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**FRESHWATER AND ISLANDS:**  
 ADMINISTRATION, COLLABORATION AND INNOVATION

**PROGRAMME**

**TUESDAY 3. SEPTEMBER 2024**

09.00 - 16.00	Technical Fieldtrip	Cultural Fieldtrip
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**WEDNESDAY 4. SEPTEMBER 2024**

THEME	Islands Administration	Climate change, nature and nexus	Groundwater Resources Management	Special Session
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08.00 - 9.15 Registration and coffee

**OPENING CEREMONY**  
 Høgni Hoydal - Faroese Minister of Foreign Affairs and Trade  
 Yuanyuan Li - President of IWRA  
 Óluva R. Eidesgaard, ISC Co-Chair - Geologist, M.Sc., Ph.D. at Jarðfeingi  
 Francesco Sindico, ISC Co-Chair - Professor of International Environmental Law at the University of Strathclyde Law School in Glasgow  
**Artistic Performance**  
 Chair: Annleig Lambauge  
 Visit Faroese Islands

**KEYNOTE SPEAKERS**  
**ISLANDS AND FRESHWATER IN A CHANGING CLIMATE (KS1)**  
 How is climate change affecting the weather in the Faroe Islands? How is climate change affecting islands worldwide and in the Caribbean in particular? What is being done to improve climate resilience of freshwater resources? These questions will be discussed in this first keynote speaker session providing a much needed backdrop to the rest of the Congress.  
 Andrius Klein Gregoriusen - Meteorologist at the Faroese Meteorological Office, Weather Presenter on the Faroese national television and radio  
 Ronald Roopnarine - Senior Lecturer in the Faculty of Food and Agriculture, University of the West Indies, St. Augustine Campus (FFA, UWI)  
 Chair: Óluva Eidesgaard  
 Jarðfeingi, Faroese Geological Survey

12.00 - 13.00 Lunch

	REGULAR SESSIONS (RS)		SPECIAL SESSION (SS)
	<b>Island Water Administration: A Nordic European View (RS1)</b>	<b>Climate Change and Water (RS2)</b>	<b>Technologies to Ensure Quality of Water Supply in Islands (SS1)</b>
	Turbidity Challenges and Water Quality Management in the Grábrókarveita Drinking Water Utility, Iceland, in times of Seismic Unrest and Climate Change <i>Sigrún Tómasdóttir, Reykjavík Energy, Reykjavík, Iceland</i>	Climate change and legal implications for adaptive freshwater management – a Nordic perspective on possibilities and restrictions in current legislation for water planning and concessions <i>Gunnhild Sallí, Norwegian University of Life Sciences, Ås, Norway</i>	Organised by: Katy Roodenko and Israel Gannot  Pharmaceutical transformation products formed by ozonation – does degradation occur? <i>Dror Avisar, Tel-Aviv University</i>  Using organic volatile compounds to monitor anaerobic digesters <i>Baptiste Poursat, University of Glasgow</i>  Infrared sensor for analysis of nitrogen-based contaminants in wastewater <i>Katy Roodenko, Max-IR Labs</i>  Water Assessment based on AI-Driven Multispectral Imaging <i>Jin Li, Kang, Johns Hopkins University</i>  Field label-free water inspection by using interferometric phase microscopy <i>Natan Shaked, Tel-Aviv University</i>  Fiber-Based Water Pipe Leakage Sensor <i>Zeev Zalusky, Bar-Ilan University</i>
13.00 - 14.30	What happened to the water? Exploring the need for wider integration of water and rural and islands policy through a Scottish case study <i>Elisabeth Lawson, Newcastle University, Upon Tyne, United Kingdom</i>	The impact of sea level rise and climate change on fresh groundwater occurrences and volumes below atoll islands <i>Tess Davids, Deltares, Delft, Netherlands</i>	
	Freshwater management issues in an Arctic island settlement – challenges and potential impacts <i>Hanne Kvitsand, SINTEF, Trondheim, Norway</i>	Towards An Integrated Framework for Climate Adaptation and Water Management Regulation on European Islands. <i>Alberto Quintavalla, Erasmus University, Rotterdam, Netherlands</i>	
	Characterisation of the aquifer in Straumsvík with respect to the saline-fresh groundwater interface <i>Sveinborg H. Gunnarsdóttir, ISOR, Iceland Geosurvey, Kópavogur, Iceland</i>	Carbon Neutral Islands and Water <i>Francesco Sindico, University of Strathclyde, Glasgow, United Kingdom</i>	
	Chair: Henning Björnund, University of South Australia	Chair: Gabriel Eckstein, Texas A&M University, USA	Chair: Steinunn Hauksdóttir, ISOR, Iceland Geosurvey
14.30 - 15.00	Coffee Break		

15.00 - 16.30

	REGULAR SESSIONS (RS)		SPECIAL SESSION (SS)
	<b>Island Water Administration: Mediterranean and Atlantic Region (RS4)</b>	<b>Saltwater Intrusion (RSS)</b>	<b>Freshwater and Islands: A SIDS perspective (SS2)</b>
	Ensuring the cohesive management of freshwater resources in the Maltese Islands <i>Manuel Sapiano, Energy and Water Agency, Valletta, Malta</i>	Charting the future: Saltwater intrusion vulnerability along island and continental coastlines <i>Nicole LeBoux, Dalhousie University, Halifax, Canada</i>	Organised by: IHE Delft and SIDS community  SIDS – what is so special about them? <i>Assela Pathirana, IHE Delft, Netherlands</i>  The Life History of a Water Policy +Watering Pacific SIDS Nationally Determined Contributions <i>Atishma Lal, IHE Delft Alumni</i>  Challenges of balancing commercial objectives with equitable service delivery in Cabo Verde <i>Helen Deise Barbosa, Södertörns University, Sweden</i>  Unveiling Water Scarcity Challenges in the Maldives <i>Assela Pathirana, IHE Delft, Netherlands</i>  Local knowledge with collaborative learning to enhance the sustainability of small-scale water systems in Maldives <i>Alli Mishal, Utility Regulatory Authority, Maldives</i>  Domestic Water Supply Vulnerability to Climate Change and the Role of Alternative Water Sources in Kingston, Jamaica <i>Dannelle Townsend, IHE Delft, Alumni</i>  Capacity Development in the Water Sector: A co-creation approach to a SIDS-focused MOOC <i>Adam Mubeen, IHE Delft, Netherlands</i>
15.00 - 16.30	The increasing use of desalination in the Balearic Islands: 25 years of up and down <i>Celsa Garcia, University of the Balearic Islands, Palma, Spain</i>	Climate change, rising sea levels and the risks of saline intrusion into groundwater in African islands <i>Esana Jerome, Centre for social studies, Coimbra, Portugal</i>	
	Water management in the Azores Islands <i>Francisco Rodrigues, Research Centre in Biodiversity and Genetic Resources, University of the Azores Islands, Angra do Heroísmo, Portugal</i>	Saline water incursion into Icelandic geothermal and groundwater reservoirs <i>Elinborg Óskarsdóttir, ISOR, Iceland Geosurvey, Kópavogur, Iceland</i>	
	Analysis of Water Governance in the Canary Islands: Evolution and Future Challenges <i>Noelia Cruz-Pérez, University of La Laguna, Tenerife, Spain</i>	Environmental management accounting and Environmental Accountability of water supply companies: a case study of different realities <i>Eva Ferreira, University of São Paulo, São Paulo, Brazil</i>	
	Chair: Gunnhild Starbekkgrønning Sallí, Norwegian University of Life Sciences (NMBU)	Chair: Kim Steve Gerlach Bergkvist, Faroese Food- and Veterinary Agency	Chair: Óluva Eidesgaard, Jarðfeingi, Faroese Geological Survey
17.00 - 18.00	<b>ICEBREAKER (Welcome reception)</b> Venue: Müllers Pakkhús (20 min, walking distance from Congress venue) - <a href="#">Click here for directions</a>		

**THURSDAY 5. SEPTEMBER 2024**

THEME	Islands Administration	Climate Change, Nature and Nexus	Monitoring, Data and Hard Innovation	Special Session
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REGULAR SESSIONS (RS) SPECIAL SESSIONS (SS)

	<b>Island Water Administration: Caribbean Region (RS7)</b>	<b>Water and Nature Working Together Including the Special Case of Rainwater Harvesting (RS8)</b>	<b>Monitoring and Data (RS9)</b>	<b>Faroe Island water administration (SS3)</b>
	Introducing CWIJC - transforming disaster resilience and response for water utilities in the Caribbean region <i>Christopher Husbands, Caribbean Water Utility Insurance Collective, Grand Cayman, Cayman Islands</i>	Designing with Nature: Stormwater and Aquatic Biodiversity Considerations <i>Mary Trudeau, Envirings Inc, Ottawa, Canada</i>	Leveraging Interpretable Machine Learning for Enhanced Freshwater Resource Management in the Canary Islands: A Data-Driven Study <i>Horacio Pérez-Sánchez, UCAM Catholic University of Murcia, Murcia, Spain</i>	Organised by: Heilsufrøðiliga Starvsstovan  Vatnveiting og vatnnytsla í Føroyum søguliga <i>Trón P. Nónklett, Fróðskaparstov Føroya</i>  Vernd av vatnveitingargækjum <i>Birita F. Kjarbak, Umhvervisstovan</i>  Er tryggt vatnveiting ein sjálvfylgja? <i>Jóngerð Juul Olsen, Runavíkar Kommuna</i>  Mátningar av avfallsmøgum og ávirkan á ríki á írum <i>Knud Simonsen, Vørn/Veðurstovan</i>  Um at taka vatnþrúvar á rættan hátt & úrsíkt frá vatnátakið 2024 <i>Janus Vang, Mikró &amp; Arni Petersen, Heilsufrøðiliga Starvsstovan</i>
9.00 - 10.30	Development of a Resource Management Model for the island of Martinique <i>Gaëlle Hielard, Martinique Water Office, Fort-De-France, Martinique</i>	Wai Governance & the Hawaiian Ancestral Circular Economy <i>Pua Souza, University of Hawaii at Manoa, Honolulu, USA</i>	Multicriteria design tool for selecting Treatment wetlands systems for urban wastewater management in insular territories <i>Zoe Legault, Inrae, Lyon, France</i>	
	Sustainability of water supply for human consumption in Curaçao and Saint Martin <i>Eva Ferreira, Tomas Bato University, Zlin, Czechia</i>	Groundwater conservation and nature-based solutions. The case of springs in La Palma, Canary Islands, Spain <i>Noelia Garcia-Rodriguez, University Institute for Social Research and Tourism (ISTUR), Universidad de La Laguna, Tenerife, Spain</i>	Interactions between erosion and saltwater intrusion on small islands and implications for future water security <i>Barret Kurlyk, Dalhousie University, Halifax, Canada</i>	
	Exploring Rainwater Harvesting Practices in a Water-Stressed Rural Community in Trinidad <i>Alana Mahabir, University of the West Indies, St. Augustine, Trinidad and Tobago</i>	Circularity of Water in Small Islands: A Case Study of Rainwater Harvesting in Ameland <i>Christina Natalia Titsari, Groningen University, Groningen, Netherlands</i>		
	Chair: Ronald Roopnarine, University of the West Indies	Chair: Laurie Brinklow, University of Prince Edward Island	Chair: Manuel Sapiano, Energy and Water Agency, Government of Malta	
10.30 - 11.00	Coffee Break			
	<b>KEYNOTE SPEAKERS</b> <b>ISLAND, FRESHWATER AND CULTURE: NARRATIVES FROM THE PACIFIC (KS2)</b> Freshwater has always been part and parcel of how communities live their lives both in Hawai'i and in the South Pacific. In this keynote speaker session we will hear about how freshwater is managed and embedded in the community in Hawai'i as well as the story behind "Fiji Water" and how it relates to communities and overall freshwater management in Fiji. Kamanamaikalani Beamer - Professor and the inaugural Dana Naone Hall Endowed Chair in Hawaiian Studies, Literature, & the Environment at Hawai'i Inūiake School of Hawaiian Knowledge (HSHK) at the University of Hawai'i, Mānoa Milika Sobey - Senior Technical Adviser-Coastal Ecosystems for GIZ Pacific Chair: Francesco Sindico, University of Strathclyde			
12.30 - 14.00	Lunch			

REGULAR SESSIONS (RS) SPECIAL SESSIONS (SS)

	<b>Island Water Administration: Asia/Pacific and African Region &amp; Water / Energy / Food Nexus (RS10+11)</b>	<b>Hard Innovation I (RS12)</b>	<b>Islands, Water and Regulation (RS13)</b>
	Water management challenges on Kinmen Islands <i>Mei-Huan Chen, Penn State University, State College, USA</i>	Islands as testbeds for sustainable water infrastructure <i>Baptiste Poursat on behalf of William Sloan, University of Glasgow, Glasgow, United Kingdom</i>	Islands, Freshwater and International Law: The Beginning of a Journey <i>Francesco Sindico, University of Strathclyde, Glasgow, United Kingdom</i>
14.00 - 15.30	Sustainable freshwater administration in Nosy Mitsio island (Madagascar): the collaboration between NGOs and the newborn Community Water Management Committees <i>Edoardo Bono, HAO Help for Optimism, Torino, Italy</i>	How local and regional governments can catalyse water innovations on islands <i>Simon Tijssen, Province of Frylan, Leeuwarden, Netherlands</i>	Transparent differentiation in island regulation of freshwater (technologies) in island regulation <i>Flore Vavourakis, KU Leuven, Institute for Property Law, Leuven, FWO, Research Foundation - Flanders, Brussels, Belgium</i>
	Optimising complex decision-making under uncertainty: replication of a novel multi-agent decision support tool to inform climate resilience of finfish freshwater aquaculture in Scotland <i>Joshua Peters, University of Strathclyde, Glasgow, United Kingdom</i>	Decentralized Wastewater Collection and Treatment Appropriate for Small, Remote, or Distributed Communities <i>Holda Crocker, Orenco Water, Sutherlin, USA</i>	Comparative Study of Ownership Regimes for Groundwater Resources <i>Gabriel Eckstein, Texas A&amp;M University School of Law, Fort Worth, USA</i>
	The first "very-low-temperature" geothermal district heating in Iceland? A Case Study from Patreksfjörður, Westfjords, Iceland <i>Audur Agla Ólafsdóttir, ISOR, Iceland Geosurvey, Reykjavík, Iceland</i>	CARISBAN - Cooperation between Caribbean Islands for wastewater treatment by plant filters <i>Galle Hielard, Martinique Water Office, Fort-De-France, Martinique</i>	Law and Water Management in the Hawaiian Kingdom <i>Kawena Elkington, University of Hawaii at Manoa, Honolulu, USA</i>
	Chair: Ganesh The World IWRA Board of directors / The World Bank	Chair: Jana Ólavsdóttir, Jarðfeingi, Faroese Geological Survey	Chair: Jill Robbie, University of Glasgow

15.30 - 16.00 Coffee break

16.00 - 16.45 Waterwalk (please sign up at the registration desk)

19.00 - 21.00 **BANQUET (Location: The National Museum) \*ONLY for Full Congress registrations Click here for directions**

**FRIDAY 6. SEPTEMBER 2024**

THEME	Islands Administration	Monitoring, Data and Hard Innovation	Special Session
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REGULAR SESSIONS (RS) SPECIAL SESSIONS (SS)

	<b>Island Water Administration: New and Old Challenges and Opportunities (RS14)</b>	<b>Hard Innovation II (RS15)</b>	<b>IWRA Islands Water Congress Policy Report (SS4)</b>	<b>The Battle for the Water - Exploitation of Water for Green Hydrogen Production (SS5)</b>
	Land use and freshwater resource management on small islands: A social ecological metabolism method <i>Joshua MacFadyen, University of Prince Edward Island, Charlottetown, Canada</i>	A novel method for estimating local rain as freshwater discharge from Faroese rivers into fjords <i>Sissal Vísinghvay Erenbjerta, FIRUM, dpt. Bjard Dynamics, Vid Áir, Faroe Islands</i>		Organised by: Nordic Energy Research  Solutions for Water Utilization for Green Hydrogen Production <i>Claus Nickelsen, Niras, Denmark</i>  Green Hydrogen Potentials in the Faroe Islands <i>Kári M. Mortensen, Faroese Environment Agency</i>  Green Hydrogen and Water Management on the Irish Islands <i>Kevin Motherway, Atlantic Seaboard region, Ireland</i>
09.30 - 11.00	Every Drop of Freshwater on Islands Counts for Sustainability, Survivability, Buildability and Livability <i>Heng Kian Liew, Liew Strategics, Liew Consultants, SINGAPORE, Singapore</i>	The Role of Isotope Hydrology in Supporting Water Management in Small Island Developing States <i>Yulija Vystavna, International Atomic Energy Agency, Vienna, Austria</i>	<b>IWRA Islands Water Congress Policy Report</b>	
	Voicing experiences of water scarcity in rural and island Scotland <i>Elizabeth Lawson, Newcastle University, UK</i>	Nanoscale Taste Buds for Monitoring Drinking Water Treatment Sites <i>Alasdair Clark, University of Glasgow, Glasgow, United Kingdom</i>		
	The daily work of the Faroese Food and Veterinary Authority with special emphasis on water <i>Arni Petersen, Faroese Food and Veterinary Authority, Tórshavn, Faroe Islands</i>	Possible mine dewatering impacts on a Philippine community's groundwater supply: Insight from Analytic Element Method <i>Jayson Gabriel Pinza, Advocates of Science and Technology for the People (AGHAM), Quezon City, Philippines</i>		
	Chair: Frouz Gaini, University of the Faroe Islands	Chair: Kim Steve Gerlach Bergkvist, Faroese Food- and Veterinary Agency	Chair: Gabriel Eckstein, Past President of IWRA	Co-chair: Ditte S. Stiller, Nordic Energy Research

11.00 - 11.30 Coffee break

**KEYNOTE SPEAKER**  
**HOW TO EFFECTIVELY SHARE FRESHWATER GOOD PRACTICES (KS3)**  
 In this fire side chat, we will explore how we can promote sustainability can be shared amongst island audiences. In particular, building on previous success stories from the renewable energy field, we will explore how we can promote good practices in the field of freshwater management across islands in very different geographical and socio-economic settings.  
 James Ellsmoor - CEO of Sindo Innovation  
 Chair: Francesco Sindico, University of Strathclyde

**KEYNOTE SPEAKER**  
**ISLAND PERSPECTIVES FROM URBAN AREAS: THE CASE OF TORSDHAVN IN THE FAROE ISLANDS AND OTTAWA IN CANADA (KS4)**  
 Are the freshwater management related issues we have seen in this Congress a uniquely island related matter, or are they similar to challenges and opportunities happening elsewhere in the world? Does a city on an island have similar freshwater management challenges than non-island located cities? In this fire side chat we will explore these questions through the lens of Ottawa in Canada and Tórshavn in the Faroe Islands  
 Björn Holm - Manager of the municipal waterworks, The municipality of Tórshavn, Faroe Islands  
 Chair: Mary Trudeau, Envirings Inc, Ottawa, Canada / IWRA

13.00 - 14.00 Lunch

**HIGH LEVEL POLICY ROUNDTABLE**  
**FRESHWATER AND ISLANDS: THE ROLE OF REGULATION**  
 Three islands, three different stories. In this session, we will learn more about the history of freshwater and its management in the Faroe Islands, in Prince Edward Island (Canada) and in Malta. We will then explore common traits amongst these three islands in relation to environmental and socio-economic challenges and opportunities related to freshwater on the three islands with a particular focus on the water energy nexus. We will also discuss the role of regulation in freshwater management.  
 Manuel Sapiano, CEO of the Malta Energy and Water Agency  
 Steven Myers, Ministry of Environment, Energy, and Climate Action, Prince Edward Island  
 Inglin D. Strøm, Ministry of Environment, Faroe Islands  
 Chair: Francesco Sindico, University of Strathclyde

15.30 - 16.00 Break

**CLOSING CEREMONY**  
 Gabriel Eckstein - Past President of IWRA  
 MoU Signing Ceremony  
 Francesco Sindico and Óluva Eidesgaard - ISC Co-Chairs  
 "Water, water, everywhere": A story of water in words and sounds and images by Laurie Brinklow, Ryan Drew, and Laurie Langford  
 Yuanyuan Li - IWRA President  
 Chair: Gabriel Eckstein, Past President of IWRA

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