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IAHR/IWA JOINT SPECIALIST GROUP ON URBAN DRAINAGE NEWSLETTER 33

Once per year IWA/IAHR Joint Committee on urban drainage publishes a newsletter to inform the community about recent and upcoming activities, events, conferences, and publications of in urban drainage.

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We started collecting contributions and information for this newsletter end of 2019 when hardly anyone knew how COVID-19 will impact the entire world. Some information on dates of planned events etc. were updated in March/April, but please double-check all information on the websites of conferences etc. or contact the responsible people.

JOINT COMMITTEE CONTACTS

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CHAIRMAN'S THOUGHTS



Dear members of the Joint Committee on Urban Drainage,

COVID-19 is affecting our world in an unprecedented way. It's only a few months ago that the JCUD committee members were in the luxury position to celebrate that our two main conferences in 2019, the NOVATECH, held in Lyon, and SPN, held in Aalborg, were successful once again and that we were looking forward to our next triannual ICUD conference, to be held in Melbourne in September 2020. However, all of a sudden nothing seems certain anymore, and our global urban drainage community members are getting locked in their homes due to the lock downs as the COVID-19 waves travel around the globe.

In the next months, travel restrictions will block any international meeting of our community. Even in the most optimistic scenario's, the formal travel restrictions will be followed by a longer period of monetary travel restrictions, as many of our research groups and institutes will be affected by the economic aftermath. It is now time to think of how to rearrange our conferences and seminars in such a way that they are as inclusive as possible. Clear options are dedicating a substantial amount of the conference fees to facilitate travel for affected countries next to a rapid uptake of the tremendous potential of virtual meetings. Organizing a webinar at IWA is relatively easy and I learned that among students even beer tasting while having contact via social media seems to work. Our community is strong and creative, and I am convinced we will find ways to meet, exchange ideas and cooperate. Please be referred to the ICUD2020 section of the newsletter and inform us on your ideas to rearrange this conference and on your ideas to launch alternatives for the traditional conferences.

The focus of the majority of JCUD members is on storm water management and a fair number of members is also dealing with wastewater. The main drivers for research and innovation, circularity/resource recovery and climate proofing, have drawn a lot of attention away from the traditional focus of sanitary engineers, which is to avoid contact risks with pathogens. Nature based solutions are often advocated as the most desirable way of dealing with stormwater and wastewater. However, COVID-19 has shown that nature is not necessarily friendly to our societies. (vice versa is also true: our societies are not necessarily friendly for nature). Translated to our field, we should pay more attention to public health aspects of urban drainage and sewerage. Antibiotic resistance is still developing and minimizing contact risks is beneficial in reducing the spreading of ABRs and decreasing the overall number of infections. At the same time, COVID-19 highlights once more that a too large proportion of the world's population still lacks proper sanitation and public hygiene. Our community, together with water and health related IWA groups, has a large responsibility in contributing to improving this situation.

I hope you are all fine, safe and in good health and to see you during one of our next events.

Thanks,

Jeroen Langeveld

Chair of Joint Committee on Urban Drainage

General JCUD information. The Joint Committee on Urban Drainage (JCUD) is an active Specialist Group working under both IWA and IAHR. It has, at present time, 12 voting members, each offering different global perspectives on urban drainage. The JCUD organises, once every three years, the International Conference on Urban Drainage (e.g. 2014: Malaysia, 2017: Czech Republic, 2020: Australia). Furthermore, the JCUD oversees various working groups, many of which organise its own three-yearly conference (e.g. Sewer Processes and Networks; Urban Drainage Modelling etc.). Everyone is most welcome to get engaged in the activities of the JCUD and its working groups. The JCUD attempts to stimulate contacts, exchange and discussion, e.g. by this newsletter (published annually) and by the "urban-drainage" email discussion list (see other call-out box below).

Change in membership. Thanks to all those who submitted their interest to join the JCUD in 2019. At Novatech 2019, the committee met and announced two new members to the JCUD: Jon Hathaway, USA, and John Okedi, South Africa. We welcome John and Jon to the team and look forward to working with them for the next 3+ years. We also said our goodbyes to a long serving member, Vojtech Bares. Vojtech was an asset to the JCUD, and he will be sorely missed; he served many roles, including our "Event Coordinator". During his tenure, he contributed significantly to organising the ICUD2017; one of the most successful ICUD's to date. The committee thanks Vojtech for his service.

Roles and responsibilities. The committee is structured so that the load among the committee is equally weighted and to ensure that our wider members know exactly whom to contact to seek further information about the specific aspects of the JCUD's activities. To that end, please find a list below of the assigned roles and responsibilities for the JCUD committee members (noting a few small changes to the roles and responsibilities of the group):

- Chair: Jeroen Langeveld
- Secretary: David McCarthy
- Treasurer: Jon Hathaway
- Poul Harremoës Award: Tone Merete Muthanna
- Newsletter: Manfred Kleidorfer
- Webmaster: Morten Borup
- IWA connect manager: Haifeng Jia
- IWA Specialist Group linking: Karine Borne
- IAHR connector: Juan Pablo Rodríguez Sánchez
- Young Water Professionals relation officer: Takashi Sakakibara
- Working groups coordinator: Lian Lundy
- Event coordinator: John Okedi

Call for new members. This coming year (2020), we will be saying farewell to two further members of our group. As such, we will be making a call for new members to the JCUD. If you are an active member of our community and would like to be involved in the JCUD, please apply (see call below). Importantly, we are only looking for members that are **not** serving the following countries: UK, Austria, Norway, Japan, Colombia, Denmark, France, USA, South Africa. This is because we have members that already represent these countries and our statutes only allow one member from each country.

New young JCUD members. We are very happy to announce that there are three new young members of the JCUD: Dusan Jovanovic (Monash, Australia), Job van der Werf (TU Delft, Netherlands), Moran Wang (Tsinghua, China). These members will be invited to help with JCUD operations, and we welcome them all to the team! More details will be coming from each of them in the near future. We will also be inviting new young members to be part of the JCUD, so look out for these calls as well.

How to contact us? Should you have any questions about or any suggestions for the JCUD, please do not hesitate to get in contact with me or with any of the JCUD members (see list on first pages, which includes email addresses for each

member). It is our desire to facilitate urban-drainage related work in order to contribute to solutions of one of the pressing needs of this world.

Urban drainage email discussion list. The urban drainage email discussion list has been set up in 1998 by David Butler and Manfred Schütze (now managed by Dr Schütze). It is an easy method of getting in touch with urban-drainage researchers and practitioners worldwide (365 members currently). To use the discussion group, you first need to subscribe (to do this, simply email listserv@jiscmail.ac.uk with your first and last name and the text “subscribe urban-drainage”). To send a message to the list, simply insert urban-drainage@jiscmail.ac.uk in your “To:” box and the email will be sent to all members, worldwide. Please do not use for commercial purposes. If you would like more information, visit www.jiscmail.ac.uk/urban-drainage.

Committee Newsletter. This annual newsletter is published to serve the international urban drainage community and meet the requirements of our parent 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 most recent, and previous, newsletter(s) can be found on our website <http://www.jcud.org>. Both IWA and IAHR now distribute newsletters only electronically, and we share our newsletter on the IWA [JCUD Group on IWA Connect](#) and on the [IAHR website](#). We also distribute the Newsletter to more than 1,200 colleagues on our JCUD 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 Connect and JCUD websites. Your comments on this newsletter issue and contributions to future newsletters are most welcome (please contact Manfred.Kleidorfer@uibk.ac.at).

Take care,

David McCarthy,

JCUD secretary

JCUD MANAGEMENT COMMITTEE: Call for NEW member nominations

The Management Committee of the IWA/IAHR Joint Committee on Urban Drainage (JCUD) will have two vacancies later this year and is looking for possible replacements as a part of continuous revitalization of the Committee. Details follow below.

Job description: all members operate in their own way and contribute 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 35 years of operation is our ability to attract highly motivated members to serve on the Committee. The elected candidates must be (or become, within one month of being elected) 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, Dr Jeroen Langeveld (j.g.langeveld@tudelft.nl), copied to JC secretary Associate Professor David McCarthy (david.mccarthy@monash.edu): (a) A brief CV, and (b) a statement of activities you would like to contribute to the JC programme. Neither document must exceed one page, using a 10-point font or larger.

Deadline: 28 August 2020: The applications received will be distributed to the JCUD members for assessment and voting; the results will be announced sometimes after the JC meeting

ICUD2020 – International Conference on Urban Drainage...an update

The 15th IWA/IAHR International Conference on Urban Drainage (ICUD) was scheduled to be held in Melbourne in September of 2020. We received an extremely strong list of extended abstracts (nearly 400), and we appreciate the effort of the Urban Drainage community, even during this difficult time.

Unfortunately, the impact that COVID19 is having on world's economies and people's ability to travel has cast significant uncertainty as to the viability of the conference on the planned dates.

While it may seem obvious to move the conference to 2021, it is difficult to select dates that (a) ensure that COVID19 will no longer be a threat and (b) do not impact on upcoming conferences of the Joint Committee on Urban Drainage (namely, the Urban Drainage Modelling Conference, 2021).

A working group was formed to discuss options for ICUD2020 and to determine the best path forward for the Urban Drainage community: David McCarthy (chair of the ICUD2020), Jeroen Langeveld (chair of the JCUD), Manfred Kleidorfer (chair of the IWGDM), Elizabeth Fassman-Beck (co-chair of the UDM2021), Scott Struck (co-chair of the UDM2021), with significant input provided by Ana Deletic and Tony Wong (co-chairs of the ICUD2020) and Tim Fletcher (LOC for ICUD2020).

The working group discussed many options and have arrived at five main options:

- ICUD is cancelled. UDM continues to operate as planned in Los Angeles, USA, somewhere between July – September 2021
- ICUD still occurs but moves to sometime between March-June 2021, in Melbourne, Australia. UDM still occurs, but moves to sometime between September 2021 and January 2022, in Los Angeles, USA.
- ICUD + UDM are combined into one conference, operating in 2021 (likely June-July 2021). In this option, the combined conference is held in Melbourne, Australia.
- ICUD + UDM are combined into one conference, operating in 2021 (likely July-Sept 2021). In this option, the combined conference is held in Los Angeles, USA.
- ICUD + UDM are combined into one conference, operating in 2021 (likely June-July 2021). In this option, the combined conference is co-located, with hubs in both Melbourne, Australia and Los Angeles, USA. There would be virtual links between the hubs, with most sessions streamed in both directions.

** independent of which option is finally chosen, both ICUD and UDM shall strive to provide virtual attendance to participants, to reduce travel requirements for those who choose or need to stay at home**

Rather than this small working group decide for the entire Urban Drainage community, we thought it would be best to ask the community what their thoughts were on these options. Your answers to the following survey will help the working group decide how to proceed for both ICUD2020 and UDM2021. Statistics of the votes will be shared with all those who voted.

<https://forms.gle/YQQcAYyVvDHjhkE79>

Thanks again for everyone's ongoing support.

Regards

David McCarthy (Chair, ICUD2020).

International Working Group on Data and Models (IWGDM)

In the last year, the International Working group on Data and Models organised a workshop “**Benchmarking of new urban flood modelling tools**” at Novatech conference 2019. The workshop was organized by Behzad Jamali and Ana Deletic from Water Green-Urban-Management (WaterGUM), UNSW Sydney, Australia and aimed to compare different flood models prepare the work on a common case study. A follow-up workshop to compare the results of this study is planned for the next workshop at ICUD.

The next large activity of the IWGDM is the Urban Drainage Modelling conference in 2021. Although this conference is still more than one year ahead, we also see the impacts of COVID-19 for the organization. In case ICUD 2020 moves from September to a date in 2021 we would have to important conferences in one year for the data and modelling community. Currently we are discussing different options and invite the community to vote for their favourite option (see page 7 above).

And I would like to take this opportunity to thank all the involved people David McCarthy (chair of the ICUD2020), Jeroen Langeveld (chair of the JCUD), Elizabeth Fassman-Beck and Scott Struck (chair of the UDM2021) for a constructive discussions.

For more information please follow our website <https://sites.google.com/view/iwgdm/> and subscribe the mailing list by sending an email with an short introduction who you are to iwgdm+subscribe@googlegroups.com. Of course, you can also contact one of the people below.

Chairman: Dr. Manfred Kleidorfer, University of Innsbruck, Unit for Environmental Engineering, Technikerstrasse 13, 6020 Innsbruck, Austria. manfred.kleidorfer@uibk.ac.at

Secretary: Dr. João P. Leitão, Eawag: Swiss Federal Institute of Aquatic Science and Technology, Überlandstrasse, 133, 8600 Dübendorf, Switzerland. joaopaulo.leitao@eawag.ch

Young scientist representative: Ico Broekhuizen, PhD Student Urban Water Engineering, Luleå Tekniska Universitet, Sweden. icobro@ltu.se

The Real-Time Control of Urban Drainage Systems (RTCUDS) Working Group

The RTCUDS Working Group started looking for new participants in 2019 and now has 16 members. The Working Group is arranging a real time control session at ICUD2020 in Melbourne, where the group will also host an annual physical meeting.

Sewer Systems and Processes Working Group (SS&PWG)

The activity of the group were concentrated around the 9th International Conference on Sewer Processes and Networks (SPN9), hosted by Aalborg University (Denmark) from August 27-30, 2019. The conference had 98 registered participants and 61 platform and poster presentations. A wide range novel results was presented and discussed. It was decided that the next SPN conference, the SPN10, is to be held in Graz, Austria in the late summer of 2022 and hosted by Graz University of Technology.

International Working Group on Urban Rainfall (IGUR)

Following a short delay, UrbanRain local organisers of ETH Zürich have put together the Proceedings / Book of Abstracts from the UrbanRain18 conference. Thanks to the colleagues from ETH for putting in a lot of time! The Proceedings are in Open Access ETH Research Collections, which are available at:

<https://bit.ly/2VmKmTc>

Every paper has its own DOI, so if you type in your paper title you will be directed to the link with its the DOI. Please use this paper DOI in all reference to your work presented at UrbanRain (e.g. on Research Gate, etc.), not the DOI of the entire Proceedings, in order to avoid confusion in author attribution. The Proceedings are also linked on the workshop webpage.

In further news, we are planning to let the UrbanRain workshop travel to the tropics in spring 2021 in Brazil (with focus of tropical rainfall), while maintaining the traditional meeting in Pontresina. Additionally, we are also looking for a new chairperson as Simon Beecham is reaching the end of his term. This will be voted on at ICUD in Melbourne in September.

International Working Group for Water Sensitive Urban Design (IWGWSUD)

As agreed at the last ICUD2017, the WSUD WG's focus has been on integrating water sensitive urban design thinking across the ICUD conference program, in terms of showcasing interdisciplinary research through a water sensitive lens. We are working with conference Chair David McCarthy about what this could look like for the standard program, and potentially looking to host a side workshop. Both chairs report they plan to step down from the role at the next meeting, so we would be seeking interest from someone who is keen to carry things forward.

Working Group on Urban Storm Water Harvesting (USWH)

The USWH WG met at Novatech 2019, where Chair Alberto Campisano announced he was stepping down from the role. Alberto led many great initiatives as Chair. The WG elected Matthew Burns as the new Chair, with James Webber as Secretary. The WG is planning a major presence at the ICUD 2020 conference in Melbourne, and have started discussions with the real-time control working group on a joint-workshop. Other news comes from Neil Armitage. Neil completed a four-year study at the beginning of 2019 on 'The prospects for stormwater harvesting in Cape Town, South Africa using the Zeekoe Catchment as a case study'. This showed that the most viable method was through managed aquifer recharge and recovery with treatment to full potable and distribution through the existing water supply system. Neil also received a grant from DANIDA (Denmark) at the beginning of 2019 for a three-year project entitled 'Pathways to water resilient South African cities' that is investigating what is required to overcome the operational difficulties preventing SuDS from being implemented in Cape Town and Johannesburg. Part of this project involves the construction of two pilot stormwater harvesting schemes; one at an existing pond in an urban area, and the other at a purpose-built pond to be constructed at our field study site (The 'Water Hub') situated at the old decommissioned wastewater treatment works for Franschoek (a small town near Cape Town). These will be monitored for a two-year period. Neil will also lead a new study on the viability of stormwater harvesting across the whole of Cape Town using a multi-criteria analysis will commence in 2020. Finally, he is also awaiting the outcome of a funding application to study real-time control (RTC) for the optimisation of rainwater harvesting from roofs

Working Group on Metrology of Urban Drainage

The first initiative of the WG on 'Metrology in Urban Drainage' is to draft an IWA publication entitled "Metrology in Urban Drainage: Plug & Pray". This report aims at bringing together experience on monitoring in urban drainage for research and practical purposes alike. In this sense the report will address scientist as well as practitioners. More than 20 authors have contributed to this report that was presented to the drainage community during the 9th SPN conference in Aalborg (Denmark) this year. In other news, the working group actively contributed to the 2019 European Junior Scientist Workshops, held in France in May 2019 with over 15 participants.

Working Group on Urban Drainage Asset Management (UDAM)

With over 30 members, the UDAM committee would like to welcome a young researcher willing to be involved in the decision and the actions. Anyone young and interested in working with / for our research community (we would suggest below 35 years old even if we are already much older but feeling still very young!) can contact us!

In terms of conference activities:

- ICUD conference 2020 in Melbourne, Australia: asset management is on fire! This is the first time that the topic "Urban drainage asset management" is proposed. UDAM will chair a session and we are waiting for your contribution. It will be a unique opportunity to share and learn on sewer asset management, nature-based solution asset management, etc. The session aims at building new links and interactions between different research communities. In other news, Franz is also currently coordinating a proposal to build a collaborative network on sewer asset management and its relationship with other urban infrastructure. If you want to be part of this COST (<https://www.cost.eu/>) action, please contact Franz as soon as possible.
- 7th EURO-SAM workshop in June 2020 in Lulea, Sweden. As always, the EURO-SAM (European research workshop on Sewer Asset Management) is free of charge and open to anyone but with a limited number of participants. This year, the EURO-SAM workshop will be organized by the University of Technology of Lulea in Sweden. Check our website for update: <https://udam.home.blog/>.
- LESAM Bordeaux: call for ideas: The next LESAM Conference will be held in 2021 in Bordeaux, France. UDAM wants to actively support the conference. If you have ideas for a dedicated UDAM session, do not hesitate to email us. The session can be for example a workshop on a specific topic, a panel discussion mixing expert on different urban drainage infrastructure. We are open to any idea!

Finally, the UDAM review paper on sewer asset management has been accepted by the Urban Water Journal for publication subject to minor revisions. Look out for its publication shortly!

Sewer Systems and Processes Working Group (SS&PWG), Jes Vollertsen (chair), Dirk Muschalla (vice chair), Asbjørn H Nielsen (secretary), website: <http://www.sspwg.org>

The activity of the group were concentrated around the 9th International Conference on Sewer Processes and Networks (SPN9), hosted by Aalborg University (Denmark) from August 27-30, 2019. The conference had 98 registered participants and 61 platform and poster presentations. A wide range novel results was presented and discussed. It was decided that the next SPN conference, the SPN10, is to be held in Graz, Austria in the late summer of 2022 and hosted by Graz University of Technology.

Working Group on Urban Drainage in Cold Climates (UDCC WG)

The special issue of Water entitled 'Managing Wet Weather in Cool and Cold climates' is progressing well with publications from a wider range of countries published (2), submitted (1) / invited for review (4) including Canada, USA, Iceland, Finland and Denmark. The next Working Group meeting is planned for ICUD in September.

Working Group on Source Control for Stormwater Management (SOCOMA)

SOCOMA's activities have focused on the development of collaborative paper on the following topic: Benefits and effectiveness of LID practices at the watershed scale. Co-authors from different countries were solicited during recent conferences (UDM 2018 and Novatech 2019) to collaborate on this paper, with the objective of giving a state-of-practice review from different countries. A presentation of the paper is planned for UDM 2021. The activities for the collaborative paper will follow in 2020 and early 2021. So far, representatives from UK, France, Australia, Canada and USA have been identified to participate. It would be interesting to also have representatives from a developing country and maybe a country with cold weather. Collaboration with the Cold Climate WG would be welcome.

NEWS FROM IAHR

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

The International Association for Hydro-Environment Engineering and Research (IAHR), founded in 1935, is a worldwide independent organisation of engineers and water specialists working in fields related to the hydro-environmental sciences and their practical application. Activities range from river and maritime hydraulics to water resources development and eco-hydraulics, through to ice engineering, hydro-informatics and continuing education and training. IAHR stimulates and promotes both research and its application, and by so doing strives to contribute to sustainable development, the optimisation of world water resources management and industrial flow processes. IAHR accomplishes its goals by a wide variety of member activities including: working groups, research agenda, congresses, specialty conferences, workshops and short courses; Journals, Monographs and Proceedings; by involvement in international programmes such as UNESCO, WMO, IDNDR, GWP, ICSU, and by co-operation with other water-related (inter)national organisations.

IAHR publishes **five international scientific journals** from its headquarters in Madrid, Spain and Beijing, China in collaboration with Taylor and Francis and Elsevier – the Journal of Hydraulic Research (which is more scientific), the Journal of River Basin Management, the Journal of Applied Water Engineering and Research (which more practice-oriented and is published jointly with the World Council of Civil Engineers), the Journal of Ecohydraulics (from 2016) and RIBAGUA - Revista Iberoamericana del Agua (from 2014). In addition the International Journal of Hydro-Environment Research (JHER) is published by the IAHR Asia Pacific Division in collaboration with the Korea Water Resources Association (KWRA) and Elsevier, and IAHR offers its members discounts for several other journals including the Journal of Hydroinformatics, Journal of Sediment Research and the Urban Water Journal.

IAHR publishes a quarterly magazine for its members called **HydroLink**, and a series of monthly NewsFlash e-Newsletters for the international water community.

IAHR is sponsoring **organization of many conferences** of potential interest to the urban drainage community; for full information, please visit their website www.iahr.org.

IAHR World Congress

The IAHR World Congress is one of the most important activities of the International Association for Hydro-Environment Engineering and Research (IAHR) which typically attracts between 800 and 1500 participants from around the World.

The congress offers technical programmes, seminars, technical workshops, presentations, plenary sessions and social events alike, and the respected Ippen, Kennedy and Schoemaker Awards are presented. This congress is the place for the hydraulic engineering community to meet across borders and exchange experiences, seek advice and get inspired.

The 39th IAHR World Congress "From Snow To Sea" is from 4 – 9 July 2021 in Granada Spain. Conference themes are:

- River and sediment management
- Extreme events and flood management
- Environmental hydraulics and industrial flows
- Coastal, estuaries and shelf management
- Urban water cycle
- Water resources management and climate resilience
- Computational and experimental methods
- Hydro-environment engineering culture



NEWS FROM IWA HQ

[Utility Insight into the COVID-19 Pandemic](#)

Worldwide, water and wastewater utilities provide essential services. Regular and thorough hand washing is one of the basic protective measures advised by the World Health Organization (WHO) against COVID-19. But also for any other household activity, safe drinking water and sanitation services are critical. This is of concern of the citizens across the globe. Thus, water utilities provide essential services to all of us to effectively fight the global pandemic.

[COVID-19 a technical water perspective](#)

The COVID-19 (SARS-CoV-2) pandemic is raising many questions for the water sector around the world. While operators provide their services within a national context, scientific and operational concerns and insights are relevant across borders.

[Video: COVID-19: A Water Professional's Perspective](#)

The IWA Online Dialogue gathered experts in water and sanitation from across the globe and aims to address some of the most pressing questions for water professionals.

[Information resources on water and Covid-19](#)

The Covid-19 (SARS-CoV-2) pandemic is raising many questions for the water supply and wastewater sector around the world. This includes the public seeking reassurance about potential concerns. The organisations who provide water and wastewater services have to respond to this and cope with the direct impact of the pandemic on their workforces.

[Joining forces – IWA and AfWA](#)

Kampala, the capital of Uganda, hosted in February the 20th African Water Association (AfWA) Congress & Exhibition and it was also the venue of the IWA Board of Directors meeting. During this occasion, both organisations met to conceptualise a joint vision and strengthen synergies for the future of water professionals in Africa.

[Climate Change and Water – 2020 World Water Day](#)

World Water Day 2020, on 22 March, is about water and climate change – and how the two are inextricably linked. Adapting to the water effects of climate change will protect health and save lives. Using water more efficiently will reduce greenhouse gases. We cannot afford to wait.

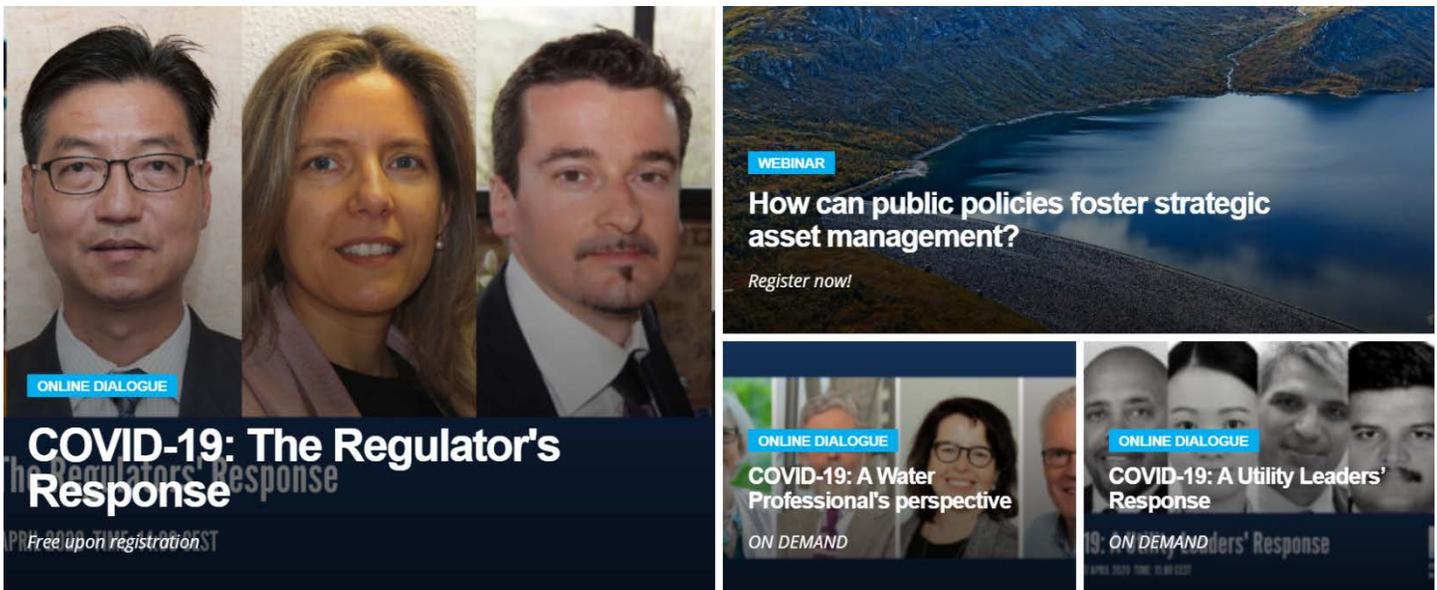
[Call for Nominations for the IWA/ISME BioCluster Award 2020 is now open!](#)

To recognise and celebrate the importance and impact of interdisciplinary research at the interface of microbial ecology and water/wastewater treatment the IWA/ISME BioCluster has created the IWA/ISME Bio Cluster Award. The call for nominations is open for two Awards: (1) the Grand Prize, and (2) the Rising Star Prize. The deadline for submission of nominations is 1 May 2020.

[Be a part of the Emerging Water Leaders Steering Committee 2020-2022](#)

The IWA renews its Emerging Water Leaders steering committee every 2 years (aligned with the World Water Congress). This a representative body of young members (35 and below) that will provide advice to the association about the appropriate ways to serve young professionals needs, and leads its community to contribute to IWA's activities at national and international level.

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To learn more, visit the IWA Learn platform: <https://iwa-network.org/iwa-learn/>

New Publications

Selected books

Reducing Energy for Urban Water and Wastewater: Prospects for China

Kate Smith and Shuming Liu

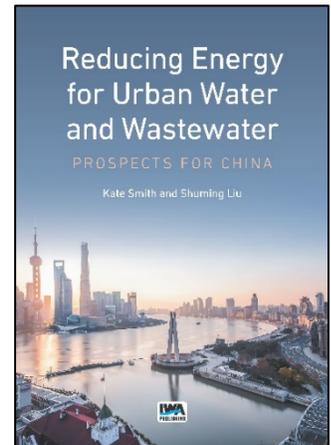
ISBN: 9781780409931

September 2019 • 170 pages • Paperback

IWA Members price: £ 53.00 / US\$ 80.00 / € 66.00

<https://www.iwapublishing.com/books/9781780409931/reducing-energy-urban-water-and-wastewater-prospects-china>

Cities use large amounts of costly energy to supply water and treat wastewater, especially in China, one of the world's largest providers of urban water and sanitation services. *Reducing Energy for Urban Water and Wastewater* shows how cities can reduce energy use, cut costs and curb greenhouse gas emissions. It guides the reader through water supply and wastewater treatment, explaining how energy is used at each step.



Resilient Water Services and Systems: The Foundation of Well-being

Petri Juuti, Harri Mattila, Riikka Rajala, Klaas Schwartz and Chad Staddon

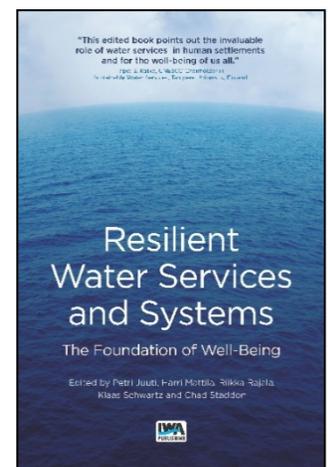
ISBN: 9781780409764

August 2019 • 250 pages • Paperback

IWA Members price: £ 71.00 / US\$ 107.00 / € 89.00

<https://www.iwapublishing.com/books/9781780409764/resilient-water-services-and-systems-foundation-well-being>

The Editors present conceptual evidence about resilience backed by case studies that demonstrate resilience in practice. There are 13 case studies, from Asia, Africa, Europe and North and South America, providing informative perspectives from around the world. This is a timely collection of historic and contemporary evidence that will have increasing relevance in the coming decades. This volume will be of relevance to both scholars and practitioners.



Water Consumption, Tariffs and Regulation

Francesc Hernandez-Sancho

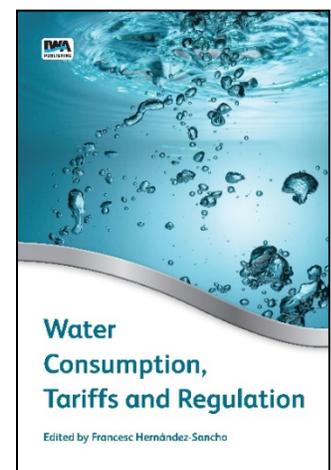
ISBN: 9781780404677

July 2019 • 200 pages • Paperback

IWA Members price: £ 64.00 / US\$ 96.00 / € 80.00

<https://www.iwapublishing.com/books/9781780404677/water-consumption-tariffs-and-regulation>

Aims to provide a statistical overview of water abstraction, consumption, tariffs and data on sewage and wastewater treatment at an international level. Based on the statistical information provided by the IWA Specialist Group on Statistics and Economics.



Real time controlled sustainable urban drainage systems in dense urban areas

Nils Kändler, Ivar Annus, Anatoli Vassiljev and Raido Puust

Aqua, Online December 2019.

<https://doi.org/10.2166/aqua.2019.083>

Optimal water quality sensor positioning in urban drainage systems for illicit intrusion identification

Mariacrosetta Sambito, Cristiana Di Cristo, Gabriele Freni and Angelo Leopardi

Journal of Hydroinformatics, January 2020, 22 (1): 46-60.

<https://doi.org/10.2166/hydro.2019.036>

Hydraulic characteristics of stepped spillway dropshafts for urban deep tunnel drainage systems: the case study of Chengdu city

Open Access

Lei Liao, Ruidong An, Jia Li, Wenmin Yi, Xiaofan Liu, Wenkang Meng and Lei Zhu

Water Science & Technology, December 2019, 80 (8): 1538-1548.

<https://doi.org/10.2166/wst.2019.405>

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The 38th IAHR World Congress, Panama City 2019

Juan Pablo Rodríguez Sánchez

In the last edition of the IAHR World Congress that was held in Panama City (Panama) in September 1-6 2019, the Joint Committee on Urban Drainage (JCUD) was invited to organize a special session on Urban Drainage. The special session aimed to present recent advances in understanding the role of sustainable urban drainage systems at different spatial scales both in already developed urban areas and in urban expansion projects. It included planning, experimental and modelling studies looking at stormwater quantity and quality management, urban watercourses restoration and other potential environmental, social, and economic co-benefits. Special focus was given to cases from Latin America but experiences from other regions and contexts were also presented. Originally, the special session was planned to last one and a half hours however due to the number of submitted papers the session time was doubled (3 hours in total): 31 submissions were received from 13 countries worldwide (45% of the papers were from Latin-American countries including Brazil, Colombia, Mexico, and Peru). Out of the 31 submissions 16 were selected for oral presentation at the congress. The members of the organizing and reviewing committee of the special session were: Humberto Ávila (Universidad del Norte, Colombia), Jorge Gironás (Universidad Católica de Chile), Nilo de Oliveira Nascimento (Universidade Federal de Minas Gerais, Brazil), Néstor Mancipe (Universidad Nacional de Colombia) and Juan Pablo Rodríguez (Universidad de los Andes, Colombia). The special session was possible due to the valuable support of the 38th IAHR World Congress Local Organizing Committee (particularly Dr. Lucas Calvo). Pictures of the world congress opening ceremony and one of the oral presentations of the special session are presented below. Due to the increasing interest on urban drainage related topics at the IAHR world congress the JCUD is hoping to keep collaborating with IAHR for the next world congress to be held in Granada (Spain) in 2021.



VI National Conference - Urban Hydraulic Center Studies (CSDU) - XIV International Short Course Advances in Knowledge of Urban Drainage: Nature-Based Solutions for a Sustainable Environment

Patrizia Piro

The International Short Course deals with the main and advanced topics related to Urban Drainage system by focusing mainly on the innovative smart and resilient solutions to mitigate climate changes impacts.

The International Short Course series, now at its XIV edition, is organised by Prof. Patrizia Piro from University of Calabria (Italy), chair of the "Urban Hydraulic Center Studies (CSDU)" (www.csdu.it).

The CSDU is a non-profit research association whose purpose is to coordinate and develop research on multiple aspects of integrated water systems and the protection of receiving water bodies, by focusing attention on the urban drainage systems and their environmental impact. The organizational structure of the association is divided into operating units located at various university locations, homogeneously distributed throughout the national territory and coordinated by a steering committee made up of university professors in the sector. Currently about 80 experts among professors, researchers and scholars of the subject, belonging to more than 23 different Italian universities, participate in CSDU activities.

The International Short Course Advances in Knowledge of Urban Drainage series started back in 2006, involved international researchers in the field of Urban drainage, more detail on the aims and presentations of each edition can be found in <http://www.ingegneriacivile.unical.it/liu/international-short-course/>. In Figure 1 are shown some photos about the XIII Edition, hosted by University of Calabria (Italy).



Figure 1: XIII International Short Course "Advances in Knowledge of Urban Drainage: Nature-Based Solutions for a Sustainable Environment" - 7 June 2018 - University Club – University of Calabria (Italy).

The XIV International Short Course (Figure 2) was hosted by University of Basilicata – 28 May 2019 – University Campus of Matera, Italy. The conference was organized by the CSDU and University of Basilicata in partnership with Order of Engineers of the Province of Matera and Order of Architects (PPC) of the Province of Matera. The conference hosted more

than 100 participants, among researchers, engineers, architects, companies, and experts in the field of Urban Drainage. During the Short Course, after the registration and official greetings, followed several presentations of different experts. The Conference started with the presentation of Prof. C. Maksimovic from Imperial College London, who discussed about “New role of Urban Drainage in the integrated urban Blue Green Solutions - International prospective” and was also the Chairman of the final debate.



Figure 2: XIV International Short Course “Advances in Knowledge of Urban Drainage: Nature-Based Solutions for a Sustainable Environment” - 28 May 2019 – University Campus of Matera, University of Basilicata (Italy).

The XV Edition of the International Short Course Advances in Knowledge of Urban Drainage will be hosted by University of Rome “Sapienza” and it will be at the end of May 2020.

The 10th International Novatech Conference, 1-5 July 2019, Lyon, France

Novatech is an every 3-year meeting settled in Lyon, which promotes strategies and solutions for integrated and sustainable water management in the city, with a focus on stormwater management.

Novatech is a unique occasion in France to provide an overview of **practices in the cities across the world** such as urban planning, stormwater strategies and incentive policies for the sustainable urban water management and identify the **most recent innovative technical solutions**, integrating research results, for a sustainable management of urban water and optimization of existing systems, to face flood and pollution issues, as well as health risks.

10th Novatech

This 10th edition of the conference was co-organized by the Graie, INSA Lyon and Lyon Metropole; it took place at the INSA Lyon, in Villeurbanne - France, from July 1st to 5th, 2019.

Themes

Novatech 2019 was organised around 4 complementary themes: Urban planning and strategy, Impacts and pollution, Tools and modelling and Stormwater management BMPs.

These themes cover a diversity of perspectives; from the planning of a new neighbourhood to flood risk management at the watershed scale; from presentation of the latest research to the application of innovative solutions in practice; from the perception of stormwater by the community to the challenges of new governance models.

What's new in 2019?

- A first national meeting of rainwater facilitators (54 participants), to take advantage of Novatech to network and identify the needs of these more or less isolated actors. In partnership with the Adopta and with the support of the water agencies and the Ministry for Sustainable Development.
- workshop organized for the elected representatives of the local authorities of the Auvergne-Rhône-Alpes region, signatories of the IWA principles for "Water-responsible" territories. The aim was to discuss how to highlight their commitment and work towards citizens, and think about the creation of a network.
- The organization of mentoring meetings and career workshops for young water professionals.
- An invitation to even more interaction, with the creation of a public prize for the Novatech Awards.

Keynotes speakers



Mark Maimone, CDM Smith's honorary vice-president, USA. He managed numerous projects on the recapture of quality resources in big cities around the world. He had a look back at the history of stormwater management strategies and presented the exemplary program of Philadelphia city: "Green City, Clean Waters program".



Sabine Barles, urban planner and professor at the Sorbonne Paris University and a specialist on study of urban environment flows, she analysed links between water and city: contemporary and future stakes, various scenarios, by pinpointing on contradictions and transition question.

Parallel sessions

A broad vision of what is done throughout the world

This year, the reviewer team had selected 230 papers abroad 283 submissions from 30 countries: 1/3 are French, 1/3 are European and 1/3 from the rest of the world.

A balance between scientific and technical papers

Many papers were at the interface between the research community and practitioners. 2/3 of papers have a scientific approach, but very often co-written with practitioners. 2/3 of papers were oral presentations in breakout rooms with simultaneous translation provided; 1/3 were posters, with a daily program.

Novatech Awards

Novatech Awards were organised for the third time this year **to reward public projects and policies integrating stormwater management**. The Novatech Awards aim to recognise the contribution of urban planning professionals to the conference in presenting their strategies and experiences.

The Novatech Award rewarded public projects and policies in 3 categories:

- **Laureates of the "Urban renewal" category:**
Using Green Stormwater Infrastructure Retrofitting a Low Income Community into a Climate Resilient Neighborhood
by Nian She, Hui Chen and Xiaolin Zhong (Guangzhou University, CMIE - Chine)
=> [Download the paper](#) (PDF)
- **Laureates of the "Town planning strategies" category:**
Make water a resource for urban planning »: How to link stormwater management with the urban policy of a metropolis The case of Aix Marseille Provence Metropole
by Thierry Maytraud, Gaëlle Olsen, Jean-Baptiste Narcy, Gaëlle Chevillotte, Jérôme Bosc, Claire Floury, Julien Langumier (ATM, AScA, Dreal PACA, AERMC, DDTM13 - France)
=> [Download the paper](#) (PDF)
This laureate also received the public award.
- **Laureates of the "Participation and citizen appropriation" category:**
Blue and green alleys in Montreal: A new paradigm for the sustainable management of rain water
by Pascale Rouillé, Odile Craig, Marc-André Desrochers, Judith Cayer, Mario R. Gendron (Alliance Ruelles Bleues-Vertes, Université de Montréal, Faculté d'aménagement, École d'urbanisme et d'architecture de paysage, Centre d'Écologie Urbaine de Montréal (CEUM), Société d'habitation pour l'est de Montréal (SHAPEM), 5 Collectif 7 à nous, Vinci Consultants, Les Ateliers Ublo - Canada)
=> [Download the paper](#) (PDF)



Conference proceedings and other outputs

Novatech's challenge is to give the opportunity, particularly to French operational players, to share knowledge and feedback every three years for a more sustainable management of water in the city.



What remains at the end of Novatech:

- [The summary made by the session chairmen](#)
- [All 222 papers from the conference are available online.](#)
- [800 papers of the previous editions, a veritable memory of international research on rainwater in cities](#)
- Videos of interviews with Marc Maimone, Sabine Barles and Tim Fletcher on [our YouTube channel](#)
- And [some memories in pictures](#)

We hope that everyone can draw lessons, inspiration and perspectives from this raw material in order to make their practices evolve!



The National Green Infrastructure Facility, Newcastle University, UK

Dr Claire Walsh, Co-Director, National Green Infrastructure Facility

Dr Ross Stirling, Co-Director, National Green Infrastructure Facility

The [National Green Infrastructure Facility \(NGIF\)](#) is a collaborative research facility dedicated to establishing an evidence base for blue-green infrastructure solutions in cities, using live urban experiments at a range of scales in real-world settings (figure 1). NGIF will help to improve how infrastructure responds to environmental pressures, and allows researchers to develop and test new technologies under a range of scales and monitor how they perform over time. NGIF is a unique research demonstrator or 'living lab' funded by the Engineering and Physical Sciences Research Council (EPSRC) through the UK Collaboratorium for Research in Infrastructure & Cities ([UKCRIC](#)). Located on Newcastle University campus it is part of the Urban Sciences Building, an award-winning building for urban sustainability located on Newcastle Helix, a landmark 24-acre hybrid city quarter in the centre of *Newcastle*. [Newcastle Helix](#) brings together academia, the public sector, communities, and business to create a global centre for urban innovation. NGIF is unique in that it is not only testing blue and green infrastructure features *in situ* such as trees, bioretention cells, soils and swales, but is actively working to prevent flooding locally within a major urban centre in North East England, and engaging local communities in citizen science. This makes NGIF the ideal place for testing a wide range of blue-green features, monitored using state-of-the-art wireless digital sensing to adapt cities to extreme weather impacts.



Figure 1: Overview of the National Green Infrastructure Facility.

NGIF has 10 experimental lysimeters embedded with digital sensors and logger telemetry (figure 2) that measure a range of metrics on soil under controlled conditions such as moisture, pore pressure, temperature, drainage, CO₂ and a range of meteorological parameters. It has pavement-level bioretention features that make it possible to measure the performance of Sustainable Drainage Systems (SuDS) (figure 3), including water attenuation, storage, treatment and other benefits. Trees in the facility are fitted with instrumentation to measure how much water they uptake and transpire. In addition, the sensors measuring all of these values link to the Urban Observatory - a digital urban sensing network in Newcastle, and the largest of its kind in the UK. All of the data generated by the facility is Open Access and available [here](#).



Figure 2: Temporary surface water storage.



Figure 3: Inside one of the lysimeters for measuring soil under controlled conditions.



Figure 4: Swale under heavy rain conditions.

One of the most eye-catching features of NGIF is the swale (figure 4) that captures urban runoff under real and simulated conditions. The swale holds 600 m³ of water and absorbs water from nearby residential sites relieving pressure on grey infrastructure during periods of intense rainfall. It is designed to cope with a 1:100 year return interval storm, plus a 30% increase in rainfall which allows for climate change. A range of 'leaky barriers' are also under investigation using this full-scale facility (figure 5).

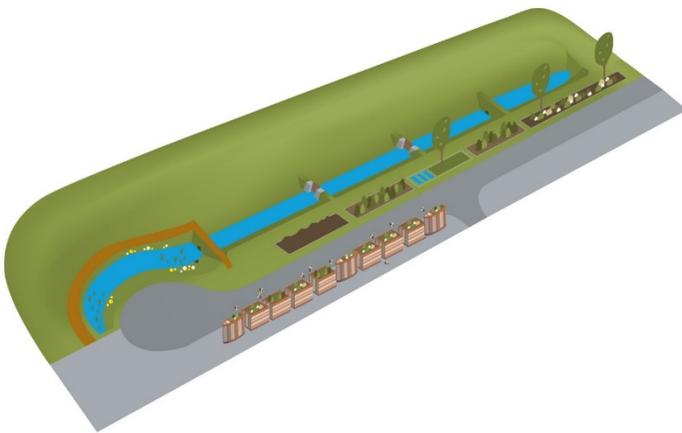


Figure 5: Illustration of the swales, lysimeters and in-ground bioretention cells.

Another exciting feature of NGIF is that we are linking long-term monitoring datasets from our experiments with advanced modelling tools, particularly CityCAT developed at Newcastle University, to gain a better sense of how blue-green infrastructures perform over time. The facility has 'environmental chambers', which allow us to test a variety of blue-green approaches within multiple controlled environmental settings. We also study how green infrastructure provides a potentially valuable sink for atmospheric carbon by fixing it within amended SuDS substrates, along with using green features to improve energy efficiency of the built environment by cooling and insulating buildings.

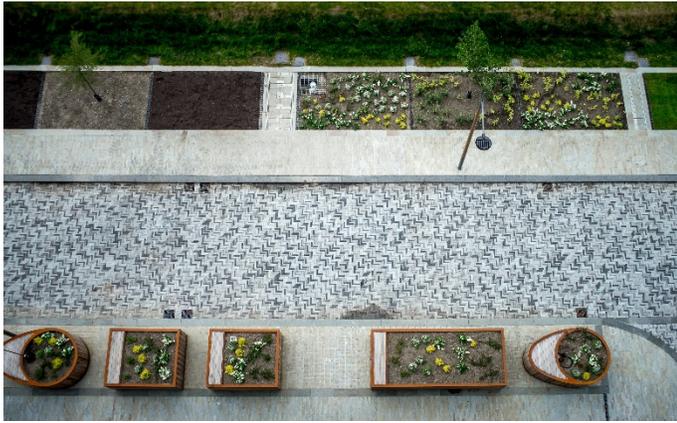


Figure 6: NGIF is a blue-green infrastructure research and demonstration facility based within an urban environment.

Examples of NGIF blue-green infrastructure research projects to date:

- **Urban Green DaMS (Design and Modelling of SuDS)**

Sustainable Drainage Systems (SuDS) are widely used for managing road runoff and slowing water movement through an urban landscape, playing a key role in reducing urban flood risk. Vegetated bioretention cells (often referred to as ‘rain gardens’) are one of the most simple, practical and reproducible SuDS options and can be easily retrofitted into urban spaces to deal with surface water from roads. Current industry guidance provides design suggestions for SuDS, but no quantitative indications on their hydrological performance. The [Urban Green DaMS](#) (Design and Modelling of SuDS) project aims to provide required modelling tools and parameter values to inform robust design guidance equivalent in quality to that for pipes and other hard engineering interventions, to enable the widespread implementation of vegetated bioretention cells for stormwater management. This work uses four intensively instrumented lysimeters at the NGIF to address substantive research questions relating to the effectiveness of bioretention cells at reducing urban flood risk. Urban Green DaMS aims to:

- Quantify evapotranspiration and hydraulic conductivity;
- Propose an alternative to imported growing media based on minimally modified in-situ urban soil;
- Demonstrate the flood risk mitigation potential of bioretention systems in representative urban contexts;
- Provide a framework for probabilistic SuDS design and performance specifications.

- **PLEXUS (Priming Laboratory EXperiments on infrastructure and Urban Systems)**

Green infrastructure can provide an efficient, sustainable and resilient alternative to conventional single-purpose grey infrastructure systems for urban surface water management. However, existing or to-be-constructed green infrastructure in valuable, and often limited urban areas have the potential to also provide an affordable ground heat exchange and storage resource. To explore the feasibility of this multi-functionality it requires improved knowledge of heat exchange through the heat exchanger – soil – atmosphere continuum. Our research is investigating how meteorological conditions, e.g. rainfall/ drought, and vegetation influence the thermal properties of subsoil beneath green infrastructure. A large-scale and heavily instrumented lysimeter is being used at the National Green Infrastructure Facility to establish the hydro-thermal behaviour of a bio- retention cell subjected to a simulated summer heating load. Findings from this work will provide guidance on the potential performance and added value to green infrastructure as an energy resource.

- **CACTUS (Climate Adaptation Control Technologies for Urban Spaces)**

One of the UK’s emerging priority areas of curiosity-driven research needing immediate and sustainable solutions is the impacts of climate change on geo-infrastructure in urban areas. Soil supporting or surrounding the

infrastructure is exposed to the dynamic nature of the atmosphere in the form of extreme temperatures or unusual precipitation events. CACTUS aims at developing novel composite barrier systems for urban spaces in order to limit the severe impacts of “wet and dry”, “flooding”, and “freeze and thaw” on geo-infrastructure. The barrier will be designed to provide increased water holding capacity, reduce impact on subsurface soil strata, and support vegetation. While the project partners work on identifying a range of potential soil types for the barriers and suitable vegetation to enhance transpiration, our researchers at National Green Infrastructure Facility (NGIF) will test the barrier systems in large-scale experiments by applying a series of climate scenarios to represent current and future weather patterns.

Get in touch

If you would like to find out more about NGIF, get involved or attend a demonstration event, please contact Dr Ross Stirling and Dr Claire Walsh (green.infrastructure@ncl.ac.uk).

Twitter: [@NGIF_UK](https://twitter.com/NGIF_UK)

The ISO standard 24536:2019 Guidelines for Stormwater Management in Urban Areas

Takashi Sakakibara

In this article the author explains about the ISO Standard 24536 (Guidelines for Stormwater Management in Urban Areas) and the associated Technical Report (TR) 24539 (Examples of Good Practices for Stormwater Management).

ISO 24536 has been formulated by the Working Group (WG) 11 (Stormwater management), established in the Technical Committee (TC) 224 (Service activities relating to drinking water supply, wastewater and stormwater systems), which has for main function to normalize the activities of water and wastewater utilities. This TC was established in 2011 for which AFNOR (Association Française de Normalisation: French association for standardization) acts as the secretariat. In 2007, the most fundamental standards for water and wastewater utilities – namely ISO 24510, 24511 and 24512 – were formulated. Following these standards, other standards have been published in areas such as asset management, risk management and water efficiency management.

The proposal for the formulation of a new standard on stormwater management was presented by the ISO Japanese delegation at the 9th ISO/TC 224 Plenary Meeting in Haifa, Israel. The New Working Item Proposal (NWIP) was presented in Sept. 2014 and the ballot was approved in Dec. 2014. The first WG 11 meeting was held in 2015 at the 10th ISO/TC 224 Plenary Meeting in Vienna, Austria. So far eight meeting have been held. Considering that the new proposal was presented by Japan the author of this article was elected as Convenor, Mr. Fumihiko Tanaka was assigned as an Expert while Dr. Pierre Flamand and Mr. Okuto Ishizuka were assigned as members of the WG 11 Secretary Support Team. In addition to these members, experts from United Kingdom, France, Austria, Canada and Australia joined WG 11.

As for the international standard on stormwater management (ISO 24536), EN 752 (Drain and sewer systems outside buildings - sewer system management) is a standard that had been previously formulated, covering stormwater management in the European context. Where appropriate, the inclusion of some of its content in ISO 24536 was requested by the Experts from European countries.

The content of ISO 24536 is as follows:

- | | |
|--------------------------|----------------------------------|
| 1 Scope | 7 Performance requirement |
| 2 Normative reference | 8 Design criteria |
| 3 Terms and definitions | 9 Investigation |
| 4 General overview | 10 Assessment |
| 5 Objectives | 11 Planning |
| 6 Functional requirement | 12 System performance evaluation |

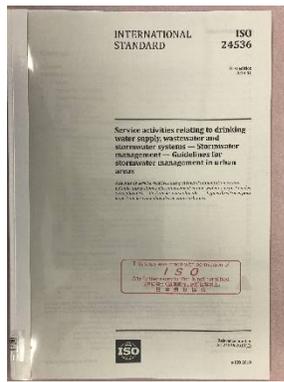
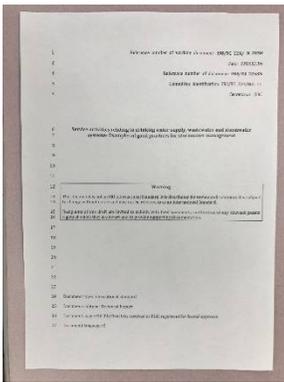
The following nine items are regarded as the objectives:

- | | |
|---|--|
| 1 Effective control and management of flows | 6 Protection or enhancement of ecosystem health |
| 2 Protection of water quality | 7 Protection or enhancement of public health, safety and welfare |
| 3 Preservation of water quantity | 8 Protection or enhancement of social values |
| 4 Protection of the built, public and natural environments: infrastructure property and resources | 9 Facilitation of sustainable development and climate adaptation |
| 5 Water conservation and reuse | |

ISO Standard 24536 has been formulated in the form of a general description of requirements for wastewater and stormwater utilities, but specific case studies have not been included in the standard. Thus, a Technical Report has been developed to introduce good examples of stormwater management in different countries. Nine case studies have been collected from Austria, Canada, Denmark, United Kingdom, France and Japan, and each of them has been categorized according to the objectives noted above.

The reason of Japan’s initiative for the formulation of this standard was to enhance stormwater management in Asian countries, particularly in those located in the Asian monsoon area. Japan has extensive experience in the planning and design of countermeasures for flood control and combined sewer overflows. In this standard the concept of non-asset related solutions and step-by-step solutions has been used and many examples from Japanese cities have been included in the Technical Report.

As the impacts of climate change are expected to grow in the near future, the number of countries and regions requiring systematic stormwater management will most likely increase. In such context, it is expected that ISO 24536 and TR 24539 issued this time will be used. International standards and case studies have been greatly enhanced by companies considering overseas activities in the field of stormwater management and local governments considering building cooperative relations with countries and regions where stormwater management is an issue.



ISO Standard 24536 (2019) (left)

TR 24539 (DTR) (right)

*ISO Standard 24536 was published in Oct. 2019

**Technical Report TR 24539 was under the balloting stage as DTR (Draft Technical Report). It is expected to be published in 2020.

Appendix

A New Working Item Proposal, entitled “Guidelines for Stormwater System Adaptation to Climate Change Impacts”, was proposed in the TC 224 Plenary Meeting in June 2019 with the understanding that climate change has become an urgent issue everywhere around the world.

Future stormwater management in Germany

Mathias Uhl

In 2020, the DWA (subsidiary organisation of the IWA) will publish the worksheet DWA-A 102 "Principles for the management and treatment of stormwater runoff for discharge into surface waters", which is decisive for the future orientation of storm water management in Germany. Essential key points are:

- All discharges from drainage systems must meet emission and immission requirements in accordance with the combined approach of the EC Water Framework Directive.
- The pollutant load emissions of stormwater runoff from separate and combined systems and from roads are balanced on the basis of the fine particulate substances AFS 63 (< 63 microns, fine TSS). The emission limit value is 260 kg AFS63 ha-1 a-1. With a few exceptions, new mixing systems are no longer permitted.
- The discharge emissions from settlement areas of waters with higher sealed catchment areas (< ca 3-5%) are limited to 100 to 300 Ls-1km-2 for ARI of 1-2 years, depending on local conditions. For flood protection further requirements apply up to ARI of 10 years.
- The quantitative emissions from new construction and redevelopment areas should correspond to the natural water balance of the regional, uninhabited cultural landscape in order to limit the effects of urbanisation to a minimum. As emission criteria, the long-term averages of direct runoff, groundwater recharge and evaporation are calculated for the local water management conditions without settlement. The new guideline explicitly recommends participatory planning approaches such as WSUD in order to achieve an environmentally and human friendly use of the landscape for settlement purposes. However, the sponge city is considered a model of outdated functionalism similar to the car-friendly city,
- The immissions of stormwater runoff are evaluated by a three-stage procedure. If necessary, additional measures for the treatment and retention of the runoff have to be chosen.

Research programs of the Federal Ministry of Education and Research (<https://www.bmbf.de/en/index.html>) with reference to urban water management:

Framework program "Research for sustainable Development (FONA) <https://www.fona.de/en/>

Running or recently finished programs with relationship to water management, urban drainage, WSUD and blue-green infrastructure are:

1. sustainable water management
<https://www.fona.de/en/topics/water-management.php>
2. cities of the future
<https://www.fona.de/en/topics/city-of-future.php>
3. Land management
<https://www.fona.de/en/measures/?tlvCategoryids=27>
4. Resource-efficient urban districts for the future
<https://www.fona.de/en/measures/funding-measures/ressource-efficient-urban-districts-for-the-future.php>
5. intelligent and multifunctional infrastructure systems for sustainable water supply and wastewater disposal
<https://www.fona.de/de/massnahmen/foerdermassnahmen/archiv/intelligente-infrastruktursysteme.php>

Each of the programs (3 years, 20-30 million €) has up to ten subprograms on relevant topics of applied R/D and practice to work on by teams from universities, industry, consultants and municipalities. An overarching programmatic focus is to stimulate cooperation, exchange and practical application. Most of the above links give a lot of information in English. If not the excellent translator **deepl** (<https://www.deepl.com/translator>) is highly recommended.

News from related organizations

OTHU News

Since 1999, 12 research laboratories from Lyon (France) have developed a long term field-observatory (named OTHU) with the support of the Greater Lyon city council and the Rhone-Mediterranean Corsica water agency. This observatory gathers a multidisciplinary team with competencies in climatology, hydrology, fluid mechanics, hydraulics, geography, soil sciences, chemistry, biology, microbiology, and social sciences. It is dedicated to the study of a wide range of phenomena associated with urban drainage. OTHU undertakes intense continuous monitoring of climatic parameters, water flows and pollution in three experimental sites, in addition to many regular and specific monitoring campaigns. More than ten other sites are also monitored but in a less intensive way.

In 2019, the OTHU celebrated its 20 years. The year 2020 will be marked by a new phase, full of challenges and commitments concerning in particular:

- the implementation of the new research program of the OTHU in support of the observatory's sites and data
- increased capitalization of our metadata and data
- the organization at the end of the year of the eighth meeting of the Scientific Council, preceded one day before by a scientific seminar
- the development of the scientific activity report presenting all the achievements and advances of the Observatory on 2017/2020
- the publication of a collective summary work to enhance and better transfer the results of the observatory produced during this double decade

For more information on the OTHU project or collaborations, do not hesitate to contact us

(<https://twitter.com/LaetitiaBacot> - laetitia.bacot@graie.org - gislain.lipeme-kouyi@insa-lyon.fr – Flora.branger@inrae.fr) and visit <http://www.othu.org>

Graie / Réseau Environnement - Integrating stormwater management in urban areas as a tool for resilience to climate change

The Graie / Réseau Environnement (Canadian association) jointly responded to the call for projects for cooperation France Quebec 2018. The project, which started in 2019 for two years, aims to develop and exchange expertise between the 2 associations and their members, on one of their main theme: "integrating stormwater management in urban areas as a tool for resilience to climate change"

In 2020, the project will allow :

- to identify the main lines for establishing a dialogue between the evolution of practices and modes of collaboration between technical services and local stakeholders, through the analysis of the existing situation in the two pilot regions / sites (planning, regulatory and monitoring tools for green infrastructure)
- to develop communication tools in order to disseminate information aimed at changing land use planning and sustainable rainwater management practices to enable the territories to be resilient in the face of climate change.

This will be done in particular:

- (i) through the Jacques-Cartier conferences (in Lyon from 2/4 November 2020 - Organization of a special session) and / or
- (ii) the Quebec Environmental Technologies Show (March 2020)

For more information, please do not hesitate to contact us laetitia.bacot@graie.org – <http://www.graie.org>

Environmental and Water Resources Institute (EWRI)

The Environmental and Water Resources Institute (EWRI) of the American Society of Civil Engineers (ASCE) is home to 11 Technical Councils working on an array of issues related such as urban drainage, stormwater management, water, wastewater, and groundwater, etc. Additional councils serve to address student and professional engagement, develop standards, and organize the annual World Water and Environmental Congress (see conference section of this newsletter), among other activities. ASCE-EWRI members can **network, connect, engage and share** experiences, industry information and best practices, seek and share advice, exchange resources and build relationships. To learn more, visit: <http://collaborate.ewrinstitute.org/>

EWRI continues to welcome participation by the international community. There are three councils that may be of interest to the JCUD:

1. **Municipal Water Infrastructure Council** - dedicated to evaluating the costs and performance of municipal water infrastructure and promoting findings to implementers nationwide
2. **Water, Wastewater & Stormwater Council** - Mission is to provide a forum for Civil Engineers, Regulators and other Urban Infrastructure Professionals to explore the evolving practices of stormwater, stream and lake pollution treatment, conveyance, controls, modeling and management.
3. **Urban Water Resources Research Council** - objective is to stimulate and guide water resources research and to disseminate knowledge, research results, and other significant project outcomes to water resource professionals

Each council has task committees dedicated to our water challenges. The focus of these committees range from risk and resilience, to modeling stormwater systems or to update the profession on advances in permeable pavements. Recent efforts include an upcoming report on LID modeling, and continued work on an updated stormwater manual of practice, the International Stormwater BMP database (<http://www.bmpdatabase.org/>). In 2020 EWRI is hosting the annual World Environment and Water Resources Conference (May 2020) In Nevada (<https://www.ewricongress.org/>), and the International Low Impact Development Conference in Maryland <https://www.lidconference.org/>.

Of course, the UWRRC and EWRI are excited to be working with the JCUD's Working Group on Data and Models to host the 2021 Urban Drainage Modeling Conference. The conference is scheduled for July 2021 in Long Beach, California. Planning is off to a great start. Details will be shared soon through the website (www.UDMConference2021.org) and the JCUD mailing list. Please contact the conference chair, Elizabeth Fassman-Beck (elizabethfb@sccwrp.org) with questions.

Reports from industry projects

Real time control Warsaw sewer system

Lothar Fuchs

The Warsaw Municipal Drainage Company (MPWiK) has commissioned the Institut für technisch-wissenschaftliche Hydrologie GmbH (itwh) to implement a real-time control for the Warsaw sewer system. This was preceded by a study in which different variants for compliance with the permissible combined sewer overflow into the Vistula river were investigated. The main results of the study were that additional retention volume is required. It was suggested to construct an interceptor along the Vistula river as well as further retention volume in the sewer system and its management by real-time control (RTC).

The implementation of the RTC includes the construction of a central control room, the implementation of a SCADA system and its connection with the measurement and control devices within the sewer system as well as the development and implementation of the RTC system.

The RTC system is connected to the SCADA system and includes the processing of measurement and status information, the processing of radar data and weather forecasts, the online calibration of the online model, the forecasting of water levels and discharges in the sewer system and the determination of the control decision. It consists of the rule interpreter CONTROL, which is based on the fuzzy theory and is supplemented by the following modules:

- Prediction (Radar-based rainfall prediction and numerical weather forecast based on physical processes in the atmosphere and on the ground)
- Online simulation (continuous hydrodynamic calculation of flow and water levels in the sewer system)
- Learning (module for automated learning of rules for control)

The forecast module consists of a radar-based rainfall forecast. Precipitation cells are identified and their pulling direction and speed is extrapolated over the forecast horizon. A numerical weather forecast based on physical processes in the atmosphere and on the ground extends the forecast horizon.

The online simulation model is continuously calibrated and calculates forecast conditions in the sewer system based on the predicted precipitation. These are used by CONTROL for the control decisions.

A genetic algorithm is used to optimize the rule base. This creates a number of variants from an existing rule base. A long-term simulation is carried out for each variant and the metric is calculated. The learning module optimizes the rule base for the control of the sewer system in such a way that the metric describing the control objective is minimized.

The one-year test phase of the control system will start at the end of 2020 and regular operation is planned to begin in 2022.

UPCOMING EVENTS

A table listing the forthcoming conferences and workshops (as of March 2020) appears below. This table can be also used when planning future JCUD events to avoid conflicting schedules. **This table was compiled in the middle of the worldwide COVID-19 crisis with many events being cancelled or postponed. So please check the primary source of information.**

Conference or Workshop Name	Location	Event Dates	Submission dates	URL
15 th International Conference on Urban Drainage	Melbourne, Australia	TBC	TBC	http://www.icud2020.org/
17th Specialised Conference on Small Water and Wastewater Systems	Belo Horizonte, Brazil	14. -17. Sept 2020	6 April 2020	http://swwsros2020.com/
6 th IAHR Europe Congress	Warsaw, Poland	14 – 17 September 2020	closed	https://iahr2020.pl/
12th Eastern European Young Water Professionals Conference: Water Research and Innovations in a Digital Era	Riga, Latvia	15 – 18 September 2020	1 June 2020	https://iwa-ywp.eu/
IWA World Water Congress 2020	Copenhagen, Denmark	18. Oct – 23 Oct. 2020	closed	http://worldwatercongress.org/
IWA Digital Water Summit	Bilbao, Spain	30 Nov – 3 Dec 2020	closed	https://digitalwatersummit.org/
14 th International Conference on Hydroinformatics	Mexico City, Mexico	11 – 15 January 2021	closed	http://www.hic2020.org/
LET2020 – The 17th IWA Leading Edge Conference on Water and Wastewater Technologies	Reno, USA	21 – 26 February 2021	closed	https://iwa-let.org/
Singapore International Water Week – Water Convention 2020	Singapore	20 – 24 June 2021		https://www.siww.com.sg/
1st IWA Non-Sewered Sanitation Conference	Pretoria, South Africa	4 – 7 July 2021	closed	https://iwa-nss.org/
IAHR World Congress 2021	Granada, Spain	4 – 9 July 2021	October 2020	https://iahrworldcongress.org/

12 th Urban Drainage Modelling Conference	Long Beach, California, USA	11 – 14 July 2021	TBA	https://www.udmconference2021.org
13th IWA Conference on Instrumentation, Control and Automation	Beijing, China	12– 16. Sept. 2021	TBA	
16 th International Conference on Urban Drainage	Cape Town, South Africa	2023	TBA	
Watermatex 2023	Quebec, Canada	2023	TBA	

WORKING GROUP CONTACTS

Int. Working Group on Data & Models (IWGDM) Web site: https://sites.google.com/view/iwgdm/	
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Sewer Systems and Processes Working Group (SS&PWG) Web Site: http://www.sspwg.org	
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WRITE TO US!

The Newsletter is an opportunity to share information: points of view; policy developments; research; activities and events; worldwide. If you have an interesting project, comments, or are planning a conference or workshop, send it to us, including contact point for more information.

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