under wet-weather conditions:

- Integrated approaches for urban planning and operation
- Innovative technologies, and
- Integrated approaches for the protection and enhancement of receiving water bodies

Overview of Novatech 2013:

- 600 participants are expected: 1/3 scientists, 1/3 local authorities and 1/3 private firms
- Specialised workshops on Sunday 22nd June, organised by the JCUD working groups
- A prestigious plenary opening conference -an event in itself
- A 3-day conference, with 3 parallel break-out sessions
- Around 200 communications, distributed between oral and posters presentations, results of research and experience feedbacks, representative of the state of the art in the world (30 countries represented)
- 1 exhibition of scientific and technical posters
- 2 technical tours on Thursday, June 28th;
- French / English simultaneous translation during all sessions and technical tours.

Key Dates:

Call for papers: May 2012

Deadline for declarations of intent: September 2012

Deadline for full paper submissions: November 2012

February 2013: preliminary programme

March 2013: registration opening

Novatech secretariat:

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Novatech website:

<http://www.graie.org/novatech/>

OMEGA project: Decision support system for sustainable urban water management strategies

Urban drainage systems currently perform many more tasks than a simple removal of stormwater and sewage out of the city. New management objectives and techniques must be considered, for instance, those related to the protection of aquatic environments or mitigation of nuisance due to the wastewater system. Moreover, urban water is becoming an increasingly important resource and a growing diversity of organizations and actors promote the emergence of new techniques. It is thus well known that the urban water system becomes more and more complicated and many experts argue that the concept of urban drainage should evolve into a more integrated concept of urban water management.

The waters produced within the city must be integrated into the design, organization and management of the city. It is then necessary to define the means of interactions and cooperation between all pertinent organizations and actors, at the scale of the urban precinct and at the scale of the catchment area. These changes must concern both the technical facilities (object, device) and the stakeholders (local authorities, firms, non-profit organizations, etc.) concerned with urban water management and provision of water services. This goal can only be achieved if service provision can be objectively assessed; this assessment allows stakeholders to choose the most efficient strategies.

In this context, the objective of the OMEGA project, during 2010-2013, is to develop and test a multi-disciplinary assessment methodology allowing (i) to measure services provided by the urban water management system; and, (ii) stakeholders to choose a strategy that improves service provision. This assessment takes into consideration technical, environmental, social, economic and organizational aspects. It will allow the efficiency of a strategy to be assessed before and after implementation, in order to provide a comprehensive decision support (supporting public discussion regarding the definition of assessment criteria, production of scientific data, rationalisation of decisions within deliberation processes).

More precisely, this methodology provides efficient means to:

- precisely define traditional and emerging functions that a sustainable urban water system should fulfil;
- define assessment means (indicators) that should be understood by all stakeholders;
- define the level of service that is expected by stakeholders and organizations regarding each function (target level for each indicator);
- define responsibilities for each service (by whom, when, how, at which level of service...);
- choose the most efficient strategy to meet the performance target;
- assess the service level that is actually provided by the system, throughout the implementation of the chosen strategy, and identify performance deficiencies;
- produce feedbacks on the strategy, by taking account the demand evolution and/or gaps observed between predicted and observed results of the strategy.

The consortium of the OMEGA project includes two laboratories from INSA Lyon (the LGCIE “Urban Water” team as coordinator and the laboratory EVS-ITUS working on “Environments & Urban Devices”), Lyonnaise des Eaux – a company of SUEZ Environment, Cemagref-Enges (laboratory GESTE working on investment choices and management of services asset) and GRAIE. Three case studies are undertaken as a part of the project: Greater Lyon, the Urban Community of Bordeaux and the Mulhouse Agglomeration. Each of the case studies is used to assess the practicality of the method and thus to adapt it to local requirements, before full-scale implementation.

For more information (in French and English):

visit the project website: www.omega-anrvillesdurables.org

contact Assoc. Prof. Frédéric Cherqui, project coordinator (frederic.cherqui@insa-lyon.fr)

MICROPOLLUTANTS WORKSHOP AT THE 9th UDM 2012

A pre-conference workshop on Micropollutants in sewer and drainage systems (uPW) will be held at Best Western Hotel, September 3, 2012, before the 9th Urban Drainage Modelling conference. The workshop will include two aspects: the first one will be about metrology and monitoring (from field sampling campaigns to laboratory analytical methods); the second one will deal with data sets at international level (available databases on pollutant loads, interpretation and comparison methods).

Contact : PhD student Christel Sebastian, INSA Lyon (christel.sebastian@insa-lyon.fr)

Webpage : <http://hikom.grf.bg.ac.rs/9UDM/uPW-PreconferenceWorkshop.html>

News from ONEVU, urban hydrology observatory in Nantes, France (formerly SAP)

The URBIS SOERE

ONEVU (the Nantes observatory for urban environment) is now part of the national URBIS SOERE (observatory for long-term research and experiments in environment), regrouping the OPUR and OTHU observatories in Paris and Lyon, respectively. The objective of this multidisciplinary SOERE is to observe and understand the functioning and the evolution of natural and artificial hydrosystems in urban environments.

Water budget of the Pin Sec catchment

The first hydrological budget of the Pin Sec catchment (30 ha) shows that the urban water budget is not dominated by the impervious surface runoff, as it is commonly accepted. The soil contribution to the flow rate drained by buried sewers represents about 35% of the rainfall amount, which is larger than the surface runoff contribution, which is around 28%, and generates a seasonal variation of the hydrological catchment response (Le Delliou et al., 2009), in agreement with the seasonal evolution of groundwater level in this catchment. The evapotranspiration represents a large part of this budget, but its estimation could be improved with a better use of the micrometeorological dataset. The energy balance analysis has indeed shown that the observed latent heat flux on the mast was representing the evapotranspired flux from the catchment only 21% of the considered time period. The estimation of this water budget in various meteorological conditions during several years could help better understand the general hydrological behaviour of this catchment.

Sustainable city district (écoquartier)

A flow monitoring (upstream and downstream flow monitoring of the Gohards Stream) is carried out in a sustainable city district (Bottière-Chénaie) located close to the Pin Sec catchment. In order to evaluate the impact of the specific planning of this district (water meadows, green roofs) a water budget will be assessed and compared to that made for the Pin Sec catchment.

The sustainable district



Contact : Véronique Ruban at IFFSTAR (veronique.ruban@ifsttar.fr)

COACHS Project

The C2D2 MEDDTL program has funded the research project COACHS (Computer and their Applications in Channel Hydraulics for Sewers) since 2010. The goal is to help the deployment of integrated instrumentation systems for continuous monitoring responsible for the degradation of the environment. The complexity of the flow in sewer system (three-dimensional turbulent flows with free surface and or pressurised) and high variability in both space and time justifies the use of simulation tools from fluid mechanics.

This project serves as a foundation for the project MENTOR (Measurement sites design method for sewer Networks), helped by the Agence Nationale de la Recherche (ANR). The objective is to propose a methodology that is expected to analyse and describe measurement points relevant to effective management of urban water, including the establishment of an integrated instrumentation in the vicinity's law of sewer overflows in order to better quantify and better characterize discharges to the receiving water. This project will develop operational tools for managers and those who are responsible for metrology of urban sanitation.

The teams working on these projects include INSA Lyon (INSA-LGCIE), IFSTTAR (GER), ENGEES (IMFS-HU) and GEMCEA in the first case, and INSA Lyon (INSA-LGCIE, INSA-LMFA, EVS-itus), IFSTTAR, GEMCEA, ENGEES, LEESU and three managers (Nantes Métropole, Greater Lyon and Lyonnaise des Eaux - Eastern sector) in the second case.

For more information visit www.gemcea.org/COACHS , or contact: Rémy Claverie at GEMCEA (remy.claverie@gemcea.u-nancy.fr) or Gislain Lipeme-Kouyi at INSA Lyon (gislain.lipeme-kouyi@insa-lyon.fr).

Chair “Hydrology for Resilient Cities” at Ecole des Ponts, Paris, France

Within a partnership between Veolia Water, Ecole des Ponts ParisTech and Fondation des Ponts, this Chair aims to constitute an international and innovative pole to train high level engineers and researchers, and to develop research on topics such as urban water monitoring and management, water as a risk as well as a resource, water quantity and water quality, and to take up the challenges of future cities and increase their resilience to heavy rainfall.

Experimentation will represent a major activity; the Chair plans to use the technological innovation of the X-band radars with double polarisation and promote its use in urban hydrology.

The Chair's activities have been recently expanded with partners from Belgium, Great Britain, France and the Netherlands, within the framework of the RainGain project (NWE Interreg programme), of which kick-off was held at the Ecole des Ponts on November 18, 2011.

Visit: (<http://raingainproject.wordpress.com/kick-off-invitation-2/>)

Head of the Chair: Daniel Schertzer (Daniel.Schertzer@enpc.fr)

URBIS: the French network of observatories in urban hydrology

In 2011, URBIS (http://www.allenvi.fr/?page_id=788) was selected as a SOERE (long term observation and experimentation system for environment) by ALLENI, a French agency coordinating research efforts of the 17 public organisations in France, in the field of environment. URBIS relies on field observation facilities set up in three large cities (Paris and surrounding departments, Greater Lyon urban community and Nantes Metropole urban community) and associated research programs developed in about 20 laboratories. These programs focus on urban hydrology with an extended meaning, with a common kernel dealing with water and contaminants balances considered at different spatial scales (from a particular surface or facility, to a whole watershed), including the atmospheric compartment, and more peripheral developments about biological impacts on receiving waters, urban micro-climatology and some social issues. A first challenge will be the definition of a common framework for describing the collected data and making them available to the partners of the SOERE as well as the whole scientific community.

Contact: Claude Joannis at IFFSTAR (claudio.joannis@ifsttar.fr)

EVOHE: A new software tool for managing measurements in drainage and sewer systems

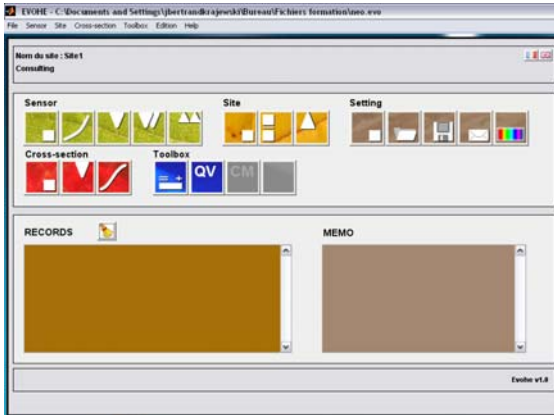
Based on the 10-year experience of OTHU in Lyon, France, in metrology, uncertainty assessment and data validation of time series in drainage and sewer systems, LGCIE at INSA Lyon launches a new software tool named EVOHE in February 2012. Two releases per year are planned. This tool assists the users with a unified methodology framework, for the following actions: sensor calibration, data correction and uncertainty assessment, automatic data pre-validation, graphical interface for final data validation, graphical interface for gap filling and data replacement, various tools for data processing and data analysis, full traceability and reversibility of all actions and data modifications. French and English interfaces are available: other languages will be added in the future.

Evohe is being developed by INSA Lyon in partnership with Alison. It was funded by a grant from LST - Lyon Science Transfert which helps in turning prototype research software tools into commercial software tools. Evohe is also developed as a part of the 7th FP European project PREPARED (<http://www.prepared-fp7.eu/>).

Evohe has been developed for various users: municipalities, operators, consulting companies, academics and researchers. Special low fees are proposed for research laboratories in case of scientific collaboration, and also for universities as a teaching support.

Contact: Prof. Jean-Luc Bertrand-Krajewski at INSA (jean-luc.bertrand-krajewski@insa-lyon.fr)

Webpage: <http://www.evohe.org/>



EVOHE

Webpage: <http://www.evohe.org/>

OTHU- Monitoring to provide better knowledge, understanding & prediction of Urban Water Systems and their impacts on receiving bodies

In 1999, several research laboratories in Lyon (France) decided, with the help of Greater Lyon to develop a long term field-observatory called OTHU. This observatory is dedicated to the study of a wide range of phenomena associated with urban drainage. OTHU undertakes continuous monitoring of climatic parameters, water flows and pollution at five experimental sites, in addition to many regular and specific monitoring campaigns. The observatory provides research support to more than 12 research laboratories working in the fields of geography, climatology, hydrology, soil mechanic, soil science, hydraulic, chemistry, biology, social sciences, and economics. Thanks to the research accomplished and all the data collected, OTHU was approved in May 2011 by the French Research Ministry of Research and Higher Education as research federation (FED n° 4161).

OTHU organizes every second year a technical OTHU conference for end users and scientific partners: the last one was organized in Lyon on February 9th, 2012. This event aims at showing the main results and operational tools developed from the observatory's data, and demonstrates the value of long-term observatories. It provides a useful resource thanks to more than 10 years of experience. The compilation of presentations will be available on the website of the Observatory at the end of February 2012, as for every OTHU conference.

The OTHU observatory is an open project that has been specifically designed to encourage collaborations among scientists from all over the world and promote data sharing. Therefore, please do not hesitate to contact us or take a look at the presentation of the conference.

For more information, visit the OTHU website <http://www.othu.org>.

Contact: Prof Sylvie Barraud, OTHU director (sylvie.barraud@insa-lyon.fr)

JSPS Japanese-French workshop on “Water and Urban Environment”

On 19-20 June 2012 in Lyon, France, JSPS (Japanese Society for the Promotion of Science) and INSA Lyon organise a Japanese-French workshop on “Water and Urban Environment”.

The Workshop aims to bring together leading Japanese and French scientists to share recent research results and progress in knowledge on the following selected topics:

- New approaches for the management of urban water cycles and water resources, incl. rainwater harvesting, heat island effect and urban cooling.
- Emissions and transfers of micro-pollutants, emerging substances, pathogens and PPCPs (pharmaceuticals and personal care products).

- UWS and climate change adaptation, incl. reduction of energy consumption and of CO₂ and GHG (greenhouse gases) emissions, low carbon society.

In addition to scientific communications, the workshop will also be a unique opportunity to establish new links and collaboration projects between French and Japanese research groups active in the field of urban water systems.

The workshop is open to all interested persons.

The workshop webpage is under construction at the moment (Feb. 2012) but the programme is already available at <http://jlbkpro.free.fr/welcome/index.html>

GERMANY (REPORTED BY MANFRED SCHÜTZE, GERMANY)

For the many research groups working in German on various aspects of urban drainage also 2011 has been a busy year. Besides the individual project activities, a number of conferences and special events have been held in 2011.

The Central European Simulation group (HSG), an informal network of Central European researchers working on modelling of wastewater systems, had two workshop meetings, one in Magdeburg, hosted by ifak research institute, and one in Luxembourg, hosted by the Research Centre of Environmental Technology Henry Tudor. Work of the HSG group has been presented at various opportunities, including the ICUD in Brazil (water quality based assessment in Europe) and IWA's Watermatex conference (characterisation of dry-weather influent patterns for dynamic simulation of wastewater treatment plants, thus aiding the application of dynamic simulation).

The Real time control working group of the German Water Association (DWA) hosted in November 2011 a workshop on applications of real time control to urban drainage systems – besides methodologies on how to actually set up RTC systems, a number of practical case-study applications have been reported as well.

The biennial conference on measurement and automation of urban wastewater systems, jointly organised by DWA and VDI (German Society of Engineers), was held in Fulda in 2011, again attracting wide interest also from practitioners. Among the key events of 2012, the IFAT trade fair on water, wastewater and waste technology (www.ifat.de), will be held from 7 to 12 May on the fairgrounds in Munich.

Let's look forward to 2012 and embark on the many tasks ahead of all of us!

The “urban-drainage” email discussion list (managed by Manfred Schütze, Magdeburg)

The urban-drainage email discussion list has been set up in 1998 by David Butler and Manfred Schütze. As of now, it has 292 members worldwide. It is an easy and convenient means of getting in touch with urban-drainage researchers and practitioners worldwide. As many (younger) readers of this UD newsletter may not be aware of the list, this section provides details of this mailing list.

Anyone with an interest in urban drainage can subscribe to the list for free and will receive automatically all mailings sent to the list. This can be done easily by using the “Subscribe” option on www.jiscmail.ac.uk/urban-drainage. As list traffic is rather low, there is no need to worry about an influx of unwanted mail. On the contrary, anyone who has something to share to the worldwide

urban-drainage community is welcome to send conference announcements, job openings, but also technical questions and requests for help to the list.

Further information can also be obtained from the list owners
Dr Manfred Schütze, ifak Magdeburg (manfred.schuetze@ifak.eu)
Prof David Butler, University of Exeter (d.butler@exeter.ac.uk)

Objectives of the “urban-drainage” list

The “urban-drainage” list has been set up to act as a discussion and information exchange network concerning the planning, design, operation and modelling of urban drainage systems. Thus, topics for discussion can include, but are not limited to, rainfall properties, urban hydrology, storm drainage and stormwater management practices, sewer hydraulics, combined sewer overflows, wastewater and stormwater quality, treatment processes, and impacts on receiving waters. Other contributions to the discussion may fall into categories such as source control, asset rehabilitation, real time control and integrated urban wastewater management .

It is intended that the list will encourage communication and cooperation between researchers of the various disciplines within the broad scope of urban drainage. Individuals may wish to make submissions to the list which focus on particular topics of specialist interest or to highlight broader issues of interest to the urban drainage community as whole. Postings concerning the sustainability of urban drainage systems, the long-term effects of their operation on natural ecosystems, and the transfer and application of technology to developing/devastated countries are therefore welcomed as well.

The list has the approval and backing of the IAHR/IWA Joint Committee on Urban Storm Drainage. The list is open to all members of the Urban Storm Drainage Specialist Group as well as other researchers and practitioners with an interest in urban drainage.

What could I use the “urban-drainage” list for?

Specific reasons for using this e-mail discussion list include the following:

Distribution and exchange of information

- Notify the Urban Drainage community of any information of general interest
- Report latest developments in research activities
- Disclose abstracts of papers and other research reports of common interest

Make announcements

- Advertise forthcoming conferences, seminars and workshops
- Notify publication of new books and recently finished PhD theses
- Advertise job vacancies
- Announce new proposals and other research activities

Communication and correspondence

- Make contact with other researchers
- Search for collaborative partners for joint research projects

- Request specific actions required by the urban storm drainage network
- Facilitate the ease of communication between existing research networks.
- Give feedback to specific requests

Participation in discussion

- Present new ideas and invite critique.
- Discuss suitability of application of particular technologies.
- Draw up definitive conclusions to specific problems.
- Contend with accepted practice and debate contentious issues.

JAPAN (REPORTED BY HIROYUKI SHIGEMURA AND FUMIYUKI NAKAJIMA)

Sessions and Workshops at the ASPIRE Conference

The 4th IWA-ASPIRE (ASia PacIfic Regional) conference was held in Tokyo, October 2-6, 2011. There were many presentations related to urban drainage, concerning Runoff, Rainwater, Nonpoint Sources, Watershed Management, Case Studies, and other oral and poster sessions. A workshop on the Eastern Japan Disaster Resilience was held on the second day of the conference, in which the damages sustained and the current situation of sewage utilities were reported.

An associated event, Japan-Korea special workshop on impact assessment and control of combined sewer overflows, was also held on 2 October 2011 in Tokyo. Prof. Hiroaki Furumai (the University of Tokyo) organized this workshop, which was attended by approximately 50 experts. Two invited speakers and one discussor from Korea, and five speakers from Japan, talked about CSO control policy, impact assessment, control technology and management in Korea and Japan. The program and the materials distributed will be available by visiting the following URL:

http://www.recwet.t.u-tokyo.ac.jp/e/symposium_e/4th_IWA-ASPIRE%20_Conference%28E%29.html

About the Great East Japan Earthquake

On March 11th 2011, an earthquake of magnitude 9.0 occurred. The earthquake caused a tsunami over 10 m high. The number of deaths resulting from the Great East Japan Earthquake was over 15,000 as of October 31, 2011. The earthquake has been the most terrible catastrophe in recent years. The Great East Japan Earthquake caused enormous damage of sewerage facilities. Just after the earthquake had occurred, about 50 wastewater treatment plants and about 80 pumping facilities stopped, because the electrical equipment was damaged by the tsunami, and so on. In Tagajo city, Miyagi prefecture, Yawata stormwater pumping station was submerged by the tsunami water and became inoperative. Therefore, after the Great East Japan Earthquake, temporary pumps and drainage pumping trucks were engaged in rainy weather. About 600 km of sewer pipes were damaged by the earthquake. In Urayasu city, where a large portion is reclaimed land of Tokyo Bay, Chiba prefecture, sewer pipes were extensively damaged by liquefaction, and many sewer pipes were blocked by soils; as of March 13th 2011, about 12,000 households became unable to use sewage system. By April 15th 2011, sewage services were restored for all the households in the Urayasu city.

For restoration of damaged sewerage facilities, the Technical Committee for Earthquake and Tsunami Countermeasures of Sewage Works, in the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan, published an urgent technical proposal for restoration of damaged

sewerage facilities (the first proposal) on April 15, 2011 and a technical proposal for gradual restoration (the second proposal) on June 14, 2011. In keeping with these proposals, municipalities decided to consider tsunami-resistant structures for sewage treatment facilities. The committee also proposed the restoration of storm sewers and stormwater pumps, including temporary pumps needed in preparation for rainy season starting in Japan about in June.

For the restoration measures of sewer pipes damaged by liquefaction, the committee proposed the restoration methods which were established after Niigata Chuetsu Earthquake in 2004, because it was proved that the measures (backfilling with cement-treated soil, tight compaction of backfilled soil, and backfilling with crushed stones) were durable against the vibration caused by the Great East Japan Earthquake.

The third proposal of the committee was announced on August 15, 2011. In this proposal, the committee advocated the adoption of technologies appropriate for the reconstruction of each region. Concerning the restoration of sewer pipes, the committee recommended not only just reinstating the facilities, but also (1) introducing sewer network connections for diversification of risks, (2) improving seismic resistance by rehabilitation and other available methods, (3) laying optical cables in sewer pipes for the information pipeline, and (4) utilizing reclaimed wastewater and wastewater heat by sewage mining.

The committee report, including the appropriate state of tsunami countermeasures, which should be reflected in seismic design guideline and so on, will be compiled on March 2012.

First proposal (in Japanese): http://www.mlit.go.jp/report/press/city13_hh_000123.html

Second proposal (in Japanese): http://www.mlit.go.jp/report/press/city13_hh_000129.html

Third proposal (in Japanese): http://www.mlit.go.jp/report/press/city13_hh_000136.html

X-band Multi-Parameter Radars

MLIT built the observation network of X-band Multi Parameter (XMP) radars for the monitoring of severe storms and flood forecasting. XMP radars were deployed to cover major cities and the areas that experienced storm damage in recent years. Currently, 26 XMP radars were installed in 11 regions in Japan, and started the test operation. The rainfall information collected by XMP radars is available on a website ((in Japanese) <http://www.river.go.jp/xbandradar/index.html>). The rainfall information shows radar images at a spatial resolution of 250 m grid cells within one minute delay at one minute interval. The rainfall values observed by XMP radars are in a good agreement with rain gauge data, and are more accurate than the existing radars, such as conventional C-band radars and municipal X-band radars.

MALAYSIA (reported by MOHD NOR BIN MOHD DESA)

13th ICUD, 2014 Sarawak Malaysia

The organisation of the 13th ICUD 2014 endorsed by the IWA and IAHR is currently well underway. Several activities had been organised to kick-off this important event. Publicity in local media and discussions with the Sarawak State government took place. A notable event in the form of a site inspection in conjunction with the visit by Prof. Peter Steen Mikkelsen, the immediate past chairman of JCUD, was also held to boost the conference publicity. A special local press interview was also organised. Prof. Mikkelsen was satisfied with the venue and the infrastructures available in Kuching to support this important conference.

In addition, two newsletters were released and distributed locally.



Meeting with representative of LOC and meeting the local press (L to R).

Promotion and launching of the conference announcements was carried out during the 12th ICUD in Porto Alegre, Brazil from 11-16th September 2011, where conference brochures and publicity materials were also distributed; the website announcement and launching was carried on the closing day of the conference.



Handing over a memento to Prof. Nilo Nascimento, the chairman of 13th ICUD, and Prof David Butler the newly elected chairman of JCUD (L to R)

The website can be accessed at <http://www.13icud2014.com>. It should be noted, however, that the website is periodically updated whenever new information becomes available. The official conference email address is icud13@uniten.edu.my.

The appointment of a professional conference organiser (PCO) is currently under consideration and will be settled by early 2012. Concerning the processing of paper submissions, we have engaged the IWA conferences Editorial Manager as the official online submission and peer-review system which can be accessed at <https://www.editorialmanager.com/iwa-conferences/default.asp>

REPUBLIC OF SOUTH AFRICA (REPORTED BY NEIL ARMITAGE)

Regrettably, urban stormwater management in South Africa is still largely dominated by the old-fashioned approach of channelling runoff from non-pervious areas via road kerbs, catch-pits, pipes and canals to the nearest watercourse. While the larger cities are liberally provided with stormwater detention ponds to reduce the flood peaks, little is done to improve water quality other than the occasional, often dysfunctional, gross pollutant trap. Sewage systems are notionally separate from

the stormwater systems, but even where sewerage is provided, inadequate capacity, poor maintenance, vandalism and power cuts frequently result in sewage ending up in the streams and wetlands. Meanwhile millions of people live in informal settlements / shanty-towns where there is no formal stormwater drainage and minimal sanitation resulting in highly polluted runoff. In the northern part of the country, acid drainage from South Africa's numerous mines make matters worse. Everywhere, gross pollutants (i.e. urban litter such as plastic packets) are a huge problem as solid waste management is often wanting.

On the bright side, water research in South Africa is relatively well-funded by the Water Research Commission of South Africa (WRC). Completed research reports are available free of charge from their website: <http://www.wrc.org.za>. Follow the links to Knowledge Hub, Research Report. Recently completed research in the area of urban drainage includes:

Stormwater ingress in South African sewer systems: understanding the problem and dealing with it (Duzi-uMngeni Conservation Trust). This study was completed and published in 2011 by the WRC as Report No. 1731/1/11.

Stormwater ingress into sewer networks is a world-wide problem. In South Africa, the Msunduzi Municipality is acutely affected with peak sewer flows tripling or even quadrupling during times of heavy rain and remaining elevated for a substantial period after the rain has ceased. This study used Msunduzi municipality as a case study to evaluate the extent of the problem, the interventions required, the bylaws applicable, the inspection programmes that can be managed by municipalities without significant cost, and the enforcement methods that may be applied. It clearly revealed that rainfall events and sewers overflowing can be linked to illegal connections, and that sewers and wastewater treatment plants are severely impacted during rainfall events even if only 10% of the houses have illegal connections. It is important to note that residents deliberately connect illegally to sewers to prevent their properties from being flooded, thus there is a need for municipalities to evaluate stormwater management options especially in previously disadvantaged areas. The study demonstrated that a simple inspection programme could be successfully implemented through the training and use of local unemployed residents. Public awareness and community education campaigns can also serve to reduce the stormwater load at source.

Waterborne sanitation design, operation and maintenance guides (University of Pretoria). This study was completed and published in 2011 by the WRC as Report Nos. TT481/11 and TT482/11.

There are several waterborne sanitation options available. Various guidelines exist but until this project, no collated and comprehensive documentation was available in South Africa to adequately assist wastewater managers in the selection of the optimal technology for a specific application. Non-optimal sanitation systems lead to user dissatisfaction, high operation and maintenance cost, potential environmental risks and hygiene concerns. This study collated various existing waterborne sanitation design guidelines and moulded them into a new guideline covering planning, selection criteria, detailed design and operation and maintenance of sanitation systems. An Interactive Multimedia Tool (IMT) for sanitation planning and selection was also developed.

Sustainable options for community-level management of greywater in settlements without on-site waterborne sanitation (University of Cape Town).

This study was completed and published in 2011 by the WRC as Report No. 1654/1/11.

This study sought to deliver low-cost, environmentally friendly greywater technologies that could be implemented by the residents of high-density informal settlements without on-site waterborne sanitation. Participatory Action Research (PAR) was used to engage the residents in the research to ensure that there was collaboration and genuine co-operation at all phases including reflexive learning and continuous modification of the options implemented. The options trialled all involved infiltration devices of some sort. The results were however disappointing – with the various installed devices becoming dysfunctional in a matter of weeks. It became evident that ‘on the ground’ social structures in both the primary research sites were weak and a PAR methodology would not succeed without adequate support from the local authorities. Local authorities remain critical agents in the delivery of basic services and, without their engagement, it currently appears as though there is little scope for community-based participation in self-help schemes as far as the management of greywater in high-density South African informal settlements is concerned.

The following research projects are substantially complete and the reports should be published some time in 2012:

Influence of catchment development on peak urban runoff (University of Pretoria).

The current trend amongst the relatively small middle class in South Africa is towards “gated communities” and/or homes surrounded by high impermeable walls as perceived protection against “crime and grime”. These walls have the unintended – but positive – consequence of reducing peak runoffs by temporarily storing stormwater on site and possibly increasing local infiltration. In this project, the researchers attempted to measure the flows emanating from three typical urban sub-catchments in an attempt to quantify the impact of the changes in development patterns.

Sewer master planning tools and guidelines (University of Stellenbosch in collaboration with GLS Consulting).

This project aims to develop tools to aid municipal staff and consultants in sewer master planning. This includes the identification and quantification of the most economical infrastructure interventions to ensure that uninterrupted development can proceed without sacrificing the agreed level of service or risking damage to the environment. The research takes into account the general low level of technical skills in almost all of the smaller towns and cities of South Africa.

Alternative technology for stormwater management (University of Cape Town in collaboration with the Municipalities of Cape Town, eThekweni, Johannesburg and Tshwane, SRK Consulting and IDS).

This project seeks to identify and develop new, appropriate, practical and affordable alternative stormwater management technologies for South Africa in line with Sustainable Urban Drainage System (SUDS) and Water Sensitive Urban Design (WSUD) principles. Draft user-friendly guidelines together with an Excel-based tool for cost comparisons have been developed for the South African market. The final versions of the guidelines and costing tool will probably be made publicly available on a website early in 2012.

Improving sewerage for South Africa (University of Cape Town in collaboration with the Municipalities of Cape Town and eThekweni).

Almost all sewerage in South Africa has been installed according to very conservative, relatively expensive, guidelines largely “inherited” from the UK many years ago. Given the great need to provide sewerage services for millions of poor people in the very high density urban settlements, this project aimed to investigate the possibility of alternative sewerage systems such as shallow sewerage, settled sewerage, vacuum sewerage and pressure sewerage through the study of three pilot projects in Cape Town. It quickly became apparent that most significant obstacles to successful implementation were not technical but social and institutional. There is considerable resistance by residents to anything they consider “sub-standard”, and a general lack of capacity on the side of the municipality to engage with the residents around the selection and implementation of sanitation systems – and to adequately operate and maintain them after their installation. Although this particular project will be coming to an end in 2012, a successful application has been made to the WRC for additional funding to focus on the social and institution blockages to basic sanitation service delivery.

The following research projects commenced recently:

Investigation into pumps and pressurised flow in separate sewer systems (Stellenbosch University and University of Johannesburg).

This study is motivated by the general lack of published applied research into pressurised flow in separate sewer systems, combined with the urgent need for such information during the modelling, optimisation, design, operations and maintenance phases of the infrastructure elements. The proposal sets out to address a number of pertinent issues with regards to pumps, pump stations, rising mains, and other elements in the sewer system where pressurised flow occurs in separate sewer systems. It is due for completion in 2013.

Water Sensitive Urban Design (WSUD) or Low Impact Design (LID) for improving water resource protection/conservation and reuse in urban landscapes (University of Cape Town in collaboration with the Universities of Stellenbosch, Western Cape and Witwatersrand and the Municipalities of Cape Town, eThekweni, Johannesburg and Tshwane)

This project has been designed to follow-on from the SuDS project described previously (Alternative technology for stormwater management) – linking SuDS to the larger issues of water management through guidelines on water resource protection, conservation and reuse using WSUD/LID at a catchment level. It will investigate the interaction between land use and management, rainfall, pollutants and catchment hydrogeology. It will give consideration to water resource and recharge area protection for current as well as future water supply. It will review the institutional, legal and policy issues on how to enable efficient uptake of WSUD in catchment management as well as suggest adaptation mechanisms for climate change. It aims to: develop a strategic framework for sustainable urban water management / WSUD; carry out an institutional, legal and policy issue review with a view to identifying obstacles to WSUD and providing recommendations on how they may be overcome; develop WSUD guidelines for South Africa; and identify appropriate modelling tools for WSUD in South Africa.

SWEDEN (REPORTED BY MARIA VIKLANDER)

To strengthen the cooperation between different urban drainage actors in Sweden, the cluster ‘Day and Net’ was established at the end of 2010. ‘Day and Net’ develops and transmits research-based knowledge and builds networks within the areas of stormwater management and sewer systems. The basis for the cluster is to consider the needs of the society, sustainability and a wise use of resources in close collaboration with private and governmental stakeholders. The cluster ‘Day and Net’ consists of the Urban Water research group at the Technical University of Lulea (LTU), a number of municipalities in Sweden, and the Swedish Water and Wastewater Association. Almost half of the research projects within the cluster are financed by the members of the cluster. The vision of ‘Day and Net’ is that by the year of 2020 the cluster will be an international leading research centre for the development of knowledge and competence within the areas of stormwater and sewer systems.

On the February 25th, 2012, Karin Björklund defended her thesis “Sources and fluxes of organic contaminants in Urban Runoff” at Chalmers university of Technology, Gothenburg, Sweden. The aim of her research was to investigate the occurrence and sources of certain selected trace organic contaminants in urban runoff, and to evaluate tools for predicting the fluxes of these pollutants in urban catchment areas. Alkylphenols and phthalates were selected for further study since they are used in large quantities and emissions of these compounds are likely to end up in urban runoff.

UNITED KINGDOM (REPORTED BY DAVID BUTLER)

The **Pennine Water Group** continues to be active in the urban drainage field. In particular, Dr Virginia Stovin, v.stovin@sheffield.ac.uk, is leading research efforts into the performance and understanding of green roof systems. The **University of Sheffield’s** Green Roof Centre hosted the UK’s First National Green Roof Student Conference (16-17 May 2011), bringing together Green Roof researchers from throughout the UK. As part of an ongoing Marie-Curie Industry-Academia Partnerships and Pathways (IAPP) ‘Green Roof Systems’ project she welcomed Christian Berretta to her team as an Experienced Researcher. Christian’s previous experience includes a PhD from the University of Genoa and four years’ experience with John Sansalone’s group at the University of Florida. Together with Professor Richard Ashley, she has contributed to CIRIA’s RP922 Retrofitting Surface Water Management Measures manual, to be published in early 2012. Finally, Virginia has published the first paper that characterises green roof performance with respect to specific return period events:

- Stovin, V., Vesuviano, G. & Kasmin, H (2011). The hydrological performance of a green roof test bed under UK climatic conditions. *J. Hydrology*, doi:10.1016/j.jhydrol.2011.10.022.

Virginia has also been working jointly with Professor Ian Guymer of the **University of Warwick** (i.guymer@warwick.ac.uk). Their PhD student Amy Jones has recently successfully defended her work on solute dispersion across manholes under time-varying flow conditions. Through new laboratory investigations, the effects of very low surcharges and partly full pipe conditions on

manhole mixing were investigated in detail for the first time. Based on the results, a three-zone Cumulative Residence Time Distribution (CRTD) model for mixing across manholes under steady flow. Was investigated under time varying conditions and found to be effective providing the stabilisation periods were taken into account. Further details can be found here:

- Guymer, I. & Stovin, V.R. (2011) “A 1D mixing model for surcharged manholes” *ASCE, J. Hydraulic Engineering*, 137(10), 1160-1172. doi:10.1061/(ASCE)/HY.1943-7900.0000422.
- Stovin, V.R., Guymer, I. and Lau, S.T.D. (2010) “A Dimensionless Method to Characterize the Mixing Effects of Surcharged Manholes” *ASCE J. Hydraulic Engineering*, 136 (5), 318-327.

HRWallingford (Richard Kellagher - R.Kellagher@hrwallingford.com, Juan Gutierrez-Andres, Aurelie Gerolin, David Inch) have been working in the area of rainwater harvesting as a tool for stormwater management for some years. They have successfully demonstrated that rainwater harvesting *can* provide specific stormwater management benefits, and have developed a methodology for sizing the tanks to meet specific stormwater control objectives. The test catchment used a continuous 100 year rainfall series which was generated by TSRsim (a tool produced by HR Wallingford) which had been trained on a 13 year rainfall data set. This rainfall data was analysed for accuracy for a range of characteristics to ensure it was a representative data set. As part of this exercise it was compared against an observed monthly data set from a nearby location which was over 100 years long. The pilot study looked at the performance of rainwater harvesting as a stormwater control, not only for individual systems at each house, but also applied as a communal system serving all the properties with a single storage unit.

Although developed for the hydrology of the UK, the method can be adjusted to accommodate conditions anywhere in the world. If rainwater harvesting gains acceptance as a reliable means of controlling stormwater runoff, it will be a valuable addition to the library of options for designing stormwater systems, and this will maximise its use world-wide. Further details are available in:

- Kellagher, R. (2011) *Stormwater management using rainwater harvesting*, HRWallingford Report, SR736.

The **Centre for Water Systems (CWS), University of Exeter** are coordinating the EU FP7 project CORFU – Collaborative research on flood resilience in urban areas (www.corfu7.eu), an interdisciplinary consortium that involves seventeen partners from Asia and Europe. The overall aim of CORFU is to enable partners to learn from each other through joint investigation, development, implementation and dissemination of short to medium term flood management strategies, merging latest technological advances with traditional approaches. Flood impacts in urban areas – potential deaths, damage to infrastructure and health problems and consequent effects on individuals and on communities – and possible responses are assessed by envisaging different scenarios of urban development, socio-economic trends and climate changes. The cost-effectiveness of resilience measures and integrative flood management plans for these scenarios will be quantified. In the first phase of the project, workshops have been held in the case study areas (Barcelona, Beijing, Dhaka, Hamburg, Mumbai and Nice), and a number of reports have been produced, including the DPSIR framework, a literature review on the state of the art in urban growth modelling, guidelines on calibration of urban flood models, flood damage model guidelines

and the toolbox, a report on the flood risk assessment strategies in case study areas and other. The project is due to finish in March 2014. Key publication so far:

- Djordjević S., Butler D., Gourbesville P., Mark O. and Pasche E. (2011). New policies to deal with climate change and other drivers impacting on resilience to flooding in urban areas: the CORFU approach, *Environmental Science & Policy*, 14(7), 864-873.

Other flood work in the Centre has looked at more advanced means of evaluating sewer flood probabilities:

- Fu, G, Butler, D., Khu, S-T & Sun, S. (2011) Imprecise probabilistic evaluation of sewer flooding in urban drainage systems using random set theory, *AGU Water Resources Research*, 47, W02534, doi:10.1029/2009WR008944.
- Fu, G., Butler, D. & Kapelan. Z. (2011) Sewer Flood Analysis of Urban Drainage Systems Using Copulas. *CCWI2011 Conference, Urban Water Management - Challenges and Opportunities*, Exeter, Sept.

Dr Albert Chen and **Professor Slobodan Djordjević** from CWS have been awarded the *European Real Estate Society & Journal of Property Research* Award 2011 for Best Paper in Real Estate Economics. They share a prize of €1,000 with Dr Yu Chen (leading co-author) and Professor Gwilym Pryce from University of Glasgow and Professor Bernard Fingleton from University of Cambridge. Their paper "Implications of rising flood risk for residential real estate prices and the location of employment" was presented at the 18th ERES Conference held in Eindhoven and will be published in *Journal of Property Research*. This publication resulted from the recently completed UK project CREW – Community Resilience to Extreme Weather (www.extreme-weather-impacts.net), which had South-East London as the case study.

A major UK research programme FRMRC2 – Flood Risk Management Research Consortium Phase 2 has held the final dissemination event in London (all presentations are available on www.floodrisk.org.uk/), followed by a number of workshops. In addition to a large number of journal publications, two books have been produced:

- *Flood Risk Science and Management*, Ed. by G. Pender and H. Faulkner, Wiley-Blackwell, Chichester, 2011.
- *Applied Uncertainty Analysis for Flood Risk Management*, Ed. by K. Beven and J. Hall, Imperial College Press & World Scientific, London, 2012.

UNITED STATES (REPORTED BY ANDREW EARLES and BILL HUNT)

Summary of 2011 Urban Water Resources Research Council & Related Activities

2011 was a busy year for the Urban Water Resources Research Council (UWRRC) of the American Society of Civil Engineers (ASCE) Environmental and Water Resources Institute (EWRI). The control group of the UWRRC met as a part of the EWRI Council Weekend in Orlando, Florida in late February 2011, and the general membership of the UWRRC as well as many of the technical committees met at the EWRI Annual Congress in Palm Springs, California in May. The UWRRC consists of more than 150 members from around the world and supports the work of more than a dozen technical committees addressing topics including low impact development (LID), urban

watershed management, urban streams, pathogens, global outreach, and other urban water resources topics. The descriptions below highlight some of the major UWRRC initiatives in 2011.

EWRI 2011 and 2012 Urban Watershed Management Symposia

UWRRC's Dr. Scott Struck (of TetraTech) has shepherded Urban Watershed Management Symposia for nine years at the ASCE-EWRI annual conference. The past symposium in Palm Springs, California, in May 2011 was well attended, with a session being presented nearly continuously throughout the EWRI conference. Initial indications are that the 10th symposium to be held in Albuquerque, New Mexico in May 2012 is "sold out" with many potential submissions being directed to poster sessions, due to "overflow" participation.

8th International Conference on Urban Watershed Management, Beijing, China

UWRRC members including Dr. Shaw Yu, Dr. Peter Loucks, Richard Field, Anthony Tafuri, Dr. Jim Haney, Michael Ports, Dr. John Sansalone, and Dr. Andrew Earles (the current Chair of the Council) participated in the 8th International Conference on Urban Watershed Management in Beijing in early September 2011. Dr. Shaw Yu spearheaded the organization of the conference working with Professor Haifeng Jia of Tsinghua University, who became a member of UWRRC at the May 2011 meeting. Members of the UWRRC Delegation met with members of the Chinese Academy of Sciences while in Beijing and enjoyed a tour of water resources management practices at the Beijing Olympics Park.

2011 LID Conference, Philadelphia, Pennsylvania

More than 700 people attended the 5th National Low Impact Development Conference and Symposium in Philadelphia, PA. The event was held September 25-28, 2011. This was by far the best attended LID Conference in the USA. Nearly 250 speakers presented over the 3 days of the conference, which also featured several post-conference tours and 4 pre-conference workshops. The conference was organized by Dr. Robert Traver of Villanova University, with support from Dr. Bill Hunt at NC State University. The two social events proved quite memorable, featuring the LID Crooners (Bill Hunt, Rob Traver, Scott Struck on guitar, and Neil Weinstein playing the trumpet) and later Benjamin Franklin at the National Constitution Center. The 6th National LID Conference is slated to be held in Minneapolis-St. Paul, Minnesota in summer 2013.

Blue Ribbon Panel for Manual of Practice on Design of Urban Stormwater Controls

Roughly a dozen UWRRC members served on a Blue Ribbon Panel for peer review of the Water Environment Federation (WEF)/ASCE Manual of Practice on Design of Urban Stormwater Controls. WEF lead the development of the Manual text under the direction of WEF and UWRRC members Dan Medina and Christine Pomeroy, and UWRRC Blue Ribbon reviewers worked jointly with EWRI's Water, Wastewater, and Stormwater Council to perform a thorough, detailed review. Dr. Rob Traver led the Blue Ribbon Panel through multiple rounds of review, comment, and revision. This Manual of Practice will be published in 2012.

Task Committee Progress

Several LID- and stormwater-based task committees made substantial progress in 2011. The Stormwater Outreach Task Committee (Chaired by Dr. Rob Traver) in conjunction with the ASCE Journal of Irrigation and Drainage Engineering produced a special issue on innovations in stormwater management. The special issue was published in February 2011. The Manufactured Products Task Committee (Chaired by Dr. George Guo of Rutgers) released its final report in 2011,

featuring chapters written by Drs. Rob Rosen of the University New Hampshire, John Sansalone of the University of Florida, Bill Hunt of NC State University, George Guo of Rutgers and (Mr.) Jim Lenhart of Contech, Inc. The committee's recommendations are expected to have far-reaching impacts in the stormwater proprietary system industry. Other task committees reaching important milestones include those for permeable pavement (Co-chaired by Ms. Bethany Eisenberg and Ms. Kelly Collins) and LID Computations (Co-chaired by Mr. Bill Lucas and Dr. Dan Medina).

11. REPORTS ON CONFERENCES AND WORKSHOPS

The Saint-Francois Watershed Steering Committee hosted the **2nd International Forum on Integrated Water Management: Stormwater Management in Urban Areas**, in Sherbrooke, Quebec, Canada, Oct. 23-25, 2011. This conference attracted 450 participants, from 9 countries and 6 Canadian provinces, and featured 60 speakers. The Joint Committee was well represented with Bernard Chocat, Jean-Luc Bertrand-Krajewski, Gilles Rivard and Jiri Marsalek serving as invited speakers. The conference program focused on the new stormwater management Guide for the Province of Quebec, and experience with stormwater management in other jurisdictions. The conference proceedings are available on their website: <http://www.rv-eau.ca/index.php/en/actes> .

The 12th International Conference on Urban Drainage was held in Porto Alegre, in September 11-16, 2011, and was organized by the IWA-IAHR Joint Committee on Urban Drainage. The host institutions were IWA, IAHR and the Brazilian Association of Water Resources (ABRH). The full report on the conference appears elsewhere in this news letter (Section 10, Brazil – News from Around the World). The conference was attended by 373 participants, with 147 coming from the developing world. All the six continents were represented, with 43% of participants coming from Europe, 34% from South America, 10% from Oceania, 7% from Asia, 4% from North America, and 2% from Africa. During the Conference, 347 papers were presented, including 56 posters. A special plenary session was organised as a final stage of the Poul Harremoës Award competition for the best urban drainage paper by a young author. Two workshops, sponsored by UNESCO were organised during the conference, one of them focusing on sustainable strategies for urban drainage and flood protection and the other one on the challenges for integrated urban water management in developing countries. Six keynote lectures were given in plenary sessions, and 13 presentations were made during the two UNESCO Workshops, led by Dr. Sarantuyaa Zandaryaa from UNESCO. Based on the assessments by the 12th ICUD Scientific Committee, about 35 conference papers were recommended for submission to the Water Science and Technology journal to be considered for publication.

12. FUTURE MEETINGS AND CONFERENCES

A table listing the proposed JC and WG conferences and workshops (as of February 2012) appears on the next page; 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 to this table. Please send such information to Jiri Marsalek or David Butler. You should

also use this table when proposing new events - to avoid overlaps in dates and topics. Even though we strive for accuracy, please always check the primary sources of information for possible updates.

Year	JCUD	Data and Models WG	Sewer Systems & Processes WG	IWGUR (urban rainfall)
	David Butler J.-L. Bertrand-Krajewski & Tim Fletcher	A. Deletic B. Tait	Z. Yuan G. Langeveld	P. Willems T. Einfalt
2012	IWA World Water Congress, Busan, Korea (Sep 16-21)	9th UDM, Belgrade, Serbia (Sep. 4-7)	Junior Scientists Workshop on sewer processes and networks, Graz, Austria, Autumn / Winter 2012	The 9th Int. Workshop on Precipitation in Urban Areas, St. Moritz (December)
2013	NOVATECH, Lyon, France (June)		The 7th Int. Conf. on Sewer processes and networks (SPN7), Sheffield, UK, Aug. 28-30, 2013	
2014	IWA World Water Congress, Lisbon, Portugal 13th Int. Conf. on Urban Drainage, Malaysia			

VII International Short Course on Advances in Knowledge of Urban Drainage: From the Catchment to the Receiving Waters. Sustainable Urban Planning: Efficiency and Monitoring in Support of Intelligent Infrastructure Networks, University of Calabria, Rende, Italy, June 5, 2012. This is already the seventh edition of the one-day urban drainage courses organized by Prof. Patrizia Piro. The courses are held at an excellent facility of the University of Calabria, are well attended and feature a strong program (last year's featured speakers included Profs. Maksimovic, Marsalek, Sansalone and Piro). For further information, contact Prof. Piro, Dipartimento di Difesa del Suolo "V. Marone", Università della Calabria, Ponte Pietro Bucci, Cubo 42/b, 87036 Arcavacata di Rende (CS), Ph. +039 0984 496546 / 47; Email: patrizia.piro@unical.it

International Conference on Flood Resilience – Experiences in Asia and Europe, Exeter UK, 5-7 September 2013; for further news, visit www.corfu7.eu/news/.

Junior Scientists Workshop on sewer processes and networks will be organized by Gunter Gruber in Austria in autumn/winter 2012 (Email: gruber@sww.tugraz.at).

9UDM: The 9th International Conference on Urban drainage Modelling (9UDM), Sep. 3 to 7, 2012, in Belgrade, Serbia, will honour Prof Cedo Maksimovic's career and his contributions to urban drainage modelling (Website: <http://hikom.grf.bg.ac.rs/ocs/index.php/9UDM/9UDM>). The conference is organized by a group of Cedo's co-workers, with Prof Dusan Prodanovic (The Belgrade University) serving as conference Chair. The conference will address a broad list of issues

arranged into three tracks, Data issues, Modelling, Applications, Management, and Special Topics. Authors of accepted abstracts have been notified in Dec. 2011. This should be an excellent conference with respect to the technical program, and opportunities to celebrate with Cedo his outstanding career.

IWA World Water Congress: The main biennial conference of the International Water Association will be held 16-21 September 2012 in Busan, Korea. It is a very broad conference that always attracts several thousand participants mainly from the water and wastewater treatment fields and also includes a large technical exhibition, but in the past attracted fewer participants from the urban drainage community. IWA however works on making the conference appeal more to urban drainage specialists. This time there will be technical sessions on CSO treatment, stormwater management and treatment, and real time control, in addition to many sessions on decentralised treatment technologies. There will also be several workshops based on input from members of the Joint Committee on Urban Drainage; these will tentatively cover topics such as urban flood risk management in a climate change context, real time control of sewer-wastewater treatment systems, rainwater harvesting and stormwater management, and broader aspects of urban water management and planning for liveable cities of the future. The dates are unfortunately close to the UDM conference, but it is hoped that individuals interesting in contributing to setting the agenda in the urban water world will attend anyway. Contact Peter Steen Mikkelsen (psmi@env.dtu.dk) if you wish to be connected to some the workshop organisers.

The 7th International Conference on Sewer Processes and Networks (SPN 7), Sheffield, UK, 28-30 August 2013, chaired and organized by Simon Tait on behalf of the Pennine Water Group. The conference themes will include sewer system impacts, in-sewer processes, design and operational aspects, monitoring and new technologies and emerging issues. For further information, contact Prof Simon Tait, Pennine Water Group, School of Engineering Design and Technology, University of Bradford, Bradford, West Yorkshire, BD7 1DP, UK, Ph: 44 1274 233 878, E-mail: s.tait@bradford.ac.uk), and/or visit the conference website: <http://www.sheffield.ac.uk/spn7>

2013 NOVATECH. The 8th edition of Novatech will be held from June 23rd to 27th, 2013 in Lyon Congress Centre (as in 2010), Lyon, France, co-chaired by Jean-Luc Bertrand- Krajewski, INSA Lyon, France and Tim D. Fletcher, University of Melbourne and Monash University, Australia. The conference will focus on sustainable solutions for managing wet-weather flows in urban and suburban areas, and will address both stormwater and combined sewer overflows (CSOs). It will deal with three complementary dimensions of wet-weather flow management: (a) Integrated approaches to urban planning and operation, (b) Innovative technologies, and (c) Integrated approaches to the protection and enhancement of receiving water bodies. The organizers expect about 600 participants. The conference will feature specialised workshops on Sunday 22nd June, a prestigious plenary opening conference (an event in itself), a 3-day program with 3 parallel sessions with about 200 communications, display of scientific and technical posters, 2 technical tours (on Thursday, June 28th), and simultaneous French / English translation during all sessions and technical tours.

Key Dates: Call for papers: May 2012; Deadline for declarations of intent to present and/or attend: September 2012; Full paper submissions: November 2012, preliminary programme, February 2013, opening of registration: March 2013.

Novatech secretariat:

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

13. RECENT PUBLICATIONS OF INTEREST

For a comprehensive listing of IWA publications, see Section 8 (News from IWA Publishing); one of such publications is described in more detail below.

Road Salts: Environmental issues and management (Theme Issue). 2011. Guest Editors: Michael Stone and Jiri Marsalek, *Water Quality Research Journal of Canada*, Vol. 46 (2), p. 97-182 (published by IWA Publishing).

In cold and Alpine regions, road salts are widely used as anti-icing and de-icing chemicals in winter road maintenance. Chloride from road salts enters the environment (surface waters, soils, and groundwater) through losses from salt storage facilities and snow disposal sites, and with street and highway runoff. The concentrations of chloride in urban stormwater and highway runoff frequently exceed acute toxicity levels for aquatic life and cause ecological impacts on receiving waters. Furthermore, chloride accumulates in deep parts of poorly flushed lakes, reservoirs and stormwater ponds, and the toxic conditions may prevail year-round. Thus, there are environmental concerns about road salts and a general agreement about the need to improve their management. To provide a forum for sharing information on these topics, the 1st International Conference on “Urban Drainage and Road Salt Management in Cold Climates: Advances in Best Practices” was held at the University of Waterloo in 2009, with participation of the JC Working Group on Urban Drainage in Cold Climate. A number of papers presented at the conference and some additional solicited papers were peer reviewed and those passing the review (eight in total) were selected for this theme issue on Road Salts: Environmental Issues and Management.

The papers address a broad range of environmental and management concerns related to road salt releases into the environment and reflect recent advances in winter road maintenance and the understanding of road salt effects on the environment documented by research studies from Canada, Finland and Sweden. The issue contains the following papers: (a) Westerlund & Viklander: Pollutant release from a disturbed urban snowpack in northern Sweden; (b) Mayer et al.: Environmental characterization of surface runoff from three highway sites in Southern Ontario, Canada, I – Chemistry; (c) Mayer et al.: Environmental characterization of surface runoff from three highway sites in Southern Ontario, Canada, II – Toxicology; (d) Exall et al.: Measurement of cyanide in urban snowmelt and runoff; (e) Exall et al.: Chloride transport and related processes at a municipal snow storage and disposal site; (f) Winter et al.: Increasing chloride concentrations in Lake Simcoe and its tributaries; (g) Salminen et al.: Review of approaches to reducing adverse impacts of road deicing on groundwater in Finland; and, (h) Stone & Marsalek: Adoption of best practices for the environmental management of road salt in Ontario. Overall, the theme issue papers

indicate that road salt management represents an important environmental issue needing further research, especially with respect to identifying chloride sensitive receiving environments requiring enhanced protection against road salt pollution and developing best practices providing such protection.

Please contact Jiri Marsalek (jiri.marsalek@ec.gc.ca) to learn more about the theme issue contents, or IWA Publishing to obtain a copy of the issue.

Vezzaro, L. (2011): Source-Flux-Fate Modelling of Priority Pollutants in Stormwater Systems. Ph.D. Thesis. Department of Environmental Engineering, Technical University of Denmark, Kgs. Lyngby. pp. 1-105 + appendix. <http://www.env.dtu.dk/Publikationer.aspx>.

To improve the environmental status of natural water urban water managers need to consider the impact caused by the discharge of stormwater Priority Pollutants (PP - heavy metals, organic compounds). The heterogeneous behaviour of stormwater pollution and the particular characteristics of PP (low concentration, fate in the environment) boost the use of mathematical models as tools for managing stormwater pollution. Models can in fact integrate the limited information that can be obtained by difficult and expensive field monitoring campaigns.

The thesis investigates the application of models to quantify the fluxes of micropollutants across stormwater systems, from their sources down to the treatment before discharge in the natural waters. This is obtained by taking into account the limited data availability and the high uncertainty affecting this environmental field. The thesis looks into the different ways that can be used to describe the pollutant sources in the catchment by using available data stored in Geographical Information Systems. The presented examples focus on how the level of detail affects the estimation of PP loads, suggesting that a high level of details are more appropriate for the development of stormwater control strategies.

Subsequently, the performance of a model, which tries to represent the dynamic accumulation and removal of stormwater pollutants, is examined by using advanced statistical methods for identification and estimation of sources of uncertainty. The results show how the investigated approaches allow the identification of the sources of uncertainty which are commonly neglected, highlighting the most appropriate measures to estimate prediction bounds of stormwater quality models.

A novel modelling approach to evaluate the PP fate in stormwater treatment facilities is proposed based on the use of the available information (inherent properties of the substances in question, and basic field measurements). This allows the assessment of the behaviour of various PP in treatment units with different removal processes (e.g. ponds and biofilters, which are mainly characterized by settling and sorption/filtration, respectively). The results illustrate how the developed model, which takes into account the high dynamic variability of removal processes, provides an improved representation of PP removal in stormwater treatment systems.

The models developed throughout the thesis are combined into an integrated model, which can estimate PP fluxes in stormwater systems and simulate different scenarios for reduction of PP loads (based on control of PP sources or on treatment before discharge). The information provided by the models investigated and developed in this thesis thus represents an important support for urban water managers in the understanding and control of stormwater PP pollution.

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