



Activity Report 2021



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ACTIVITY REPORT
2021

**INTERNATIONAL
WATER RESOURCES
ASSOCIATION**

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MESSAGE FROM THE PRESIDENT

Gabriel Eckstein



2021 proved to be a banner year! International Water Resources Association celebrated its 50th Anniversary, and we once again built on this momentous occasion with conferences, publications, and networking.

The following report reviews the numerous activities and accomplishments that IWRA has achieved over the past year. One of them, however, deserves particular mention. To mark IWRA's 50th Anniversary, the Association embarked on a series of interviews, webinars, and high-level panels addressing pressing water-related issues. We also organized a special issue of *Water International*, had a special presence at COP26 of the UN Climate Change Conference in Scotland, issued special anniversary awards, and even enjoyed a birthday cake at the XVII World Water Congress. It was a fitting tribute to the Association's longevity, as well as its enduring vision to be the leading global platform for a

community of researchers, educators, policy-influencers, and managers to collaborate and address the world's water-related challenges.

Of course, IWRA also enjoyed other significant milestones and achievements this year. Among these: holding the XVII World Water Congress in Daegu, South Korea, after its postponement in response to the COVID-19 pandemic; organizing IWRA's second online conference focusing on "Water, Food and Public Health in a Changing World" in cooperation with the UN Food and Agriculture Organization (FAO); launching a series of Master Classes on "Water Cooperation and Diplomacy"; inaugurating new member-led Task Forces focusing on groundwater and on Land4Floods; and the formation of an IWRA Chapter in Mongolia. In addition, the Association continued improving its membership structure to enhance benefits, facilitate leadership opportunities and participation, and to encourage networking, exchanges, and collaboration.

As IWRA heads toward the next fifty years, I am thrilled to report that the Association is thriving and continues to live up to its ideals. I look forward to your continued affiliation with this wonderful organization and engaging with so many of you through IWRA's continuously expanding list of activities.

A handwritten signature in black ink, appearing to be 'GE', written in a cursive style.

2021, A YEAR OF FULFILLMENT

2021 MARKED THE 50TH ANNIVERSARY OF IWRA, A MILESTONE WHICH WAS CELEBRATED THROUGHOUT THE YEAR CULMINATING IN CELEBRATIONS AT THE XVII WORLD WATER CONGRESS, HELD IN DAEGU, KOREA, IN NOVEMBER. IT WAS A CHALLENGING BUT EMOTIONAL YEAR. THE TIMELINE BELOW SHOWS SOME OF THE MOST REMARKABLE ACHIEVEMENTS OF 2021.



JULY-OCTOBER 2021
IWRA MASTER CLASS SERIES

JANUARY 2021
IWRA INAUGURATES
THE GROUNDWATER
TASK FORCE

FEBRUARY 2021
PRESENTATION
OF IWRA'S NEW
MEMBERSHIP
STRUCTURE

MARCH 2021
50TH ANNIVERSARY
HIGH LEVEL PANEL

PARTICIPATION OF
IWRA AT THE ASIA
WATER COUNCIL 13TH
BOARD OF COUNCIL
MEETING

APRIL 2021
ECYP TASK FORCE
GLOBAL WATER
NETWORK CAFÉ

JUNE 2021
IWRA - UNESCO
ONLINE CONFERENCE

SEPTEMBER 2021
IWRA GENERAL
ASSEMBLY

IWRA PARTICIPATES
AT WORLD SMART
CITY EXPO 2021

OCTOBER 2021
ELECTIONS OF
THE IWRA EXECUTIVE
BOARD

NOVEMBER 2021
IWRA'S XVIII WORLD
WATER CONGRESS



AN OVERVIEW OF IWRA'S KEY FIGURES AND MAIN ACTIVITIES IN 2021



SECOND IWRA ONLINE CONFERENCE ON
"One Water, One Health: Water, Food and Public Health in a Changing World"
www.iwra.org/congress/2021

2½ DAYS
(7-9 JUNE)

1,400
REGISTERED
PARTICIPANTS

110
COUNTRIES
REPRESENTED,
FROM AFRICA,
ASIA, EUROPE,
OCEANIA AND
THE AMERICAS

OVER 100
SPEAKERS

20
POSTER
PRESENTATIONS

16
SESSIONS



XVII WORLD WATER CONGRESS ON *"Foundations for Global Water Security and Resilience: Knowledge, Technology and Policy, in Daegu, Rep. of Korea"*
iwraonlineconference.org

4½ DAYS
(29 NOVEMBER-
3 DECEMBER)

1,200
REGISTRANTS

1,094
PARTICIPANTS

100
HOURS
OF CONTENT

350
PRESENTERS

60
HYBRID
SESSIONS

26
COUNTRIES

ADOPTED
THE DAEGU DECLARATION:
Toward Global Water Security
and Resilience: A Call for
Improved Cooperation
for Coherent Solutions

93 REGISTRANTS,
FOR IWRA'S SECOND GENERAL ASSEMBLY
HELD ENTIRELY ONLINE

RELAUNCH OF
**2 MEMBER-LED
TASK FORCES**
(Water Quality
and Smart Water Management)



12 WEBINARS
ON WATER INTERNATIONAL
SPECIAL ISSUES
AND OTHER TIMELY TOPICS



8 ISSUES PUBLISHED
OF IWRA'S FLAGSHIP JOURNAL,
WATER INTERNATIONAL,
INCLUDING THREE SPECIAL ISSUES

**7 NEW
"GREEN SERIES"
POLICY BRIEFS**



IMPLEMENTATION
OF A NEW, SIMPLER
MEMBERSHIP
STRUCTURE THAT
REFOCUSSES ALL OF
OUR ACTIVITIES ON
OUR MEMBERS

**MORE THAN
2500
ACTIVE
MEMBERS**

LAUNCHED THE FIRST
IWRA MASTER CLASSES:
10 LECTURES
including special workshops on
Water Cooperation & Diplomacy

3 NEW EDITIONS
OF OUR ISSUES ON WATER POLICY
AND GOVERNANCE BOOK SERIES

PUBLICATION OF A SERIES
3 REPORT WITH UNESCO
I-WSSM, UNDER THE THEME *"The Role of Sound Groundwater Resources Management and Governance to Achieve Water Security"*.

LAUNCH OF A
**NEW MONGOLIA
CHAPTER**



**CELEBRATION
OF IWRA'S 50TH
ANNIVERSARY
IN 2021!**

EXECUTIVE BOARD

2021 WAS THE FINAL YEAR in the three-year mandate of the 2019-2021 IWRA Executive Board.

MEETINGS & GENERAL ASSEMBLY

The Executive Board held a total of five meetings in 2021, four of which were regular and quarterly teleconference meetings, and one which was a special meeting in July focused on revising the membership structure. Due to Covid-19 travel restrictions, no face-to-face Board meetings were organized in 2020.

On 29 September 2021, IWRA held its second online General Assembly through the Zoom platform. The General Assembly was chaired by the Secretary General, Guy Fradin, and it featured short informative presentations by the President, Gabriel Eckstein, the Treasurer, Renée Martin-Nagle, the Chair of the Membership Committee, Tom Soo, and the Executive Director, Callum Clench. Communications Officer, Rut Gomez Sobrino, was also present to provide Zoom guidance as needed.

The objective of the General Assembly was to be informative and focused on member benefits. No votes from the membership were proposed during the meeting. With a view to making IWRA more participatory and inclusive, feedback and ideas from the membership were encouraged and could be submitted either as comments or via email.

The General Assembly included the following components:

- Statement from the President
- Activity report
- Financial update
- Membership update
- A “Call to Action” - how to get more involved

All related documents and a recording of the General Assembly is available online at:
www.iwra.org/how-we-work/#general_assemblies

THE 2019-2021 EXECUTIVE BOARD IS LISTED BELOW:

PRESIDENT

Gabriel Eckstein, United States of America

PAST PRESIDENT

Patrick Lavarde, France

VICE-PRESIDENTS

Blanca Jiménez-Cisneros, Mexico

Karin Krchnak, Slovakia

Yuanyuan Li, People's Republic of China

SECRETARY GENERAL

Guy Fradin, France

TREASURER

Renée Martin-Nagle, United States of America

COMMITTEE CHAIRS

Awards

Rabi Mohtar, Lebanon

Membership

Tom Soo, Australia

Scientific, Technical Activities & Publications

Henning Bjornlund, Australia

DIRECTORS

Asma Bachikh, Morocco

Birgitta Liss Lymer, Sweden

David Molden, Nepal

Eiman Karar, Sudan

Farda Imanov, Azerbaijan

Gary Jones, Australia

Guillermo Donoso, Chile

Jun-Haeng Heo, Republic of Korea

Mingna Wang, People's Republic of China

Raya Marina Stephan, Palestine

Yoonjin Kim, Republic of Korea

EXECUTIVE OFFICE



IWRA'S EXECUTIVE OFFICE CONTINUES TO BE HOSTED IN NANTERRE NEAR CENTRAL PARIS, FRANCE, at the Agence de l'Eau Seine-Normandie-AESN (Seine-Normandy Water Agency). IWRA has a single office space with it and printing services fully supported by the AESN.

The address is 51 rue Salvador Allende, 92027 Nanterre, France.

The main email address remains to be office@iwra.org.

The main office telephone number is +33 1 41 20 16 28.

Despite the ongoing COVID-19 pandemic, the IWRA Executive Office continued to grow, with new members joining the team to manage events and communications. This is in thanks to our remote working model that has been in place since 2018.

As the IWRA Executive Office continues to operate under our remote working model, the full-time team is currently scattered across Belgium, France, Portugal, Namibia, South Africa, and Spain. The part-time members of the team are scattered across Australia, Canada, France, Hong Kong, and the USA. The geographic spread of our Executive Office team mirrors the geographically diverse Executive Board listed in the next section below, further emphasizing the international and diverse nature of the Association.

SEE THE NEW COMPOSITION OF THE EXECUTIVE OFFICE BELOW. THE MAIN POSTS WERE:

• Executive Director

Callum Clench

• Deputy-Executive Director

Ignacio Deregibus

(Former IWRA Communications Director)

• Administration Officer

Elizabeth John

• Communications Officer

Rut Gomez Sobrino

joined the team in July, to lead and manage IWRA's internal and external communications.

• Events Officer

Nevena Bakalar

joined the team in June to manage and support IWRA's events, mainly the World Water Congress, Online Conference, and webinars.

• Digital Media Officer

Leonore Tjikune

joined the team mid-June, to create and manage IWRA's digital media communications.

• Special Project Officers

- 2 working full-time on the Smart Water Cities project: Monica Garcia Quesada and Sung-phil Jung.

- 1 working part-time on the UNESCO i-WSSM project: Mary Trudeau.

• Policy Brief Officers

Part-time editing and drafting of policy briefs: Claire Miller, Kara DiFrancesco and Kris Hartley.

• Webinar Officer

part-time planning and chairing of IWRA webinars:

Scott McKenzie

• Graphic Designer

designing all of IWRA's reports and main website (Nathalie Lyon-Caen)

• Webmaster

ensuring the security of the IWRA website (Sergio Vallejo)

COMMITTEES

In 2021, the following 8 committees were in place:

[AWARDS COMMITTEE](#)

This committee is mandated in the IWRA bylaws and works to select the recipients for the Ven Te Chow Memorial Award and Lecture, both the Crystal and Water Drops awards, and also the IWRA's Honorary and Fellow memberships. In 2020, it clarified some of the processes and criteria for the nomination and selection of Fellow and Honorary members.

[BUDGET & FINANCE COMMITTEE](#)

This committee has fiscal and budgetary oversight and works to develop and monitor the annual budget alongside the Executive Director, and reports to the Executive Board. It also focuses on raising funds and identifying new revenue streams.

[CONGRESS & EVENTS COMMITTEE](#)

This committee worked with the Executive Office to identify and evaluate appropriate hosts and venues for the XVIII Congress. It also has oversight to develop policies related to Congresses and other Association events such as the online conference.

[EXTERNAL & PUBLIC RELATIONS COMMITTEE](#)

This committee is charged with assessing, developing, and maintaining relationships with other relevant organizations, affiliated entities, IWRA regional and national chapters, and other parties. It also advises the Executive Office on matters pertaining to the Association's promotion and public relations efforts.

[GOVERNANCE COMMITTEE](#)

Led by the IWRA President, this committee is mandated in the IWRA bylaws to make all necessary and appropriate decisions in the intervals between meetings of the Executive Board, to implement administrative actions, and to act in emergency situations.

[MEMBERSHIP COMMITTEE](#)

This committee is mandated in the IWRA bylaws and focuses on how IWRA can engage with members, offering

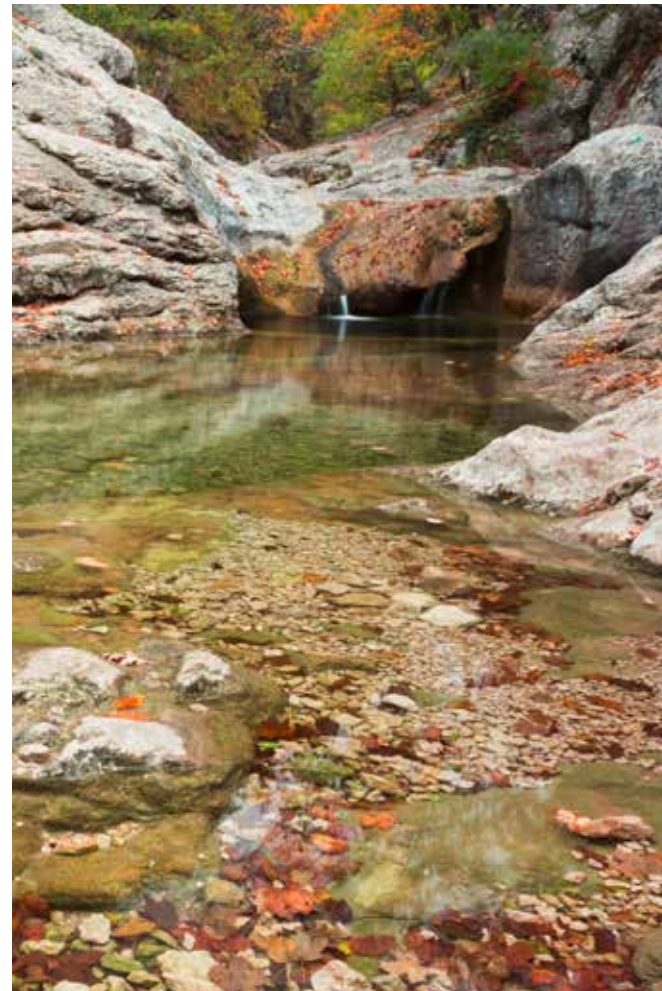
discounted group membership options and extended membership agreements. Its main activities in 2021 have been focused on the launch of IWRA's new membership structure.

[SCIENTIFIC, TECHNICAL ACTIVITIES & PUBLICATIONS](#)

This committee is mandated in the IWRA bylaws and works to provide proposals and advice on scientific and technical activities and publications, including *Water International*, policy briefs, webinars, task forces, and other projects.

[50TH ANNIVERSARY COMMITTEE](#)

In 2021, the Association celebrated its 50th Anniversary. This ad hoc committee was set up in 2020 to decide how best to mark this milestone.



THE EXECUTIVE OFFICE PROVIDES SUPPORT TO THESE COMMITTEES WHERE NECESSARY. THE COMMITTEES ARE MADE UP OF BOTH MEMBERS AND NON-MEMBERS OF THE EXECUTIVE BOARD.

IN 2021, THE COMMITTEES AND THEIR MEMBERS WERE

AWARDS

Chair: Rabi Mohtar

Members: Ben Braga, Guy Fradin, David Molden, Mingna Wang

BUDGET & FINANCE

Chair: Renée Martin-Nagle

Members: Guy Fradin, Blanca Jiménez-Cisneros, Gary Jones, Mingna Wang

CONGRESS & EVENTS

Chair: Yuanyuan Li

Members: Asma Bachikh, Henning Bjornlund, Gary Jones, Jun-Haeng Heo

EXTERNAL & PUBLIC RELATIONS

Chair: Karin Krchnak

Members: Guy Fradin, Eiman Karar, Yoonjin Kim, Birgitta Liss Lymer, Renée Martin-Nagle

GOVERNANCE

Chair: Gabriel Eckstein

Members: Guy Fradin, Blanca Jiménez-Cisneros, Karin Krchnak, Patrick Lavarde, Yuanyuan Li, Renée Martin-Nagle

MEMBERSHIP

Chair: Tom Soo

Members: Victor Arroyo, Asma Bachikh, Guillermo Donoso, Lili Yu

SCIENTIFIC, TECHNICAL & PUBLICATIONS

Chair: Henning Bjornlund

Members : Guillermo Donoso, Farda Imanov, Stephanie Kuisma, Jim Nickum, Raya Stephan, David Molden, Cai Ximing

50TH ANNIVERSARY COMMITTEE

Chair: Renée Martin Nagle

Members : Dogan Altinbilek, Karolane Caissy, Bassel Daher, Christina Leb, Scott McKenzie, James Nickum, Götz Reichert, Salman Salman, Rosario Sanchez, Mara Tignino, Cecilia Tortajada



IWRA MEMBERSHIP

TRANSITION TO THE NEW MEMBERSHIP STRUCTURE

In 2020, following the approval of the Executive Board, the Association announced the transition to a new IWRA membership structure. The main objective was to focus entirely on members' benefits in a much more straightforward and user-friendly manner, while putting our members back at the center of everything we do today.

In February 2021, while celebrating our 50th anniversary, we launched this new membership structure and began offering three new individual membership levels: Bronze, Silver, and Gold. In addition, we also included two new organizational memberships: Silver and Gold Partnerships. The individual and organizational memberships presently offer different benefits for each category, adding more opportunities to collaborate, network, and engage with and within the Association.

In February 2021, all individual paying members were automatically transitioned to IWRA Gold Members for the remainder of their current membership. In addition, student members were transitioned to the Silver category for the remainder of their current membership at no cost.

IWRA also hosted an Town Hall meeting online to invite its community to learn more about the new membership structure. All members of the Association were invited to attend. The meeting was held in February. All members that participated were entered into a drawing for a signed copy of IWRA's President, Gabriel Eckstein's latest book, "The International Law of Transboundary Groundwater Resources". During the General Assembly for members in September, further updates and clarifications were provided about membership transitions.

In March 2021, the Association launched a new mobile app for members, powered by Raklet – IWRA's membership

platform provider. This App offers a novel way to stay informed about latest IWRA news and announcements and includes other innovative features, such as:

- New publications,
- Calls for papers and awards,
- Webinar recordings,
- Job postings and boards;
- Notifications of IWRA Community events;
- Opportunities to connect with other members by their work, sector, educational background, and location;
- A messaging service to start or join group discussions (task forces and working groups),
- Management of your membership to renew or upgrade to another category.

The Executive Office continued to work hand-in-hand with Raklet throughout the year. As a result, some improvements were implemented, including populating the membership database successfully; updating the libraries with new and diverse content, accessible from members' profiles, depending on their Bronze/ Silver/ Gold levels; introduce new search functionalities for members and content; optimize sub-members profiles for organizational members; and correct a few glitches that were identified.

The new membership structure transition was completed by the end of the year. However, we strive to continue to do more and better for our members while providing unique opportunities for them in our work and activities, which is at the core of the IWRA's mission.

TASK FORCES

Like last year, 2021 proved to be a productive moment for IWRA Task Forces. On the one hand, existing Task Forces, such as the Early Career & Young Professionals, Groundwater, Water & Climate Change, and Water Security, consolidated themselves and made excellent progress

BRONZE MEMBERSHIP FREE

Bronze Membership is a free, unlimited membership for people who just want to keep an eye on IWRA's activities and to obtain minimal benefits at no financial cost.

BRONZE MEMBERS CAN

- Receive newsletters and updates through our IWRA mailing list.
- Join Task Forces and Chapters as a participant.
- Access some "members only" content through the Membership platform.

UPGRADE YOUR MEMBERSHIP IN ORDER TO

- Gain access to *Water International*
- Gain voting privileges for IWRA elections
- Sit on a Task Force or Chapter Bureau
- Run for election to the Executive Board
- Lead or propose Webinars or Policy Briefs outside of Task Forces
- Promote activities and publications through the IWRA network
- Receive discounts to all IWRA Congresses and Conferences
- Access exclusive content for paying members only (in the first year following IWRA events)
- Receive invitations to attend in-person board meetings or workshops, "Gold Events," or the President's reception at Congress
- Get invited to attend all in-person Board meetings/workshops

SILVER MEMBERSHIP 65 USD/YEAR

Silver Membership is aimed at anyone who wants to network, get involved in our activities, and have a full IWRA experience. Silver Members are given the opportunity to leverage their membership to advance their careers and reputations with the possibility of gaining a lead role in IWRA activities.

SILVER MEMBERS CAN

- Receive newsletters and updates through our IWRA mailing list
- Join Task Forces and Chapters as a participant
- Access most of the "members only" content through the IWRA Membership platform
- Gain access to Water International
- Gain voting privileges for IWRA elections
- Sit on a Task Force or Chapter Bureau
- Run for election to the Executive Board
- Lead or propose Webinars or Policy Briefs outside of Task Forces
- Access exclusive content for paying members only
- Promote activities and publications through the IWRA network

UPGRADE YOUR MEMBERSHIP TO GOLD IN ORDER TO

- Receive discounts to all IWRA Congresses and Conferences.
- Receive invitations to attend in-person board meetings or workshops.
- Receive invitations to attend "Gold Events" or the President's reception at Congress.

GOLD MEMBERSHIP 165 USD/YEAR

Gold membership is aimed at members who want a "Premier" experience and who are planning to participate in IWRA events. This membership provides a discount on registration and provides access to many exclusive events.

GOLD MEMBERS CAN

- Receive newsletters and updates through our IWRA mailing list
- Join Task Forces and Chapters as a participant
- Access all of the "members only" content
- Gain access to Water International
- Gain voting privileges for IWRA elections
- Sit on a Task Force or Chapter Bureau
- Run for election to the Executive Board
- Lead or propose Webinars or Policy Briefs outside of Task Forces
- Access exclusive content and events for paying members only
- Promote activities and publications through the IWRA network
- Receive discounts to all IWRA Congresses and Conferences
- Receive invitations to President's reception at Congress
- Receive invitations to at least one online "Gold event" a year
- Receive invitations to attend in-person board meetings or workshops.

SILVER PARTNERSHIP 550 USD/YEAR

A silver partnership offers an affordable level of membership to small and non-profit organisations that want to actively engage with IWRA members on activities and at events, as well as to promote their activities across the IWRA network.

SILVER PARTNER ORGANISATIONS CAN

- Include 2 Gold or 5 Silver Individual sub-members with all the relevant benefits.
- Be listed as an IWRA Partner Organisation on the IWRA website.
- Promote joint activities and institutional activities to IWRA membership.
- List job opportunities on the membership space.
- Gain 20% off any additional individual membership, up to 150 members.
- Become the recognised sponsor of 2 Silver annual memberships for people on low incomes.

UPGRADE YOUR PARTNERSHIP TO GOLD IN ORDER TO

- Include 6 Gold or 15 Silver Individual sub-members with all the relevant benefits.
- Benefit from high visibility advertising on the IWRA website and through our newsletter.
- Receive a preferential rate on a World Water Congress Stand or a space on IWRA stand.
- Become the recognised sponsor of 6 Silver annual memberships for people on low incomes.

GOLD PARTNERSHIP 1500 USD/YEAR

Gold partnerships offer memberships to larger organisations that want to have more representatives actively engage with IWRA members on activities and at events (especially at the Congress), as well as promote their activities across the IWRA network.

GOLD PARTNER ORGANISATION CAN

- Include 6 Gold or 15 Silver Individual sub-members with all the relevant benefits.
- Be listed as an IWRA Partner Organisation on the IWRA website.
- Promote joint activities and institutional activities to IWRA membership.
- List job opportunities on the membership space.
- Gain 20% off any additional individual membership, up to 150 members.
- Benefit from high visibility advertising on the IWRA website and through our newsletter.
- Receive a preferential rate on a World Water Congress Stand or a space on IWRA stand.
- Become the recognised sponsor of 6 Silver annual memberships for people on low incomes.



regarding their structure, governance, and activities. On the other hand, the Water Quality and the Smart Water Management Task Forces were successfully revamped and relaunched. Previous members of these two Task Forces and other new ones, were invited to join and help plan and implement the work and initiatives through their Bureaux – the governing bodies of the Task Forces – or their Working Groups.

All IWRA Task Forces are now initiated and led by our members and have different Working Groups focusing on subthemes (e.g., Climate Change, Water and Energy under Water & Climate Change Task Force); specific deliverables, such as webinars, policy briefs, training, etc.; or specific activities, including communications, partnerships, and recruitments.

Moreover, a new IWRA Task Force on LAND4FLOOD began to be coordinated at the end of 2021, which concentrates on natural flood retention and resilience on private land.

This Task Force is a continuation of the EU COST Action LAND4FLOOD project for which IWRA collaborated with and published a Policy Brief titled, “Taking Land Seriously in Spatial Flood Risk Management”, and hosted a webinar also on this topic in September of 2021.

The main highlights from the various Task Forces for 2021 are:

• **Early Career & Young Professionals:** Led by Bassel Daher since its creation in 2020, has remained active. The Task Force held its first webinar in early 2021 on Water Governance and its second one on SDGs and WASH in May. Additionally, they organized innovative events, such as the Water Global Networking Cafés in April and May, which provided outreach and engagement opportunities through polls, as well as intergenerational experts’ conversations and promotional videos. All this was done between the Bureau and the dedicated working groups through social media, webinars, outreach and engagement, and mentorship programmes, aiming to help leverage the

career development and visibility of Young and Early Career Professionals..

• **Groundwater:** In preparation for such an important topic in 2022, and to continue raising the profile of groundwater to help make visible the invisible, Anita Milman–Bureau Chair–led multiple activities with a dedicated group of experts. This Task Force organized a series of informative and insightful webinars based on groundwater success stories from around the world, participated in sessions of the XVII World Water Congress, and planned multiple activities for the year 2022. In 2021, the Bureau also spent some time reorganizing the structure and governance of the Task Force with new Working Groups to start activities in 2022.

• **Smart Water Management (renewed):** Revamped and led by IWRA’s Project Officer, Monica Garcia Quesada, this Task Force focused on supporting the Association’s Smart Water Cities project—a three-year initiative (2021-2023) dedicated to the analysis of smart water technologies in urban developments. This project is in collaboration with K-water and the Asia Water Council (AWC). The members of this Task Force oversaw the review of case studies from all regions of the world and contributed their expertise to the XVII World Water Congress sessions, IWRA webinars, and Water Security publications looking into urban issues, among others. In addition, three new working groups formed by IWRA members related to Smart Water Cities were confirmed in 2021. These Working Groups are planned to begin operating in 2022.

• **Climate Change:** During 2021, the Bureau continued to be led by David Molden–IWRA’s Executive Board Director. Throughout its seven Working Groups on Afforestation, Carbon Dioxide Removal Strategies, Climate Change, Energy & Water, Flood Risk Management, Mountains & Plains, and Water Pollution, this Task Force remained active and met regularly to discuss activities. They collaborated on webinars, publications, and COP26 IWRA-led events. The structure of the Bureau and the continuity of some of the working groups were also assessed, and it was agreed they would be changed in 2022.

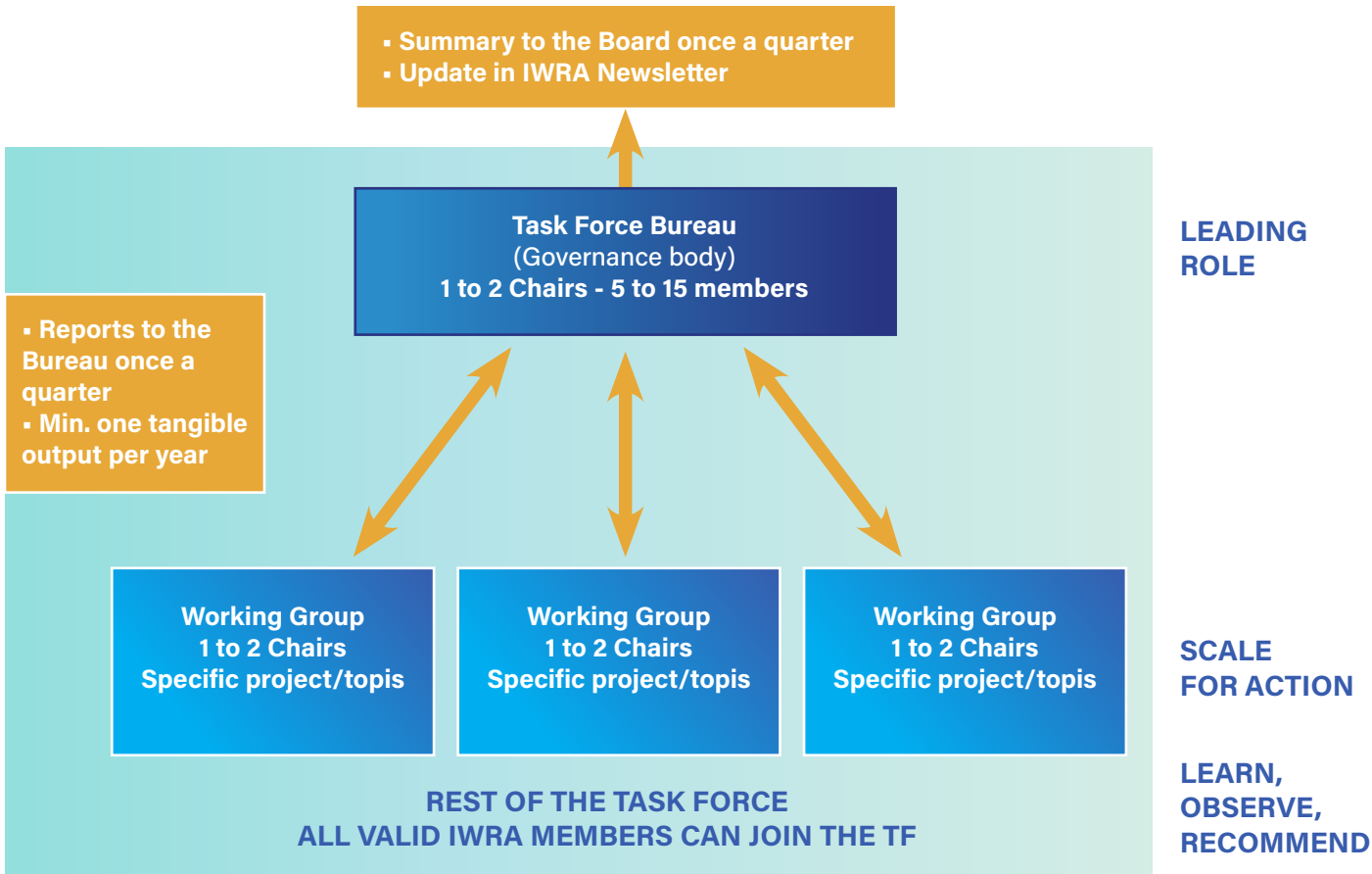
• **Water Quality (renewed):** This Task Force was revamped and chaired by former IWRA Project Officer



Heather Bond in 2021. It worked actively to decide new areas of interest around water quality challenges and issues following the support of IWRA’s successful collaboration with the World Water Council (“Developing a Global Compendium on Water Quality Guidelines”). It also plans to launch a call for members to join this Task Force in 2022, working around critical aspects, such as contaminants of emerging concern, water reuse, and groundwater and aquifers health.

• **Water Security:** In 2021, Amgad Elmahdi chaired and led this Bureau. With the support and engagement of other members, this Task Force contributed significantly to the work and activities of UNESCO’s i-WSSM reports based on the GWSI Paper Series and in collaboration with the Smart Water Management Task Force. They also worked on the development of a podcast series on Water Security. This was consistent with the three Working Groups set up in 2020 to focus on these topics. Some of the Task Force’s members also participated in sessions at IWRA’s XVII World Water Congress in November-December 2021.

THE STRUCTURE OF IWRA TASK FORCES REMAINS AS FOLLOWS:



GEOGRAPHIC CHAPTERS



THE IWRA CONTINUED TO HAVE FOUR NATIONAL OR REGIONAL CHAPTERS, namely in China, Oceania, Japan, and India, and a student chapter at the University of Illinois. To be consistent in the way IWRA interacts with its different groups, the decision was taken to manage Chapters like Task Forces, with similar structures and obligations. Each Chapter will have to constitute its Bureau and report to the Executive Office and Board a minimum of once per quarter. Additionally, each Chapter will have to deliver at least one outcome per year.

For one more year, IWRA's Chapters continued to promote the exchange of knowledge and experiences across countries and regions. They also focused on further implementing the Association's mission and key activities, reaching out to an extensive regional network of IWRA members and partners.

Also, in 2021, IWRA worked closely with the Board members in Latin America and the Caribbean to set up one in that region and launched a new Chapter in Mongolia as well!

CHINA

The China Chapter is chaired by Yuanyuan Li at the General Institute of Water Resources and Hydropower Planning and Design of the Ministry of Water Resources (GIWP). This Chapter is the largest IWRA Chapter with nearly 350 active members, and it led the bid to host the next XVIII World Water Congress on “*Water for All: Harmony between Humans and Nature*” in Beijing (11-15 September 2023). The XVIII Congress will be organized by the GIWP and the China Chapter.

JAPAN

Following the first IWRA 50th Anniversary High Level Panel hosted in early 2021, Kaoru Takara, Chair of the Japanese Chapter and IWRA Board of Directors (2013-2015), joined the Association's second dedicated panel to celebrate this significant landmark in our history. In 2021, this Chapter planned ways to engage more with IWRA members in Japan, exchange views in the field of water resources, create a much stronger network in the region, and support national and international related IWRA events and publications..

INDIA

Under the chairmanship of Uday Chander, Central Board of Irrigation and Power (CBIP), this Chapter continued to be active and carried forward various activities. Mainly these are related to the issues of the India Chapter quarterly newsletter, biannual IWRA India Journal, and several webinars/workshops. The Chapter also works with the IWRA Board to find ways to raise the Chapter's profile and encourage more individual and organizational members from India to join IWRA, participate in international events, and access the Association's publications.

OCEANIA CHAPTER

Led by Greg Leslie, the Chapter organized a webinar in August titled, “How Water Improves Agriculture: Advances in Climate Responsive Irrigation for Sustainability and Productivity”, that was a collaboration with the Global Water Institute at the University of New South Wales and the Cooperative Research Centre for Future Food Systems in Australia.



MONGOLIA CHAPTER – NEW!

IWRA's newest Geographical Chapter was created in Mongolia, following the strong leadership of its Co-Chairs: Nomundari Erdene and Angela Million. The announcement was made in the last quarter of the year, in the context of IWRA's XVII World Water Congress on “Water Security & Resilience” in Daegu, Korea, and the end of the Association's 50th anniversary celebrations. A dedicated Bureau was organized to manage the structure, activities, working groups, and timelines of this Chapter throughout the following year. Its activities are being managed via its Working Groups on Water Governance, Natural Disaster Risk Reduction, Environment and Ecology, Infrastructure and Engineering, Community and Youth Engagement, and Podcasts, with outputs expected in 2022.

LATIN AMERICA AND CARIBBEAN CHAPTER

Led by IWRA Board members, Guillermo Donoso and Ariana Rossen, the Executive Office supported their efforts to set-up its Bureau, and contacted all IWRA members to invite them to join the Chapter and create multiple Working Groups. Following the call for more Bureau members and several meetings, plans were made to officially launch this Geographical Chapter and implement its activities in 2022.

OTHER CHAPTERS

The Executive Office continues to engage and is following up on discussions to establish new Chapters in Africa and the Republic of Korea.

IWRA'S 50TH ANNIVERSARY



2021 MARKED THE 50TH ANNIVERSARY OF THE INTERNATIONAL WATER RESOURCES ASSOCIATION. A special committee was formed to organize various activities and events to commemorate and celebrate the special occasion. This committee was made up of Renée Martin-Nagle (Chair), Dogan Altinbilek, Karolane Caissy, Bassel Daher, Christina Leb, Scott McKenzie, James Nickum, Götz Reichert, Salman Salman, Rosario Sanchez, Mara Tignino, and Cecilia Tortajada. The celebrations consisted of two high-level panels, an interview series with seasoned IWRA members and partners, a special issue of *Water International*, 50th-anniversary awards, and a celebration on site in Daegu during the XVII World Water Congress.

HIGH-LEVEL PANELS

A Conversation on Water: Assessing the State of Knowledge and Achievement held on March 25th, 2021: This 90-minute event brought together experts on water from different parts of the world. They discussed how water resources had been managed over the past 50 years, reflected on the state of these resources from the local to the global level, and talked about different options for where the sector might go in the next 50 years.

A Conversation on Water: The Past Informing Water Futures held on April 29th, 2021: The panel's discussions focused on the Association's roots in Asia, looking at past, present, and future water challenges from the perspective of key IWRA members and chapters in the three countries

2000+ MEMBERS FROM OVER 120 COUNTRIES	NEW MEMBERSHIP STRUCTURE WITH MORE BENEFITS! 	 (29 NOV - 3 DEC, KOREA)
2021 PARTNERS WORLD WATER COUNCIL, K-WATER, UNESCO IHP, OECD, SIWI, TAYLOR AND FRANCIS, FAO, UNESCO I-WSSM, AUB, TEXAS A&M, UPWCD, CONAGUA	6 TASK FORCES & WORKING GROUPS 	 "ONE WATER, ONE HEALTH"
NEW MASTER CLASS ON WATER COOPERATION & DIPLOMACY 	REACHING MILLIONS ONLINE 	MUCH MORE (IWRA UPDATE, <i>WATER INTERNATIONAL</i> , POLICY BRIEFS, WEBINAR SERIES, PODCASTS, ETC.)

of Northeast Asia. **Learn more here: www.iwra.org/2nd_50th-anniversary-hlp**

INTERVIEW SERIES

This series consisted of interviews of IWRA Fellow and Honorary members to find out more about the Association, its history, and both the key role it plays today and could be played in the next 50 years. The interviewees were:

1. Prof. Soontak Lee
2. Prof. Jean. J. Fried
3. Prof. Aaron T. Wolf
4. Benedykt (Ben) Dziegielewski:
5. Prof. and past IWRA President, Benedito Braga

Visit www.iwra.org/50th_anniversary/ to watch these insightful interviews.

50TH ANNIVERSARY IN *WATER INTERNATIONAL*

IWRA's 50th Anniversary was marked in *Water International* issues throughout the year, culminating in a year-end double special issue with articles, essays, and commentaries devoted to the past, present, and future of water and IWRA. The double issue was published in October-November (46.7-8). **Visit www.tandfonline.com/toc/rwin20/46/7-8?nav=tocList to read the issue.**

50TH ANNIVERSARY AWARDS

On the occasion of the 50th Anniversary, IWRA created the 50th Anniversary Awards to mark the milestone. These awards were given to individuals who have made

outstanding contributions to the growth of the Association, positioning IWRA as a source of thought leadership and water knowledge, raising youth awareness of the water issues, and the profile of young professionals in IWRA. The winners were announced during the XVII World Water Conference, from November 29th to December 3rd, 2021, in Daegu, Rep. of Korea.

To honor the people who have served and supported the mission of IWRA over the past half-century, the 50th Anniversary Committee established the following five award categories listed below. Following a call for nominations, the winners were selected by the Awards Committee (Rabi Mohtar, Christina Leb, Majduline El-Tahir and Renée Martin-Nagle).

- **Global Reach** to recognize those who helped IWRA achieve a global presence - James Nickum / Malin Falkenmark
- **Foundation** to recognize key members of staff who volunteered their time - Ben Dziegielewski
- **Past** to recognize those who were most influential in IWRA's early years - Cecilia Tortajada / Hiroshi Hori
- **Present** to recognize those who have been most influential in recent years - Salman Salman / Gary Jones
- **Future** to recognize those who are expected to lead IWRA into the future - Bassel Daher.

WORLD WATER CONGRESSES



XVII WORLD WATER CONGRESS

Under the theme, “*Foundations for Global Water Security and Resilience: Knowledge, Technology, and Policy*” and with a focus on resilience and the need to find solutions to growing and changing challenges, the XVII World Water Congress was held in Daegu, Republic of Korea, for five consecutive days (29 November-3 December). The XVII World Water Congress was organized by IWRA, in collaboration with Daegu Metropolitan City, K-water, and the Korea Water Resources Association, and was supported by the Ministry of Environment of Korea.

With 831 attendees on-site and 263 virtual attendees (1,094 in total), IWRA welcomed participants from 26 countries to its Congress in South Korea. The Congress included high-level participation of multilaterals, including the World Water Council, the World Bank, UNESCO, OECD, IFAD, and FAO, as well as brought together water experts from over 30 universities who shared research findings, solutions, and proposals for leveraging water issues at global level.

IWRA was particularly pleased to welcome the participation of a delegation from Senegal in preparation of the 9th World Water Forum to be held in Dakar in March 2022. This included the Minister of Water and Sanitation of Senegal, Serigne Mbaye Thiam, and Abdoulaye Sene, Executive Secretary and Co-Chairman of the Preparatory Committee for the Organization of the 9th World Water Forum to be held in Dakar in March 2022.

The most evident representation of the generated commitment and the multi-stakeholder engagement at the XVII World Water Congress was the Daegu Declaration. The Declaration calls for urgent dialogue and coordination across different disciplines and sectors to address complex water challenges, not only in connection with sanitation and hygiene, but also with the sustainable management of water resources and aquatic ecosystems.

To learn more about the XVII World Water Congress
www.iwra.org/congress/2021

XVII WORLD WATER CONGRESS THEMES

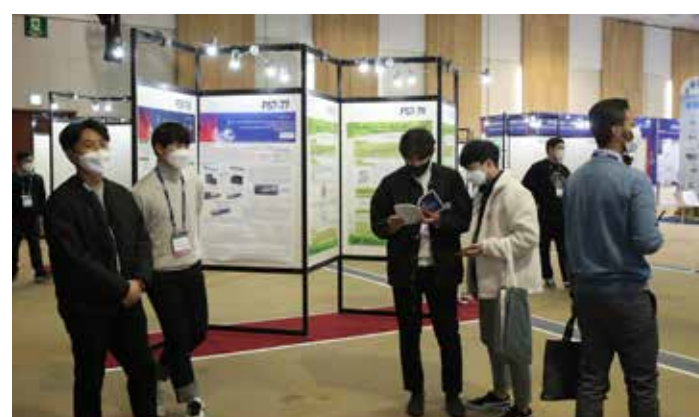
- A. Building resilient systems for climate change, growing populations, and epidemics**
 - A1.** Balancing critical water needs: the people-food-energy-environment nexus
 - A2.** Managing water scarcity: supply-side and demand-side options
 - A3.** Reducing disaster risks: improving preparedness and resilience
 - A4.** Water sanitation and health: deepening inclusion, access, and service
 - A5.** Financing resilience: challenges, opportunities, and risks
 - A6.** (NEW) Responding to a crisis: lessons learned from the COVID-19 pandemic
- B. Maximising social, cultural, and economic benefits**
 - B1.** Valuing water: perspectives from grass roots to governments
 - B2.** Water allocation and governance: balancing equity, legal, and economic needs
 - B3.** Access and authority: empowering youth women and other disadvantaged groups
 - B4.** Cultural water: traditional and indigenous values in water policy, planning, and law
 - B5.** Community participation: local programs improving water access and quality
- C. Adopting smart technologies, policies and processes**
 - C1.** Water-smart cities: re-thinking the urban water cycle from site to basin scale
 - C2.** Smart water and ICT: applications for developing and developed countries
 - C3.** Water and food: improving efficiency, productivity, and nutritional outcomes
 - C4.** Appropriate technologies: low-cost innovations from concept to business plan
 - C5.** Smarter water: latest advances in education, research, and development
- D. Securing healthy waters, catchments and ecosystems**
 - D1.** Basins and catchments: implementing IWRM from source to sea
 - D2.** Rivers and wetlands: ecological and engineering approaches to rehabilitation
 - D3.** Environmental water: innovations and outcomes in policy, law, and practice
 - D4.** Improving water quality: new economic, legal, regulatory, and technical approaches
 - D5.** Climate change and ecosystems: repairing impacts and preventing damage
- E. Implementing pathways for development and cooperation**
 - E1.** Managing trans-boundary waters: advances, regressions, and prospects
 - E2.** Water and migration: understanding and mitigating key drivers and risks
 - E3.** Water governance: reflections on progress in policy, law, and institutional reform
 - E4.** River basin organisations: case studies highlighting successes and challenges
 - E5.** Grass-roots action: collaboration in local government and civil society programs
- 1. Sharing and communicating data, knowledge and information**
 - 1.1** Education and capacity building: meeting the needs of developing countries
 - 1.2** ICT platforms and apps: new initiatives and approaches to information sharing
 - 1.3** Bridging science and policy: reflections on the Cancun Declaration from WWC XVI
- 2. Catalysing private sector engagement and participation**
 - 2.1** Water risks: improving water use and quality at sites and in supply chains
 - 2.2** Financing needs: making the water sector more attractive for investors
 - 2.3** Local participation: emerging roles and opportunities for small and large business
- 3. Delivering SDG outcomes: Five years on and looking to 2030**
 - 3.1** Progress on implementation: national, regional, and thematic perspectives
 - 3.2** Predictions for 2030: best case, likely, and worst-case scenarios
 - 3.3** Technology and knowledge needs: availability, affordability, and sustainability



FIVE THEMES WERE ADDRESSED AS CRITICAL FOR ACHIEVING GLOBAL WATER SECURITY AND RESILIENCE:

- 1) Disseminate Nature-Based Solutions**, together with the mainstreaming of public policies dedicated to water resources management and biodiversity preservation.
- 2) Reinforce IWRM and river basin approaches** with good and shared governance, including for transboundary resources, as effective tools for peace and sustainable development.
- 3) Support solutions for productive and sustainable agriculture**, being respectful of soil health and its interdependence with water needs.
- 4) Improve coordination between scientists and educators** to empower future generations with the right knowledge and tools.
- 5) Institutionalize the engagement of youth and early career professionals** through programs that reflect a long-term vision and commitment to include them as partners in the process.

To learn more about the Declaration and pledge your commitment on our website.



XVII WORLD WATER CONGRESS STATISTICS

OVER 1200 REGISTERED PARTICIPANTS
FROM MORE THAN 26 COUNTRIES

A TOTAL OF
93 DISTINCT
SESSIONS HELD OVER
4 AND A HALF
DAYS, INCLUDING:

5 HIGH-LEVEL PANEL
SESSIONS

39 REGULAR
SESSIONS

49 SPECIAL SESSIONS

MORE THAN
100
SPEAKERS AND
MODERATORS

NATIONAL ORGANISING COMMITTEE

CHAIR

Prof. Jun-Haeng HEO,
Korea Water Resources Association/Yonsei University

BUREAU

Mr. Sung Dae LEE, Daegu Metropolitan City
Mr. Hwan-chin CHOUNG, Ministry of Environment
Mr. Jong-jin LEE, K-water

COMMITTEE MEMBERS

Mr. In Jong CHOI, Korea Water Cluster Conference
Prof. Zuwhan YUN, Korea Water Partnership
Dr. Il Pyo HONG,
Korea Institute of Civil Engineering and Building Technology
Mr. Ik Hun CHOI, Korea Environment Corporation
Ms. Jeong Soo LEE, Korea Climate & Environment Network
Ms. Yoonjin KIM, Korea Water Forum
Dr. Ae Sook SUH, Korean Foundation for Quality
Prof. Won Sik SHIN, Kyungpook National University
Prof. Kwang Ik SON, Yeungnam University
Prof. Kwan Sue JUNG, Chungnam University
Prof. Hung Soo KIM, Inha University
Prof. Kyungtaek YUM, Sungkyunkwan University
Prof. Kyung Sook CHOI, Kyungpook National University
Prof. Chang Hae LEE, Daejin University
Prof. Dongil SEO, Chungnam National University
Prof. Mi Young SONG, Gyeonggi Research Institute

Under the guidance of the ISC chair, additional individuals agreed to take on responsibilities related to programme planning. These content coordinators were:

THE INTERNATIONAL SCIENTIFIC COMMITTEE

CHAIR

Adj. Prof. Gary Jones – Australia

DEPUTY CHAIR

Prof. Dongil Seo – Korea

BUREAU

Prof. Henning Bjornlund – Australia/Denmark
Prof. Kun Yeun Han – Korea
Prof. Blanca Jiménez Cisneros – Mexico
Dr. No Hyuk Park – Korea
Mr. Eui-Rak Hong – Korea
Dr. Abou Amani – Niger

COMMITTEE MEMBERS

Dr. Victor Hugo Alcocer Yamanaka – Mexico
Dr. Brenda Bateman – Usa
Prof. Kwang-Ho Choo – Korea
Prof. Maria Donoso – Panama
Mr. Jean-François Donzier – France
Ms. Danielle Gaillard-Picher – Usa/France
Prof. Jun-Haeng Heo – Korea
Prof. Kazumasa Ito – Japan
Dr. Torkil Jønch Clausen – Denmark
Prof. Kyung Soo Jun – Korea
Prof. Tae Yong Jung – Korea
Prof. Jinyoung Jung – Korea
Prof. Seong Joon Kim – Korea
Dr. Karin Krchnak – Usa/Slovakia
Prof. Soontak Lee – Korea
Prof. Yuanyuan Li – China
Ms. Jae Lim Lim – Korea
Dr. Bindu Lohani – Nepal
Mr. Takashi Fukuwatari – Japan
Dr. Somkiat Prajamwong – Thailand
Dr. Götz Reichert – Germany
Ms. Adelina (Lennie) Santos-Borja – Philippines
Prof. Abdoulaye Sene – Senegal
Dr. Vladimir Smakhtin – Russia/Canada
Dr. Cecilia Tortajada – Mexico/Singapore
Prof. Chieko Umetsu – Japan



Learn more about the Declaration and pledge your commitment on the IWRA website.

XVII WORLD WATER CONGRESS CONTENT COORDINATORS

GENERAL

Oral Sessions: Maria Donoso

PROGRAMME

Poster Sessions: Asma Bachikh

Special Sessions: Dong-il Seo

HIGH-LEVEL PANELS

Private Sector Participation: Karin Krchnak
Science & Policy for SDGs: Rabi Mohtar
Data & Technology for Development: Tom Soo

PROTOCOL ADVISORS

International: Patrick Lavarde
Korean: Soontak Lee

REPORTING

Rapporteurs: Alice Colson
Proceedings: Rosario Sanchez

LOCAL ORGANIZING COMMITTEE (LOC)

CHAIR

Changsam JEONG,
Induk University

MEMBER

Seungoh LEE, Hongik University
 Chang Geun SONG, Incheon University
 Younghun JUNG, Kyungpook National University
 Taesam LEE, Gyeongsang National University
 Hyun-Han KWON, Sejong University
 Doosun KANG, Kyunghee University
 Giha LEE, Kyungpook National University
 Dongkyun KIM, Hongik University
 Eun-Sung CHUNG, Seoul National University of Science and Technology
 Yeonjoo KIM, Yonsei University
 Tae-Woong KIM, Hanyang University
 Yong-Won SEO, Yeungnam University



IWRA plans to keep in touch with these World Water Envoys and to continue with this exciting initiative at all future World Water Congresses.

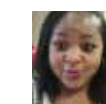
WORLD WATER ENVOYS PROGRAMME

In 2019, IWRA launched its World Water Envoys Programme, connected to the World Water Congress. As the XVII World Water Congress focused on Water Security, IWRA launched a competition to identify stories from communities facing Water Security issues. Applicants had to submit a short video and a single photo to explain the water security issue affecting them and their community. The five selected representatives are called "World Water Envoys".

The programme hopes to give an opportunity to young people that are not necessarily from the water world to become the ambassadors of their communities, to meet with international water experts, raise the profile of the water issues their communities face, and hopefully bring some concrete solutions back to where they live.

The five selected World Water envoys attended the XVII World Water Congress in Daegu. Their contribution to the congress involved presentations in various sessions, such as High-Level Panels, and they provided rapporteur assistance for the different sessions of the congress. During the Opening Ceremony of the XVII World Water Congress, the World Water Envoys had the opportunity to talk about their water security challenge and its impacts on everyday life. They also had the opportunity to participate in high-level panel sessions alongside prominent water experts. During the closing ceremony, the envoys were asked to summarize what they learned over the week, including what connections they made that could help their community overcome its water security challenge. In addition, Abdoulaye Sene, Executive Secretary and Co-Chairman of the Preparatory Committee for the Organization of the 9th World Water Forum, invited them to attend the 2022 Forum in Dakar, Senegal.

The envoys for the XVII World Water Congress in 2021 were:



1. **Georgina Mukwirimba – Zimbabwe.** Georgina focuses on the economics of water supply in big cities and, in the context of a failing economy. She is currently doing an internship at UNESCO in Harare, working on the "City Blue Print" programme.



2. **Deepesh Jain – India.** Deepesh focuses on the right to water and sanitation in slums. He holds a Master's degree in Water Policy and Governance, has worked with the Indian Sanitation Coalition, and currently works on installing temporary toilets during giant pilgrim gatherings similar to Kumbh Mela.



3. **Maria Almonte – Dominican Republic.** Maria focuses on urban river management, specifically on the recent contamination of a river in Santo Domingo, leading to severe health problems in her neighbourhood, such as dengue fever. She sees education and raising awareness around waste and water management as a top priority for her community. Maria holds a Bachelor's degree in Civil Engineering.



4. **Bayan Khalaf – Palestine, West Bank.** Bayan focuses on agrochemical pollution caused by intensive use of pesticides in rural areas of Palestine, which have impacted people's health. Bayan is currently enrolled in a Ph.D. program in Germany on the topic and is very passionate about the subject.



5. **Pallavi Pokharel – Nepal.** Pallavi focuses on groundwater pollution in the city of Kathmandu, Nepal, where 90% of people depend on groundwater. This groundwater, however, is contaminated with arsenic, chemicals, and viruses. Pallavi understands well the multifactorial complexity of the situation and is very eloquent. In 2020, Pallavi was completing an undergraduate program in the environmental sciences.

XVIII & XIX WORLD WATER CONGRESSES

At the end of 2018, the call for expressions of interest to host the XVIII World Water Congress was launched. Initial applications consisting of a two-page letter confirming interest were required by the end of March 2019. This was followed by an invitation for full applications by the middle of 2019. A preferred candidate was selected by the end of 2019, and following negotiations, the winner was announced at the XVII World Water Congress in December 2021. The XVIII World Water Congress will be hosted in Beijing by the General Institute of Water Resources and Hydropower Planning and Design of the Ministry of Water Resources (GIWP) and the China Chapter of IWRA.

In 2020, the call for expressions of interest to host the XIX World Water Congress in 2025 was launched and numerous expressions of interest were received. Delays caused by the COVID-19 Pandemic affecting the conference sector meant that the deadline for full applications was postponed to 2022.

ONLINE CONFERENCES

2021 ONLINE CONFERENCE "ONE WATER, ONE HEALTH: WATER, FOOD, AND PUBLIC HEALTH IN A CHANGING WORLD"

FROM JUNE 7TH-JUNE 9TH, IWRA HELD ITS SECOND ONLINE CONFERENCE WITH THE THEME, "One Water, One Health: Water, Food, and Public Health in a Changing World." The conference was primarily sponsored by the UN Food and Agriculture Organization (FAO), with additional sponsorship from UNESCO's Intergovernmental Hydrological Programme (UNESCO-IHP). In addition, the online conference was also supported by the American University of Beirut (AUB), the China Water Resources Association (CWRA), and Texas A&M University. This theme aligned with the preparations of the "Road to Dakar" for the 9th World Water Forum to be held in Senegal in March 2022.

As the global debate focused on the interlinkages between public health and the COVID-19 pandemic, and the impact on farming, production, and shipping, the Online

Conference emphasized the fragility of water resources as a critical factor in agriculture, food processing, nutrition, and broader human health issues. The Online Conference was designed to respond to these nexuses which are especially critical under the current circumstances of the global pandemic, accelerated climate change, population growth, and increasing urbanization.

Development of IWRA's Online Conference series started prior to the COVID-19 pandemic with the idea of hosting an online congress that would enable people who are not able to travel to face-to-face events due to cost, travel restrictions, or other ethical reasons, to present their latest research to the international water community. The arrival of the pandemic made such an online event even more necessary. The sponsorship provided by our partners such as FAO and UNESCO-IHP also ensure that it is free for all speakers and audience members to participate.

ONLINE CONFERENCE STATISTICS

OVER **1,400 REGISTERED PARTICIPANTS**
FROM MORE THAN **110 COUNTRIES**



MORE THAN
100
SPEAKERS AND MODERATORS

A TOTAL OF **16 DISTINCT SESSIONS** HELD OVER
2 AND A HALF DAYS, INCLUDING:

- 11 REGULAR SESSIONS**
- 2 PLENARY SESSIONS**
- 2 FAO SPECIAL SESSIONS**
- 1 HIGH-LEVEL PANEL**



The conference had 5 main sub-themes addressed by speakers in both regular and high-level sessions. These challenges were:

HOW CAN WE BETTER MANAGE WATER FOR FOOD AND PUBLIC HEALTH IN A CHANGING WORLD?

- 1.1 How do we identify and overcome climate change and other challenges on water, food, and health?
- 1.2 How is groundwater for food and public health affected by global changes?
- 1.3 How do we predict and measure the impact of water-related extreme weather events on food and public health?
- 1.4 How do we factor in urbanisation and demographic changes into integrated water food and public health management?
- 1.5 What are the impacts and possible water solutions for food and health in regions suffering conflict and political crises?
- 1.6 How do we find synergies, and reconcile trade-offs, between water for food and health and other services provided by surface and groundwater ecosystems?

HOW CAN MANAGING WATER IN AGRICULTURE CONTRIBUTE TO FOOD SECURITY AND PUBLIC HEALTH?

- 2.1 How can we increase yields and reduce post-harvest losses to secure access to nutritious food?
- 2.2 What can farmers do to increase productivity/ profitability to secure their access to nutritious food – interdependencies with resilience, ecosystems and infrastructure?

- 2.3 How can better understanding of soil moisture and nutrient dynamics reduce water use and fertilizer losses?
- 2.4 How can farmers integrate into a wider food system as part of rural economies: value adding, job creation, and better diets?
- 2.5 How can integrating dryland, irrigation, inland fisheries, aquaculture, and livestock production provide more profitable outcomes, and improve diets and health?

WHAT OPPORTUNITIES LIE IN THE IMPROVED COOPERATION BETWEEN WATER, FOOD, AND PUBLIC HEALTH SECTORS?

- 3.1 What are lessons learned from implementing solutions that improve public health outcomes through enhancing access to nutritious food and safe drinking water and sanitation?
- 3.2 What technological, social, and institutional barriers exist to ensuring access to nutritious food and safe drinking water and sanitation, and what are examples of innovative ways to address them?
- 3.3 What public health policy responses are required to address non-point source pollution from agricultural production?
- 3.4 What role can public health play in catalysing a transition toward circular food and water value chains?
- 3.5 What are examples of opportunities for improving the resilience of societies facing compound shocks (pandemics, climate change, migration) through the lens of interconnected water, food, and public health

systems?

WHAT ARE THE SYNERGIES OR TRADE-OFFS BETWEEN ECOSYSTEM HEALTH AND HUMAN HEALTH?

- 4.1 How do we identify and capitalise on synergies between maintaining or restoring freshwater ecosystem health and providing water, food and health benefits for people?
- 4.2 What role do markets and regulation play in capitalising on synergies, and reconciling trade-offs, between water for ecosystems, food and public health?
- 4.3 How can we protect and restore aquatic ecosystems urgently and at scale for both biodiversity and human welfare?

HOW CAN SCIENCE BETTER INFORM PUBLIC POLICY, GOVERNANCE AND CAPACITY BUILDING FOR WATER, FOOD, AND HEALTH?

- 5.1 How can we innovate capacity building & education for managing water for food and health?
- 5.2 What new direct legal mechanisms are emerging to promote more integrated water resource management, and overcoming regulatory barriers to integrate management of water for food and health?
- 5.3 What indirect legal approaches are there to water governance, including trade and investment law, which affect access to and allocation of water resources?
- 5.4 How can we leave no one behind? – Allocation, Nutrition, Tenure Rights, Vulnerable Individuals and Groups, and Indigenous Communities in developed and developing countries.
- 5.5 How can we look at water and food in more inclusive ways? – Access, nutritional value, economic/ productive uses, health and footprint.
- 5.6 How can we better integrate WASH and irrigation from financing to implementation? – Multiple Use Systems.

The IWRA would like to thank the FAO and UNESCO-IHP for their invaluable support for this event, as well as the partners who made this Conference a success: the American University of Beirut (AUB), the China Water Resources Association (CWRA), and Texas A&M University. We would also like to thank all the moderators, speakers, and of course the members of the International Scientific Committee (ISC) who worked actively to ensure the Online Conference was a success.

INTERNATIONAL SCIENTIFIC COMMITTEE

CO-CHAIRS

Sasha Koo-Oshima, Deputy Director and Head of Water, Food, and Agriculture (FAO)

Yuanyuan Li,

Professor, General Institute of Water Resources and Hydropower Planning and Design at the Ministry of Water Resources of China

Rabi Mohtar,

Dean of the Faculty of Agricultural and Life Sciences American University of Beirut; Professor of Environmental Resources Engineering Texas A&M University

COMMITTEE MEMBERS

Alice Aureli, Chief of the Groundwater Systems and Settlements Section, UNESCO-IHP

Tala Awada, Associate Dean in the Agricultural Research Division Professor of Plant Ecophysiology in the School of Natural Resources, University of Nebraska-Lincoln

Barry Boubacar, Chair of GWP-WA Technical Committee

Henning Bjornlund, Research Professor, Water Policy and Management, University of South Australia

Bassel Daher, Texas A&M

Xiaokai Li, WBG

Iman Nuwayhid, Professor of Public Health and Occupational and Environmental Health at the Faculty of Health Sciences at the American University of Beirut

Pedi Obani, Assistant Professor in the School of Law, University of Bradford

Rabindra Osti, Asian Development Bank (ADB)

Mark Smith, Director General of the International Water Management Institute (IWMI)

Jennifer Sara, Global Director, Water Global Practice, World Bank

Raya Stephan, International Water Consultant

David Tickner, Chief Freshwater Adviser at WWF - UK

Lesha Witmer, Steering Committee (advocacy lead) of Women for Water Partnership

Lili Yu, Professor Level Senior Engineer, GIWP, Ministry of Water Resources (MWR), China

Recordings, conference reports, and proceedings (including abstracts, presentations, and posters) are all available online at: www.iwraonlineconference.org/welcome-2021-2

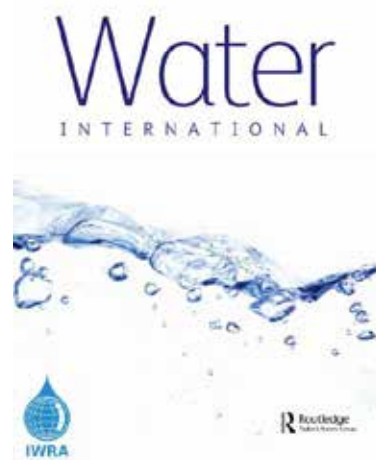
PUBLICATIONS

PUBLICATIONS

WATER INTERNATIONAL

Water International, IWRA's flagship publication since 1975, maintains its veteran senior management, consisting of Editor-in-Chief, James E. Nickum (since 2007), and Deputy Editor-in-Chief, Raya Marina Stephan (since 2018). It is also supported by 5 Associate Editors and a strong Editorial Board.

In 2021, IWRA's 50th Anniversary was marked in issues throughout the year, culminating in a year-end double special issue with articles, essays and commentaries devoted to the past, present and future of water and IWRA, published in October-November (46.7-8).



A special issue on Source-to-Sea Management was also published in collaboration with the S2S Platform in February (46.2), and an additional one on Water Insecurity and the State was published in August (46.6).

The Editorial Team

Editor-in-Chief: James Nickum – IWRA, Japan	Associate Editors: Charlotte MacAlister – Climate Smart Communities, Canada
Deputy Editor-in-Chief: Raya Marina Stephan – IWRA, France	Pedi Obani – University of Bradford, UK
Book Review Editor: Sarah Elizabeth Wolfe – Royal Roads University, Canada	Yizi Shang – China Institute of Water Resources & Hydropower Research (IWHR), China
	Cecilia Tortajada – Lee Kuan Yew School of Public Policy, Singapore
	Lee Kuan Yew – School of Public Policy, Singapore
	Kevin Wheeler – Oxford University, UK

The Editorial Board

Nani G. Bhowmik – University of Illinois at Urbana-Champaign, USA	Rabi Mohtar – American University of Beirut, Lebanon
Regina M. Buono – University of Texas at Austin, USA	Daanish Mustafa – King's College, UK
Ximing Cai – University of Illinois, Urbana-Champaign, USA	Raul Pacheco-Vega – Facultad Latinoamericana de Ciencias Sociales, Mexico
Misganaw Demissie – University of Illinois, Urbana-Champaign, USA	Raja Sengupta – McGill University, Canada
Ben Dziegielewski – Southern Illinois University, USA	Christopher Scott – University of Arizona, USA
Surina Esterhuysen – University of the Free State, South Africa	Slobodan Simonovic – University of Western Ontario, Canada
Malin Falkenmark – Stockholm Resilience Center, Sweden	Olli Varis – Aalto University, Finland
Bruce Hooper – Bruce Hooper & Associates, Australia	Yuliya Vystavna – Czech Academy of Science, Czech Republic
Shaofeng Jia – Chinese Academy of Sciences, China	Philippus Wester – International Centre for Integrated Mountain Development, Nepal
Krasposy Kujinga – WaterNet, Zimbabwe	Sarah Elizabeth Wolfe – Royal Roads University, Canada
Jennifer McKay – University of South Australia, Australia	Mark Zeitoun – University of East Anglia, UK and Geneva Water Hub, Switzerland

**2020 IMPACT FACTOR: 2.663,
UP 40% OVER 1.899 (2019)**

BEST PAPER 2020

Patience Mukuyu et al., The devil's in the details: data exchange in transboundary waters

HONORABLE MENTION 2020

Cesario Cambaza et al., Irrigation management transfer in sub-Saharan Africa: an analysis of policy implementation across scales

MOST CITED 2020

Marian Neal, COVID-19 and water resources management: reframing our priorities as a water sector,

MOST CITED 2021

Sarantuuya Zandaryaa & Dmitry Frank-Kamenetsky, A source-to-sea approach to emerging pollutants in freshwater and oceans: pharmaceuticals in the Baltic Sea

MOST VIEWED 2020

Sumit Vij et al., Non-decisions are also decisions: power interplay between Bangladesh and India over the Brahmaputra River

MOST VIEWED 2021

Kevin Walker & Hussam Hussein, Water research and nationalism in the post-truth era

IWRA's Mentored Publishing Scheme for Early-Career Professionals

IWRA launched an innovative programme in 2020, led by Robert G. Varady, and aimed at supporting early-career scholars and water professionals. A special issue of *Water International* will focus on papers that are either co-authored with or supervised by senior water professionals. At the beginning of 2020, early-career scholars and water professionals were invited to submit abstracts for this programme. The special issue, to appear in 2022, will promote interdisciplinarity and transdisciplinary works. **Learn more here: www.iwra.org/water-international**

IWRA POLICY BRIEFS

IWRA publishes two series of policy briefs: a “blue series” of *Water International* Policy Briefs that are based on special issues; and a “green series” of IWRA Policy Briefs that are typically published in association with key partners in the framework of IWRA events and activities. James E. Nickum is the Coordinator of the Policy Briefs and works with a team of Policy Briefs Editors (Kara DiFrancesco, Kris Hartley, and Mary Trudeau). **Seven “Green Series” policy briefs were produced in 2021:**

IWRA Policy Brief N° 12 - *Taking land seriously in spatial flood risk management*

IWRA Policy Brief N° 13 - *How can we better manage water for food and public health in a changing world?*

IWRA Policy Brief N° 14 - *How can managing water in agriculture contribute to food security and public health?*

IWRA Policy Brief N° 15 - *What opportunities lie in the improved cooperation between water, food, and public health sectors?*

IWRA Policy Brief N° 16 - *What are the synergies and trade-offs between ecosystem health and human health?*

IWRA Policy Brief N° 17 - *How can science better inform public policy, governance and capacity building for water, food and health?*

IWRA Policy Brief N° 18 - *Human rights indicators for water and sanitation*

SPECIAL ISSUE BOOKS

Water International special issues often form the basis of subsequent publication as a book in the Routledge Special **Issues on Water Policy and Governance** book series. James E. Nickum and Cecilia Tortajada are co-editors of this series. The following were published in 2021:

Putting Water Security to Work: Addressing Global Sustainable Development Challenges, ed. By Chad Staddon and Christopher A. Scott.

Source-to-Sea Management, ed. By Josh Weinberg, Fang Qinhua, Sarantuyaa Zandaryaa, Greg Leslie and James E. Nickum.

Strengthening Cooperation over Transboundary Groundwater Resources, ed. By Gabriel Eckstein and Alice Aureli.

IWRA'S NEWSLETTER: IWRA UPDATE

IWRA Update, the Association's quarterly newsletter, produced its usual four editions in 2021. The objective of the newsletter is to inform IWRA members and key partners about the latest and upcoming activities of the Association, as well as recent water news and publication information. These four newsletters were made available to IWRA members and partners entirely online and were distributed via email, as well as promoted on social media channels, such as Twitter, Facebook, Instagram, and LinkedIn. For each issue, contributions from members through open calls were requested to update the IWRA community on their latest activities and research. **Members can access all the newsletters here: www.iwra.org/newsletter**

CAPACITY BUILDING

IWRA WEBINARS

In 2021, IWRA held online webinars on twelve different topics. These events were based on water-related events or on selected special issues of *Water International*:

Webinar n°38: *Agricultural Water Reuse: Challenges & Opportunities* - 26 January 2021

Webinar n°39: *World Water Day: Valuing Water* - 22nd March 2021

Webinar n°40: *Source-to-Sea Management* - 13th April 2021

Webinar n°41: *Water Management in a Post COVID-19 World* - 12th May 2021

Webinar n°42: *The Role of the SDGs & WASH Initiatives in a Water Scarce World* - 18th May 2021

Webinar n°43: *Sustainability of Engineered Rivers in Arid Lands (SERIDAS): Response to Critical Challenges* - 17th June 2021

Webinar n°44: *The Importance of Groundwater Success Stories* - 30th June 2021

Webinar n°45: *How Water Improves Agriculture: Advances in climate responsive irrigation for Sustainability and Productivity* - 26th August 2021

Webinar n°46: *The Nexus of Law and Water: Recent Developments in the Rights of Nature and Ecocide* - 7th September 2021

Webinar n°47: *Success in Inventorying, Measuring, and Monitoring Groundwater* - 15th September 2021

Webinar n°48: *Policy Brief Roundtable: Land4Flood: Taking Land Seriously in Spatial Flood Risk Managements* - 20th September 2021

Webinar n°49: *World Toilet Day: Valuing Toilets* - 19th November 2021

More than 2000 registrants participated in these free webinars. Throughout the year, all webinars were recorded and are now accessible both on IWRA's website and YouTube channel.

Recordings and presentations are available there: www.iwra.org/webinars

IWRA MASTER CLASSES

During July, September, and in early October of 2021, IWRA held its first series of Master Classes in collaboration with the Universities Partnership for Water Cooperation and Diplomacy (UPWCD). The topic for this first series of IWRA Master Classes was "Water Cooperation and Diplomacy" and consisted of 10 subtopics facilitated by different lecturers. These master classes also included workshops for IWRA members.

More than 1,700 registrants from at least 89 countries participated for free, in IWRA's first series of Master Classes. The lectures were recorded and are accessible to all IWRA members via IWRA's membership platform. Each public lecture was immediately followed by an online skills workshop open exclusively to IWRA Silver and Gold members.

IWRA would like to thank Aaron Wolf and Léna Salamé for coordinating this ambitious programme, as well as the lecturers listed below for sharing their knowledge and expertise through this new innovative platform. IWRA also recognises the support of their institutions: Oregon State University, University of California, National University of Hungary, United Nations University, IHE Delft (The Netherlands), IIT Guwahati (India), and the Geneva Water Hub.

Master Class 1: *Source-to-Sea Management* - 13th April 2021 - 1 July 2021. Lectured by Professor Aaron T. Wolf

Master Class 2: *Concepts in Economics & Strategic Behaviour for Management of International Water* - 22nd March 2021. Lectured by Professor Ariel Dinar

Master Class 3: *Approaching the SDGs as a System - Basic Observations* - 13th April 2021. Lectured by Professor János Zlinszky

Master Class 4: *Science Diplomacy for Regional Integration of Water Security Agenda* - 26 January 2021. Lectured by Dr Nidhi Nagabhatla

CAPACITY BUILDING



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Master Class 5: *Gender and Water Diplomacy* - 29th July 2021. Lectured by Jenniver Sehring, Natasha Carmi, and Anamika Barua

Master Class 6: *Technologies in Hydropolitics and Hydrodiplomacy Management* - 2nd September 2021. Lectured by David Katz

Master Class 7: *Water Diplomacy and adaptive governance at the U.S - Mexico border* - 9th September 2021. Lectured by: Robert G. Varady, Stephen P. Mumme, and Andrea K. Gerlak

Master Class 8: *Transboundary Waters and Benefit Sharing* - 23rd September 2021. Lectured by Professor Anamika Barua

Master Class 9: *International Water Law for Water Diplomacy* - 30th September 2021. Lectured by Léna Salamé

Master Class 10: *Launching a Dynamic Decision Support Dashboard for Hydropolitical Multidisciplinary Analysis* - 7th October 2021. Lectured by Mohammadreza Shahbazbegian and Anthony Turton

Following the success of this first series of master classes, IWRA hopes to continue to organise master classes annually with the assistance of various water organisation partners, IWRA Task Forces, and Chapters. The second series will run in 2022.

To learn more about this series of Master Classes, visit: www.iwra.org/master-classes

MEDIA COVERAGE

Social media channels play a huge role in promoting IWRA's activities, sharing knowledge, as well as raising brand awareness. With the addition of two new members to strengthen IWRA's communication processes, IWRA's platforms experienced increases in followers and engagement, which ultimately contributed to the increase in event participation and an increase in new IWRA members. The main platforms used included Twitter, Facebook, LinkedIn, YouTube, and Instagram.

On top of this, IWRA saw an increase in articles published in online magazines and portals. This included:

- *Urban Water Security Working Group at IWRA: cities running out of water and urban water security* – Smart Water Magazine
- *IWRA host online conference on water, food and public health* – UN Water
- Korea Water Resources Corporation leads ESG... Environmental, social and governance 'preemptive response'
- TEXAS A&M Energy Institute participates in the IWRA World Water Congress – Texas A&M News
- IWRA's XVII World Water Congress – Global Water Partnership
- Korean Media: m.thesegeye.com/news/newsview.php?ncode=1065588896248177
- www.sentv.co.kr/news/view/606351
- The International Water Resources Association World Water Congress opens... Sharing experiences and knowledge related to water
- Daegu Water City Forum, 11 cities from 10 countries participate



12,000
followers
+ 1,517
new followers
489,800
impressions



more than
16,000
likes



from
650
to
1,000
followers



300,000
impressions
10,000
followers

IWRA AWARDS 2021



SINCE ITS CREATION, IWRA recognizes the contributions towards water management and the excellence of water researchers, professionals, and organizations. IWRA presented the following awards at the XVII World Water Congress in Daegu:

THE CRYSTAL DROP AWARD

This is awarded once every three years to individuals or organizations in recognition of their laudable contribution to the improvement of the world's water situation. It is presented at the IWRA World Water Congress, organized by IWRA. **The 2021 recipient of the Crystal Drop Award was Doğan Altınbilek.**

THE VEN TE CHOW MEMORIAL AWARD AND LECTURE

The Ven Te Chow Memorial award was established to honour IWRA's first president as well as provide for an outstanding lecture, to be delivered at the IWRA World Water Congresses. **The 2021 awardee was Prof. Dr.**

Soontak Lee. He is presently a Distinguished Professor / Professor Emeritus of Hydrology and Water Resources Engineering of Yeungnam University, Korea. He is also an Honorary Governor of the World Water Council (WWC) and is President of the International Hydrologic Environmental Society (IHES). He gave a lecture that recounted in part the history of Ven Te Chow, as well as the early history of the Association.

WATER DROP AWARD

Established in 2021, the Water Drop Award recognizes a student or early career professional, typically under the age of 35, who has made an innovative contribution to the water sector. **In 2020 the first Water Drop Award was awarded in 2021 to Laura Movilla Pateiro.** Dr. Laura Movilla Pateiro is a lecturer in Public International Law at the University of Vigo, Spain. Her main field of research is international water law, with a particular focus on the law of transboundary aquifers.

WATER INTERNATIONAL BEST PAPER AWARD

The Best Paper Award and honourable mention are awarded annually to author(s) of an article appearing in *Water International* based on the originality, innovation, technical quality, and contribution to water resources management of an article appearing in *Water International*.

The following authors in *Water International* received awards for 2018, 2019 and 2020 at IWRA's XVII World Water Congress in 2021:

BEST PAPER 2018 AWARDEE

Water security and the pursuit of food, energy, and earth systems resilience. Christopher A. Scott, Tamee R. Albrecht, Rafael De Grenade, Adriana Zuniga-Teran, Robert G. Varady, and Bhuwan Thapa. *Water International*, 43.8, 1055-1074. Ddoi 10.1080/02508060.2018.1534564

Honourable Mention 2018 Awardee

Poor water service quality in developed countries may have a greater impact on lower-income households. Anna Robak and Henning Bjornlund. *Water International*, 43.3, 436-459. Ddoi 10.1080/02508060.2018.1446613

BEST PAPER 2019 AWARDEE

"Hotel Middle East": social shocks and adaptation in Jordan's domestic water sector. Natasha Westheimer, Michael Gilmont, and Troy Sternberg. *Water International*, 44.4, 444-462. Ddoi 10.1080/02508060.2019.1622277

Honourable Mention 2019 Awardee

Water markets as coupled infrastructure systems: comparing the development of water rights in Heihe, Shiyang and Yellow Rivers. Jesper Svensson, Dustin E. Garrick, and Shaofeng Jia. *Water International*, 4.8: 834-853. Ddoi 10.1080/02508060.2019.1669110

BEST PAPER 2020 AWARDEE

The devil's in the details: data exchange in transboundary waters. Patience Mukuyu, Jonathan Lautze, Alistair Rieu-Clarke, Davison Saruchera, and Matthew McCartney. *Water International*, 45:7-8, 884-900. Ddoi 10.1080/02508060.2020.1850026

Honourable Mention 2020 Award

Irrigation management transfer in sub-Saharan Africa: an analysis of policy implementation across scales.

Cesario Cambaza, Jaime Hoogesteger, and Gert Jan Veldwisch. *Water International*, 45.1, 3-19. Ddoi 10.1080/02508060.2019.1702310

FELLOW MEMBERS

The Honorary membership awards given in Daegu were: **Patrick Lavarde**, French Ministry of Environment

Claudia Sadoff, International Water Management Institute (IWMI)

Jennifer J. Sara, World Bank Group

Alice Aureli, UNESCO's International Hydrological Programme & ISARM

Claudia Ringler, CGIAR Research Program on Water, Land and Ecosystems

Loïc Fauchon, World Water Council (WWC)

Salman M.A. Salman, International Water Resources Association (IWRA)

V.P. Singh, Texas A&M University

HONORARY MEMBERS

The Fellow Members awarded in Daegu were:

Emmanuel M. Akpabio, University of Uyo

Henning Bjornlund, University of South Australia

Carl Bruch, Environmental Law Institute

Michael Campana, Oregon State University

Zhao Hao, Ministry of Water Resources the People's Republic of China

Shaofeng Jia, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences

Yuanyuan Li, Ministry of Water Resources of the People's Republic of China

Christopher A. Scott, University of Arizona
Raya Marina Stephan, International Water Law Consultant

Poh-Ling Tan, Griffith University

Philippus (Flip) Wester, International Centre for Integrated Mountain Development (ICIMOD)

James Nickum, Editor-in-Chief of IWRA's journal "Water International" and former IWRA Executive Board member

Jennifer McKay, University of South Australia-Justice and Society

Robert Varady, University of Arizona

STRATEGIC PARTNERSHIPS, COLLABORATIONS AND EXTERNAL EVENTS

IN 2021, IWRA CONTINUED TO GROW AND INCREASE ITS WORK AND ACTIVITIES despite the unique moment the world was facing, given the covid-19 pandemic. IWRA's growth and increase in activities were to a large extent attributed to the collaboration with key water partners, such as the Asia Water Council, FAO, Human Right 2 Water, Korea Water Forum, K-water, OECD, SIWI, UNESCO-IHP, UNESCO i-WSSM, UN-Water, World Water Council, to name a few. And, as countries opened up slowly at different stages, some travelling allowed continuing to build on these partnerships while participating in person back at some international events and activities. In addition, work online increased compared to previous years, making the Association's presence on multiple virtual platforms much higher. Some prominent highlights include:



ASIA WATER COUNCIL (AWC) THE 2ND ASIA INTERNATIONAL WATER WEEK

IWRA's Executive Director, Callum Clench, remained in 2021 as Governor, representing the Association, and Board member, Mingna Wang, as Alternate Governor. In the context of the global pandemic, the meetings remained online, with two Board of Council (BoC) teleconferences this year: one in March and the other in November. Moreover, IWRA also attended some of the webinars organised by AWC on Water

for Sustainable Growth, Smart Water Solutions for IWRM, or Knowledge Dissemination and Innovation. IWRA has been a member of the AWC since 2017 and has contributed actively to its work and activities for five years.

Also, in 2022, the Executive Office participated in the preparations of the 2nd Asia International Water Week (AIWW), which was postponed from November 2021 to March 2022 in Labuan Bajo, Indonesia, due to the pandemic. This work was led by IWRA's Deputy Executive Director, Ignacio Deregibus, who began to organise a sub-theme session on "Delivering ecosystem services through stakeholder engagement and water quality guidelines" under the central theme of Water Security. The Association's Project Officer, Mary Trudeau, also initiated her collaboration for the IWRA-UNESCO i-WSSM special session on "Water reuse as a key strategy for water security." And Monica Garcia Quesada, IWRA Project Officer, continued discussions with the organisers to present on the Smart Water Cities project, as well as Callum Clench, during the BoC planned for early 2022 to showcase the importance of this topic and the work done.



UN FOOD AND AGRICULTURAL ORGANISATION (FAO)

Organised with the support of the UN Food and Agricultural Organisation (FAO), IWRA held its 2021 Online Conference under the overarching theme of "One Water, One Health:

Water, Food & Public Health in a Changing World" from June 7th to June 9th, 2021. It was the second IWRA event ever hosted online with FAO's full financial support - also covered in section x of this report. Additionally, UNESCO's Intergovernmental Hydrological Programme (IHP) contributed to the organisation of this successful event. The American University of Beirut (AUB), the China Water Resources Association (CWRA), and Texas A&M contributed to this innovative event. Sasha Koo-Oshima, FAO's Deputy Director & Head of Water, acted as co-Chair of the International Scientific Committee and led welcoming remarks during the Opening and Closing Ceremonies, as well as the two FAO special sessions on Water Quality and Food Safety and Water Tenure jointly with many other FAO colleagues. Thanks to the generous support of FAO, IWRA was able to grant free access to all registered attendees and particularly welcomed participation by experts from Africa, low-income countries, women, and youth. This support also ensured open access to all conference-related materials, including recordings, abstracts, presentations and posters, policy briefs, final reports, etc.

During the XVII World Water Congress (Daegu, Korea, November 29th – December 3rd, 2021), Nara Lee, FAO's Assistant Representative from the Partnership and Liaison Office of Korea, was invited and participated actively as a speaker during the 2nd High-Level Panel on "Multi-Stakeholder Science and Policy Dialogue to Support the Implementation of Sustainable Development Goals."



HUMAN RIGHT 2 WATER

Established in 2020, following the impossibility to continue running its operations, Human Right 2 Water replaced WaterLex. Its mission is to use and share expert knowledge on how human rights to water and sanitation should be integrated into law, policy, and practice. In 2021, IWRA Executive Director, Callum Clench, continued to represent the Association on the Board and held the Secretary of Human Right 2 Water position.

Jointly both Associations developed and published an IWRA Policy Briefs-Green Series on "Human rights indicators for water and sanitation" in October. This paper highlights that human rights to water and sanitation (HRWS) "are separate and distinct rights" and, therefore, "should be monitored separately to consider specific challenges." The research proposes a methodology based on analysing the geographical area and conducting legal mappings that include the identification of international treaties and conventions. This approach facilitates the analysis of the guiding criteria of the HRWS and the cross-cutting principles toward their possible integration into national legislation.



KOREA WATER FORUM 2021

KOREA INTERNATIONAL WATER WEEK (KIWW)

After being postponed various times, Korea International Water Week 2021 was finally cancelled. However, many of the components of this major international water event, which is being organised every year in Korea by the Korea Water Forum, were included in the programme of IWRA's XVII World Water Congress that took place in Daegu, Korea (29 November – 3 December 2021). Some of the XVII Congress programme additions included: World Water Cities Forum 2021; International Water Industry Conference 2021; Youth Water Talk Concert; World Water Industry Cluster Leaders' Forum; and Water Technology Conference - Korean Institute for Water Technology Certification. In addition, IWRA Editor-in-Chief James E. Nickum and Project Officer Monica Garcia Quesada took part in the Jury Panel at the World Water Cities Forum, where the Association's President, Gabriel Eckstein, delivered a keynote speech during the opening of this event.



K-WATER

During 2021, IWRA continued to progress with the project Smart Water Cities. IWRA has led the Smart Water Cities project since July 2020 in collaboration with Korea Water Resources Corporation (K-water) and the Asian Water Council (AWC). It is a three-year project that aims to contribute to knowledge-sharing of smart water technologies in urban environments around the world and to promote their implementation thanks to the development of a Standard and a certification scheme for Smart Water Cities. Throughout 2021, IWRA undertook several tasks and activities to carry out the project, including the following:

1. Literature review and conceptualisation of current urban water challenges and main features of a Smart Water City.

2. Selection and analysis of eight existing Standards and certification schemes measuring urban development, smart development, and water management. The Standards and the certification scheme examined were:

- United 4 Smart Sustainable Cities
- ISO 37120 Series on Sustainable Cities and Communities
- OECD Smart City Measurement Framework
- CITYKeys Smart City Index
- LEED for Cities and Communities
- Arcadis Sustainable Cities Water Index
- KWR City Blueprint Approach
- AWS International Water Stewardship Standard

3. Selection and development of case studies. Following a call for case studies launched in 2020, IWRA, K-water and AWC selected a series of nine case studies of cities around the world. The proposals were submitted by researchers, scholars, water sector professionals and public officials, and different smart solutions that cities have put in place to address urban water challenges. The examined cities included:

- Algarrobo (Spain)
- Busan Eco Delta City (Republic of Korea)
- Ciudad Juarez (Mexico)
- Heredia (Costa Rica)
- Hong Kong (China)
- Mumbai (India)
- Nakuru (Kenya)
- New York City (USA)
- Ningbo (China)

4. Liaison and coordination of the activities of the IWRA Smart Water Management Task Force. The Smart Water cities project was supported by several members of the IWRA Smart Water Management Task Force, who met on four occasions in 2021 to provide feedback and to evaluated different sections of the project.

5. Dissemination and communication activities. The Smart Water Cities project was presented at the World Smart City Expo Korea 2021 on 9 September 2021 and at a Special Session at the XVII IWRA World Water Congress in Daegu, on 1 December 2021.

6. Coordination and management. Throughout 2021, IWRA conducted fortnightly meetings with K-water counterparts, and convened four Steering Committee Meetings with members from K-water, AWC and IWRA. In December 2021, the first report of the project, entitled “*Identifying Smart Water Cities*” was finalised and will be published in early 2022.



OECD WATER GOVERNANCE INITIATIVE (WGI)

One more year, IWRA supported and actively engaged with the OECD’s Water Governance Initiative, particularly in 2021 during its third phase of activity (2019-2021). The Association’s Editor-in-Chief, James E. Nickum, Executive Director, Callum Clench, and Deputy Executive

Director, Ignacio Deregibus, participated in the online WGI meetings in March and September. They contributed to the main outcomes towards the end of this third period, which helped to produce a How-To Assess Water Governance Guide, organise sessions in light of the 9th World Water Forum in March 2022 in Dakar, complete two reports on Water Governance in African Cities and Water Governance in Cape Town, and launch of a new Roundtable of African Mayors for Water Security. Moreover, IWRA advanced in the production of Water International’s special issue on the “*Measurement of water governance impacts*” planned to be published before the 9th Forum in 2022. And, the Association also participated virtually in the OECD Water Days in March, on the occasion of World Water Day 2021, under the theme of Valuing Water. OECD Water Days comprised a series of events taking place each day which included the launch of OECD Water Days and Toolkit for Water Policies and Governance, and sessions on “*A more transparent water governance for a stronger recovery*”, “*Water governance in African, Latin America and the Caribbean, and Asia-Pacific Cities*”, among others. IWRA former President (2016-2019), Patrick Lavarde, was also invited to participate in celebrations of the 15 years of water work at the OECD by addressing a congratulatory water message to OECD’s Secretary-General Angel Gurría for his 2006-2021 legacy on water.



SOURCE TO SEA (S2S)

All throughout the year, IWRA continued to be part of the Steering Committee of the Stockholm International Water Institute (SIWI)’s Source-to-Sea Management Platform. It was represented by Executive Director, Callum Clench, its Deputy Executive Director, Ignacio Deregibus, and former Project Officer, Alice Colson, in a number of virtual meetings that took place in each quarter of 2021. Together with other members of the Steering Committee they helped this multi-stakeholder initiative provide global knowledge generation on source-to-sea interconnections, engage in

collaborative projects, promote best practices, and take action to help improve the management of land, water, coastal, and marine linkages. To this end, IWRA published with the S2S initiative a special issue of Water International on “Source-to-Sea Management” and organised an IWRA Webinar based on this issue on the same topic in April. Both the publication and the webinar explored these important themes in-depth, presenting a range of case studies and perspectives on diverse applications of the source-to-sea approach to improve coordinated management of land, freshwater, coastal and marine systems. As well, both organisations started to organise technical and side sessions’ presentations to promote this publication and the work of this initiative during the 9th Forum in Dakar in March 2022.

UNESCO

Similar to 2020, IWRA joint forces with UNESCO to work, on one side, in various activities with the Intergovernmental Hydrological Programme (IHP), and, on the other side, on a dedicated project with the International Centre for Water Security and Sustainable Management (i-WSSM).



UNESCO Intergovernmental Hydrological Programme (IHP) supported the organisation of IWRA’s 2021 Online Conference on “*One Water, One Health: Water, Food & Public Health in a Changing World*” (7-9 June 2021). This was done also together in collaboration with FAO. It was the second consecutive time UNESCO-IHP helps in putting together this IWRA event entirely hosted online. The generous UNESCO contribution to this event supported the online conference themes, debates and results, particularly on “*How can science better inform public policy, governance and capacity building for water, food and health?*” (Theme 5). This theme also helped to further on the implementation of UNESCO’s Phase Eight of the Intergovernmental Hydrological Programme (2014-2021). All activities from UNESCO-IHP were led by Alice

Aureli, Chief of Section, and Aurélien Dumont, Project Officer, of the Groundwater Systems and Settlements Section (GSS), as well as the management of speakers for theme 5 sessions, and the promotion of the event across their networks. Thanks to this financial contribution, participation by experts from Africa, low-income countries, women, and youth was possible. In addition, and for IWRA's 2022 edition, initial discussions were held between the two organisations in order to plan a third edition on Water Quality and Contaminants of Emerging Concern.

Moreover, IWRA Executive Director, Callum Clench, and Deputy Executive Director, Ignacio Deregibus, attended the 3rd Extraordinary Session of UNESCO's IHP Council that took place online in February and Thematic Groups discussions for the IHP-IX Operational Implementation Plan in November. IWRA, in particular, highlighted the importance of science and research on a new water quality related challenge and addressed contaminants of emerging concern, which is a pressing issue in both developed and developing countries. IWRA recognized UNESCO IHP's leading work in this area and expressed interest to collaborate in the future as partners.



UNESCO i-WSSM formally renewed the contract with IWRA in 2021 to produce their annual Global Water Security Issues (GWSI) series. The new agreement was formally signed at the IWRA World Water Congress in Daegu, South Korea. The GWSI documents case studies on emerging and future global water security issues in the context of specific themes that are identified annually. Mary Trudeau manages this project for IWRA, with the support of the IWRA Water Security Task Force whose members provide peer reviews of draft chapters.

The specific objectives of the GWSI Series include:

- To share research and studies on similar topics in order to strengthen cooperation among researchers, policy advisors, and decision-makers engaged in the international water sector

- To encourage and enhance research on water security-related issues
- To identify solutions for improving global water security-related issues and to contribute towards achieving water security in the long term.

The first GWSI publication IWRA managed was the second in the GWSI series, developed in 2019/2020 and published in 2020. It focussed on “*Water Reuse within a Circular Economy Context*” and is available from the online UNESCO library.

The Series 3 report was developed in 2020/2021 and published in 2021 with the theme “*The Role of Sound Groundwater Resources Management and Governance to Achieve Water Security*”. The report included case studies from around the world, and included chapters on a number of subthemes:

- **Stakeholder Engagement**, with three case studies, including co-managed aquifer recharge in Spain, collective groundwater management in Chile, and grassroots governance in conflict-affected areas.
- **Tools for Management**, with a case study of Indian city master plans, and a zone classification, management, and control approach based on groundwater functions in China.
- **Tools for Analysis**, with an Australian study of groundwater valuation under uncertainty, and modelling approaches to understand groundwater salinity in a vulnerable Sri Lankan aquifer.
- **Remediation**, with an analysis of groundwater quality and pollution control under changing climatic conditions, with a focus on United States aquifers.
- **Transboundary Aquifer Management**, with case studies of transboundary aquifers in Mexico, Palestine, Central America, and Southern Africa, including management challenges and approaches for solutions.

The theme for the Series 4 report, which was selected in 2021 and is being prepared for publication in 2022, is “*Water Security and Cities – Integrated Urban Water Management*”.



As an official Partner of UN-water, IWRA participated in both the 34th and 35th UN Water meetings, which were held virtually in March and October 2021, respectively. Represented by Ignacio Deregibus, IWRA's Deputy Executive Director, the Association joined discussion on the General Assembly High-Level Meeting on the Implementation of the Water-related Goals and Targets of the 2030 Agenda, the UN 2023 Water Conference, as well as the SDG 6 Global Acceleration Framework. It also contributed to the report on the Summary Progress Update 2021 – SDG 6, exchanges on World Water Day 2023 on Partnerships, and the UN World Water Development Reports 2022 and 2023. Plans were also put in place, between UN-Water members and partners, for World Water Day 2022, including the creation of a Task Force and the concept note for the 2022 Groundwater Summit. UN-Water held an “Open Space” networking event in March to create time and space for participants to engage creatively around issues of concern to them. IWRA also had the chance to present in both meetings updates and information on the XVII World Water Congress that took place from November 29th to December 3rd, 2021 and invited all members and partners to join us in Daegu, Korea.

Aligned with the celebrations of World Water Day (22 March) and World Toilet Day (19 November), IWRA held two dedicated webinars for both days on Valuing Water. The events were a real success and brought together the technical aspects to value water together with more broad and holistic perspectives. Overall, nearly 500 registered attendees participated in these webinars. World Toilet Day is an official UN day since 2013, and IWRA has been committed to collaborate with other UN-Water partners and members for almost a decade to raise awareness and focus action on the global sanitation crisis and advocate for Sustainable Development Goal (SDG) 6.



WORLD WATER COUNCIL 9TH WORLD WATER FORUM

IWRA continued to be an active member of the Board of Governors at the World Water Council, represented by IWRA's Vice President, Yuanyuan Li, and Executive Director, Callum Clench. They both attended virtually the 73rd and 74th Board of Governors in April and June. Other IWRA Board members also represented their institutions on the World Water Council Board of Governors, including IWRA Past President (2016-2019), Patrick Lavarde, who was the Co-Chair of the International Steering Committee for the 9th World Water Forum; and on the Board of Governors, Yoonjin Kim, representing the Korea Water Forum; and, Rabi Mohtar, representing the American University of Beirut. In 2021, IWRA similarly co-chaired the World Water Council Task Force on Water Security, and led activities as coordinator of Action Group 1B on Water Quality & Water Management under the Water Security priority for the 9th World Water Forum. This major international water event was postponed from March 2021 to March 2022. IWRA Deputy Executive Director, Ignacio Deregibus, represented IWRA in October at the 2nd Stakeholders Meeting held in Dakar for the 9th Forum. This meeting included deliberations on the proposals of the different working groups and the provision of political inputs for the development of the final programme, which incorporated an update on the “Dakar 2022 initiative” and the logistics for the 9th Forum. More than 850 representatives from over 40 nations attended the meeting, including policy leaders, global water experts, civil society, members of academia, and private sector recipients. With the XVII World Water Congress recognised as a key milestone on the road to Dakar, the relationship between IWRA and the World Water Council became stronger. An official agreement was signed in this regard, and the World Water Council's President, Loic Fauchon, together with a delegation from Senegal, led by Serigne Mbaye Thiam, Minister of Water and Sanitation, and Abdoulaye Sene, Executive Secretary and Co-Chairman of the Preparatory Committee, travelled to Daegu, Korea, to participate and further on this agreement and the synergies created linking both events.



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