



# IAHR/IWA JOINT SPECIALIST GROUP ON URBAN DRAINAGE NEWSLETTER 34

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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## JOINT COMMITTEE CONTACTS

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## CHAIRMAN'S THOUGHTS

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Dear members of the Joint Committee on Urban Drainage,

Postponing, cancelling or switching to on-line. These three options have been evaluated for many of our activities being affected by the COVID-19 pandemic. Postponing is the favourite option of optimists, who think that we are near the end of the tunnel. Cancelling is the choice of the realists with an 'all or nothing attitude' and switching to on-line is the option for open minded realists. With respect to the forthcoming ICUD and UDM conferences, the JCUD committee members have discussed several times which of the three options would be 'best'. After consulting the JCUD community via a survey, it has been decided together with the local organisers to postpone both events, with both events facilitating on-line

participation. Please be referred to the section on ICUD2020/2021 and UDM2022 in this newsletter. I would like to thank the local organisers for continuing their endeavour in organising these important events.

The decision process clearly benefitted from the large range of ideas and viewpoints expressed by the JCUD members, each representing another part of our worldwide community. As such, a nice example of the IAHR motto 'Intelligence through Diversity'. The geographic distribution of the membership of the JCUD nicely meets the objectives set by the IAHR, although the gender balance could clearly be improved. Please be referred to the previous page in this newsletter to evaluate this balance. Therefore, I strongly encourage women to apply for the several open positions in the JCUD, that are announced in this newsletter or to contact one of our Working Groups to actively participate in the management of these groups.

A very nice spin off from the process of postponing the ICUD2020 to 2021, was the organisation of the first JCUD on line webinar early December 2020. We have selected 14 'best papers by young authors' from the abstracts submitted to the ICUD2020. These 14 papers have been presented in 3 webinars, each catering for 2 specific time zones: EU-AUS, EU-AM and AUS-AM and the 4 best papers have been invited to submit their paper to a special virtual ICUD issue in Water Science & Technology (WST). By the way, WST has very recently shifted to Subscribe to Open, meaning that authors and readers no longer have to pay a fee and the journal is fully Open Access. IWA publishing expects that this would result in a sharp increase in the impact factor on a short notice. I would like to invite you to consider submitting your work to WST, as the journal can only be a successful platform for our community if we submit our high quality work to WST.

Moreover, the success of the first webinar inspired JCUD to launch a series of bimonthly webinars by the WGs of the JCUD, which will enable our community to frequently meet and exchange ideas and results findings. We hope these webinars can act as a bimonthly source of inspiration to our community.

I hope you are all fine, stay safe and in good health and I look forward meeting you during one of our next (on line) events.

Thanks,

Jeroen Langeveld

Chair of Joint Committee on Urban Drainage

## FROM THE SECRETARY'S DESK

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**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, 2021: Australia; next to be in South Africa). 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.** Since our last newsletter, we have had no changes to our membership, in part due to the COVID-19 pandemic and the inability to meet in person to confer any changes.

**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:

- 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
- Young members: Dusan Jovanovic, Job van der Werf, and Moran Wang

**Call for new members.** This coming year (2021), we will be saying farewell to four members of our group (their second 3-year term is concluding in October 2021). As such, we have launched a call for new members to the JCUD and so 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 looking for new members that reside outside of: Austria, Japan, Colombia, Denmark, France, USA, South Africa and Australia. This is because we have members that already represent these countries and our statutes only allow one member from each country. Young members will also be invited to help with JCUD operations in the near future - join the JCUD mailing list if you want to be kept informed on new young members openings to the JCUD.

**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). 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](mailto: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](mailto: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](http://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](mailto:Manfred.Kleidorfer@uibk.ac.at)).

Take care,

David McCarthy,

JCUD secretary

## JCUD MANAGEMENT COMMITTEE: Call for NEW member nominations

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The Management Committee of the IWA/IAHR Joint Committee on Urban Drainage (JCUD) will have four 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](http://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](mailto:j.g.langeveld@tudelft.nl)), copied to JC secretary Associate Professor David McCarthy ([david.mccarthy@monash.edu](mailto:david.mccarthy@monash.edu)): (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 10-point font or larger.

**Deadline: 1st October 2021:** The applications received will be distributed to the JCUD members for assessment and voting; the results will be announced sometimes after the JC meeting

## NEW JCUD webinar series

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Every bad thing also has a good side. Although this sometimes needs some time to be identified the shift towards virtual activities during the COVID19 pandemic showed that virtual events can be a great opportunity to stay in touch between conferences and workshops.

JCUD has organised their first virtual conference in December 2020. This virtual conference was a success with 3 lively sessions, attended by nearly 200 participants. As a result of this positive experience JCUD decided to launch a series of webinars

*Organisers:* a JCUD virtual conference can be organised by a JCUD member in close cooperation with one of the JCUDs Working Groups.

*Programme:* We suggest 4 presentations each 15 minutes with 5 minutes discussion

*Topics:* to be selected by the organisers

*Selection of speakers:* To avoid a lengthy review and selection process the program is composed by the organizers. We suggest, that the organizers pick 4 recent papers (not older than 24 months) from our Journal Water Science and Technology and invite the first author (ideally a junior scientist student) to present the work. This gives the opportunity for the authors to get more visibility for their work and the chance for the community to discuss a published paper.

*Frequency:* We aim for webinar once per 2 months. This would allow each WG to host a virtual session once every 2 years.

*Platform:* The choice of the platform is up to the organisers (e.g. ZOOM, gotomeeting, etc.)

*Contact persons at JCUD:* John Okedi, john.okedi@uct.ac.za (event coordinator) and Lian Lundy, L.Lundy@mdx.ac.uk (WG coordinator)

*Publicity:* The organizers should use IWA connect and the urban drainage mailing list to promote the event, JCUD will also put it on <http://www.jcud.org/>

*Evaluation:* The organizers are invited to report their experiences and number of participants back to JCUD to improve the organisation. After 2 years an evaluation is planned whether this low carbon footprint activity has demonstrated to be able to fulfil the needs for contacting peers, networking and exchanging ideas

*Start:* The first webinar is organized by the Working group on data and models on 07 June 2021

Program:

1. Luca Vezzano/ Peter Stentoft: Integrated model predictive control of water resource recovery facilities and sewer systems in a smart grid: example of full-scale implementation in Kolding
2. Olivia Bailey: Predicting impacts of water conservation with a stochastic sewer model
3. Ico Broekhuizen: Performance comparison of green roof hydrological models for full-scale field sites

More information how to join: <https://sites.google.com/view/iwgdm/events/jcud-iwgdm-webinar>



[www.icud2021.org](http://www.icud2021.org)

The International Conference on Urban Drainage is set to take place **24-29 Oct 2021** at the Convention and Exhibition Centre, Melbourne, Australia. The plenary program will run from Sunday 24th to Friday 29th October, with pre-conference workshops taking place on Sunday 24th and post-conference technical tours concluding the meeting on Friday 29th October.

### **Registration types – in person and virtual! CHEAPEST OPTIONS SINCE ICUD BEGAN!**

Delegates will have the opportunity to attend in person or online, through the very best of virtual conferencing platforms. With COVID-19 still potentially impacting on your ability to travel, the Committee is promising a fully flexible registration process. Delegates can change their face-to-face registration to a virtual registration if restrictions don't allow them to travel. You can register knowing regardless of the prevailing COVID-19 conditions in October 2021 you will be able to participate one way or another at the relevant registration cost! Want to know more, visit us here:

<https://www.icud2021.org/registration>

### **Abstracts – extended abstracts due by 25<sup>th</sup> June!**

Call for abstracts is currently open – please submit your abstracts by 25<sup>th</sup> June 2021 via <https://www.icud2021.org/call-for-abstracts>. The ICUD 2021 Committee is seeking abstracts that are relevant to sustainable urban drainage. The following categories are broad and inclusive and may provide guidance for submission:

- Integrated urban water management
- Water Sensitive Urban Design (WSUD)/Low Impact Development (LID) and SUDs
- Source Control - Green Infrastructure
- Source Control - Other
- Modelling and Uncertainty
- Urban flooding and risks
- Sewer process and networks
- Receiving water body/environmental impacts
- Real time control
- Policy, regulation and society
- Asset management
- Water recycling, reuse and harvesting
- Water quality: ecological and recreational
- Climate change and precipitation
- Special Session 1: Advancing RTC
- Special Session 2: Contaminants of emerging concern
- Special Session 3: Urban Drainage and SARS-COV-2

If you have previously submitted your extended abstract to ICUD2020, then please be sure to update (if required) and resubmit to ICUD2021. Good news is the template is exactly the same!

The program will include keynote, plenary, and technical sessions, both available online and in-person. Selected papers will be considered for special issue and special collection journals.

Please visit us at [www.icud2021.org](http://www.icud2021.org) for more information, including abstract submission procedures. We'll be updating the website frequently, so please check back often.

Important dates:

- Abstracts Close: Friday 25th June 2021
- Abstract Notifications: End of July 2021
- Early Bird Registrations Close: Friday 6th August 2021
- Pre-Conference Workshops: Sunday 24th October 2021
- ICUD 2021 Conference Dates: Monday 25th - Thursday 28th October
- Post-Conference Technical Tours: Friday 29th October 2021
- For further information, please contact David at [david.mccarthy@monash.edu](mailto:david.mccarthy@monash.edu)

Regards

David McCarthy

Conference Chair

## Urban Drainage Modelling Conference 2022 – Call for Abstracts

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<https://udm2022.org/>

We are pleased to announce the International Conference on Urban Drainage Modelling (UDM) will convene during the week of January 10, 2022 online and in California, USA. The 12<sup>th</sup> edition of this exciting event will be locally hosted by the [Southern California Coastal Water Research Project](#), and coordination with the [American Society of Civil Engineers Environment and Water Resources Institute](#). The UDM conference is a gathering of international, multidisciplinary water professionals and students that are pioneering the understanding and practices of modeling and monitoring throughout the world. The UDM planning is led by the International Working Group on Data and Models and the IWA/IAHR's [Joint Committee on Urban Drainage \(JCUD\)](#).

The UDM conference series started in 1986 in Dubrovnik, former Yugoslavia. The second edition of UDM was organized in 1991 also in Dubrovnik. After the first two editions in Dubrovnik, the conference has travelled across the globe to the River Volga (1994), London (1998), Orlando (2001), Dresden (2004), Melbourne (2006), Tokyo (2009), Belgrade (2012), Québec (2015), and Palermo (2018).

The UDM seeks to create a forum for deep discussion and exchange of ideas amongst technical experts including engineers, scientists, professionals and academics. The UDM Conference brings focus to the data and models needed to develop better understanding and advance the management of the urban drainage system (e.g., water quality and quantity, urban flooding and modelling, urban flood forecasting and risk analysis, modelling tools, data etc.).

The 12<sup>th</sup> UDM conference is currently anticipated as a combination of online and in-person activities. We hope to be able to welcome you in-person to the UDM in Costa Mesa, California. The committee will update the community as new information on travel and in-person opportunities becomes available.

We are calling for abstracts (due July 2021 - for exact dates check website) on topic including:

- Data collection to support modeling development, calibration, and validation
- Understanding of management and mitigation (BMPs, SCMs, WSUDs, SUDs, LID, GI, etc.)
- Coastal hydrologic and hydraulic processes
- Hydrology and rainfall in urban areas
- Extreme events: wildfires, droughts, and deluges
- Coupled integrated modeling: surface-subsurface hydrology, infiltration management systems-groundwater interactions, etc
- Real-time control, analytics, and software integration
- Modelling interactions and integrated systems
- Transport and sewer processes of microconstituents and pathogens
- Predicting receiving water quality with climate change
- Water security
- Data standards for UDM applications

The program will include keynote, plenary, and technical sessions. Best Student Presentation and Young Researcher Awards will be recognized. Selected papers will be considered for special issue and special collection journals.

Please visit us at <http://udm2022.org/> for more information, including abstract submission procedures. We'll be updating the website frequently, so please check back often. You are welcome to send enquiries to us at [UDM2022@sccwrp.org](mailto:UDM2022@sccwrp.org).

Important dates (please also check website for changes):

- Abstract submission opens Friday 25 June 2021
- Abstracts close: Friday 23 July, 2021
- Abstract Notifications: End of August 2021
- Conference dates: Monday 10 – Wednesday 12 January 2022

Contacts us at [UDM2022@sccwrp.org](mailto:UDM2022@sccwrp.org)

Conference Chair: Elizabeth Fassman-Beck, Ph.D., Principal Engineer, Southern California Coastal Water Research Project

Technical Chair: Scott Struck, Ph.D., Principal, Geosyntec Consultants

More and updates information: <https://udm2022.org/>

## WORKING GROUP REPORTS

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As with many areas of life, the COVID19 pandemic has affected Working Group (WG) activities. Three WGs provided reports (see below), with the following seven working groups noting their activities have been postponed or canceled due to the pandemic:

- The Real-Time Control of Urban Drainage Systems (RTCUDS) Working Group
- Sewer Systems and Processes Working Group (SS&PWG)
- International Working Group for Water Sensitive Urban Design (IWGWSUD)
- Working Group on Urban Storm Water Harvesting (USWH)
- Working Group on Metrology of Urban Drainage
- Working Group on Urban Drainage in Cold Climates (UDCC WG)
- Working Group on Source Control for Stormwater Management (SOCOMA)

### **International Working Group on Data and Models (IWGDM)**

As for the entire community, also the activities of the data and modelling group was affected by the COVID19 pandemic. Conferences and workshops had to be postponed. This also effected the Urban Drainage Modelling Conference planned for summer 2021 in California USA. Now UDM is planned for early 2022 – please see the call for abstracts and <http://udm2022.org/> for more information.

The Working group on data and models also agreed to be the first working group to organize a webinar in the new JCUD webinar series on 7<sup>th</sup> June 2021 09:00 – 10:00 CEST

Program:

1. Luca Vezzano/ Peter Stentoft: Integrated model predictive control of water resource recovery facilities and sewer systems in a smart grid: example of full-scale implementation in Kolding
2. Olivia Bailey: Predicting impacts of water conservation with a stochastic sewer model
3. Ico Broekhuizen: Performance comparison of green roof hydrological models for full-scale field sites

More information how to join: <https://sites.google.com/view/iwgdms/events/jcud-iwgdms-webinar>

To be stay in contact please visit our webpage <https://sites.google.com/view/iwgdms/> and subscribe the newsletter.

### **International Working Group on Urban Rainfall (IGUR)**

IGUR activities were severely affected by the COVID-19 pandemic. For more than a decade, the Group has met at least once a year but for the first time was unable to do so in 2020. However, we are holding an on-line Zoom meeting on 22/02/21 and are planning future meetings to coincide with both the ICUD2021 (September 2021) and the next UrbanRain Workshop, the date for which will be announced soon.

We are also currently holding an on-line election for the role of Chair, IGUR. This is for a three-year term. Simon Beecham has served as Chair for two consecutive terms and has announced his intention to step down this year.

### **Working Group on Urban Drainage Asset Management (UDAM)**

Behind the acronym UDAM stands an active working group of the Joint Committee on Urban Drainage, whose goal is to give a platform to everyone working on Urban Drainage Asset Management. Formed in 2018, it gathers now more than 40 members from 16 countries. If you want to participate join us on <https://udam.home.blog/>

The UDAM leading committee recently welcomed a young researcher in their ranks: Nathalie Hernández who obtained her PhD related to Sewer Asset Management in 2020 and is currently working as Project Engineer at STEIN Infrastructure Management GmbH in Bochum (Germany).

In terms of conference and publication activities:

- 7th EURO-SAM workshop the 16th and 17th June 2021 in Luleå, 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, it will be organized by Luleå University of Technology. Register here: <https://form.jotform.co/udam/euro-sam-7> and stay update here: <https://udam.home.blog/euro-sam/>
- Blue Planet event: special session asset management: 25 February 2021 is the next Blue Planet event. Digital, one afternoon only, free of charge and a series of presentations and panel discussions over two major topics: digital water and asset management. You can register from now on <https://blueplanetberlin.de/agenda/>
- IWA webinar on data-driven asset management: IWA is organizing a webinar on April 20 on the topic of “Data-driven Asset Management: can AI empower infrastructure rehabilitation?”. This webinar will show the potential of data-driven modelling and artificial intelligence (AI) to support asset management strategies of water and sewer networks. More information to come soon!
- LESAM Bordeaux: call for ideas: The next LESAM Conference will be held in 2022 in Bordeaux, France. UDAM will 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!
- UDAM will be present at the next Water Congress with two abstracts: “It came from the sewers – what about asset management?” coordinated by Franz, and “Urban drainage asset management – also for blue-green infrastructures!” coordinated by Jeroen.

On the behalf of the UDAM, Franz has coordinated a proposal (COST) to build a collaborative network on sewer asset management and its relationship with other urban infrastructure. The proposal involving 52 participants from 31 countries has been submitted. Finger crossed now!

On the behalf of the UDAM, Franz has also lead a review paper on Sewer Asset Management published in Urban Water Journal: <https://doi.org/10.1080/1573062X.2020.1713382> (open access).

More news from our last UDAM newsletters: <https://udam.home.blog/news/>

## NEWS FROM IAHR

IAHR Secretariat contacts: IAHR, Paseo Bajo Virgen del Puerto 3, 28005 Madrid, Spain; Tel: +34 91 335 7908; E-mail: [iahr@iahr.org](mailto:iahr@iahr.org), URL <http://www.iahr.org>. For more information on IAHR activities and free subscription to the IAHR e-newsletter 'NewsFlash World' <http://bit.ly/iahr-subscribe>



International Association  
for Hydro-Environment  
Engineering and Research

Hosted by  
Spain Water and IWHR, China

The International Association for Hydro-environment Engineering and Research (IAHR), founded in 1935, is known throughout the world as a leading international organisation of scientists, engineers, professionals, institutions, and companies working together to build a better future for the hydro-environment. IAHR stimulates and promotes research and its application by sharing new research paradigms, networking, creating and disseminating knowledge,

informing best water-management practices, and nurturing young professionals. Activities range from river and maritime hydraulics to water resources development and ecohydraulics, through to ice engineering, hydroinformatics 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 cooperation with other water-related (inter)national organisations.

IAHR Knowledge Products help inspire, disseminate, and catalyse state-of-the-art knowledge on hydro-environment science and engineering related issues to achieve a water-sustainable future. The association's portfolio includes seven peer-reviewed journals, four associated journals, a magazine for the hydro-environment engineering community, scientific and technical proceedings, book and paper series.

IAHR sponsors the **organization of many conferences and symposiums** of potential interest to the urban drainage community; for full information, please visit their website [www.iahr.org](http://www.iahr.org)

### IAHR World Congress

Celebrated every two years, IAHR World Congresses are one of the most important activities of the association and attract more than a thousand participants from all over the world. The Congresses provide scientists, engineers, organisations, central and local authorities, companies, and young professionals early in their careers with a stimulating opportunity to share and discuss recent advances and experiences, and identify innovative and emerging trends in hydro-environmental science and engineering.

The 39<sup>th</sup> IAHR World Congress "From Snow to Sea" is planned to take place from 19-24 June 2022 in Granada, Spain, and online. Conference themes are:

- Human-water relationships
- Snow, river and sediment management
- Environmental hydraulics and urban water cycle
- Hydraulic structures
- Water resources management, valuing and resilience
- Computational and experimental methods
- Coasts, estuaries, shelves and seas
- Extreme events: from droughts to floods



More information available at: <https://iahrworldcongress.org/>

## **IAHR Online Forum**

The IAHR launches the inaugural IAHR Online Forum in 2021, a new series of virtual events aimed at bringing together the community of hydro-environment professionals in the years in between the IAHR World Congresses by making the most of digital opportunities.

The IAHR Online Forums aim to bring together the continually evolving knowledge and innovations of the Hydro-Environment community and provide an important reference for all those who seek to understand the latest challenges and trends of hydro-environmental solutions and research.

The 2021 IAHR Online Forum will focus on the challenges and trends of hydro-environmental solutions and research and will include key plenaries and technical sessions that cover a range of topics essential to water security.

The Online Forum caters especially for engineers, experts, researchers, and organisations and it's a premier reference for all who are interested in quickly understanding the state of play of the global hydro-environment engineering and research community. IAHR's wide range of Technical Committees and Working Groups will make special contributions to highlight the issues and directions in their respective fields.

Key plenaries will take place LIVE from 5-6 July 2021 and some technical sessions will be live in the days leading up to and immediately following the event, whilst ALL sessions will be made available "on-demand" and online upon their release during the Forum.

Registration shall be free. For more information, please contact: [iahr.madrid@iahr.org](mailto:iahr.madrid@iahr.org)

To keep updated, register at: <http://bit.ly/iahr-online-forum-keep-updated>

## **Forthcoming**

***Webinar on The Fundamental Issues of Global Water Security: Linking Water Security to Nature. 22 March 2021.***

<https://www.iahr.org/index/detail/307>

*The IAHR is contributing to the official celebrations of World Water Day 2021 with this webinar, which will frame high-level adaptive, real-time monitoring, and nature-based solutions to the challenges and opportunities of Global Water Security.*

## **Publications**

**Hydrolink magazine: now freely accessible online**

<https://www.iahr.org/index/detail/86>

As part of the efforts of the association to disseminate and share knowledge, Hydrolink, one of the highest-rated member benefits, becomes free access in 2021. The association now provides free online access to previous issues, which are being made gradually available on the web.

**The role of engineers in the effort to achieve SDG 6. A White Paper**

<https://www.iahr.org/index/detail/263>

The purpose of this white paper is to provide an overview of the contribution of engineering to the effort to achieve the water-related Sustainable Development Goals (SDGs) of Agenda 2030 and to discuss what more engineers should be doing, including expanding their horizons beyond the confines of their traditional engineering education and the importance of embracing a human rights-based approach. In addition, it explores how the modern paradigm of engineering, which inherently integrates nature-based approaches, contributes and enables national stakeholders to achieve the SDGs through gender-responsive, human rights-based approaches.

## NEWS FROM IWA HQ

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### [Australian water industry expert becomes IWA President](#)

Leading water consultant Tom Mollenkopf has today become the new President of the International Water Association, taking office following his election in Lisbon, Portugal back in October 2019. Mr. Mollenkopf, who trained as a lawyer and holds an MBA, has been a substantive and well-regarded figure in the water sector for the past 20 years.

### [New IWA YWP Chapter in Sweden](#)

A new IWA Young Water Professionals (IWA YWP) Chapter in Sweden was formed on 8 April 2021. This new IWA YWP chapter is open to all water related professionals in Sweden, aged 35 and below, who are IWA members either individually or through their employer.

### [Guidance on Preparing Water Service Delivery Plans: A manual for small to medium-sized water utilities in Africa and similar settings](#)

This publication is a guideline or how-to manual on preparing water service delivery plans with a focus on small to medium sized organised water utilities having with approximately 5,000 to over 100,000 connections mainly in areas with limited capacity and resources.

### [Digital Water: The value of meta-data for water resource recovery facilities](#)

Meta-data refers to descriptive information essential to convert large volumes of raw data into useful resources. With the advance of digitalisation in the water sector, it is fundamental to avoid data graveyards and, on the other hand, using collected data to address current and future problems. This white paper focuses on the crucial role that meta-data has in responding to future and possibly unpredictable challenges.

### [How far are we from reaching SDG 6? A target-by-target analysis](#)

In March this year, UN Water, in collaboration with other UN entities responsible for SDG 6 targets, launched a report to summarise the progress towards achieving universal access to water and sanitation globally by 2030.

### [Consultation Open – Call to Action on Regulating for Citywide Inclusive Sanitation](#)

In June 2020, IWA launched a new initiative Regulating for Citywide Inclusive Sanitation (R-CWIS). Through this initiative, in collaboration with representatives from regulators and organisations across the globe, IWA aims at identifying the needs, opportunities, and tools for action to support and inspire regulators in their contribution to achieving citywide inclusive sanitation in the context of the SDGs.

### [Digital congress programme announced](#)

An overview of the programme for the Digital World Water Congress has been published by IWA. Packed with information on the themes, topics and timings, you can view this now to start planning your schedule at the congress. To view the programme overview, please [click here](#).

### [IWA supports study on climate-resilient water management](#)

IWA, along with other partner organisations such as The Nature Conservancy, is an official endorser of the new report “Integrating EbA and IWRM for climate-resilient water management” published by GIZ.

### [New Water Safety Planning Factsheet on Engaging Vulnerable Groups](#)

IWA has published a new factsheet entitled “Engaging vulnerable groups in the implementation of Climate Resilient WSP”. Both vulnerable and marginalized groups have disadvantages that need to be considered in provision of safe water and accessible water supply.

New Publications

Selected books



**Sustainable Industrial Water Use: Perspectives, Incentives, and Tools**

Cheryl Davis; Eric Rosenblum

ISBN: 9781789060669

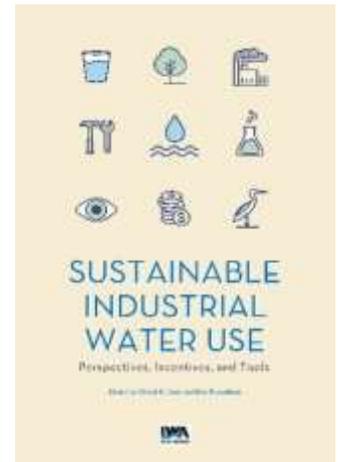
February 2021 • 450 pages • Paperback

IWA Members price: £90.00 / US\$ 135.00 / € 113.00

Also available as an Open Access ePDF

<https://www.iwapublishing.com/books/9781789060669/sustainable-industrial-water-use-perspectives-incentives-and-tools>

This new anthology brings together the voices of the executives, plant managers, investors, inventors, regulators, policymakers and advocates leading industry to sustainable water use. They discuss how they redesign facilities to operate in water-short areas, change the rules to encourage responsible water use, and bridge the gap between companies and communities. They also report on the risks facing industry, and the tools they use to measure, treat, and reuse water more sustainably.



**Water-Wise Cities and Sustainable Water Systems: Concepts, Technologies, and Applications**

Xiaochang C. Wang; Guangtao Fu

ISBN: 9781789060751

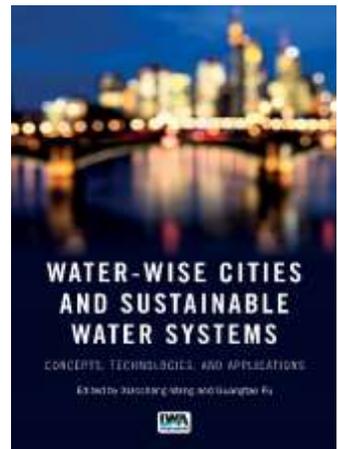
December 2020 • 400 pages • Paperback

IWA Members price: £86.00/ US\$ 129.00/ € 108.00

Also available as an Open Access ePDF

<https://www.iwapublishing.com/books/9781789060751/water-wise-cities-and-sustainable-water-systems-concepts-technologies-and-applications>

This is the first book to provide comprehensive insights into theoretical, systematic, and engineering aspects of water-wise cities with a broad coverage of global issues. The book aims to (1) provide a theoretical framework of water-wise cities, (2) provide a brand-new thinking on the design and management of sustainable urban water systems, and (3) provide a technological perspective with successful case studies of technology selection, integration, and optimization on the “fit-for-purpose” basis.



**Pharmaceutical Wastewater Treatment Technologies: Concepts and Implementation Strategies**

Nadeem A. Khan; Sirajuddin Ahmed; Viola Vambol; Sergij Vambol

ISBN: 9781789061321

January 2021 • 400 pages • Paperback

IWA Members price: £98.00/ \$147.00/ €123.00

<https://www.iwapublishing.com/books/9781789061321/pharmaceutical-wastewater-treatment-technologies-concepts-and-implementation>

This book covers the various aspects of pharmaceutical sources, treatment technologies, and the harmful effect on the natural environment. The book will also highlight the concept of the 3Rs (reduce, reuse and recycle) as applied to the treatment and resource recovery systems for pharmaceutical treatment. The different innovative technologies will deal with reducing the energy requirements, the physical space requirements and impacts of treatment plants.





**Urban water demand for manufacturing, construction and service industries: a microdata analysis**  
**(OPEN ACCESS)**

*Pilar Gracia-de-Rentería ; Ramón Barberán ; Jesús Mur*  
*Journal: AQUA*  
<https://doi.org/10.2166/aqua.2021.105>



**Evaluating the stormwater management model to improve urban water allocation system in drought conditions**  
**(OPEN ACCESS)**

*Jiaping Ren, Majid Khayatnezhad*  
*Journal: Water Supply*  
<https://doi.org/10.2166/ws.2021.027>



**Historical evolution of urban water conservancy projects in Xi'an, China in the past 3,000 years and its revelations**  
**(OPEN ACCESS)**

*Wei Zhou ; Junrui Chai ; Zengguang Xu ; Yixuan Wang ; Kewu Wei ; Yungang Dang*  
*Journal: Water Supply*  
<https://doi.org/10.2166/ws.2021.043>



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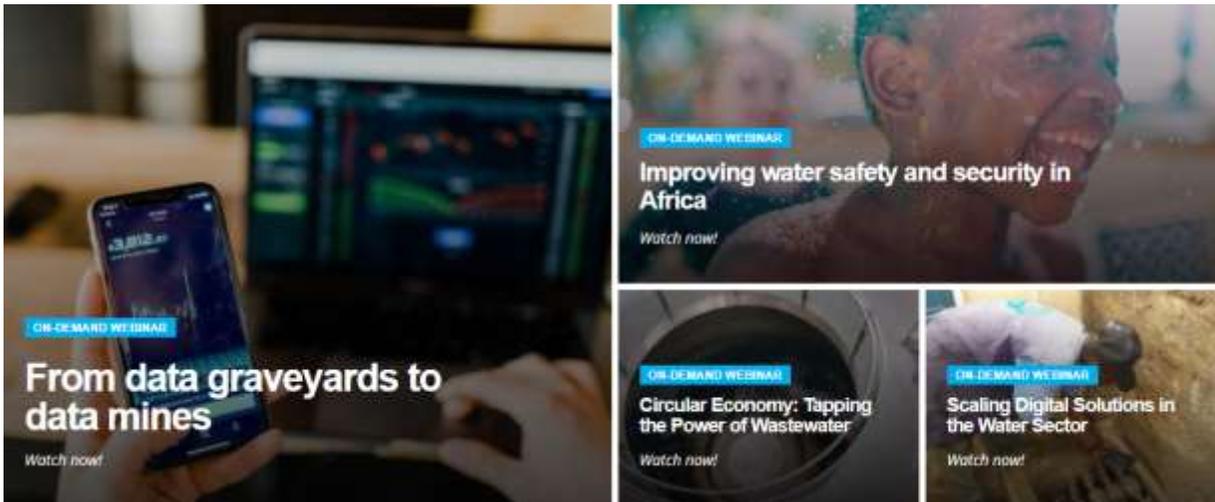
## IWA LEARN

### The place for learning & professional development in the water sector

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Professionals in the water sector require continuous development to be able to stay abreast with the changing environment circumstances. No matter in which stage of your career, IWA provides you with guidance and opportunities to build up the competences required to succeed. This includes a set of tools on how to develop your career, as well as opportunity of professional updating, learning, training and networking.

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



### The International Conference on Water Management Modeling 2021 - A virtual success

**Laura-Lee Fletcher, Computational Hydraulics Int**

CHI is pleased to announce the successful wrap-up of the 54<sup>th</sup> annual International Conference on Water Management Modeling (ICWMM). Our first virtual event has received praise for its organization, high-quality presentations, and user-friendly platform.

*“This has been the best virtual conference I have attended so far; very well organized and smooth.... Nice selection of topics and experiences reported.” Pitt*

*“Thank you for organizing an incredible conference! Your team at CHI Water and EventMobi put on a seamless and enjoyable conference. Thank you! It was a complete privilege to be involved.” Stahl*

*“As some of the other panelists mentioned this morning, this is the best run virtual conference I have attended – please share my congratulations to the team running the conference! I know this was a lot of hard work behind the scenes!” Murray*

Bringing together professionals worldwide, the ICWMM is a platform to exchange ideas on current practices and emerging technologies in water management. This year, the virtual platform provided an opportunity for professionals from many countries to join virtually, including Australia, Brazil, France, China, New Zealand, South Africa, Thailand, Togo, and of course, Canada and the US.

With a record number of attendees (148), this year’s demographic was split into academia (22%), consulting engineers (58%), and various governmental organizations (20%). The top 5 rated presentations were:

1. Lewis A Rossman, USEPA - *A preview of the next SWMM 5 update*
2. Shirley E Clark, Penn State Harrisburg, Middletown, PA, USA - *Combined impacts of compaction and microburst storms on runoff from an area of the Penn State Harrisburg Campus*
3. Regan Murray, USEPA - *The science and engineering behind EPA’s water modeling – Celebrating 50 years of progress and charting a path for the future*
4. Casey Garland & Nina Caraway, WithersRavenel, Cary, North Carolina, USA - *New daily demand patterns and the financial reality*
5. Álvaro González-Álvarez, Boswell Engineering, South Hackensack, NJ, USA - *Sensitivity of peak flow response to imperviousness increase in a tropical Caribbean urban catchment*



## First International Conference on Urban Water Interfaces, 22 – 24 September 2020

### Dr. Gwendolin Porst

Between 22 and 24 September 2020 the first international conference on “Urban Water Interfaces (UWI)” was held using the digital video conference system Zoom. Owing to COVID-19 circumstances, the conference had to be shifted into digital space, which allowed opening it to a significantly larger scientific audience than initially planned on site in Berlin. This resulted in the participation of almost 200 national and international participants from five continents.

The conference has been initiated by “UWI”, an interdisciplinary Research Training Group funded by the German Research Foundation (DFG). It brings together aquatic science and engineering, historically separate fields with distinct traditions in water research from the Technische Universität Berlin (TUB) and the Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB). By joining these perspectives and focusing all individual UWI projects on water interfaces in cities, the Research Training Group aims to generate a new quality of process understanding in urban water systems.

The content of the conference dealt with the importance of interfaces in the urban water cycle and their effects on current and future urban water management. The topics of the conference were interfaces in urban catchment areas, in urban freshwater ecosystems, in urban hyporheic zones and in sewer systems. The conference not only highlighted progress achieved within the Research Training Group ‘Urban Water Interfaces (UWI)’, but was also a platform for presenting state of the art insights and novel findings from an international interdisciplinary community with contributions from other researchers, the water engineering practice and administration. The conference included five stimulating keynote lectures, more than fifty presentations in two parallel sessions, virtual networking, a lively open forum discussion and impressive virtual excursions to selected laboratory and field experimental sites. Five prizes were awarded for “best presentation” in each of the four conference topics and another one for the talk with the most innovative digital format.

Even if a digital conference cannot replace the lively discussions and networking of an on-site event, this conference has shown that digital space offers many possibilities in terms of content and technology. In the future (after Corona), conferences will probably be carried out more frequently in a hybrid way, i.e. a combination of on-site and virtual participation.

The “Summary of Abstracts” has been published at the Technische Informationsbibliothek (TIB): <https://www.tib.eu/en/search/id/TIBKAT:1733879374/First-International-Conference-on-Urban-Water-Interfaces?cHash=310df1b8b220b9230473e12211bec853>

You can find more information about the UWI Research Training Group under [www.uwi.tu-berlin.de](http://www.uwi.tu-berlin.de)

Local organizing committee: Prof. Reinhard Hinkelmann, Prof. Birgit Kleinschmit, Dr. Gwendolin Porst, Nasrin Haacke, Micaela Pacheco Fernandez, all TU Berlin

## Interested in conducting research and innovation projects on shared urban drainage experimental facilities in Europe?

José Anta Álvarez, Co-UDlabs - Building Collaborative Urban Drainage research labs communities.  
H2020 INFRAIA 2020-02-Starting Community.

### WHY CO-UDLABS?

The EU's Urban Drainage Systems (UDS) have been valued at €2.5 trillion. They are essential infrastructure providing safe sanitation and drainage and environmental protection by collecting and then returning securely to the natural water bodies. Many UDS are at risk, their economic life is coming to an end and it is unclear how limited knowledge on their state and processes, population growth, climate emergency, untreated stormwater and public health threats caused by emerging pollutants and pathogens can be addressed, and how knowledge innovation and best practice is effectively shared.

Innovative approaches are urgently needed to tackle these challenges, and large-scale laboratory facilities are essential to investigate and validate new approaches and provide confidence in their effectiveness and safety before implementation in existing UDS. CO-UDlabs aims to integrate 17 key large scale research facilities at a European scale into an ambitious project aiming to offer the R&D community, water infrastructure operators and their supply chain high quality laboratory and field facilities, human resources, high level training opportunities and improved data sharing platforms in order to meet major UDS related societal, environmental, and economic sustainability challenges of the 21<sup>st</sup> Century.

### WHO ARE WE?

- 1 University of A Coruña (UDC)
- 2 University of Sheffield (UoS)
- 3 Stichting Deltares (DEL)
- 4 Swiss Federal Institute of Aquatic Science and Technology (EAWAG)
- 5 Institute for Underground Infrastructure (IKT)
- 6 INSA - Lyon (INSA)
- 7 Aalborg University (AaU)
- 8 Group of research, technical coordination and water information (GRAIE)
- 9 Euronovia (EURO)



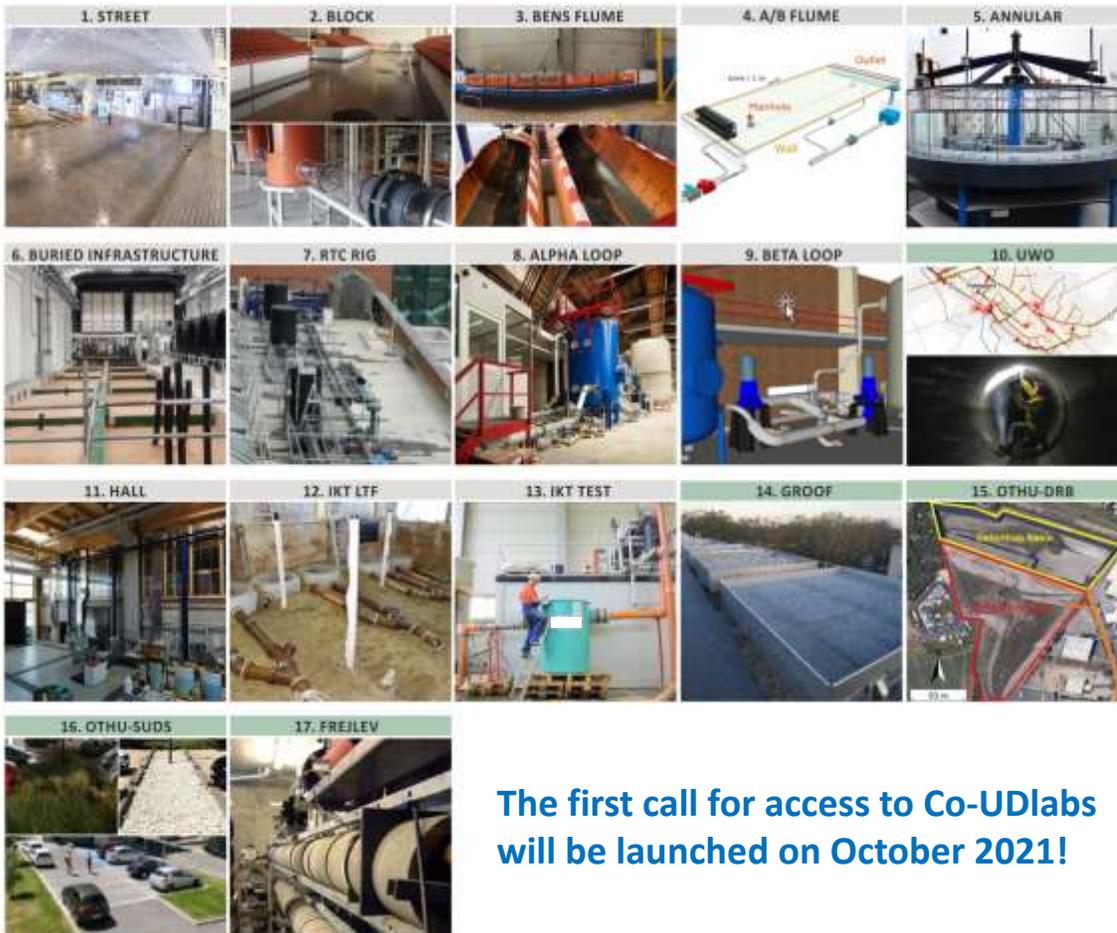
Co-UDlabs consortium comprises 4 Universities (University of A Coruña (Spain), University of Sheffield (UK), INSA Lyon (France) and Aalborg University (Denmark), all with world-class urban water research groups, combined with 3 leading national research institutes (Deltares (Netherlands), EAWAG (Switzerland) and IKT (Germany)). The consortium also includes GRAIE, a non-profit organization with proven abilities in creating partnerships between industry, water utilities, policy-makers and the researchers from public institutions, and the specialized multi-sectorial SME EURONOVIA.

### WHAT DO WE PROPOSE TO THE UD COMMUNITY?

#### Providing Transnational Access, opening unique research facilities to European researchers and innovators

Co-UDlabs has been designed to offer a range of complementary research infrastructures to cover the entire range of UDS processes: rainfall-runoff, surface wash-off, wastewater collection systems and their interactions with urban surfaces and soils, and the operation of ancillary assets such as pumping stations CSO infrastructures and Sustainable urban Drainage Systems (SuDS). The project will close a current innovation gap by providing access to full-scale field and large-scale research laboratories to investigate different catchment surface and sewer network processes, CSO

management approaches and SuDS techniques in a program of open calls planned for October 2021 and 2023. The calls will support scientific researchers and water utility and supply chain innovators to access Co-UDlabs research facilities, providing free of charge supported access to the research infrastructure (physical and knowledge-based) to undertake breakthrough engineering and scientific research and innovation using multi-institutional and multi-sectorial teams.



**The first call for access to Co-UDlabs will be launched on October 2021!**

Interconnecting our large-scale urban infrastructure testing facilities, and actively create multi-sectorial teams will make it possible to support the take up of novel innovations, mitigating development risk and promoting transition to full scale living labs and urban systems.

### Developing Networking Activities

A program of collaborative activities will engage the EU urban drainage sector to exchange knowledge, collaboratively generate and encourage innovation and enable multiple avenues of research:

- The role of RI to support a more rapid transition to smart and sustainable UDS management will be addressed with data collection and analysis performed with groups of policy makers, water utilities, scientists and water innovators needs. Open multi-sectorial groups will be launched in Special workshops at key Urban Drainage conferences and meetings, such as NOVATECH 2023.
- An efficient, harmonised and curated means of access to the data collected under the project will be created. Data standardization, validation and interoperation protocols, will be available for Co-UDlabs users Urban Drainage community. Smart governance practices, public access to data and training and empowering of project users and beneficiaries will be boosted during the project lifetime.

- Co-UDlabs outcomes will be disseminated to a wide range of relevant stakeholders and to society through a series of dissemination activities.

### Developing Research Activities

A combination of interconnected Joint Research Activities will allow to improve the understanding of asset deterioration, and secure the long-term resilience and sustainability of urban drainage systems with the help of more robust, autonomous and interconnected smart monitoring techniques, and digital water data analysis tools.

- Co-UDlabs will provide new services to projects users and to the UDS community, such as a catalogue of new technologies, validated methods for system monitoring, and open source tools for reliable and robust data acquisition.
- Co-UDlabs will contribute to network renewal, renovation and repair options intelligently selected to ensure sustainable, high-level performance regarding sanitation and flood safety.
- Co-UDlabs will allow development of standardized methods to measure the hydraulic and water quality performance of UD technologies, to quantify their resilience and recovery, and to improve their long-term sustainability.

### CONTACT DETAILS

Coordinator: Jose Anta - Universidade da Coruña

[co-udlabs@geama.org](mailto:co-udlabs@geama.org)

EC Horizon 2020 Research and Innovation Programme, contract No: 101008626

## The proposal for urban inundation measures in sewerage sector considering climate change

**Dr. Yuji OKAYASU:** Head of Wastewater System Division, Department of Water Quality Control, National Institute for Land and Infrastructure Management, Ministry of Land, Infrastructure, Transport and Tourism, Japan

On 21 June 2020, the Task Force established by MLIT (Ministry of Land, Infrastructure, Transport and Tourism) released “The proposal for urban inundation measure in sewerage sector considering climate change”.

The proposal consists of five measures i.e. i) promotion of mid- and long-term planning considering climate change, ii) promotion of water resilient sewerage facilities, iii) improvement of early stage safety, iv) acceleration of soft measures and v) strengthening cooperation with various stakeholders.

Among these measures, the design rainfall was referred in i) promotion of mid- and long-term planning considering climate change as under:

As a method of setting the design rainfall related to urban inundation measures in sewer management, the method of setting by multiplying the design rainfall used for the current hardware development by the rainfall change ratio shown in the following Table will be used.

Table. Change ratio of the design rainfall considering the influence of climate change to the current design rainfall

Area	Case of 2 degree of centigrade increase (RCP2.6)	Case of 4 degree of centigrade increase (RCP8.5)
Northern Hokkaido, Southern Hokkaido and Northwestern Kyushu	1.15 (provisional)	1.5
Okinawa	1.1 (Provisional)	1.3 (Provisional)
Other 12 area	1.1 (Provisional)	1.3

In considering the plan contents using this ratio, it is necessary to note that change ratio in RCP2.6 (corresponding to a 2°C increase) was tentatively set to a value converted from RCP8.5 (corresponding to a 4°C increase). It is necessary to keep in mind that the change ratio in rainfall will be larger than the value set this time on a short-term scale such as the development of cumulonimbus cloud.

Following this proposal, MLIT started to revise the guideline to calculate design rainfall considering the influence of climate change.

## News from related organizations

### 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. 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:

- Municipal Water Infrastructure Council - dedicated to evaluating the costs and performance of municipal water infrastructure and promoting findings to implementers nationwide
- 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.
- 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 ranges from risk and resilience, to modeling stormwater systems or to update the profession on advances in stormwater control measures. Recent efforts include a new effort to update permeable pavement guidance, an upcoming report on LID modeling (final publication stages), continued work on an updated stormwater manual of practice, a new media filter committee, and ongoing support of the International Stormwater BMP database. In 2020, an updated analysis of the International Stormwater BMP database was completed, with the database now housing over 790 BMP performance data sets (<http://www.bmpdatabase.org/>). In 2021, EWRI is hosting the annual World Environment and Water Resources Conference (June 7-11, 2021) virtually (<https://www.ewricongress.org/>). Conference planning for a Stormwater Operation and Maintenance Conference and the International Low Impact Development Conference is underway and being adjusted in response to COVID. Lastly, the *Journal of Sustainable Water in the Built Environment* has extended its call for papers for a Special Collection on Pathogens and Fecal Indicators in Stormwater until March 31. For more information on the activities of the Urban Water Resources Research Council, contact Jane Clary, Chairperson ([clary@wrightwater.com](mailto:clary@wrightwater.com)).

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

#### Novatech 2023

Organisation of the next Novatech has already started. As a result of delays to other conferences in the “JCUD family”, we have made the decision to delay Novatech by one year; it will now take place in June/July of 2023. Novatech will also be moving to a new venue, which will offer the same relaxed “Novatech atmosphere”, but enhanced levels of comfort and convenience. *Stay tuned for an announcement on the exact date and location.*

The other big Novatech news is a passing of the baton in the conference chairs. After chairing Novatech four times, Jean-Luc Bertrand-Krajewski is stepping down as co-chair. In 2023, Tim Fletcher and Elodie Brelot will therefore be joined by none other than Frédéric Cherqui! Frédéric is an excellent choice, bringing new perspectives, particularly in areas around the management of stormwater assets, and the use of low-cost sensor technology to enhance the performance of nature-based solutions to water management. We are very much looking forward to seeing you all again in 2023.

Elodie Brelot, Tim Fletcher & Frédéric Cherqui

## Reports from industry projects

### Low-head Dams Public Safety Awareness

By: Wright Water Engineers, Inc.

Kenneth Wright, P.E., D.WRE

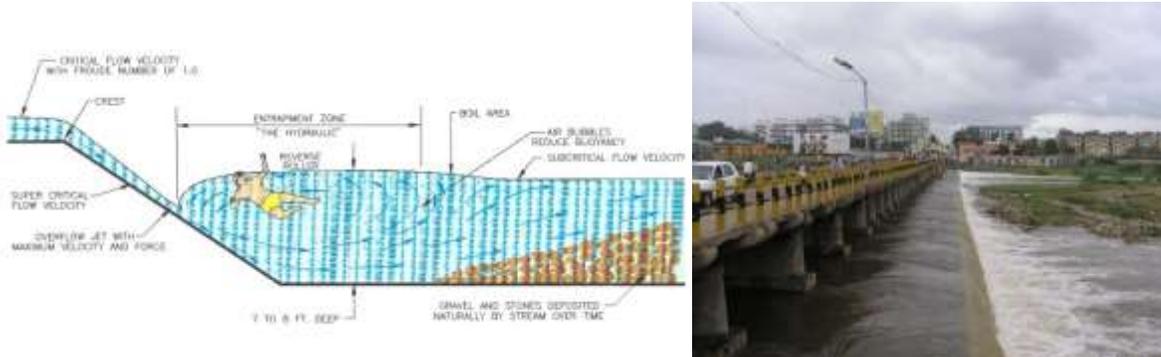
Jonathan Jones, P.E., P.H., D.WRE

Jane Clary, LEED AP, CPESC

Beth Knudsen, Low-head Dam Liaison

Low-head dam. Weir. Regulatory Dam. Anicut. Diversion Dam. Run of the River Dam. They go by many different names across the globe, but one common theme persists. These dams are dangerous and present a threat to public safety.

By definition, low-head dams are underwater structures typically 5- to 15- feet high that are designed and built to span a waterway such that water continuously flows over the crest from bank to bank (Federal Register, 2017. Vol 82(4): 1997)



Throughout the world, they were constructed for such purposes as milling, irrigation, municipal water supply, grade control, and hydropower. Many no longer serve their original purpose, but they have not been removed and now appeal to water recreationists engaged in activities such as swimming, tubing, fishing, and more, along rivers and urban drainage corridors.

Low-head dams are unsafe because at certain flow levels many of them develop a dangerous hydraulic “boil” at the toe that can trap people and watercraft. When a person falls into the water, they can become so disoriented as they are rapidly circulated through the churning water that they do not know which way is up. These boils have even been known to rip life vests off their victims. Without immediate help, even strong swimmers trapped in these recirculating currents can become exhausted and drown. As a result, low-head dams are often referred to in literature as “drowning machines.”

Benjamin Israel, a Senior Hydraulic and Hydrologic Engineer and an advocate for low-head dam public safety, tells a story from his childhood of playing with his friends near a low-head dam just downstream from a beautiful waterfall in Thirparappur, India. Unaware of the potential danger, Benjamin and several other boys ventured into the area downstream of the right abutment. He recounts the harrowing moment of being trapped in the forces of the circulation, feeling helpless, and fearing death. Fortunately, the boys made it out safely, but thousands of others have lost their lives.

The perils at low-head dams are exacerbated by the fact that the pooled water above the dams often appears placid. People approaching do not see the churning water at the toe of the dam until they are in it. The level of danger is also hard to anticipate because the boils are not present under all flow conditions as some flow levels are too shallow to create a reverse roller, and some are too deep.

As water flows over a dam, the jetting water accelerates. As the water jet picks up speed, it dives into the tailwater. As the water encounters the streambed at the base of the dam, it

## UPCOMING EVENTS

A table listing the forthcoming conferences and workshops (as of March 2021) 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
IWA Digital World Water Congress 2021	online	24 May – 4 June 2021	closed	<a href="https://iwa-network.org/news/digital-world-water-congress-2021/">https://iwa-network.org/news/digital-world-water-congress-2021/</a>
15 <sup>th</sup> International Conference on Urban Drainage	Melbourne, Australia	20 -24 October 2021	June 2021	<a href="https://www.icud2021.org/">https://www.icud2021.org/</a>
1st IWA Non-Sewered Sanitation Conference	Pretoria, South Africa	4 – 7 July 2021	closed	<a href="https://iwa-nss.org/">https://iwa-nss.org/</a>
13th IWA Conference on Instrumentation, Control and Automation	Beijing, China	12– 16. Sept. 2021	TBA	
Digital Water Summit	Bilbao, Spain	15 – 18 Nov 2021		<a href="https://digitalwatersummit.org/">https://digitalwatersummit.org/</a>
12 <sup>th</sup> Urban Drainage Modelling Conference	California, USA	January / February 2022	July 2021	<a href="https://udm2022.org/">https://udm2022.org/</a>
17th IWA Leading Edge Conference on Water and Wastewater Technologies	Reno, USA	27 March – 3 FApril 2022	TBA	<a href="https://iwa-let.org/">https://iwa-let.org/</a>
IAHR World Congress 2021	Granada, Spain	19 – 24 June 2022	15 Sept 2021	<a href="https://iahrworldcongress.org/">https://iahrworldcongress.org/</a>
IWA World Water Congress & Exhibition	Copenhagen, Denmark	11-15 Sept 2022	TBA	<a href="https://worldwatercongress.org/">https://worldwatercongress.org/</a>
14 <sup>th</sup> International Conference on Hydroinformatics	Mexico City, Mexico	2022		<a href="http://www.hic2020.org/">http://www.hic2020.org/</a>

16 <sup>th</sup> International Conference on Urban Drainage	Cape Town, South Africa	2023	TBA	
Watermatex 2023	Quebec, Canada	2023	TBA	
Novatech 2023	Lyon, France	June/July 2023	TBA	<a href="https://www.novatech.graie.org/">https://www.novatech.graie.org/</a>

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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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