# Conference First Day, Wednesday, 23.03.2022

8:30 AM	9:45 AM	Conference Check-in	
		Opening address: <mark>HE Zaki Anwar Nusseibeh</mark> Chancellor, United Arab Emirates University and Conference Patron	
10:00 AM - 11:	-	Opening address: <mark>Hon David Speirs</mark> South Australia's Minister for Environment and Water and Conference Patron	
Opening Cere and Official Weld	-	Opening address: <mark>HE Badran A. Al Omar</mark> President, King Saud University, Saudi Arabia	
		Opening address: <mark>Hon Jamie Isbister</mark> Australia' Ambassador for The Environment	
11:15 AM	11:30 AM		
11:30 AM	12:00 PM	Keynote Speech: Hon Karlene Maywald South Australian Water Ambassador and Conference Co-chair The Australian Water Reform Journey, Key learnings for arid regions and where to from h	nere?
12:00 PM	12:30 PM	Keynote Speech: Prof. Sharon Megdal Director of the University of Arizona Water Resources Research Center Managed Aquifer Recharge in Semi-Arid Regions	
12:30 AM	2:00 PM		
		Al Maktoum Ballroom I	Al Ma
2:00 PM - 3:3 Parallel sessi		D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics)	D1-Trac
		Chair: Prof. Ekkehard Holzbecher	Chair:
2:00 PM	2:15 PM	Keynote: Prof. Graham Fogg	Abdulmal The Role o Sustainabi
2:15 PM	2:30 PM	Groundwater Basin Openness as A Determinant of Sustainability	Abdulaziz The use of
2:30 PM	2:45 PM	Ekkehard Holzbecher, Thomas Berends, Angel Garcia and Ahmed Hadidi Decision Support for Water Resources Management in Arid and Semiarid Environments, Example Oman	Hany Al-A Desolinati
2:45 PM	3:00 PM	Janardhana Raju Nandimandalam, Muniratnam P and Krishna Reddy Tv Managed Aquifer Recharge (Mar) to Augment Depleted Aquifers in Water Scarcity Areas: Case Studies from Semi- Arid Regions of India	Hassan Al Hydrocher geotherm
3:00 PM	3:15 PM	Chuck Cullom, Orestes Morfin, and Tami Shor An Innovative Farmer – Water Utility Water Management Approach: Mechanism for Water-Efficient Agriculture and Drought Resilience	Faisal Alfa Model for
	2.20 DM	<b>Christoph Gerber et al.</b> Applying Environmental Tracers to Study a Karstified Aquifer in Semi-arid Australia	Mohamed Sustainabl
3:15 PM	3:30 PM		
3:15 PM 3:30 PM	3:45 PM		
		Al Maktoum Ballroom I	Al Ma
	3:45 PM 15 PM	Al Maktoum Ballroom I D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics)	D1-Trac
3:30 PM 3:45 PM - 5::	3:45 PM 15 PM	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale	D1-Trac water c
3:30 PM 3:45 PM - 5::	3:45 PM 15 PM	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics)	D1-Trac water c Chair: Keynot
3:30 PM 3:45 PM - 5:2 Parallel sessi	3:45 PM 15 PM ons 2	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics) Chair: Prof. J. Raju Declan Page, J Vanderzalm, D Gonzalez, O Barron and Michael Donn	Al Ma D1-Trac water co Chair: Keynot Groundy Study in
3:30 PM 3:45 PM - 5:3 Parallel sessi 3:45 PM	3:45 PM 15 PM ons 2 4:00 PM	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics) Chair: Prof. J. Raju Declan Page, J Vanderzalm, D Gonzalez, O Barron and Michael Donn Managed Aquifer Recharge for Water Security in Australia Pavitra Kumar et al.	D1-Trad water c Chair: Keynot Ground Study in
3:30 PM 3:45 PM - 5:3 Parallel sessi 3:45 PM 4:00 PM	3:45 PM 15 PM ons 2 4:00 PM 4:15 PM	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics)Chair: Prof. J. RajuDeclan Page, J Vanderzalm, D Gonzalez, O Barron and Michael Donn Managed Aquifer Recharge for Water Security in AustraliaPavitra Kumar et al. Development of Long Short-Term Memory Model for Prediction of Water Table Depth in United Arab EmiratesJorge Isidoro, Ricardo Martins and João de Lima	D1-Trac water c Chair: Keynot Ground
3:30 PM 3:45 PM - 5:3 Parallel sessi 3:45 PM 4:00 PM 4:15 PM	3:45 PM 15 PM ons 2 4:00 PM 4:15 PM 4:30 PM	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics)         Chair: Prof. J. Raju         Declan Page, J Vanderzalm, D Gonzalez, O Barron and Michael Donn Managed Aquifer Recharge for Water Security in Australia         Pavitra Kumar et al.         Development of Long Short-Term Memory Model for Prediction of Water Table Depth in United Arab Emirates         Jorge Isidoro, Ricardo Martins and João de Lima         Detection and Definition of the Free Surface with High Spatiotemporal Resolution Using Computer Vision         Behailu Berehanu et al.         WEAP-MODFLOW model as an integrated water management Decision Support System (DSS), a case of the Middle Awash sub-	D1-Trac water c Chair: Keynot Ground Study in Eihab Fatt Climate Ch

5:30 PM

8:30 PM



# Morning Tea Break

### Lunch - Transfer to technical sessions

ım Ballroom II	Meeting Room 1	
Emerging Water Issues in UAE and KSA	D1-Track 1.3: Climate Change and Water Resources Resilience (Risk manager water conservation, provisioning)	
. Mohsen Sherif	Chair: Prof. Vijay Singh	
neikh rince Sultan Institute for Environmental, Water and Desert Research in Supporting Water :he Kingdom of Saudi Arabia	Keynote: Mr. Will Fargher Governance and Investment Frameworks for Climate-resilient Urban Water Ser	
ndi al and synthesized soil amendments to improve soil properties and irrigation water saving	Insights from Australia for other Arid Regions	
EU-GCC Partnership for Innovative Solar Thermal Seawater Desalination	Martina Zelenakova et al. Analysis of Drought in the Eastern Part of Slovakia Using Standardized Precipitation Index	
<b>i</b> of groundwater samples from Wadi Fatima, Western Saudi Arabia with special emphasis on silica ,	Ali Akanda and Mohammed Alotaibi Understanding Groundwater Depletion and Water Security Challenges in the Transboundary Aquifer the Arabian Peninsula	
al Regional Wastewater Systems Planning with Uncertain Wastewater Treatment Capacity	<b>Thian Yew Gan, Vijay Singh and Kai Ernn Gan</b> Enhancing the Resiliency of Drought Prone Regions of Africa and Canada Under Climate Warming Imp	
oud, Saleh Al Aswad, H Abdel Rahman and Nahed Al Arabi er Resources Management Under Climate Chnanges in KSA	Mohamed Meddi, Aicha Attaf and Hayet Saidi Climate Changes Impact on Discharges in Five Basins of Northwest Algeria	
Afternoon	Tea Break	
ım Ballroom II	Meeting Room 1	
: Climate Change and Water Resources Resilience (Risk management, vation, provisioning)	D1-Track 2.2: Water Resources Sustainability (SDGs, water-food-energy nexus, socia economic growth and environmental sustainability in arid regions)	
. Furat Al-Faraj	Chair: Prof. Minjie Chen	
<b>rof. Furat Al-Faraj</b> <sup>-</sup> Depletion in a Changing Climate and Human-Induced Interventions: A Case and Semi-Arid Region	<b>Keynote: Prof. Mohamed Dawoud</b> The Future of Water and Food Security in Arab Region	
nan, Timothy Green and Kenneth Strzepek mpacts and Adaptations for the Agricultural Sector in Ghana's Volta River Basin	Sarah Cerra, Hui Yang, Akram Benali and Manoj Shukla Irrigation With Brackish and Produced Waters: Benefits And Risks for Agricultural Sustainability of Ari	
<b>Dr. P. V. Timbadiya</b> tationary return levels using extreme daily rainfall for Surat city, India	G Issanova, Amandyk Saduakhas, Aigerim Kalybayeva and K Tynybayeva Shrinkage of the Aral Sea: Formation of The Aralkum Desert and Its Soil Cover	
<b>qat, Ana Casanueva, Giovanna Grossi and Roberto Ranzi</b> ponse to Climate change under CORDEX-South Asia Experiments in Western Karakoram, Upper	Ganbaatar Khurelbaatar et al. The Cost of Accomplishing SDG#6.2: A Country-Wide Planning and Assessment Tool for Wastewater I	
<b>g, Michael Kizza and Sowed Wamala</b> Adaptation at the Nile Basin Initiative	Mingjie Chen, Aliya Al-Saidi, Ali Al-Maktoumi and Azizallah Izady Numerical Simulation of CO2 Plume Geothermal Production in a Heterogeneous Reservoir Formation	

# Gala Dinner/ Cultural Event

# and Sustainability: Solutions for Arid Regions



# DEC, Hall 2A South

# DEC, Hall 2A South

## DEC, Hall 2A South

	Opal Boardroom
ement,	D1-Track 1.1: Socio-Economic Water Studies (Governance, pricing, policy and regulation)
	Chair: Prof. Manoj Shukla
ervices:	<b>Keynote: Prof. Basant Maheshwari</b> Sustaining the Invisible in Arid and Semi-Arid Regions: Participatory Monitoring and Management of Groundwater at the Local Level
	Hamed Assaf Hydroeconomic Model for Managing Groundwater Resources in Arid Regions
r Systems of	<b>M Peli, C Rapuzzi, E Romano, S Barontini, N Guyennon and Roberto Ranzi</b> Irrigation Deficit and Water Management In a Semiarid Mediterranean Agricultural District
npact	Simone Stewart Adaptive Management of the Groundwater Resources on Eyre Peninsula
	Nir Becker and Frank Ward Integrated Water Management: A Planning Tool for Israel
	Opal Boardroom
al and	D1-Track 2.1: Non-Conventional Water Resources (desalinaton, water recycling, water reuse)
	Chair: Prof. Lourdes Vega
	Ludovic Dumee Atmospheric Water Generation in the Middle East – review of technologies and prospects
	Bernd Rusteberg, Jacob Bensabat and Philippe de Bourgoing Seawater desalination and transboundary water transfer to meet freshwater needs in Jordan and Palestine
rid Area	Mahmoud Seleiman, Nasser Al-Suhaibani and Salah El-Hendawy Effects of Treated Wastewater and Synthetic Fertilizers on Productivity, Gross Energy, and Elements Analysis of Potential Bioenergy Crops
	<b>Daniel Janowitz et al.</b> Bartering Blue Water Vs. Green Energy – Innovative Swap-Options for Cooperation Between Israel and Jordan
Infrastructure	<b>Harish Bhandary</b> Impact Assessment of Inland Desalination Units on Groundwater Quality and Levels in Kuwait
	Mahmoud Elgondi et al

Mahmoud Elgendi et al. Improving the solar still performance using nanomaterials: A review

# Conference Second Day, Thursday, 24.03.2022

Khalid Almheiri and Rabee Rustum

12:15 PM 1:00 PM

Meteorological Satiations in Sharjah Emirate, UAE

**12:00 PM 12:15 PM** The Effect of Cloud-seeding Operations on Intensity-Duration-Frequency (IDF) curves A Comparative Study on Three

	Al Maktoum Ballroom I	Al Maktoum Ballro
9:00 AM - 10:30 AM	D2-Track 1.1: Water Resources and Hydrological Processes (Rainwater harvesting, Flash	D2-Track 1.3: Young Res
Parallel sessions 3	Flood Prediction and Management)	
	Chair: Prof. Anvar Kacimov	Chair: Dr. Hamidreza
9:00 AM 9:15 AM	Giorgio Baiamonte, Carmelo Agnese and Vijay P. Singh Multiple Non-Linear Reservoirs to Model Water Balance Components in Sandy Soils	Keynote: Prof. Chong
9:15 AM 9:30 AM	Eran Halfi, Johnathan B. Laronne, Avshalom Babad and Tom Kaholi Measuring water velocity by LSPIV for accurate determination of water discharge and roughness coefficients in representative ephemeral streams	Evaluation of 1 Hydrolog
9:30 AM 9:45 AM	Renato Morbidelli, Carla Saltalippi, Jacopo Dari and Alessia Flammini Temporal Aggregation of Rainfall Data and Its Influence on Trend Estimation for Annual Maximum Depths with Duration 24 Hours	Mark McDonnell et al. Beach Sands as an Alternative S
9:45 AM 10:00 AM	João de Lima, S Zehsaz, J Isidoro, Isabel Lima and Ricardo Martins Using Fluorescent and Thermal Tracers to Estimate Overland Flow Velocities	Afrah Al-Shukaili, Hilal Al-Man Moisture-Vegetation Relations
10:00 AM 10:15 AM	Gilbert Hinge, Mohamed Mohamed and Mohamed Hamouda On The Use of Satellite Precipitation Products for Flood Application	Asmaa Al-Mutiri, Esra Aleisa a Life Cycle Assessment for Tertia
10:15 AM 10:30 AM	Sahar Abidi, N Souid, A Kamel Toubal, M Achite and Lamia Lajili-Ghezal Assessment of Soil Losses and Siltation of Sidi Salem Dam in Medjerda High Valley-Tunisia	Anwar Aljuwaisseri, Khawla Al Life Cycle Assessment for Seaw
10:30 AM 10:45 AM		
	Al Maktoum Ballroom I	Al Maktoum Ballro
10:45 AM - 12:15 PM Parallel sessions 4	D2-Track 1.1: Water Resources and Hydrological Processes (Rainwater harvesting, Flash Flood Prediction and Management)	D2-Track 1.3: Young Res
10:45 AM 11:00 AM	<b>Chair: Prof. Giorgio Baiamonte</b> Anvar Kacimov, Yurii Obnosov and Jiri Šimůnek Subterranean holes in the arid vadose zone as perturbations of descending pore water fluxes: J. R. Philip's legacy revisited	<b>Chair: Dr. Mohamed</b> Mark McDonnell et al. Four-Dimensional Electrical Res
11:00 AM 11:15 AM	Ghaida Bait Kulaib, Khaula Al-Mamari, Marwa Al-Mahdori and Ahmad Sana Statistical Analysis of Flow for Selected Rivers in Pakistan	Shoaib Ali, Mohamed Mohame Estimating groundwater drough approach
11:15 AM 11:30 AM	Mohammed Abdel-Fattah, Sameh Kantoush, Tetsuya Sumi and Atef Badr Flood Risk Reduction in Arid and Semi Arid Regions: Case Studies from Egypt and Oman	Firas Alsilibe, Katalin Bene, Gh Validation of CHIRPS-based sate
11:30 AM 11:45 AM	Muheeb Awawdeh, Kh Al-Qudah, H Rwashdeh and Monther Jamhawi GIS-based Flood Risk Assessment in Urban Areas: Case study Amman City	<b>Ihsanullah R Khan, Rabee Rust</b> Estimation of flash flood in urba
11:45 AM 12:00 PM	H El-Maghraby, A Alhumaidi, M Alnaqbi, M Sherif, F Hassan and Y Greish Development of Chemically-functionalized Galvanized Aluminum Meshes for Efficient Fog Harvesting	Halidu Abu-Bakar, Leon Willian A framework for predicting hou

2:00 PM	Poster Session (All themes) - Al Maktoum Ballroom I&II				
ons 5	Al Maktoum Ballroom I D2-Track 1.1: Water Resources and Hydrological Processes (Rainwater harvesting, Flash Flood Prediction and Management)	Al Maktoum Ballroom II D2-Track 1.3: Young Researchers (General Technical Themes)	Meeting Room 1 D2-Track 2.2: Spatial Technology, GIS, and RS in Water Resources	<b>Opal Boardroom</b> D1-Track 2.1: Non-Conventional Water Resources (desalinaton, water recycling, water reuse)	
2:15 PM	Chair: Dr. Mohamed Al-Rashed Keynote: Dr. John Xiaogang Shi	<b>Chair: Prof. Hamed Assaf</b> Alina Buber, V Shevchenko, A Buber, Y Dobrachev and E Ratkovich Improvement of Rice Agricultural Complexes Water Supply in Conditions of Water Scarcity	Chair: Prof. Marion Lux Castro Sivan Isaacson et al. Monitoring Flash Floods in Arid Environments Using Bgusat; A Single Band Nano Satellite	Chair: Prof. Rolando A. Flores Galarza Daniel Bahamon, Ki Ryuk Bang, Eun Seo Cho and Lourdes F. Vega A Novel Pressure-Controlled Hybrid Graphene Oxide Membranes for Water Treatment: A Combined Experimental – Melocular Simulation Approach	
2:30 PM	Effects of Hydroclimate Variability on Groundwater Recharge Trends for Arid Regions	Khalid Elhaj, Salem Issa, Dalal Alshamsi and Biruk Abera Cherkose Modeling and Prediction of Groundwater Level Fluctuations Using Geoinformatics and Artificial Neural Networks in Al Ain city, UAE	Jibrin Gambo, Ahmad Muhammad Idris, Garba Ahmed and Yusuf Ahmad A Geospatial Statistical Approach for Seasonal Comparisons of Ground Water Quality Using Interpolates Grid-Based Mapping	Molecular Simulation Approach         Abdullah Al-Mamun, Intisar Al Sulaimi and Jagdeep Kumar Nayak         A Study on The Influence of Volatile Fatty Acid on Biogas Production and Pathogen Destruction Using Thermophilic         Anaerobic Digestion	
2:45 PM	Rachel Armoza-Zvuloni, Y Shlomi, I Abadi, R Shem-Tov and J Laronne Floodwater harvesting and sediment deposition in reservoirs, a case study from the Arava Valley, Israel	Muhagir Elkamali, Abdelgadir Abuelgasim and Ahmed Sefelnasr Monitoring of Land Surface Subsidence over Agricultural Areas in AL Ain Region UAE	Mutawakil Obeidat, Farah Al-Hantouli and Muheeb Awawdeh Soil Erosion Prioritization of Yarmouk River Basin, Jordan Using Multiple Approaches in a GIS Environment	Ahmed Yasir, Abdelbaki Benamor, Alaa Al Hawari and Ebrahim Mahmoudi Chitosan-Graphene Oxide Composite Membrane for Fouling Reduction in Ultrafiltration	
3:00 PM	O Abudraz, N Alkaabi, H El-Maghraby, M Sherif, F Hassan and Y Greish Nano-architecture of Nanostructured Copper Oxides Decorated with Polyvinyl Alcohol as Efficient Water Harvester	Shahad Al-Yaqoubi, A Al-Maktoumi, A Kacimov, S Ismaily and A Al-Mayahi Field Bailout Experiments, HYDRUS-2D and Analytical Modeling for Determination of Hydraulic Parameters of Porous Bed of Ephemeral Stream	Marwa Ali, Amgad Elmahdi, Ahmed Tawfik, Omar Ismail and Alaa Albably Using ICT in Agricultural Water Management: IRWI as a Case Study from Egypt	Mohd Shariq Khan, Khursheed B. Ansari and Wahid Ali Atmospheric Water Extractor and Space Cooling Unit	
3:15 PM	Magdy Mohssen Flood Forecasting, The New Zealand Experience	Mo'Ath Etoom, Ehab Aletoum, Ali Olimat and Taha Masarweh Estimating crop evapotranspiration of dates trees based on SEBAL algorithm using Landsat 8 satellite imagery —A Case Study: Al Zarqa-Jordan	Mohsen Alarabawy, Modathir Zaroug and Sowed Wamala Enhanced River Nile River Basin Monitoring For Improved Water Resources Collaborative Management and Development	Tarik Chfadi, Mohamed Gheblawi and Rafi Ullah Tasbih Ullah An Appraisal of UAE Farmers' Perceptions and Valuation of Treated Wastewater Resources	
3:30 PM	S M Anwar Hossain, Ataur Rahman and Ouarda Taha B. M. J. Trend Analysis in Australian Flood Data: A Case Study for New South Wales Using Latest Information		Deepak Tiwari, H. L. Tiwari and V. P. Singh Flash drought assessment for India river Basins	<b>Tapas Biswas, Klaus Joehnk and Chris Williams</b> Growing Biofuel Crop (Arundo Donax) With Non-Conventional Saline Water in Arid Regions	
3:45 PM		Afternoon	Tea Break		
15 PM	Al Maktoum Ballroom I D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics)	Afternoon Al Maktoum Ballroom II D1-Track 2.2: Water Resources Sustainability (SDGs, water-food-energy nexus, social and economic growth and environmental sustainability in arid regions)	Tea Break         Meeting Room 1         D1-Track 1.1: Socio-Economic Water Studies (Governance, pricing, policy and regulation)		
L5 PM ons 6	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water	Al Maktoum Ballroom II D1-Track 2.2: Water Resources Sustainability (SDGs, water-food-energy nexus, social and	Meeting Room 1		
L5 PM ons 6	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics)	Al Maktoum Ballroom II D1-Track 2.2: Water Resources Sustainability (SDGs, water-food-energy nexus, social and economic growth and environmental sustainability in arid regions)	<b>Meeting Room 1</b> D1-Track 1.1: Socio-Economic Water Studies (Governance, pricing, policy and regulation)		
15 PM ons 6 4:00 PM	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics) Chair: Prof. Waleed Zubari Abhishek Goyal, Renato Morbidelli, Alessia Flammini, Corrado Corradini and Rao Govindaraju	Al Maktoum Ballroom II D1-Track 2.2: Water Resources Sustainability (SDGs, water-food-energy nexus, social and economic growth and environmental sustainability in arid regions) Chair: Prof. Mohamed Dawoud Eric Vanweydeveld	Meeting Room 1         D1-Track 1.1: Socio-Economic Water Studies (Governance, pricing, policy and regulation)         Chair: Prof. Basant Maheshwari         Huw Pohlner and Will Fargher		
15 PM ons 6 4:00 PM 4:15 PM	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics) Chair: Prof. Waleed Zubari Abhishek Goyal, Renato Morbidelli, Alessia Flammini, Corrado Corradini and Rao Govindaraju Uncertainty in estimation of field-scale variability of soil saturated hydraulic conductivity Trudy Green et al. WaterTools: A guide to three national level platforms that support the management of Australia's scarce water	Al Maktoum Ballroom II D1-Track 2.2: Water Resources Sustainability (SDGs, water-food-energy nexus, social and economic growth and environmental sustainability in arid regions) Chair: Prof. Mohamed Dawoud Eric Vanweydeveld What Lessons Can Remote Australia Learn from the Middle East in Terms of Water Management Solutions Bivin Pradeep and Parag Kulkarni	Meeting Room 1         D1-Track 1.1: Socio-Economic Water Studies (Governance, pricing, policy and regulation)         Chair: Prof. Basant Maheshwari         Huw Pohlner and Will Fargher         WaterGuide: Setting a Path to Improved Water Management and Use Under Scarcity         Khaled Alshaibani		
15 PM ons 6 4:00 PM 4:15 PM	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics) Chair: Prof. Waleed Zubari Abhishek Goyal, Renato Morbidelli, Alessia Flammini, Corrado Corradini and Rao Govindaraju Uncertainty in estimation of field-scale variability of soil saturated hydraulic conductivity Trudy Green et al. WaterTools: A guide to three national level platforms that support the management of Australia's scarce water resources Alexander Buber and Mikhail Bolgov Formation of Reservoir Operation Modes in Real Time Based on Long-Term Hydrological Forecast and Multicriteria Optimization	Al Maktoum Ballroom II D1-Track 2.2: Water Resources Sustainability (SDGs, water-food-energy nexus, social and economic growth and environmental sustainability in arid regions) Chair: Prof. Mohamed Dawoud Eric Vanweydeveld What Lessons Can Remote Australia Learn from the Middle East in Terms of Water Management Solutions Bivin Pradeep and Parag Kulkarni Technology Enabled Data Driven Solution for Enhancing Efficiency of Water Use in Buildings Avshalom Babad, Ilan Stavi, Yoav Avni and Noa Aviel-Avni	Meeting Room 1         D1-Track 1.1: Socio-Economic Water Studies (Governance, pricing, policy and regulation)         Chair: Prof. Basant Maheshwari         Huw Pohlner and Will Fargher         WaterGuide: Setting a Path to Improved Water Management and Use Under Scarcity         Khaled Alshaibani         Investigating Household Consumption Patterns before and During The Covid-19 Pandemic         Angus MacGregor and Glenn Shimmin		
15 PM ons 6 4:00 PM 4:15 PM 4:30 PM	D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics) Chair: Prof. Waleed Zubari Abhishek Goyal, Renato Morbidelli, Alessia Flammini, Corrado Corradini and Rao Govindaraju Uncertainty in estimation of field-scale variability of soil saturated hydraulic conductivity Trudy Green et al. WaterTools: A guide to three national level platforms that support the management of Australia's scarce water resources Alexander Buber and Mikhail Bolgov Formation of Reservoir Operation Modes in Real Time Based on Long-Term Hydrological Forecast and Multicriteria Optimization Methods, "Lake Baikal - Irkutsk Reservoir" Case Study Martin Klein, Emad Al-Karablieh and Stephan Theobald	Al Maktoum Ballroom II         D1-Track 2.2: Water Resources Sustainability (SDGs, water-food-energy nexus, social and economic growth and environmental sustainability in arid regions)         Chair: Prof. Mohamed Dawoud         Eric Vanweydeveld         What Lessons Can Remote Australia Learn from the Middle East in Terms of Water Management Solutions         Bivin Pradeep and Parag Kulkarni         Technology Enabled Data Driven Solution for Enhancing Efficiency of Water Use in Buildings         Avshalom Babad, Ilan Stavi, Yoav Avni and Noa Aviel-Avni         Native plants as indicators of soil quality in deserts: Consequences for dryland agriculture         Timothy Munday et al.         An Interdisciplinary Approach to Groundwater Resource Assessment for Sustaining Community, Environment &	Meeting Room 1         D1-Track 1.1: Socio-Economic Water Studies (Governance, pricing, policy and regulation)         Chair: Prof. Basant Maheshwari         Huw Pohlner and Will Fargher         WaterGuide: Setting a Path to Improved Water Management and Use Under Scarcity         Khaled Alshaibani         Investigating Household Consumption Patterns before and During The Covid-19 Pandemic         Angus MacGregor and Glenn Shimmin         Valuing Community and First Nations Voices in Restoring the Coorong, South Australia         Soe Htun Aung and Takuya Igawa		

1:00 PM 2:00 PM	Poster Session (All themes) - Al Maktoum Ballroom I&II			
2:00 PM - 3:30 PM Parallel sessions 5	Al Maktoum Ballroom I D2-Track 1.1: Water Resources and Hydrological Processes (Rainwater harvesting, Flash Flood Prediction and Management)	Al Maktoum Ballroom II D2-Track 1.3: Young Researchers (General Technical Themes)	Meeting Room 1 D2-Track 2.2: Spatial Technology, GIS, and RS in Water Resources	<b>Opal Boardroom</b> D1-Track 2.1: Non-Conventional Water Resources (desalinaton, water recycling, water reuse)
	Chair: Dr. Mohamed Al-Rashed	Chair: Prof. Hamed Assaf	Chair: Prof. Marion Lux Castro	Chair: Prof. Rolando A. Flores Galarza
2:00 PM 2:15 PM	Keynote: Dr. John Xiaogang Shi	Alina Buber, V Shevchenko, A Buber, Y Dobrachev and E Ratkovich Improvement of Rice Agricultural Complexes Water Supply in Conditions of Water Scarcity	Sivan Isaacson et al. Monitoring Flash Floods in Arid Environments Using Bgusat; A Single Band Nano Satellite	Daniel Bahamon, Ki Ryuk Bang, Eun Seo Cho and Lourdes F. Vega A Novel Pressure-Controlled Hybrid Graphene Oxide Membranes for Water Treatment: A Combined Experimental – Molecular Simulation Approach
2:15 PM 2:30 PM	Effects of Hydroclimate Variability on Groundwater Recharge Trends for Arid Regions	Khalid Elhaj, Salem Issa, Dalal Alshamsi and Biruk Abera Cherkose Modeling and Prediction of Groundwater Level Fluctuations Using Geoinformatics and Artificial Neural Networks in Al Ain city, UAE	Jibrin Gambo, Ahmad Muhammad Idris, Garba Ahmed and Yusuf Ahmad A Geospatial Statistical Approach for Seasonal Comparisons of Ground Water Quality Using Interpolates Grid-Based Mapping	Abdullah Al-Mamun, Intisar Al Sulaimi and Jagdeep Kumar Nayak A Study on The Influence of Volatile Fatty Acid on Biogas Production and Pathogen Destruction Using Thermophilic Anaerobic Digestion
2:30 PM 2:45 PM	Rachel Armoza-Zvuloni, Y Shlomi, I Abadi, R Shem-Tov and J Laronne Floodwater harvesting and sediment deposition in reservoirs, a case study from the Arava Valley, Israel	Muhagir Elkamali, Abdelgadir Abuelgasim and Ahmed Sefelnasr Monitoring of Land Surface Subsidence over Agricultural Areas in AL Ain Region UAE	Mutawakil Obeidat, Farah Al-Hantouli and Muheeb Awawdeh Soil Erosion Prioritization of Yarmouk River Basin, Jordan Using Multiple Approaches in a GIS Environment	Ahmed Yasir, Abdelbaki Benamor, Alaa Al Hawari and Ebrahim Mahmoudi Chitosan-Graphene Oxide Composite Membrane for Fouling Reduction in Ultrafiltration
2:45 PM 3:00 PM	O Abudraz, N Alkaabi, H El-Maghraby, M Sherif, F Hassan and Y Greish Nano-architecture of Nanostructured Copper Oxides Decorated with Polyvinyl Alcohol as Efficient Water Harvester	Shahad Al-Yaqoubi, A Al-Maktoumi, A Kacimov, S Ismaily and A Al-Mayahi Field Bailout Experiments, HYDRUS-2D and Analytical Modeling for Determination of Hydraulic Parameters of Porous Bed of Ephemeral Stream	Marwa Ali, Amgad Elmahdi, Ahmed Tawfik, Omar Ismail and Alaa Albably Using ICT in Agricultural Water Management: IRWI as a Case Study from Egypt	Mohd Shariq Khan, Khursheed B. Ansari and Wahid Ali Atmospheric Water Extractor and Space Cooling Unit
3:00 PM 3:15 PM	Magdy Mohssen Flood Forecasting, The New Zealand Experience	Mo'Ath Etoom, Ehab Aletoum, Ali Olimat and Taha Masarweh Estimating crop evapotranspiration of dates trees based on SEBAL algorithm using Landsat 8 satellite imagery —A Case Study: Al Zarqa-Jordan	Mohsen Alarabawy, Modathir Zaroug and Sowed Wamala Enhanced River Nile River Basin Monitoring For Improved Water Resources Collaborative Management and Development	Tarik Chfadi, Mohamed Gheblawi and Rafi Ullah Tasbih Ullah An Appraisal of UAE Farmers' Perceptions and Valuation of Treated Wastewater Resources
3:15 PM 3:30 PM	S M Anwar Hossain, Ataur Rahman and Ouarda Taha B. M. J. Trend Analysis in Australian Flood Data: A Case Study for New South Wales Using Latest Information		Deepak Tiwari, H. L. Tiwari and V. P. Singh Flash drought assessment for India river Basins	<b>Tapas Biswas, Klaus Joehnk and Chris Williams</b> Growing Biofuel Crop (Arundo Donax) With Non-Conventional Saline Water in Arid Regions
3:30 PM 3:45 PM		Afternoon	n Tea Break	
<b>3:45 PM - 5:15 PM</b> Parallel sessions 6	Al Maktoum Ballroom I D1-Track 1.2: Advanced technologies in Water Resources Management (Large scale water management, ASR, MAR, Hydroinformatics) Chair: Prof. Waleed Zubari	Al Maktoum Ballroom II D1-Track 2.2: Water Resources Sustainability (SDGs, water-food-energy nexus, social and economic growth and environmental sustainability in arid regions) Chair: Prof. Mohamed Dawoud	Meeting Room 1 D1-Track 1.1: Socio-Economic Water Studies (Governance, pricing, policy and regulation) Chair: Prof. Basant Maheshwari	
3:45 PM 4:00 PM	Abhishek Goyal, Renato Morbidelli, Alessia Flammini, Corrado Corradini and Rao Govindaraju Uncertainty in estimation of field-scale variability of soil saturated hydraulic conductivity	Eric Vanweydeveld What Lessons Can Remote Australia Learn from the Middle East in Terms of Water Management Solutions	Huw Pohlner and Will Fargher WaterGuide: Setting a Path to Improved Water Management and Use Under Scarcity	
4:00 PM 4:15 PM	<b>Trudy Green et al.</b> WaterTools: A guide to three national level platforms that support the management of Australia's scarce water resources	<b>Bivin Pradeep and Parag Kulkarni</b> Technology Enabled Data Driven Solution for Enhancing Efficiency of Water Use in Buildings	Khaled Alshaibani Investigating Household Consumption Patterns before and During The Covid-19 Pandemic	
4:15 PM 4:30 PM	Alexander Buber and Mikhail Bolgov Formation of Reservoir Operation Modes in Real Time Based on Long-Term Hydrological Forecast and Multicriteria Optimization Methods, "Lake Baikal - Irkutsk Reservoir" Case Study	Avshalom Babad, Ilan Stavi, Yoav Avni and Noa Aviel-Avni Native plants as indicators of soil quality in deserts: Consequences for dryland agriculture	Angus MacGregor and Glenn Shimmin Valuing Community and First Nations Voices in Restoring the Coorong, South Australia	
4:30 PM 4:45 PM	Martin Klein, Emad Al-Karablieh and Stephan Theobald Optimization of Transboundary Lake Operation and Conception of a Hydropower Plant at Lake Tiberias	<b>Timothy Munday et al.</b> An Interdisciplinary Approach to Groundwater Resource Assessment for Sustaining Community, Environment & Economic Development in a Remote Arid Region of S. Australia	Soe Htun Aung and Takuya Igawa Economic-Based Operation of Agricultural Water Distribution in Irrigation Districts without Water Marketing Mechanism	
4:45 PM 5:00 PM	Sebastian Schär et al. Techno-Economic Assessment of Integrated Water Resources Management Infrastructure Projects	Mohamed Ibrahim Kizhisseri and Mohamad Mostafa Mohamed Use of Decision Support System for Optimizing Long Term Water Resources Planning In Terms of Economic and Environmental Outcomes	Michael Kizza, Sowed Wamala and Mudathir Zaroug State of Basin Reporting: A Tool for Cooperative Management of Transboundary Water Resources	
5:00 PM 5:15 PM	Mariana Damova et al. ISME-HYDRO – an Integrated System for Monitoring of Water Resources for Sustainable Exploitation of Dams and Rivers	Jorge Peña Arancibia et al. Development of a drought management plan in a regulated arid basin in southern Peru	<b>Berhanu Degefa, Elke Neumann and Mohamed Al Muhairi</b> The Role of Hydroponic Technology in Economic Use of Water and Enhancing Productivity of Farms in the UAE	
5:30 PM 6:30 PM		Concluding Remarks - Awards - Recommendations	s - Closing Ceremony - Al Maktoum Ballroom I&II	

Researchers (General Technical Themes)         Meeting Room 1           assarchers (General Technical Themes)         D2-Track 2.2: Spatial Technology, Gi5, and R5 in Water Resources           assarchers (General Technical Themes)         Chair: Mr Steve Morton           ag-Yu Xu         Marton Lux Cattor et al.           Tool Mapping and Assarchers Dung Typhoon Ulyses (Vanco) in Capyan, Philippines Using Synthetic Apert Nation Images           opical Modeling Under Changing 2 Environmental Conditions         Water At Ashabani and Natir Abdulbaneid Upgraling Groundwater Monitoring Network in the Kingdom of Bahrain using Geostatistics and GIS           eSource of Freshwater Suppix – Using Geophysics to Inform Well Design in Coastal Aquiter status and Amar Kadmov         Trade Wilderstein, Valuation II: A Mattaban, P Sheridan, D Evans, and Steve Morton Enabling Autoritation and cost benefit - Investing in existing water infrastructure           amari and Amar Kadmov         Trade Wiederstein, Valuation II: Anataban, Shari Heil Veer dop water demands.           intrade Wiederstein, Valuation II: Anataban, Shari Heil Veer dop water demands.         Trade Wiederstein, Valuation and cost benefit - Investing in existing water infrastructure           Intrade Wiederstein, Valuation III: Anataban, Shari Heil Veer dop water demands.         Trade Wiederstein, Valuation III: Anataban, Shari Heil Veer dop water demands.           Intrade Wiederstein, Valuation III: Anataban, Shari Heil Veer dop water demands.         Trade Wiederstein, Valuation IIII: Anataban, Shari Heil Veer dop water demands.           Intrade Wiederstein, Valua		International conference of and Sustainability: S March 22-24, 2
cas Shorifon       Choir: Mr Steve Morton         Marion Luc Casto et al.       Flood Mapping and Assessment During Typhoon Ulysses (Vance) in Cagayan, Philippines Using Synthetic Apertination may be a special Modeling Under Changing 2 Environmental Conditions         waleed Al-Zubari, Ali Al-Shabani and Nadir Abdulhameid       Ugged Al-Zubari, Ali Al-Shabani and Nadir Abdulhameid         usges of Frashwater Supply - Using Geophysics to Inform Well Design in Coastal Apulation       Exter Williams, Exa R Bodriguez, W Woodrow, M Mattabani, P Steridan, D Exan, and Steven Morton         maria and Anver Kacimov       Seater of Frashwater Supply - Using Geophysics to Inform Well Design in Coastal Apulation       Seater Williams, Latomatic Coround Water Information Collection and Aggingenation through Space and Ior In Australia (Water)         amari and Anver Kacimov       Seatelite based leak detection and costs benefit - Investing in existing water infrastructure         and Mohamed Hamoda       Travis Wiederstrain, Naihall Sharda and Ionsthan Aguilar         taray Water Interment in Kuwait       Ziee Pena-Aracibia et al.         Abhard and Error Aletaa       Jage Pena-Aracibia et al.         water Desalination Using Revenee Osmosis in Kuwait       Meetting Room 1         D2-Track 2.2: Spatial Technology, GLS, and RS in Water Resources       Chair: Prof. Rao S Govindaraju         esstickty Imaging in Montoring Salewater Intrusion in a Nearthon Requirer       Keynote: Prof. Rao S Govindaraju         Estimation of Measuremenet Uncertainty Due to Errors in Rainfall an	room II	Meeting Room 1
Marion Lux Catro et al.           Marion Lux Catro et al.           Opg/C4 Xu         Marion Lux Catro et al.           Bogical Modeling Under Changing 2 Environmental Conditions         Waleed Al-Zubari, All Al-Shababani and Nadir Abdulhameid           Digical Modeling Under Changing 2 Environmental Conditions         Waleed Al-Zubari, All Al-Shababani and Nadir Abdulhameid           e Source of Freshwater Supply - Using Geophysics to Inform Well Design in Coastal Aquits         Kate Williams, Eve R Rodrigue2, O Woodrow, M Mattabani, P Sheridan, D Evens, and Steven Monton           maria and Anvar Kacimov         Stabiling Automatic Ground Water Information Collection and Aggregation through Space and IoT in Australia (19)           amari and Anvar Kacimov         Stabiling Automatic B (cound Water Information Collection and Aggregation through Space and IoT in Australia (19)           amari and Anvar Kacimov         Stabiling Automatic Ground Water Information Collection and Aggregation through Space and IoT in Australia (19)           amari and Anvar Kacimov         Stabiling and Era Aleisa           taity Vastewater Treatment in Kuwait         Travis Wiederstein, Valshall Sharda and Jonathan Aguitar           Charrie Treatment in Kuwait         Mortining Teemak           Motoring Teema Arancibia et al.         Iongine and cound back back 30 monthly actual evapotrampiration for Australia: development, implementation in Google I Engine and Casim Khong           Besearchers (General Technical Themes)         D2-Track 2.2: Spatial Technology, GIS, and	esearchers (General Technical Themes)	D2-Track 2.2: Spatial Technology, GIS, and RS in Water Resources
Biod       Plod       Assessment During Typhono Ulyses (Vanco) in Cagayan, Philippines Using Synthetic Apert Bioder Images         Bioder Images       Waleed Alz Oatri, Al Al Shaabani and Nadir Abdulhameid Uggrading Groundwater Monitoring Retwork in the Kingdom of Bahrain using Geostatistics and GIS         e Source of Freshwater Supply - Using Geophysics to Inform Well Design in Coastal Aquir anari and Anvar Kacimov matips of Omani Coastal Dunes; Nabkhas       State Williams, Eva R Rodriguez, D Moodrow, M Mattaboni, P Sheridan, D Evans, and Steven Morton enabling Automatic Ground Water Information Collection and Agergetion through Space and IoT in Australia (1) water)         anari and Anvar Kacimov matips of Omani Coastal Dunes; Nabkhas       Toarbath a facoti Satellite-based leak detection and coast benefit - Investing in existing water infrastructure         and Mohamed Hamoda tar Womander Hamoda tar Womander Hamoda tar Mohamed Hamoda tar Mohamed Hamoda       Toarbath a facoti Satellite-based leak detection and coast benefit - Investing in existing water infrastructure         Nettor Design Terret Meter Handrach Based Water Desalination Using Reverse Dimosis in Kuwait       Meeting Room 1 Dires Pena-Arnachis et al. Landrach based 30 m monthly actual exportanspiration for Australia: development, implementation in Google 1 Regine and examples         Restify Imaging in Monitoring Saltwater Intrusion in a Nearshore Aquifer med and Quais Mhan ugit at spatio-temporal scale improving GRACC resolution based on machine learning water a polation through Spatial distrubuton and frequencies in arid regions using remote sensing s incles         State Interscon, Yosé Arnahani, Saltwater Intrusioni in Revershore Aquifer med and Quais Mhan ugit at spa	za Sharifan	Chair: Mr Steve Morton
Wates and Veder And Statistics and CIS         Wates and Veder And Statistics and CIS         Upgrading Cionolwater Monitoring Network in the Kingdom of Bahrain using Geostatistics and CIS         e Source of Preshwater Supply – Using Geophysics to Inform Well Design in Coastal Aquiter         amari and Anvar Kacimov         Analysia of Cinami Coastal Dunes; Nabbhas         Statilitie-based leak detection and Cost Benefit - Investing in existing water infrastructure         Travis Wiederstein, Vaishall Shard and Jonathan Aguilar         Evaluating Astrone Manual         tany Mohamed Hamoda         tany Water Desilination Using Reverse Osmosis in Kuwait         Diardshar Jacobi         Alshayij and Era Alaisa         Mohamed Aamoda         tany Water Monitoring Network in the Kingdom of Bahrain using Geostatistics and OIS         Mohamed Hamoda         tany Wastewater Treatment in Kuwait         Dirage Para Arandbia et al.         Landsta-based Bak detection and Cost Benefit - Investing in existing water infrastructure         Travis Wiederstein, Vaishall Shard an Jonato         Mater Desiluation Using Reverse Osmosis in Kuwait         Dirage Para Arandbia et al.         Landsta-based Bak detection and Agenegation for Australia: development, implementation in Google Engine and examples         Choir : Prof. Rao S Govindaraju         Estimation of Measurement Uncertaintr	ng-Yu Xu	Flood Mapping and Assessment During Typhoon Ulysses (Vamco) in Cagayan, Philippines Using Synthetic Aperto
e Source of Freshwater Supply – Using Geophysics to Inform Well Design in Coastal Aquiers amari and Anvar Kacimov nships of Omani Coastal Dunes; Nabkhas ara and Anvar Kacimov nships of Omani Coastal Dunes; Nabkhas ara and Anvar Kacimov nships of Omani Coastal Dunes; Nabkhas ara and Ankared Hamoda Itary Wastewater Treatment in Kuwait Uary Wastewater Treatment in Kuwait Uary Wastewater Treatment in Kuwait Mary in disra Aleisa Matary iand Esra Aleisa Matary iand Matary Matary iand Matary Matary iand Matary iand Matary Matary iand Matar	ogical Modeling Under Changing 2 Environmental Conditions	
stabilitys of Omani Coastal Dunes; Nabkhas       Satellitte-based leak detection and cost benefit - Investing in existing water infrastructure         rand Mohamed Hamoda tany Wastewater Treatment in Kuwait       Travis Wiederstein, Vaishall Sharda and Jonathan Aguilar Evaluating spatial and temporal variations in sub-field level crop water demands         Alshayi and Ersa Aleisa inwater Desalination Using Reverse Osmosis in Kuwait       Dirge Pena-Arancibila et al. Landsat-based 30 m monthly actual evapotranspiration for Australia: development, implementation in Google I Engine and examples         room II       Meeting Room 1         essearchers (General Technical Themes) end Hamouda       D2-Track 2.2: Spatial Technology, GIS, and RS in Water Resources         existivity imaging in Monitoring Saltwater intrusion in a Nearshore Aquifer med and Qasim Khan equit at spatio-temporal scale improving GRACE resolution based on machine learning       Stran Keynote: Prof. Rao S Govindaraju Estimation of Measurement Uncertainty Due to Errors in Rainfall and Streamflow Measurements using Random Forest         stabilite anial estimates in Damascus basin, Syria       Sivan Isaacson, Yosef Avrahami, Stalley R. Rotman and Yael Storz-Peretz Mapping and monitoring fisch floods spatial distribution and frequencies in aird regions using remote sensing s indices         tains and Stephen Hallett ousehold water consumption patterns       Casem Abdelai and Abdelader Larabi Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai	e Source of Freshwater Supply – Using Geophysics to Inform Well Design in Coastal Aquifers	Enabling Automatic Ground Water Information Collection and Aggregation through Space and IoT in Australia (S
tiary Wastewater Treatment in Kuwait       Evaluating spatial and temporal variations in sub-field level crop water demands         Alshayij and Esra Aleisa water Desalination Using Reverse Osmosis in Kuwait       Togre Pena-Arancibia et al. Landsat-based 30 m monthly actual evapotranspiration for Australia: development, implementation in Google In Egne and examples         room II       Meeting Room 1         esearchers (General Technical Themes)       D2-Track 2.2: Spatial Technology, GIS, and RS in Water Resources         ed Hamouda       Keynote: Prof. Vijay P. Singh         tesistivity Imaging in Monitoring Saltwater Intrusion in a Nearshore Aquifer med and Qasim Khan ught at spatio-temporal scale improving GRACE resolution based on machine learning tat spatio-temporal scale improving GRACE resolution based on machine learning tatellite rainfall estimates in Damascus basin, Syria       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz Mapping and monitoring flash floods spatial and Abaler/Iman Alayan Wireless Sensor Networks for hydrological monitoring, helpful tools for accurate models         atas and Stephen Hallett ousehold water consumption patterns       Lai B Hoommaid and Abdelare Larabi Austra All, A Badawy, A Elmahdi, Dubrava Bojic and Domittille Vallee Implementing Water Recourting and Water Governance Analysis to Support Water – Energy- Food Nexus in thr		
Alshagi and Esta Alessa       Landsat-based 30 m monthly actual evapotranspiration for Australia: development, implementation in Google I Engine and examples         Morning Tea Break         Room II         development, implementation in Google I Engine and examples         Meeting Room 1         De-Track 2.2: Spatial Technology, GIS, and RS in Water Resources         Chair: Prof. Vijay P. Singh         Restinction of Measurement Uncertainty Due to Errors in Rainfall and Streamflow Measurement Uncertainty Due to Errors in Rainfall and Streamflow Measurements using Random Forest         Situad Bial and Khaled Alghafli         det Hommaid Mohamed         Gasem Abdelal and Abdel Alghafli         Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubal using Hydrologic Modeling System (HEC-HMS)         Landsat-based Solution Remote Sensing Imagery Using Deep Learning and Dubal using Hydrologic Modeling System (HEC-HMS)         Landsate Bolics from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubal using Hydrologic Modeling System (HEC-HMS)         Landsate Bolics and Dubai using Hydrologic Modeling System (HEC-HMS)         Landsate Hourmaid and Abdelkader Larabi         Mathematic Extraction of Water Bolics from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai		
From II       Meeting Room 1         esearchers (General Technical Themes)       D2-Track 2.2: Spatial Technology, GIS, and RS in Water Resources         ed Hamouda       Chair: Prof. Vijay P. Singh         kesistivity Imaging in Monitoring Saltwater Intrusion in a Nearshore Aquifer       Keynote: Prof. Rao S Govindaraju         gd and Qasim Khan       Estimation of Measurement Uncertainty Due to Errors in Rainfall and Streamflow         Meeting Room, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz       Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing s indices         Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz       Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing s indices         ustum, Qasim Khan and Mohamed Mohamed       Qasem Abdelal and Abdalrhman Alayan         Wireless Sensor Networks for hydrological monitoring, helpful tools for accurate models       Lala El Hourmaidi and Abdelkader Larabi         Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai       Marwa Ali, A Badawy, A Elmahdi, Dubravka Bojic and Domitille Vallee		Landsat-based 30 m monthly actual evapotranspiration for Australia: development, implementation in Google E
esearchers (General Technical Themes)       D2-Track 2.2: Spatial Technology, GIS, and RS in Water Resources         dd Hamouda       Chair: Prof. Vijay P. Singh         tesistivity Imaging in Monitoring Saltwater Intrusion in a Nearshore Aquifer       Keynote: Prof. Rao S Govindaraju         med and Qasim Khan       Estimation of Measurement Uncertainty Due to Errors in Rainfall and Streamflow         Measurements using Random Forest       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz         Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing sindices       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz         Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing sindices       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz         Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing sindices       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz         Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing sindices       Sivan Isaacson Networks for hydrological monitoring, helpful tools for accurate models         usehold water consumption patterns       Lale I Hoummaidi and Abdelkader Larabi       Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai         Marwa Ali, A Badawy, A Elmahdi, Dubravka Bojic and Domitile Vallee       Implement	Morning	Tea Break
Add Hamouda       Chair: Prof. Vijay P. Singh         Resistivity Imaging in Monitoring Saltwater Intrusion in a Nearshore Aquifer       Keynote: Prof. Rao S Govindaraju         med and Qasim Khan       Estimation of Measurement Uncertainty Due to Errors in Rainfall and Streamflow         Measurements using Random Forest       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz         Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing sindices       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz         Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing sindices       Qasem Abdelal and Abdalrhman Alayan         Wireless Sensor Networks for hydrological monitoring, helpful tools for accurate models       Lala El Hoummaidi and Abdelkader Larabi         Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai       Dubai	room II	Meeting Room 1
Attended Statute Intrusion in a Nearshore Aquifer       Keynote: Prof. Rao S Govindaraju         Besistivity Imaging in Monitoring Saltwater Intrusion in a Nearshore Aquifer       Estimation of Measurement Uncertainty Due to Errors in Rainfall and Streamflow         Measurements using Random Forest       Measurements using Random Forest         Shada Bilal and Khaled Alghafii atellite rainfall estimates in Damascus basin, Syria       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing s indices         ststum, Qasim Khan and Mohamed rban area of Dubai using Hydrologic Modeling System (HEC-HMS)       Qasem Abdelal and Abdalrhman Alayan Wireless Sensor Networks for hydrological monitoring, helpful tools for accurate models         iams and Stephen Hallett ousehold water consumption patterns       Lala El Hoummaidi and Abdelkader Larabi Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai         Marva Ali, A Badawy, A Elmahdi, Dubravka Bojic and Domitille Vallee Implementing Water Accounting and Water Governance Analysis to Support Water – Energy- Food Nexus in the	esearchers (General Technical Themes)	D2-Track 2.2: Spatial Technology, GIS, and RS in Water Resources
Image and Qasim Khan       Image and Qasim Khan         Ight at spatio-temporal scale improving GRACE resolution based on machine learning       Estimation of Measurement Uncertainty Due to Errors in Rainfall and Streamflow         Ghada Bilal and Khaled Alghafli       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz         Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing sindices       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz         Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing sindices       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz         Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing sindices       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz         Isama area of Dubai using Hydrologic Modeling System (HEC-HMS)       Qasem Abdelal and Abdalrhman Alayan         Vireless Sensor Networks for hydrological monitoring, helpful tools for accurate models       Lala El Hourmaidi and Abdelkader Larabi         Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai       Marwa Ali, A Badawy, A Elmahdi, Dubravka Bojic and Domitille Vallee         Implementing Water Accounting and Water Governance Analysis to Support Water – Energy- Food Nexus in the       Marwa Ali, A Badawy, A Elmahdi, Dubravka Bojic and Domitille Vallee	ed Hamouda	Chair: Prof. Vijay P. Singh
Inter and Qashir Khan       Measurements using Random Forest         Ight at spatio-temporal scale improving GRACE resolution based on machine learning       Measurements using Random Forest         Ghada Bilal and Khaled Alghafii atellite rainfall estimates in Damascus basin, Syria       Sivan Isaacson, Yosef Avrahami, Stanley R. Rotman and Yael Storz-Peretz         Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing s indices       Measurements using Random Forest         Issum, Qasim Khan and Mohamed rban area of Dubai using Hydrologic Modeling System (HEC-HMS)       Qasem Abdelal and Abdalrhman Alayan Wireless Sensor Networks for hydrological monitoring, helpful tools for accurate models         Iiams and Stephen Hallett ousehold water consumption patterns       Lala El Hoummaidi and Abdelkader Larabi Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai         Marwa Ali, A Badawy, A Elmahdi, Dubravka Bojic and Domitille Vallee Implementing Water Accounting and Water Governance Analysis to Support Water – Energy- Food Nexus in the	Resistivity Imaging in Monitoring Saltwater Intrusion in a Nearshore Aquifer	Keynote: Prof. Rao S Govindaraju
Ghada Bilai and Khaled Alghafii       Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing sindices         ustum, Qasim Khan and Mohamed       Mohamed         rban area of Dubai using Hydrologic Modeling System (HEC-HMS)       Qasem Abdelal and Abdalrhman Alayan         Wireless Sensor Networks for hydrological monitoring, helpful tools for accurate models       Lala El Hoummaidi and Abdelkader Larabi         automatic Extraction of Water Consumption patterns       Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai         Marwa Ali, A Badawy, A Elmahdi, Dubravka Bojic and Domitille Vallee       Implementing Water Accounting and Water Governance Analysis to Support Water – Energy- Food Nexus in the		•
ustum, Qasim Khan and Mohamed M Mohamed       Qasem Abdelal and Abdalrhman Alayan         rban area of Dubai using Hydrologic Modeling System (HEC-HMS)       Wireless Sensor Networks for hydrological monitoring, helpful tools for accurate models         liams and Stephen Hallett       Lala El Hoummaidi and Abdelkader Larabi         ousehold water consumption patterns       Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai         Marwa Ali, A Badawy, A Elmahdi, Dubravka Bojic and Domitille Vallee       Implementing Water Accounting and Water Governance Analysis to Support Water – Energy- Food Nexus in the	-	Mapping and monitoring flash floods spatial distribution and frequencies in arid regions using remote sensing sp
liams and Stephen Hallett       Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai         Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and Dubai         Marwa Ali, A Badawy, A Elmahdi, Dubravka Bojic and Domitille Vallee         Implementing Water Accounting and Water Governance Analysis to Support Water – Energy- Food Nexus in the		Qasem Abdelal and Abdalrhman Alayan
Marwa Ali, A Badawy, A Elmahdi, Dubravka Bojic and Domitille Vallee Implementing Water Accounting and Water Governance Analysis to Support Water – Energy- Food Nexus in the	•	Automatic Extraction of Water Bodies from High-Resolution Remote Sensing Imagery Using Deep Learning and
		Marwa Ali, A Badawy, A Elmahdi, Dubravka Bojic and Domitille Vallee Implementing Water Accounting and Water Governance Analysis to Support Water – Energy- Food Nexus in the

### Lunch

# International conference on Water Resources Management **Solutions for Arid Regions**

#### Dubai, UAE 2022 1

	Opal Boardroom
	D2-Track 2.1: Water Quality Management
	Chair: Prof. Munjed Maraqa
rture	
	Keynote: Dr. Carl Seubert
	Water Quality Monitoring from Space: Aquawatch Australia
(SIG	Klaus Joehnk et al.
	Moving from Local Monitoring to Regional and Continental Scale Early Warning and Forecasting of Water Quality Risks
	Hany Abd-Elhamid, Martina Zeleňáková, Akbar Javadi and Khalid Qahman
	Assessment and Management of Seawater Intrusion In Gaza Aquifer in Response to Excessive Pumping and Sea Level Rise
	Zipho Samuel, Mike Ojemaye, Anthony Okoh and Omobola Okoh
	Chelating nitrogenous groups grafted onto zinc oxide nanoparticles for the adsorption of methyl violet in aqueous solution
e Earth	Garba Ahmed, Ahmed Muhd Idris and Jibrin Gambo Hydrogeochemistry to Assess the Groundwater Quality Using Multistatistical Methods

#### **Opal Boardroom**

### D2-Track 2.1: Water Quality Management Chair: Dr. Carl Seubert Hamidreza Sharifan et al. Groundwater Contamination by PFAS Around Airports in The USA: Identification, Source and Commonality Jasem Alkandari Effect of the Blending of Desalinated Seawater with Groundwater on the Formation of Trihalomethane Species in rinking Water Mohammad Faiz Alam, Karen G. Villholth and Joel Podgorski g spectral uman Arsenic Exposure Risk Via Crop Consumption and Global Trade from Groundwater-Irrigated Areas

	Samia Saad, Akbar Javadi, Raziyeh Farmani and Mohsen Sherif Optimal Management of Seawater Intrusion Using Infiltration Pond
d GIS in	Rajesha Alambi, Mansour Ahmed, G Bhadrachari, Ali Al-Naser and Jibu Thomas Brine Management Using Hydrophobic Nanocomposite Membranes
he Mena	

# **Conference Second Day, Thursday, 24.03.2022**

1:00 PM	2:00 PM	Ρ
		Chair: Dr. Mohamed Hamouda
		Talib Butt, Munjed Maraqa, Omar Alharbi, Cara Beal and Xenia Christo SUDS encapsulates climate change mitigation and climate change adapt
		Nicolae Costin Mociu and Carmen Elena Maftei The Application of Satellite Imagery And GIS Software to the Study of Waterfront Cities' De
		Tala Maksoud, Qasim Khan and Mohamed M. Mohamed Groundwater Budget Analysis in Abu Dhabi Emirate Using Modflow
		Qasim Khan and Mohamed M. Mohamed Machine Learning: An interesting tool in studying groundwater
		Muhammad Abrar Faiz, Mohsen Sherif and Faisal Baig Exploring the drought propagation from meteorological to hydrological and soil moisture
		Khaled Alghafli, Waleed Saeed, Warren Wood, Mohsen Sherif and Xia Coupling Global Land Data Assimilation System (GLDAS) with In Situ Data to Monitor Grou
		Assaad Kassem, Joanna Doummar and Jason Gurdak Sensitivity of an Integrated Groundwater Flow Model to Model Parameters - Application t
		Mohamed Elhag, Jaka Budiman, Jarbou Bahrawi, Asep Hidayatulloh ar Volumetric Quantification of Flash Flood Using Microwave Data on a Watershed Scale in A
		<b>Aysar Al-Shamaa and Khalid Al-Marsumi</b> Flood Water Harvesting in A Flood Prone Area Using Remote Sensing And GIS – Case Study
		Nadia Lahlou and Mohamed El Ghachi The impact of flash floods on the extreme functioning of undeveloped basins: case of the Morcco)
		<b>Mishal Alsehli</b> Thermal storage system as an alternative to the brine heater in a desalination plant: An ex
		Juliet Nakasagga, Maha Abdelraheem Ismail and Sowed Wamala Knowledge Products for the Nile Basin Initiative
		Zahra Noorisameleh, William A Gough and M. Monirul Qader Mirza Spatial variability of summer droughts and heatwaves in southern Canadian
		Omer Ekmekcioglu and Mehmet Ozger Advanced Soft Computing Applications for Hydraulic Efficiency Assessment of Storm Wate
		<b>Eyyup Ensar Basakin and Mehmet Ozger</b> Missing Data Imputation for Solar Radiation by Deep Neural Network
		<b>Shubham Tiwari</b> Factors Influencing the Site Selection Criteria for Efficient Aquifer Storage and Recovery (A
		Eberechi Cecilia Osuagwu, Adamma Monica Uwaga and Harry Inemean Assessment of leachate on groundwater quality: A case study of Enyimba Open Dumsite, G
		Krishna Desai

Proximal sensor based water and nutrient management on corn to achieve sustainable yields and water use efficiency in semi arid regions of Karnataka, India



# **Poster Session (All themes)** - Al Maktoum Ballroom I&II

### odoulou

tation – One stone killing two birds

evelopment

drought using time series analysis

ogang Shi ndwater Resources at Sabkha Matti, Middle East

to Vulnerability Assessment of Karst Aquifers

nd Mansour Almazroui

Arid Environments, Saudi Arabia

Srou catchment (Février 2010 flood) (Oum Er-Rbia Basin,

kperimental study

er Drain Inlets

Asr) System in Saline Regions

waji

Osisioma Ngwa local government area, Abia State, Nigeria

# Chair: Dr. Hamidreza Sharifan

Ali Al-Maktoumi, Anvar Kacimov and Mustafa El-Rawy Managed Aquifer Recharge as a Reliable and Sustainable Water Supply In Duqm Area, Sultanate of Oman

Dinumol Varghese, Ahmed Thaher, Fadi Alnaimat and Bobby Mathew Parametric Study Analysis of A 3-D Printed Solar Reciever in A Multi-Stage Flash Desalination Plant

Jose Manuel Murillo, Alberto Padilla, Joaquin Delgado and José Manuel Gómez-Fontalva Gómez-Fontalva Recharge to Aquifers Located in Arid Zones Through the Application of the Renata Code. Distribution According to the Watershed and the **Groundwater Divides** 

Khaled Alghafli et al. Remote Sensing Applications for Water Managements Under Data Acquisition Challenges in Transboundary Basin, Case Study: Grand Ethiopian Renaissance Dam, Ethiopia

Abdel Azim Ebraheem et al. Mapping Groundwater Potential Zones in UAE Using GIS-Based Hydrogeological Modeling

Faisal Baig, Mohsen Sherif, Abrar Faiz, Ahmed Sefelnasr, Abdel Azim Ebraheem and Khaled Alghafli Evaluation of a Conceptual Rainfall-runoff Model Using Generalized Likelihood Uncertainty Estimation Approach

Swathi Mohandas Surekha et al. Management of Seawater Intrusion in Coastal Aquifers: Past And Future Challenges

Khouldia Nafia and Mohamed El Ghachi Low flow in the Oued el Abid basin (Morocco): better understand it to better manage it (Oum Errbia Basin - Morocco)

Michele Ferri et al. Exploring the Potential of Innovative Methods for Integrated Water and Flood Risk Management in the Oriental Alpes River District: The Aqua3s Approach

**Dia El Din El Qousy** Lessons to learn from the Australian Water Resources Management Case Study: The Murry Darling Basin and Some Arab Countries

C. Dionisio Pérez-Blanco and Francesco Sapino Price Discrimination in Water Banks to Enhance The Effectiveness and Efficiency of Agricultural Water Buyback

Pankaj Kumar Is participatory approach including all relevant stakeholders necessary to make IWRM more effective for water resource management especially in data scarce regions? A Case Study of the Philippines

Sangamesh Angadi, Sultan Begna, Paramveer Singh and Jagdeep Singh Multiple Approaches to Sustain Ogallala Aquifer in The Southern High Plains of USA

Monirul Mirza, William Gough and Zahra Noorisameleh Characteristics and Frequency Distribution Of 24-Hour Extreme Precipitation in The Canadian Prairies

**Arjun Suresh and Tanu Jindal** IWAT1.0 - Web Portal for Optimization Of Irrigation Water Requirement For Selected Indian Crops In Different Agro-Climatic Zones Through Modelling of Lysimetric and Weather Station Data

B K Desai, Santhosh U N, Satyanarayan Rao and Masthana Reddy B G Tillage and establishment methods impact on land and irrigation water productivity in Tungabhadra rice command area of Southern India

Eberechi Cecilia Osuagwu, Adamma Monica Uwaga and Harry Inemeawaji Assessment of leachate on groundwater quality: A case study of Enyimba Open Dumsite, Osisioma Ngwa local government area, Abia State, Nigeria

**Dubai**, UAE