



Health Related Water Microbiology Specialist Group Newsletter

Volume 26 – December 2023

Contents

- ◆ Message from our Past Chair (pg 1)
- ◆ Message from our New Chair (pg 2)
- ◆ WaterMicro23 at a Glance (pg 4)
- ◆ New HRWM Management Committee (pg 7)
- ◆ Prize winners 2023(pg 9)
- ◆ Netherlands to host WaterMicro 2025 (pg 11)
- ◆ Launch of the IWA WBE Cluster (pg 12)
- ◆ Journal of Water and Health (pg 12)
- ◆ WBE for tracing the Dengue and Chikungunya viruses in a non-endemic country (pg 13)
- ◆ Genetic methods in HRWM research (pg.14)
- ◆ Global Survey Invitation (pg 16)
- ◆ Introducing Spain's YWP's to HRWM (pg 17)
- ◆ Save the Date (pg 18)
- ◆ News from IWA Headquarters (pg 19)
- ◆ News from IWA Publishing (pg 20)

Immediate Past Chair - a final word

Dear colleagues! Dear friends!

When I took over the HRWM chairmanship from Hiro Katayama four years ago after the conclusion of the scientifically highly fruitful and light-heartedly, cheerful 20th Symposium 2019 in Vienna, Austria, we had no clue that a pandemic was already just around the corner. It was

wonderful to see that our HRWM family stayed in touch and kept together despite all the physical restrictions, which was done through the website, several webinars, web-meetings of the management team and the management committee and by social media. In 2022 at the IWA World Water Congress, the HRWM group had a strong presence through platform and poster presentations and plenary talks by several of our members, a joined WHO workshop on Bathing Water quality from science to policy and a SG HRWM open meeting. At the open meeting, the idea was born, initiated by Gertjan Medema, to establish an IWA Cluster "Wastewater-based Epidemiological Surveillance" under the leadership of HRWM, across all interested IWA Specialist Groups and beyond, with a focus on cooperation with public health organisations, to give this topic a suitable scientific framework. With the support of WHO (coordinated by Robert Bos, Senior Advisor IWA) and a very consistent approach, all the requirements of the IWA Head Quarters /Strategic Councils were met so that the cluster could be launched by IWA President Tom Mollenkopf just in time for our 21st Symposium in Darwin, Australia. This is the first time that an IWA cluster has been formed from the bottom up.

come for our 21st Symposium to take place. The dedicated organizing team put together an excellent scientific programme rich in presentations and workshops and a very enjoyable social programme, which all participants greatly appreciated. At the end of the symposium, I was pleased to hand over the chairmanship to Rosina Girones with a symbol, the newly created SG HRWM Chair Trophy, which will be passed on from chair to chair in the future. I know it is in very good hands.

I wish the new Chair Rosina Girones, supported by the new Management Team and the new Management Committee, every success and that our SG HRWM continues to be a scientifically brilliant, warm-hearted and open-minded community.

Yours
Regina Sommer



Message from the Chair

This is my first message to the HRWM community, and my first words are to express how honored I am to be the Chair of such an enthusiastic and knowledgeable group of scientists and professionals. I would also like to express my sincere gratitude to the members of the Specialist Group (SG) for all that I have learned from this group since I started attending the meetings in Washington in 1992.

I would also like to give special words of thanks and admiration to Regina Sommer and Daisuke Sano, incredible Chair and Secretary respectively, during the last 4 years of the HRWM SG, an unexpectedly long period due to the pandemic. The activities of the SG in these 4 years have been adapted to be online and have never stopped, but rather increased, as could be expected in times when the knowledge and experience of our SG was needed more than ever. I am very happy to continue to share goals and time with them in the management team.

I welcome to the team Ricardo Santos, as Secretary of the Specialist Group, it is always a pleasure to work with him, and I would also like to extend a warm welcome to the three new members elected to our Management Committee (MC), Sílvia Monteiro, Heather Murphy and Samendra Sherchan, and to the Associate Members appointed, Gang Liu, who will contribute to the expansion of the Association in China, and the YWP Emile Sylvestre. Our group is a real treasure because of the human and professional quality of its members and their extraordinary commitment to the profession.

The mission of our group is to study all areas related to health-related water microbiology in order to improve the availability of safely managed water and sanitation services, which is in the first line of the effort required to achieve the sustainability of the world's communities and requires the collaboration of all stakeholders and major investments. The current climate crisis presents a scenario of a changing world and increased uncertainty, where managing dramatic

changes in the quantity and quality of water supplies and population distribution will require the best of all of us in terms of innovation, adaptation and mitigation. There is no doubt that climate change is limiting the availability and quality of water for drinking and agriculture in many regions and countries. We should all contribute to the availability of sustainable, healthy water for all regions of the world.

All these issues and many more have already been discussed at the 21st Symposium on Health-Related Water Microbiology in Darwin in dedicated workshops and at the conference. The WaterMicro23 conference in Darwin was a great success and a fantastic scientific and personal experience and I would like to thank all the organizing committee, especially Darryl Day and Annalisa Contos (Co-Chairs) and Prof Nicholas Ashbolt and Susan Petterson, for the warm atmosphere created for the participants and the exciting and innovative scientific and professional sessions organized.

It was also at the WaterMicro23 conference in Darwin that one of the SG's most ambitious initiatives was announced and launched. The IWA Wastewater-based Epidemiological Surveillance (WBES) Cluster, promoted and led by the HRWM SG, with the participation of many other interested SGs and the formation of a large multidisciplinary team. The cluster has created a multidisciplinary framework to facilitate collaboration between relevant and interested IWA Specialist Groups. Monitoring and surveillance of SARS-CoV-2 genetic material in wastewater has proven to be a valuable tool to show trends in community transmission and has opened the way for further exploration of pathogen detection and early warning, as well as monitoring the development of AMR. A sub-group of the MC has been organized for the development of cluster actions and initiatives, under the leadership of Gertjan Medema. Gertjan Medema has been one of the promoters of the

Cluster with the extraordinary help of Regina Sommer as Chair of the HRWM SG, Robert Bos, Senior Advisor IWA, and Joan Rose.

I end this message by thanking Maronel Steyn for his great work as editor of our newsletter and encouraging all SG members to promote and participate in the various Group and Cluster actions and initiatives. We will be present at the next meeting at the IWA World Water Congress & Exhibition in Toronto in August 2024, do not hesitate to contact our team before and during the meeting if you have any comments or suggestions for the group.

Together we can build the most productive and stimulating multidisciplinary teams and change the future.

Warm regards,

Rosina Girones
HRWM Chair



Become an IWA member

Not yet a member and interested in joining IWA and specifically HRWM? Then click on the link below and see how you can become a member of this family.

<https://iwa-network.org/join/>



WaterMicro23 at a Glance

-Article contribution by Darry Day

The 21st IWA Symposium on Health-related Water Microbiology - WaterMicro23 was held from 4th-9th June, at the Darwin Convention Centre in Darwin, Australia. WaterMicro23 was attended by 270 delegates representing 34 countries to learn about and explore various aspects of health-related water microbiology, with a focus on the entire water cycle, applied and basic research, and the impact on human health.

This highly anticipated event brought together microbiologists, researchers, policymakers and water practitioners from academia and industry to exchange the latest scientific discoveries, experiences, and knowledge surrounding health-related water microbiology.

Delegates explored a range of topics including the efficacy of water and sanitation safety plans, water quality guidelines, frameworks, and surveillance systems that have been adopted in the past 20 years. The conference theme, "Water Safety for All - reflections and emerging concerns," encouraged participants to reflect on the progress

made so far, while also addressing emerging challenges posed by climate change, environmental stress, and extreme events.

The symposium not only fostered a collaborative environment for professionals to share their expertise, but it also aimed to contribute to the achievement of the Sustainable Development Goals. By focusing on water safety and its impact on human health, the conference served as a steppingstone in attaining these global objectives.

Key highlights of the programme as identified by delegates included the sessions on water quality monitoring and surveillance, wastewater-based epidemiology, climate change and Antimicrobial Resistance.

Amidst the presentations, panel discussions, and workshops, WaterMicro23 also provided a unique opportunity for delegates to experience the rich cultural heritage and natural beauty of Darwin. The location served as a perfect backdrop for the symposium, highlighting the significance of water microbiology in a region greatly shaped by its environment.

WaterMicro23 succeeded in not only expanding the knowledge of delegates but also strengthening connections within the global

community dedicated to health-related water microbiology. This year, WaterMicro23 was also honoured by the presence of the IWA President, Tom Mollenkopf, for the announcement and launch of the new Cluster on Wastewater Surveillance. He subsequently mentioned the SG in the IWA Magazine, The Source:

<https://www.thesourcemagazine.org/a-celebration-of-bottom-up/>

The conference was preceded by 6 workshops i.e., Climate Change Impacts on Water Quality and Health; Genetic faecal pollution diagnostics: from science to practice; Anti-microbial resistance; Evidence-based approaches for boiled water advisories – using good science for the best community outcome; Wastewater surveillance workshop; Introduction into microbial risk analysis for groundwater. Two World Health Organisation (WHO) workshops: 1) Revitalising WASH responses for vector-borne diseases (VBD) in light of new global challenges and 2) Water Safety Plans, concluded the post conference events on Friday, 9 June.

The opportunity to connect and network outside of the main programme was the number one highlight of delegates.

The official Conference Opening was held on Sunday afternoon 4 June at the Frangipani Plaza area of the Darwin Convention Centre. It included a cultural Welcome to Country and traditional Smoking Ceremony presented by the local Larrakia People, who are the Aboriginal custodians of the Darwin region. The conference opening also included award presentations to scholarship winners.

That evening the delegates and guests visited the Mindil Beach Sunset Market. The Market is located on the foreshore of Mindil Beach, renowned for its stunning sunsets over the Timor Sea. The Market features over 200 stalls, ranging from multicultural food vendors to locally-made arts and crafts and is enhanced by a diverse range of entertainment. Symposium delegates were

provided with access to an exclusive VIP area for the duration of their visit to the Market.

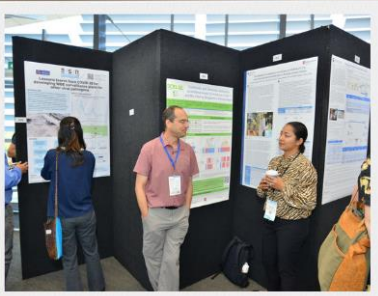
On Monday evening 5 June, IWA Publishing hosted an educational Happy Hour session at The Precinct Tavern, a bustling venue overlooking the Darwin Waterfront parklands and pools, located just a short walk from the Convention Centre. The session aimed to provide delegates with information on best practice with regard to the publication of scientific papers and journals.

Following the Happy Hour, Young Water Professionals, a networking group for students and young people engaged in professional roles in the water sector, held a “Brush & Bottle” networking and team building event at Browns Mart, home of Northern Territory performing arts, which is located in the Darwin CBD.

On Tuesday evening, delegates and guests experienced a 2½ hour cruise on the tranquil waters of Darwin Harbour, taking in the sights of the city and surrounds, whilst enjoying another spectacular tropical sunset.

The “Science in the Pub” evening, held at the Darwin Trailer Boat Club, had everyone at the edge of their seats. Even though Joan Rose and Gertjan Medema pitched important topics and offered endless money (and the stars) for votes, in the end the pitch by Erica Donner to address the threat of Anti-microbial Resistance took first prize.

As always, the Conference Gala Dinner on the final evening did not disappoint. Delegates were treated to a fine dining experience under the Australian skies. A live band, the Natalie Pellegrino Trio, provided the opportunity to dance the night away. Our very own rock star, Gertjan Medema, later took to the stage for a memorable finale to the event.



New HRWM Management Committee Members

Besides the election of Prof. Rosina Girones as Chair of the HRWM Specialist Group, Prof. Daisuke Sano was elected as Vice-Chair and Prof. Ricardo Santos as Secretary of the group respectively. Four general members were reelected to serve on the Management Committee, Andreas Farnleitner, Anne Roiko, Kwanrawee Sirikanchana and Veronica Rajal. Five new members were elected to serve on the committee.

Prof. Daisuke Sano (Vice Chair)

Dr. Daisuke Sano, Professor of Environmental Water Quality at Tohoku University, Japan, completed his PhD. in March 2003 at Tohoku University. In the PhD study, he discovered bacterial proteins that can interact with human virus particles from activated sludge microorganisms. Then, he took a Post-Doctoral Fellowship at Tohoku University (2003-2007) and University of Barcelona, Spain (2007-2009). As a postdoctoral fellow, he was involved in multiple projects with regards to the transmission pathway of norovirus, culture-independent evaluation of virus infectivity (3) and genotyping of human enteric viruses in environmental water. Then he got a tenure position (Associate Professor) at Hokkaido University, Sapporo, Japan, since 2009 and was managing a team of water and public health study, and discovered histo-blood group antigen-positive bacteria that could specifically capture human noroviruses. He moved back to Tohoku University in 2017 and is responsible for the research and supervision of international and domestic projects in the field of water and public health. Particularly, he is currently interested in the statistical modeling of enteric pathogens disinfection/removal, antibiotic resistance and water, mathematical optimization of water systems, and causal inference among factors related to WASH and human health.



Dr. Ricardo Santos (Secretary)

Dr. Ricardo Santos is currently a researcher at the Department of Nuclear Sciences and Engineering and at the Civil Engineering Research and Innovation for Sustainability Research Unit at Instituto Superior Técnico and the head of the Water Microbiology Department of the Water Laboratory from Instituto Superior Técnico. He obtained his PhD in Life Sciences at Queens University Belfast focusing on bacterial resistance and adaptation mechanisms. With almost 25 years of experience working in water quality, having as main topics of research, waterborne pathogens (bacteria, virus and protozoa), Source tracking markers, water scarcity and water reuse. Dr. Santos has been involved in several national and international research projects dealing with water quality, water safety plans, and health-related water microbiology. Current fields of interest include Microbial pathogens in water, Source tracking markers, novel methods for pathogen detection in the environment and microbial resistance and adaptation, among others.



Dr. Émile Sylvestre is a Postdoctoral Researcher in the Department of Environmental Microbiology at Eawag. Trained as a civil engineer, Émile specializes in the fate and behavior of pathogenic microorganisms within engineered water systems. His research interests include the development of methods to monitor water quality, assess the efficacy of water treatment processes, and evaluate human exposure to pathogenic microorganisms via drinking water, wastewater, and aerosols. Through Quantitative Microbial Risk Assessment, he aims to elucidate the potential health implications of these exposures, helping to guide public health decisions.



Prof. Gang Liu is a professor at Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, and the deputy director of Key Lab on Drinking Water Science and Technology. He is visiting professor at Sanitary Engineering, Delft University of Technology. Gang did his PhD at Delft University of Technology on the microbial ecology of drinking water distribution system. Before moving back China, and spent more than 10 years in the Netherlands before moving back China. He is the co-EIC (editor-in-chief) of IWA flagship journal Water Science and Technology. His lab focuses on green water processes, with research interests include biosafety and biostability water environment, water metaviromics, microbial ecology of engineered water systems, and nature based water purification



Heather Murphy is an Associate Professor and Tier II Canada Research Chair in One Health. She obtained her PhD in Environmental Engineering from the University of Guelph, Canada, where she focused on appropriate household water treatment technologies in rural Cambodia. Following her PhD, she worked for the United Nations International Emergency Children’s Fund (UNICEF) as a Water, Sanitation and Hygiene Specialist in Mali and Madagascar. She returned to academia in 2013 and completed a research fellowship with the Public Health Agency of Canada where she focused on quantifying the burden of waterborne disease on the Canadian population. In 2015 she joined Temple University's College of Public Health where she was an Assistant Professor for 5 years and where she currently maintains an adjunct Associate Research Professor Position. In 2020, she joined the University of Guelph as an Associate Professor. Her research interests involve understanding and addressing water and health challenges in both developed and developing countries using a One Health approach. She leads the Water, Health and Applied Microbiology (WHAM) Lab.



Dr Sam Sherchan is currently serving as a director of Center for Climate Change and Health (CCCH) and Center of Research Excellence in Wastewater based Epidemiology (CREWE) and is an associate professor of environmental health at Morgan State University. He is also an adjunct research professor at Tulane University School of Public Health and Tropical Medicine. He received his PhD from the University of Arizona under Drs Charles Gerba and Ian Pepper. His research interests include water microbiology, environmental health science, water quality, treatment, water reuse, emerging pathogens, infectious diseases epidemiology water, sanitation, and hygiene in developing countries. In addition, over the past 15 years, he has gained considerable experience working with communities affected by climate change, natural disasters and water quality in the US and other low-income countries such as Haiti and Nepal. He currently serves as an associate editor for the Journal of Water and Health and BMC Infectious Diseases. He is also on the editorial boards of ACS Water, Pathogens and Science of the Total Environment.



Dr. Silvia Moneteiro is a researcher at Instituto Superior Técnico, Universidade de Lisboa. She received her master’s degree at Instituto Superior Técnico and PhD at the University of Brighton, UK, focusing on source tracking, viral decay in wastewater, and approaches to infer viability through PCR. Sílvia is a chemist by training but has since specialized in microbiology particularly in the field of environmental virology, antimicrobial resistance, and source tracking. Her researcher currently focuses on the prevalence and pathways of transmission of antimicrobial resistance, the fate of pathogens throughout the water cycle, and in wastewater-based surveillance.

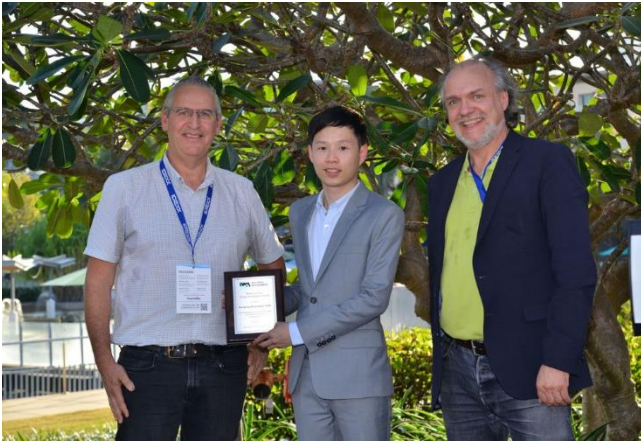


CONGRATULATIONS

Prize Winners 2023

WILLIE GRABOW AWARD

Surapong Rattanakul, King Mongkut's University of Technology, Thonburi, Thailand



Surapong receiving the Willie Grabow Award from the sponsor IDEXX

HUW TAYLOR AWARD

Kwanrawee Joy Sirikanchana, Chulabhorn Research Institute, Thailand



Joy receiving the Huw Taylor Award from Gertjan Medema

SCHOLARSHIPS FOR AUTHORS OF BEST ABSTRACTS FROM LOW INCOME COUNTRIES

Jatuwat Sangsanont, Chulalongkorn University, Thailand

Abstract Title: Wastewater monitoring for tracking dynamics of SARS-CoV-2 variants in a low- and middle-income country

Geyse Aparecida Cardoso dos Santos, School Of Public Health, University Of São Paulo, Brazil

Abstract Title: Monitoring critical watersheds in the State of São Paulo, Brazil

Iftita Rahmatika Universitas Indonesia, Indonesia

Abstract Title: Characterization of Nontuberculous Mycobacteria in Tap Water in Premise Plumbing



Scholarship winners from Low Income Countries

YOUNG WATER PROFESSIONALS - BEST ABSTRACTS

Kristin Skiendzielewski Temple University

Abstract Title: Modelling recreational health risk in an urban watershed: Comparing the use of *Bacteroides* (HF183) versus empirical pathogen measurements

Sheena Conforti Eawag

Abstract Title: dMLA: a cost-effective molecular method to screen bacterial isolates for antimicrobial resistance and pathogenicity

Emile Sylvestre Eawag

Abstract Title: Comparing quantification of *Legionella pneumophila* by qPCR and culture for risk assessment: A Meta-Analysis

Sijia Kong, Technical University Delft

Abstract Title: Assessment of Viruses in Surface Water and Groundwater in Fuhe River Basin by Metagenomics.



Best abstract award winning YWP recipients with the HRWM management committee

¹ Heather Murphy accepting the award on behalf of her student, Kristin Skiendzielewski

BEST POSTER WINNERS



Winners of the best poster award receiving a small gift from the organising committee at the gala dinner

CONGRATULATIONS

Netherlands to Host WaterMicro25



Amersfoort in the Netherlands came out victorious in their bid against Costa Rica for hosting WaterMicro25. Congratulations to the successful team. The SG is looking forward to joining you in the Netherlands in two years.

The conference organising team is off to a brilliant start as they already prepared the conference website. Please check it out on social media or at this link: <https://watermicro2025.nl/>

Launch of the IWA Wastewater-based Epidemiological Surveillance Cluster

Chemical and microbiological monitoring of wastewater is not a new concept. However, the use of this information during the COVID-19 pandemic, highlighted the value of urban wastewater surveillance for public health status and trends. Gertjan Medema from the Netherlands and an active member of the HRWM SG, together with core members of the HRWM management team, motivated for establishment of a new IWA cluster on wastewater-based epidemiological surveillance. Acknowledging the importance of this work, not only for current pandemics, but also for future epidemics, a new IWA cluster for wastewater epidemiological surveillance (WWES) was therefore approved.

The IWA President, Tom Mollenkopf, attended WaterMicro23 to inaugurate the cluster and presented a pen to Regina Sommer, Chair of the HRWM specialist group. The HRWM specialist group will serve as the overall coordinator of the cluster, while membership is open to all water professionals who are enthusiastic, dedicated, and passionate about water and health-related issues.

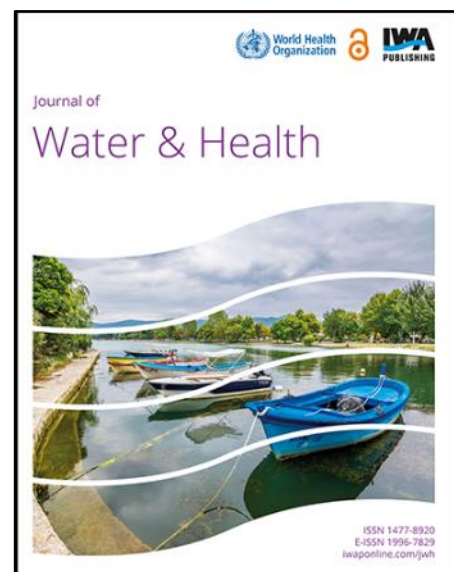


IWA President, Tom Mollenkopf handing a pen to HRWM Chairperson, Regina Sommers, during the launch of the new IWA cluster

Journal of Water and Health

In line with the new cluster and the importance and overall response of the research community during the COVID-19 pandemic, the Editorial team from Journal of Water and Health proudly announced the launch of the new section on Wastewater Based Epidemiology (WBE).

This section is timely and vital and will allow for a permanent repository for broad interdisciplinary WBE science and policy research.



"Wastewater-based surveillance for tracing the circulation of Dengue and Chikungunya viruses in a non-endemic country"

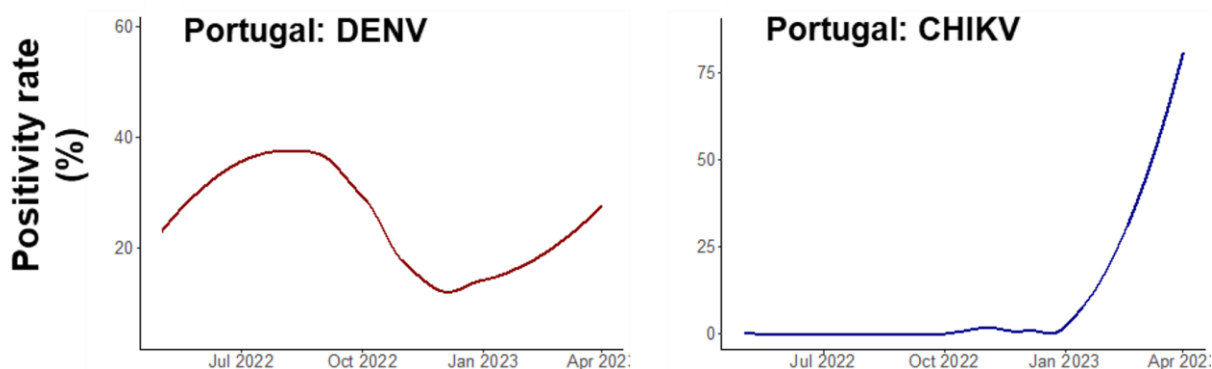


- Article contributed by **Silvia Monteiro**

Arboviruses, an extensive category of viruses encompassing Dengue (DENV), Chikungunya (CHIKV), Zika, West Nile viruses, and others from diverse families, are transmitted to humans and animals by arthropod vectors, predominantly mosquitoes and ticks. Their considerable impact on disease burden and socioeconomic aspects is especially notable in tropical and subtropical regions. Despite being a global health threat due to factors like global trade, travel, climate change, and migrations, arboviruses have become a significant concern.

Dengue, the most clinically relevant arbovirus, often presents as asymptomatic or with mild, general symptoms in over 50% of cases. Assessing arbovirus presence involves various methods, including clinical surveillance and monitoring sylvatic and entomological cycles, each with its limitations. The Aedes mosquitoes transmit DENV and CHIKV viruses. In mainland Portugal, A. albopictus has been circulating since 2017, recently detected in Lisbon, although no arboviruses were found in the tested mosquitoes.

Given the presence of vectors in Portugal, climate shifts, increased tourism and immigration, and the inadequacies of conventional surveillance, the study focused on detecting dengue and chikungunya viruses in wastewater. Testing 273 wastewater samples from three regions between May 2022 and April 2023 revealed DENV present throughout the year (positivity rate: 25%), with peaks in September 2022 and March/April 2023. CHIKV was first detected in December 2022 in the LVT region, followed by increased detections (positivity rate: 11%). Among positive samples, 62% were DENV-positive, 26% CHIKV-positive, and 7% showed co-occurrence. Median normalized concentrations ranged between 1.1×10^{-4} and 7.8×10^{-4} copies/L for DENV and CHIKV. DENV concentrations were higher in LVT regions, while CHIKV concentrations were similar across regions.



Wastewater data indicated DENV circulation patterns aligning with the Northern Hemisphere in 2022, shifting to the Southern Hemisphere in early 2023. CHIKV followed Southern Hemisphere infection patterns exclusively. Wastewater-based surveillance emerged as a complementary tool in a non-endemic country with historically low reported cases, mainly travel-associated.

The role of genetic methods in HRWM research and in the water sector: a review and a survey

- Article credit: Katelin Demeter

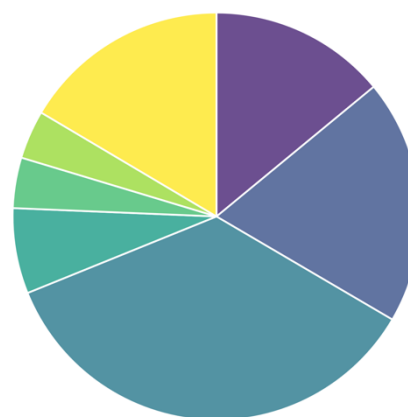
The impacts of nucleic acid-based methods - such as PCR and sequencing - to detect and analyse indicators, genetic markers or molecular signatures of microbial faecal pollution in health-related water quality research were assessed by rigorous literature analysis in our recent article published in FEMS Microbiology Reviews ([Demeter et. al, 2023](#)). A wide range of application areas and study designs has been identified since the first application more than 30 years ago (>1,100 publications). Given the consistency of methods and assessment types, we suggest defining this emerging part of science as a *new discipline: genetic faecal pollution diagnostics* (GFPD) in health-related microbial water quality analysis. Undoubtedly, GFPD has already revolutionised faecal pollution detection and microbial source tracking, the current core applications. GFPD is also expanding to many other research areas, including infection and health risk assessment, evaluation of microbial water treatment, and support of wastewater surveillance (Figure 1). This comprehensive meta-analysis provides the scientific status quo of this field, including trend analyses and literature statistics, outlining identified application areas, and discussing the benefits and challenges of nucleic acid-based analysis in GFPD ([Demeter et. al, 2023](#)).

While genetic methods are now at the forefront of research in water microbiology, it is also clear that water utilities and government agencies still primarily rely on standardised, cultivation-based methods. Our next aim is to make a global assessment on how widespread is the use of genetic methods by the water sector and to examine opportunities and barriers to their use and acceptance.

The assessment will be done using a survey, organized by the [Austrian Interuniversity Cooperation Centre for Water and Health](#), the [IWA Health-Related Water Microbiology Specialist Group](#) and the [Global Water Pathogens Project](#). It is supported by an international panel of scientists (see list below).

A first draft of the survey was evaluated within the frame of a workshop at the Water Micro 23 conference in Darwin, Australia in June 2023. The participants tested the survey using an online tool (Figure 2) which was followed by an intense discussion to improve both the technical and opinion polling parts of the survey as well as to broaden the range of water sector stakeholders, considering the significant regional differences worldwide, addressed by it.

The survey is now open and organizations dealing with microbiological water testing are invited to participate (see Invitation to participate on page 15). The survey will remain open until 31st March



Application areas

1. Faecal pollution detection
2. MST of faecal pollution from a single source type
3. MST of faecal pollution from multiple sources
4. Evaluation of treatment processes
5. Infection and health risk assessment
6. Outbreak tracing and wastewater surveillance
7. Other applications

Figure 1. Number of articles in each of the identified application areas of genetic faecal pollution diagnostics. Articles identified in a systematic search as “applying genetic faecal pollution diagnostic methods to address a research question about the environment (water)” were included in the analysis ($n = 649$).

2024. The outcomes will be presented and discussed at workshops and conferences (e.g., Water Micro 25) and published as a peer-reviewed article. Please address any questions regarding the survey to Katalin Demeter, TU Wien, Austria (water.survey@hrwm.eu).



Figure 2. Participants of the ‘Genetic faecal pollution diagnostics: from science to practice’ workshop at Water Micro 23 test the draft survey using an interactive online polling tool.

Survey Partners:

[Austrian Interuniversity Cooperation Centre Water & Health](#)

Prof. Andreas Farnleitner (lead), TU Wien and Karl Landsteiner University, Austria

Dr. Katalin Demeter (coordinator & contact), TU Wien, Austria

Dr. Claudia Kolm (coordinator), Karl Landsteiner University, Austria

Prof. Regina Sommer, Medical University of Vienna, Austria

[Global Water Pathogen Project](#)

Prof. Joan Rose (co-lead), Michigan State University, USA

[IWA Health-Related Water Microbiology Specialist Group](#)

Management Committee:

Prof. Rosina Girones, Universitat de Barcelona, Spain

Prof. Daisuke Sano, Tohoku University, Japan

Prof. Regina Sommer, Medical University of Vienna, Austria

Prof. Ricardo Santos, Instituto Superior Técnico, Portugal

Further Partners:

Prof. Anicet Blanch, Universitat de Barcelona, Spain; Prof. Ana Maria de Roda Husman, RIVM, The Netherlands; Prof. Gertjan Medema, KWR, The Netherlands; Prof. James Ebdon, University of Brighton, United Kingdom; Prof. Alexandria Boehm, Stanford University, USA; Prof. John Scott Meschke, University of Washington, USA; Prof. Thomas Edge, McMaster University, Canada; Prof. Veronica Rajal, University of Salta, Argentina; Dr. Maria Ines Sato, Companhia Ambiental do Estado de São Paulo, Brazil; Dr. Douglas Mushi, Sokoine University of Agriculture, Tanzania; Ms. Maronel Steyn, CSIR, South Africa; Dr. Kwanrawee Joy Sirikanchana, Chulabhorn Research Institute, Bangkok, Thailand; Dr. Megan Devane, ESR, New Zealand; Dr. Warish Ahmed, CSIRO, Australia

INVITATION TO PARTICIPATE

Global survey on genetic microbiological testing in the water sector: future opportunities and challenges

The survey is open until 31st March 2024 and is available under the following link:
<https://www.surveymonkey.com/r/BZCMPXR>

The Health-Related Water Microbiology Specialist Group of the IWA, the Austrian Interuniversity Cooperation Centre for Water and Health, and the Global Water Pathogens Project are excited to announce a global survey focusing on the use of genetic (molecular) methods for microbiological water quality testing across the water sector.

They invite water utilities, testing and research facilities, and government agencies who work with microbiological water testing to take part in this survey. Additionally, legislative government branches, regulatory bodies, as well as expert groups responsible for shaping legislation and guidelines in the field, are also warmly welcome to actively participate.

The results of the survey, together with an analysis of prevailing trends, barriers and future prospects in genetic microbiological testing within the water sector, will be presented as an open access scientific article, freely available to everyone interested. The organizers sincerely appreciate the time and contributions of all participants in advancing the understanding of this pivotal topic.

If your organization is involved in microbiological water testing (as routine monitoring or as project-type investigations), please complete the survey. Please also help us and spread the survey among your contacts in the water sector. We appreciate your time and effort.

Thank you for your support.

Introducing Spain's YWP's to HRWM

- Article contributed by Sara Sánchez López and Laura González Navarro

The Spanish Young Water Professionals chapter was established at the end of 2015, with the aim of contributing to the present and future of the water sector in Spain through professional development, recognition, and visibility of young professionals in the water sector.

The group is coordinated by 9 steering committee members, supported by 6 working groups: Communication and Public Relations, Professional Development, Events, Training and Technology, Innovation and International Relations and Sustainability. The chapter currently comprises more than 400 members that represent a multidisciplinary team. This group was born with the desire to encourage the generation of personal and professional networks, promoting the exchange of information, projects and experiences. For this reason, meetings, webinars and events are regularly organized to create a space where members can present their work and share their knowledge.

These are some of the key activities developed by the network since 2015:

- More than 60 newsletters and 5-7 webinars per year



Young Water Professionals attending the IWA YWP Conference in Valencia, Spain in 2022

- Monthly informative infographics developed by YWP, published in Social Networks.
- Ongoing disclosure of the network in companies and universities
- Several contests held on the occasion of World Water Day, design of the organization logo, and photography promotion regarding water sector.
- Meetings with other chapters such as Denmark, Portugal, Germany and LAC.
- ¡Meet YWP!: an initiative to broadcast most participating profiles through the website and Social Networks.
- ¡Agua award to best 2020 association
- First steps to collaborate with SYLO project to disseminate de SDGs
- Social Networks Campaigns for key days such as World Earth Day, World Water Day, World Toilet Day and others to energize the network with quizzes, tips, and engagement activities.
- Organization of three successful congresses in Spain: Bilbao (2017), Madrid (2019) and Valencia (2022).

If you want to know more about YWP Spain, you can visit our website : <https://www.ywp-spain.es/> or find us on our social networks:



SAVE THE DATE



International Society for Food and Environmental Virology
8th ISFEV Conference
Tokyo, Japan
June 9 – 14, 2024

International Society for Food and Environmental Virology will organize the 8th ISFEV Conference at Shimadzu Tokyo Innovation Plaza (3 Chome-25-40 Tonomachi, Kawasaki Ward, Kawasaki, Kanagawa 210-0821). Topics include Wastewater-based Epidemiological Surveillance, Public Health Impacts of Foodborne and Waterborne Viruses, Analytical Methods in Food and Environmental Virology, Microbial Source Tracking and Viruses, Quantitative Microbial Risk Assessment, Virus Stability, Fate and Transport, Viral Disinfection and Treatment, Virus Epidemiology, and Emerging Issues. Please check the following link for more details: <https://his-promotion.com/isfev>

Important dates:

Abstract submission close: January 12th, 2024

Notification of abstract acceptance: March 22nd, 2024

Early bird registration close: April 15th, 2024

Conference: June 9-14, 2024

News from IWA Headquarters

The LET conference - 19th IWA Leading Edge Conference on Water and Wastewater Technologies

The IWA Leading Edge Conference on Water and Wastewater Technologies is designed to be the place where new ideas are introduced and the opportunity is provided to interact with the “best of the best”. This is the global conference where new insights into how pioneering science, technological innovation and leading practices shape the major transformation in water management that is underway.

The LET conference is held in a different country every year. Following a successful 20th anniversary edition in the series held in Daegu in 2023, IWA will be hosting its 19th Leading Edge Conference on Water and Wastewater Technologies in 2024 in Essen, Germany. With its rich history and reputation as an environmental hub, Essen promises to be an ideal host for this prestigious event.

The submission deadline for outline papers is 15 December 2023 Programme – [IWA-LET](#)

IWA World Water Congress & Exhibition, Toronto, Canada | 11-15 August

2024

The IWA World Water Congress & Exhibition brings together stakeholders and key contacts within the conventional water sector and beyond. It brings together core water sector groups, such as those focused on urban water and urban water services, as well as participants from industry and agriculture, architects and urban planners, soil and groundwater experts and hydrologists, social scientists, the ICT sector, the financial sector, and others.

With a strong representation and contribution from Canada and North America, the IWA Congress & Exhibition is a vital opportunity to learn about the North-Atlantic water challenges and solutions, including through technical site visits. The IWA World Water Congress & Exhibition 2024 follows the resounding success of the 2022 World Water Congress & Exhibition edition held in Copenhagen, Denmark. With a remarkable turnout of nearly 8,900 participants, it was a truly celebrated event.

For comprehensive details, please refer to the link provided below. [IWA World Water Congress & Exhibition – Shaping our water future](#)

News from IWA Publishing

Recent Open Access Papers

[How can machine learning predict cholera: insights from experiments and design science for action research](#)

Hauwa Ahmad Amshi; Rajesh Prasad; Birendra Kumar Sharma; Saratu Illu Yusuf; Zaharaddeen Sani

[Molecular detection of waterborne pathogens in infant's drinking water and their relationship with water quality determinants in Eastern Ethiopia: loop-mediated isothermal amplification \(LAMP\)-based study](#)

Samuel Gebregziabher Mebrahtom; Alemayehu Yalew Worku; Daniel Joseph Gage; Heven Sime; Adugna Abera

[Hydrogen peroxide preoxidation as a strategy for enhanced antimicrobial photodynamic action against methicillin-resistant *Staphylococcus aureus*](#)

Kamila Jessie Sammarro Silva; Alessandra Ramos Lima; Lucas Danilo Dias; Mariana de Souza; Thalita Hellen Nunes Lima; Vanderlei Salvador Bagnato

[Effects of adsorption and filtration processes on greywater microbiological contamination and the potential human health risk reduction](#)

Md Maruf Mortula; Kazi Parvez Fattah; Fatima Iqbal; Zahid Khan

Open Access eBooks

[Clean Technologies Toward a Sustainable Future: Physicochemical, Biochemical, and Biotechnological Approaches](#)

Edited by Pradeep Verma; Maulin P. Shah

[Biological Wastewater Treatment: Principles, Modelling and Design](#)

Edited by Guanghao Chen; Mark C.M. van Loosdrecht; George A. Ekama; Damir Brdjanovic

[Membrane Based Point-of-Use Drinking Water Treatment Systems](#)

By Pawan Kumar Labhassetwar; Anshul Yadav

News

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