

PROGRAMME

International Conference on Integrated Water Resources Management

Management of Water in a Changing World: Lessons Learnt and Innovative Perspectives

12 – 13 October 2011 Dresden, Germany



Federal Ministry of Education and Research

Welcome to the IWRM conference



In the light of the global challenges caused by climate change, land use and demographic changes, the sustainable use and the protection of natural resources are top priorities for the sustainable development. Enormous efforts will be necessary to ensure the supply of clean and safe water to the world population.

Especially integrated approaches are needed to master the ecological, economic and social dimensions of the water related problems of the 21st century. The concept of Integrated Water Resources Management (IWRM) has gained wide acceptance as a guiding principle in the water sector. The aim is to promote economic and social development by addressing and balancing diverse interests of water users, while simultaneously safeguarding water resources.

To contribute to this aim and to create the conditions for improving the use and application of the innovative potential of German research, the German Federal Ministry of Education and Research (BMBF) has established the new funding priority "Sustainable Water Management – NaWaM" in the framework program "Research for Sustainable Development – FONA".

With the funding activity "Integrated Water Resources Management – From Research to Implementation" the BMBF has supported projects in cooperation with emerging and developing countries since the year 2006. New approaches, methods and technologies for IWRM are developed in suitable model regions around the world.

The focus of our conference on IWRM is to present the respective scientific results and world-wide experiences of IWRM implementation in order to discuss lessons learnt. Another main aspect is to exchange innovative perspectives beyond current IWRM practices with national and international experts. This conference serves as a platform for participants from research, industry, politics and administration to discuss joint approaches and promote sustainable use of water resources in a changing world.

In this spirit, let me wish you productive days and a fruitful exchange of innovative ideas.

Wilfried Kraus, Deputy Director General "Sustainability, Climate, Energy" German Federal Ministry of Education and Research (BMBF) Bonn, October 2011

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Programme overview

Tuesday, 11 October

19:00–22:00 Registration & Icebreaker | Festungsmauern

Wednesday, 12 October

	Grand Hall	Roo	m 1	Roo	m 2	Roo	m 3	Roc	om 4	Roo	m 5	Roc	om 6
		ТОР	ID	TOP	ID	TOP	ID	TOP	ID	TOP	ID	TOP	ID
08:00-09:00	Registration foyer												
09:00-10:00	Welcome addresses												
10:00-11:00	Opening keynotes												
11:00-11:30	Coffee break foyer							IWRM (linema				
11:30-13:00		WC	A-1	CD	B-1	SMA	C-1	IND	D-1	CHIN	E-1		
13:00-14:00	Lunch foyer												
14:00-15:30		WC	A-2	CD	B-2	GW	C-2	GIZ	D-2	IB	E-2		
15:30-16:00	Coffee break foyer								IWRM C	Cinema			
16:00-17:00	First poster session foyer								IWRM (Cinema			
17:00-18:00	Panel discussion: Lessons learnt and innovative perspectives												
20:00-23:00	Conference dinner Pulverturm												

Thursday, 13 October

	Grand Hall Room 1		Room 2		Room 3		Room 4		Room 5		Room 6		
		TOP	ID	TOP	ID	TOP	ID	TOP	ID	TOP	ID	TOP	ID
08:00-09:00	Registration foyer												
09:00-11:00	Plenary session												
11:00-11:30	Coffee break foyer							IWRM C	Cinema				
11:30-13:00		TEC	A-3	DSS	B-3	GW	C-3	GOV	D-3	ECO	E-3	TRA	F-1
13:00-14:00	Lunch foyer												
14:00-15:30		TEC	A-4	DSS	B-4	MAR	C-4	GOV	D-4	EVU	E-4		
15:30-16:00	Coffee break foyer									IWRM C	linema		
16:00-17:00	Second poster session foyer							IWRM C	linema				
17:00-17:45	Reports by rapporteurs												
17:45-18:00	Closing remarks												

Friday, 14 October

10:00-12:00	Excursion 1: City of Dresden
08:00-13:30	Excursion 3: Reservoirs Saxony

Legend

ID = Session ID

TOP = TOPICS:

- CD: Capacity Development for Water and Wastewater Management
- CHIN: IWRM implementation in China, comparison and experiences of a top-down and a bottom-up approach
- DSS: Information and decision support systems
- ECO: Economic instruments
- EVU: Economic valuation of water use: tools for integration in water resources planning
- GIZ: Research for development IWRM instruments for development cooperation
- GOV: Water governance: actors and institutions
- GW: Groundwater
- IB: Bridging the gap From research to implementation
- IND: Indicators and advanced monitoring
- MAR: Managed Aquifer Recharge as Tool for the Implementation of an Integrated Water Resource Management
- SMA: SMART Project From data acquisition to the implementation of IWRM technologies
- TEC: Technologies and implementation
- TRA: Transdisciplinarity in IWRM Research
- WC: Water resources in changing environments

Conference rooms

(see also map on page 33)

- Grand Hall (basement): Opening and Keynote sessions, Panel discussion, Closing
- Rooms 1–6 (conference level, upper floor): Parallel sessions
- Terrace level with foyer (intermediate floor): Registration, Poster Session, Coffee break

09:00-11:00 h | 16:00-18:00 h

Plenary Welcome addresses and opening | Opening keynotes | First poster session | Panel discussion

Grand hall

09:00



09:20



Welcome addresses and opening Chair: Dietrich Borchardt (Helmholtz Centre for Environmental Research – UFZ,

MinDirig Wilfried Kraus (Deputy Director General "Sustainability, Climate, Energy", German Federal Ministry of Education and Research - BMBF) 10:00

10:30

11:30

13:00

14:00

15:30

16:00

17:00



Germany)

MinDirig Joerg Geiger (Head of Department »Research«, Saxon State Ministry for Science and the Arts, Dresden, Germany)

Dirk Hilbert

(Mayor of Dresden, Germany)



Opening keynotes

Chair: Ralf Ibisch (Helmholtz Centre for Environmental Research – UFZ, Germany)

Integrated Water Resources Management: Lessons learnt and where we have to go beyond Dietrich Borchardt (Helmholtz Centre for Environmental Research – UFZ) & Peter Krebs (University of Technology Dresden)

IWRM indicators – experience from two global assessments Peter Koefoed Bjornsen (UNEP-DHI Centre for Water and Environment, Denmark)

Parallel sessions (Rooms 1-6) Lunch Parallel sessions (Rooms 1-6) Coffee break First poster session (terrace level with foyer)

Panel discussion: IWRM: Lessons learnt and innovative perspectives

Conference dinner | Pulverturm

09:50

09:40



Prof. Norbert Jardin	
International Water Association – IWA)	

20:00

17:00-18:00 h

Panel discussion

IWRM: Lessons learnt and innovative perspectives

Grand hall

17:00





Chair: Stephan von Keitz

(Hessian Ministry of Environment, Agriculture, Rural Areas and Consumer Protection, Germany)

Janos Bogardi (Executive Officer, Global Water Systems Project, Germany)

Peter Krebs (University of Technology Dresden, Germany)



Jønch Torkil Clausen (Water Policy Adviser, DHI Group, Senior Adviser, Global Water Partnership, Denmark)



Per Stålnacke (Norwegian Institute for Agricultural and Environmental Research – BIOFORSK)



Bai-Mass M. Taal (African Ministers' Council on Water – AMCOW) Integrated Water Resources Management became a widely accepted guiding principle in the water sector after it was accepted by the governments of the world during the UN Conference on Environment and Development in Rio de Janeiro in 1992. However, critique of the IWRM approach has grown recently ("too generic", "too complex") and the world is facing different challenges now than 20 years ago: 1.5 billion more inhabitants, increasing complexity and uncertainty, rapid urbanization, water and food security, economic disruptions, global changes, etc.. Do we need new ways of thinking and new approaches for the management of water resources that could guide practitioners and water management around the globe? The objective of the panel is to summarize outcomes of recent IWRM initiatives and to reflect upon questions such as:

- What are the biggest water challenges that the world faces today and in the future?
- . What are the most important messages (or lessons learnt) from different IWRM research initiatives?
- What are the major drivers of water manage-• ment beyond the water sector?
- What are the biggest research challenges in different fields of water management: sanitation, ecosystem processes and services, governance indicators etc.?
- What are efficient ways to integrate sectoral knowledge from different disciplines in order to improve adaptive IWRM strategies?
- The implementation of IWRM often requires • long-termed water sector reforms. What is an adequate contribution of research projects that are generally constrained in time and design? How to transfer scientific results into practice?
- What are the core concepts, tools and measures and political and institutional prerequisites to achieve an IWRM?

Session A-1 (WC) Water resources in changing environments: Large scale and conceptual studies

Chair: Ilona Baerlund (Helmholtz Centre for Environmental Research – UFZ, Germany)

Water is an essential natural resource that shapes landscapes and is vital for ecosystem functioning as well as for human well-being. At the same time, water is a resource under considerable pressure. Alterations in the hydrologic regime due to climatic, demographic and economic changes have serious consequences for people and the environment as overuse and contamination are stressing freshwater resources in the terrestrial water cycle. Considering this, both sessions under the topic "Water resources in changing environments" deal with the potential of quantification methods, especially modelling studies, to support water resources and water use estimation, management evaluation and finally decision making under changing environmental and/or socio-economic conditions. Session A-1 concentrates on large scale and conceptual studies whereas session A-2 gives examples of selected case studies from different parts of the world.

Room 1 | 11:30–13:00 h

- 11:30 Pan-European freshwater resources in a changing environment Floerke, Martina (University of Kassel, Germany) | Baerlund, Ilona (Helmholtz Centre for Environmental Research – UFZ, Germany) | Schneider, Christof | Kynast, Ellen (University of Kassel, Germany)
- 11:45 Integrating water resources management in eco-hydrological modeling Koch, Hagen | Liersch, Stefan | Hattermann, Fred (*Potsdam Institute for*

Climate Impact Research, Germany)

- 12:00 Assessing the hydrological impact of conservation management practices for the Pipiripau River basin, Central Brazil. Strauch, Michael (University of Technology Dresden, Germany) | Lorz, Carsten (TU Dresden, Germany) | Bakker, Fabio (Caesb, Brazil) | Makeschin, Franz (TU Dresden, Germany)
- 12:15 Stochastic Modelling of Indus River Flows to Estimate Likely Impact of Climate Change in Himalayan Ranges Ali, Nazim (Sustainable Development Policy Institute, Pakistan)

12:30 The challenges of Integrated Water Resources Management in a shared basin. The case of Matanza – Riachuelo Basin in the metropolitan area of Buenos Aires, Argentina Martinez, Sandra | Villa Uria, Gustavo (Autoridad de Cuenca Matanza-Riachuelo ACUMAR, Buenos Aires, Argentina), Kralisch, Stefanie (Karlsruhe Institute of Technology KIT, Germany) | Strähle, Nikolai (University of Heidelberg, Germany)

12:45 Discussion

13:00 Lunch (1 h)

Session B-1 (CD) Capacity development for the management of water in a changing world

Conveners: Working Group <<Capacity Development>> BMBF funded projects on IWRM: Steffen Niemann (Helmholtz Centre for Environmental Research – UFZ, Germany) | Marco Leidel (University of Technology Dresden, Germany) | Anna-Katharina Hornidge (University of Bonn, Germany) | Jenny Eisold & Joerg Felmeden (ISOE, Frankfurt a.M., Germany) | Jaime Cardona (Helmholtz Centre for Environmental Research – UFZ, Germany | Oliver Schulz (University of Bonn, Germany) | Michael Hossu (University of Giessen, Germany) | Ralf Ibisch (Helmholtz Centre for Environmental Research – UFZ, Germany

Chair: Anna-Katharina Hornidge (University of Bonn, Germany)

There is a growing consensus in the global water community that the implementation of IWRM is, generally speaking, still in its infancy (UN-Water 2008: Status Report on IWRM and Water Efficiency Plans for CSD16). Key issues responsible for the slow progress in the implementation process are predominantly not of technical nature, but the often missing institutional basis for good governance, participation and especially the lack of capacities. Societies aiming at the implementation of IWRM require adequate individual, organizational and societal capacities targeting all actor groups, inter alia science, public administration, economy as well as the general public. Progressive Capacity Development concepts integrate therefore not only human resource and organizational development. but additionally support reform processes, knowledge development, exchange of experiences and networking activities, explicitly reflecting on IWRM implementation processes, challenges faced and lessons learnt. The objective of this session is to show and discuss lessons learnt from various IWRM projects in order to elaborate a common understanding of CD processes in the realm of IWRM. Based on selected case studies, the wide scope of addressed levels and conducted CD measures will be reflected.

Room2 | 11:30-13:00 h

^{11:30} Welcome and introduction by the chair

11:35 Enhancing Integrated Adaptive Water Management through Citizen Participation: An Evaluation Perspective

Sterner, Elsa *speaker* | Comardicea, Irina (*adelphi, Germany*) | Alcaud, David | Schmidt, Michael (*ICCR*) | Liquete, Camino (*JRC*) | Calori, Andrea (*Politecnico di Milano*) | Lia, Federico | Lue, Alessandro (*Poliedra – Politecnico di Milano*)

^{11:50} Improving the policy-science interface for the implementation of IWRM

Butler Manning, Carolin | Pahl-Wostl, Claudia | Fokken, Bjoern (University of Osnabrueck, Germany)

^{12:05} Understanding the role of learning and networks to build resilience in river basins

Welling, Rebecca *speaker* | Barchiesi, Stefano | Dalton, James | Smith, Mark (International Union for Conservation of Nature (IUCN), Switzerland)

12:20 A holistic approach towards water management – Capacity Development for IWRM in the Western Ukraine Leidel, Marco (University of Technology Dreaden, Germany) | Niemann, Stef-

fen | Hagemann, Nina (Helmholtz Centre for Environmental Research – UFZ. Germany)

12:35 Capacity Development in Integrated Water Resources Management: Lessons learnt in BMBF-funded projects Niemann, Steffen (Helmholtz Centre for Environmental Research – UFZ, Germany)

12:50 Discussion and wrap-up of the session



Session C-1 (SMA) SMART Project – From data acquisition to the implementation of IWRM technologies

Conveners: Heinz Hoetzl (*Karlsruhe Institute of Technology KIT, Germany*) | Roland A. Mueller (*Helmholtz Centre for Environmental Research – UFZ, Germany*)

Chair: Heinz Hoetzl (Karlsruhe Institute of Technology KIT, Germany)

The BMBF-IWRM project "SMART" on the Lower Jordan Basin started in 2006 with data acquisition and conversion of adapted technologies for the improved utilization of water resources in the region. At present, the SMART project focuses on the further development, demonstration and pilot implementation of innovative concepts and technologies. The scarce water resources of the Lower Jordan Basin are exploited by Palestinian, Israeli and Jordanian authorities, resulting in high conflict potential. Due to extreme overexploitation of natural resources and the transboundary condition of the region different water strategies and concepts were evaluated and ranked by MCA based on a standard set of social, economic and environmental decision criteria, defined in close cooperation with local stakeholders and decision makers. In order to improve the availability of the water on the base of existing resources, SMART is concentrating on technologies to save floodwater, reuse of wastewater and desalination of local brackish water resources. In addition, tools are developed to support stakeholders with knowledge based decision systems suitable for planning of implementation measures and detailed economic analysis of different water resource management strategies. The session will give an overview on the actual SMART activities and the achieved results.

Room 3 | 11:30-13:00 h

- 11:30 Welcome and introduction to the session Jordanian Ministry of Water and Irrigation
- 11:45 Concept towards Integrated Management of Water Resources in the Lower Jordan Valley: Case Study Auja, West-Bank Rusteberg, Bernd (University of Goettingen, Germany) | Tamimi, Abed Rahman (Palestinian Hydrology Group) | Rahman, Mohammad Aziz (University of Goettingen, Germany) | Marei, Amer (University of Al-Quds, Israel) | Jarrar, Ayman (Palestinian Water Authority) | Guttman, Joseph (Mekorot – Israel National Water Company, Israel)
- 12:00 Decentralized waste water treatment in arid areas and options for a large scale implementation in Jordan Müller, Roland A. | Cardona, Jaime (Helmholtz Centre For Environmental Research – UFZ, Germany) | Subah, Ali (MWI Ministry of Water and Irrigation, Jordan) | Abbassi, Bassim (Al Balqa Applied Technical University, Jordan) | van Afferden, Manfred (Helmholtz Centre For Environmental Research – UFZ, Germany)
- 12:15 Consideration of emerging pollutants in groundwater based reuse concepts

Tiehm, Andreas | Schmidt, Natalie | Lipp, Pia | Zawadsky, Claudia (*Water Technology Center, Germany*) | Marei, Amer (*Al-Quds University of Jerusalem*) | Seder, Nayef (*Jordan Valley Authority, Jordan*) | Ghanem, Marwan (*Palestinian Hydrology Group*) | Zemann, Moritz (*Karlsruhe Institute of Technology KIT, Germany*) | Wolf, Leif (*CSIRO, Australia*)

^{12:30} Performance, impact and ranking of IWRM strategies in the Jordan Valley

Wolff, Heinz-Peter (QUASIR, Germany) | Subah, Ali (Ministry of Water and Irrigation, Jordan (MWI)) | Guttman, Joseph (Mekorot National Water Company, Israel) | Tamimi, Abdelrahman (Palestinian Hydrology Group (PHG)) | Bensabat, Jacob (Environmental & Water Resources Engineering Ltd. (EWRE), Israel) | Jarrar, Ayman (Palestinian Water Authority (PWA)) | Salman, Amer | Karablieh, Emad (University of Jordan)

12:45 SMART IWRM 2.0 at the Lower Jordan River – Reviewing models, results and uptake from large scale integrated water resources research

Wolf, Leif (CSIRO, Australia) | Bensabat, Jacob (Environmental & Water Resources Engineering Ltd. (EWRE), Israel) | Riepl, David (Karlsruhe Institute of Technology KIT, Germany) | Guttman, Joseph (Mekorot National Water Company, Israel) | Wolff, Heinz-Peter (QUASIR, Germany) | Jarrar, Aiman (PWA) | Mueller, Roland A. (Helmholtz Centre For Environmental Research – UFZ, Germany) | Sauter, Martin (University of Goettingen, Germany) | Tamimi, Abdelrahman (Palestinian Hydrology Group (PHG))

Session D-1 (IND) Water management indicators at different scales

Chair: Peter Koefoed Bjørnsen (UNEP-DHI Centre for Water and Environment, Denmark)

A variety of indicators has been developed during the last decades to assess water quantity and quality status, vulnerability and threats at catchment and global scales. Water quality indicators and water management indicators are indispensable to water managers and policy-makers and have received considerable attention of the public. Accordingly, the sets of indicators may be classified according to their main purpose: (1) the assessment of the status of water resources, (2) the performance of water management and (3) the efficiency of environmental improvement. Water management indicators are applied at various scales ranging from the assessment of individual measures to governance indicators over regional, national and global scales. This session aims at the discussion on key water indicators for different purposes. The following questions will be addressed:

- Are we using the right indicators for core management decisions?
- How to improve consistency between different types of indicators?
- Can indicators be merged towards meaningful indices including scoring and weighing?

Room 4 | 11:30-13:00 h

11:30 Monitoring river hydromorphology in transition countries – strengths and weaknesses of a desk-based approach in the Ukraine

Scheifhacken, Nicole | Truemper, Johanna | Colbatz, Kira | Amatya, Sandesh | Berendonk, Thomas U. | Schanze, Jochen (University of Technology Dresden, Germany)

^{11:45} Classification of Water Bodies including Sustainable Flood Retention Basins (SFRB)

Yang, Qinli (University of Edinburgh, UK) | Shao, Junming (University of Munich, Germany) | Scholz, Miklas (University of Salford, UK)

^{12:00} Is the 'good ecological status' a good indicator to assess effective river basin management?

Völker, Jeanette | Richter, Sandra | Borchardt, Dietrich (Helmholtz Centre for Environmental Research – UFZ, Germany) | Mohaupt, Volker (Umweltbundesamt, Germany)

^{12:15} Evaluation of Small-Scale Irrigation and Water User Association Interventions in Eastern Madagascar: A Comparison of Qualitative Strategies

Johnson, Levi (SupAgro Montpellier and Universidad Politecnica de Madrid, Spain) | Bourgeois, Robin (SupAgro Montpellier) | Diaz-Puente, Jose Maria (Polytechnical University of Madrid, Spain)

- 12:30 Baseline Indicators to Support Decision Making in Sanitation, Case Study: Integrated Water Resources Management Project in Rural Karst Area of Gunung Kidul, Java, Indonesia Lehmann, Annekatrin, *speaker (Karlsruhe Institute of Technology KIT, Germany)* | Nayono, Suwartanti | Lehn, Helmut | Kopfmueller, Juergen (Karlsruhe Institute of Technology KIT, Germany) | Londong, Joerg (Bauhaus-University of Weimar, Germany)
- 12:45 Attributiveness of a material flow analysis model for integrated water resources assessment under data scarce conditions Helm, Bjoern | Terekhanova, Tatyana | Traenckner, Jens | (University of Technology Dresden, Germany) | Venohr, Markus (Leibniz IGB, Germany)

Session E-1 (CHIN) IWRM implementation in China, comparison and experiences of a top-down and a bottom-up approach

Conveners: Gregor Ollesch (Helmholtz Centre for Environmental Research – UFZ, Germany) | Frank Wechsung (Potsdam Institute for Climate Impact Research, Germany)

Chair: Gregor Ollesch (Helmholtz Centre for Environmental Research – UFZ, Germany

The Guanting and Miyun Reservoirs are keystones for supplying fresh water to the Beijing metropolitan region and neighboring provinces. However, the function of both reservoirs has recently declined due to climatic conditions and overexploitation of the water resources. Inadequate management is one of the main reasons for the lack of sustained recent and future water supply. BMBF and MOST have initiated two projects for the region that focus on managing these reservoirs. The projects vary in scientific approach and intention of IWRM implementation. The "Guanting Project" aims to ensure a sustainable water and land use management by taking into account the climatic, ecological and economic conditions in the region. In contrast, the "Miyun Project" follows a scaled monitoring approach as a basis for modeling and demonstration projects on a local level. This special session aims to give an overview of the two projects, to compare the top down with the bottom up approach and to discuss the potential success of these different IWRM strategies under Chinese conditions.

Room 5 | 11:30-13:00 h

^{11:30} A model chain for water-related scenario simulations providing management support in the Guanting basin

Wechsung, Frank | Conradt, Tobias (Potsdam Institute for Climate Impact Research – PIK, Germany)

^{11:45} Monitoring and modelling concept for the Miyun catchment area – first results

Ollesch, Gregor | Meissner, Ralph (Helmholtz Centre for Environmental Research – UFZ, Germany) | Duan, Shuhuai | Bingjun, Lu (Beijing Soil and Water Conservation Center, China)

12:00 Mesoscale nutrient balancing and decision support in the Miyun catchment area Gebel, Micha | Halbfass, Stefan (GALF bR, Germany) | Wang, Xiaoyan

Gebel, Micha | Halbfass, Stefan (GALF bR, Germany) | Wang, Xiaoyar (Capital Normal University, China)

12:15 Model-based water management in the Guanting river basin – possibilities and limits Kaden, Stefan | Kaltofen, Michael | Stäglich, Ines (DHI-WASY GmbH,

Germany)

12:30 Technical approach for decentralized wastewater treatment concepts in rural areas in China Kröger, Christina (University of Rostock, Germany) | Han, Fugui (Miyun Soil

and Water Conservation Center, Beijing, China) | Engelke, Paul (University of Rostock, Germany)

12:45 Discussion

13:00 Lunch (1 h)

Session A-2 (WC) Water resources in changing environments: Case studies with management implications

Chair: Alan Jenkins (Centre for Ecology & Hydrology, Wallingford, Great Britain)

Water is an essential natural resource that shapes landscapes and is vital for ecosystem functioning as well as for human well-being. At the same time, water is a resource under considerable pressure. Alterations in the hydrologic regime due to climatic, demographic and economic changes have serious consequences for people and the environment as overuse and contamination are stressing freshwater resources in the terrestrial water cycle. Considering this, both sessions under the topic "Water resources in changing environments" deal with the potential of quantification methods, especially modelling studies, to support water resources and water use estimation, management evaluation and finally decision making under changing environmental and/or socio-economic conditions. Session A-1 concentrates on large scale and conceptual studies whereas session A-2 gives examples of selected case studies from different parts of the world.

Room 1 | 14:00-15:30 h

14:00	Managing environmental water in the Murray-Darling Basin in Australia Overton, lan (CSIRO, Australia)
14:15	Modelling the impact of Global Change on the hydrological system of the Aral Sea basin Aus der Beek, Tim Floerke, Martina Kynast, Ellen (Kassel University, Germany)
14:30	Modelling the effect of land use dynamics on water resources in arid and semi arid regions using a physically based spatially distributed model Alkhoury, William (<i>Georg-August Universtiy of Goettingen, Germany</i>) Abu Saadah, Muath (<i>Palestinian Hydrology Group</i>) Sauter, Martin (<i>Georg-August Universtiy of Goettingen, Germany</i>) Salameh, Elias (<i>University of Jordan</i>)
14:45	Fine sediment source, fate and impact: integrated study at the Kharaa catchment (Mongolia) Hartwig, Melanie Theuring, Philipp Rode, Michael Borchardt, Dietrich (Helmholtz Centre for Environmental Research – UFZ, Germany)
15:00	Drivers of Change in River Deltas Kuenzer, Claudia (Earth Observation Centre of the German Aerospace Centre, DLR, Germany) Renaud, Fabrice (United Nations University, Ger- many) Huth, Juliane (Earth Observation Centre of the German Aerospace Centre, DLR, Germany) Liu, Gaohuan (Institute of Geographic Sciences and Natural Resources Research, JGSNRR, China) Vo, Khac Tri (Southern

15:15 Rewarding ecosystem service stewards in the context of water sector reforms: the case of Sasumua watershed, Kenya Gathenya, John (*World Agroforestry Centre, Kenya*) | Mwangi, John | Mwangi, Hosea (*Jomo Kenyatta University of Agriculture and Technology* (*JKUAT*)) | Swallow, Brent | Yatich, Thomas | Vagen, Tor-G. | Onyango, Leah | Nyabenge, Meshack | Catacutan, Delia (*World Agroforestry Centre, Kenya*)

Institute of Water Resources Research, SIWRR, Vietnam) | Dech, Stefan

(Earth Observation Centre of the German Aerospace Centre, DLR, Germany)

12 October

Session B-2 (CD) Capacity Development for Water Management

Conveners: German Association for Water, Wastewater and Waste – DWA

Chair: Ruediger Heidebrecht (*Head of Department Training and International Cooperation, DWA, Hennef, Germany*)



The German Association for Water, Wastewater and Waste – DWA is active in international water trainings and education in co-operation with international partners and competence centres. As technical-scientific association DWA is closely linked in its activities to the German Water Partnership and its members from the private sector, universities and research centres.

These water sector activities in Capacity Development aim at the development of individual knowledge, good organisational structures and institutional setups. The competences cover vocational and educational trainings, the support of governmental and non-governmental organisations and project engagement together with German Development cooperation – GIZ. This session will highlight examples of successful international cooperation strategies. The core questions during this session to be discussed are:

- How to meet different needs in training and education during public and private sector engagement?
- How to link Capacity Development activities from research institutions, technical organizations, the private sector and international development organizations in a sustainable way?
- What are the main lessons learnt from international co-operation in training and education?

Room 2 | 14:00–15:30 h

14:00 The Role of the Private Sector in the international Capacity Development

Röstel, Gunda (CEO Stadtentwässerung Dresden, German Water Partnership – Chair of CD Working Group, Germany)

^{14:15} Technical Associations as drivers for Institutional Development in the Water Sector

Knitschky, Roland (DWA in cooperation with GIZ, Hennef, Germany)

14:30 Experiences from the bilateral IWRM Master Courses – fresh brains for new ways

Ribbe, Lars (Cologne University of Applied Science, Cologne, Germany)

- 14:45 Primary school education as a basic support tool for the implementation of Jordan's Water Strategy 2009-2022 van Afferden, Manfred (Helmholtz Centre for Environmental Research – UFZ, Germany) | Goedert, Ruth | Cardona, Jaime (BDZ-Training and Demonstration Centre for Decentralized Sewage Treatment, Germany) | Abbassi, Bassim (Al-Balqa' Applied University, Jordan) | Uleimat, Ahmed (Ministry of Water and Irrigation, Jordan) | Ali, Wasim (Karlsruhe Institute of Technology KIT, Germany) | Müller, Roland A. (Helmholtz Centre for
 - Environmental Research UFZ, Germany)

15:00 Discussion

15:30 Coffee break (0.5 h) | IWRM Cinema in Room 6

Session C-2 (GW) Groundwater in IWRM – Adapted management of stressed ecosystems for improved resilience

Convener: Leif Wolf (CSIRO, Australia)

Chair: Leif Wolf (CSIRO, Australia)

In an environment of change and uncertainty, in terms of demographics, climate and technology, the resilience of water supply systems gains increasing importance. Groundwater resources provide larger resilience compared with other waters resources in a diversified supply mix. Their very long residence times (e.g. 10-10,000 years), natural purification potential and large storage potential are providing a resource which can also be tapped in emergency situations for substantial durations. However, in many arid and semi-arid environments, this natural buffer has been over-exploited systematically. In the last decades, the limitations however became obvious in many systems: wells falling dry or being subject to salinisation, loss of environmental flow in river systems and loss of ecosystem functions. This session is about how to manage groundwater resources in a way that has a maximum benefit for the live lihoods of the people in the area and how to be pro-active in terms of groundwater protection. In contrast to many past water planning exercises, groundwater management strategies need to consider ecosystem services and environmental flows, especially in consideration of surface-groundwater interaction. This session targets case studies, management approaches and innovative tools.

Room 3 | 14:00-15:30 h

- 14:00 Irrigated agriculture and groundwater resources Towards a more integrated vision and sustainable relationship Foster, Stephen (Senior GWP Adviser and IAH Immediate Past President, Great Britain)
- 14:15 Impacts of over-exploitation of groundwater resources in semi-arid areas: application to the Lower Jordan Rift Valley Guttman, Joseph (*Mekorot Water Company, Israel*) | Flexer, Akiva (*Tel-Aviv University, Israel*) | Bensabat, Jacob (*EWRE Itd., Israel*) | Yellin-Dror, Annat (*Tel-Aviv University, Israel*)
- 14:30 Water resources management in karst aquifers a concept for the Lower Jordan Valley? Sauter, Martin | Schmidt, Sebastian | Geyer, Tobias (University of Goet-

Sauter, Martin | Schmidt, Sebastian | Geyer, Toblas (University of Goettingen, Germany)

14:45 A Groundwater perspective on river basin management plan, for a central region of Portugal

Mendes, Maria Paula | Ribeiro, Luís | Nascimento, João | Melo, Teresa (Instituto Superior Técnico, Portugal)

15:00 Informal groundwater markets and its impact on agriculture in Eastern Dry Zone of Karnataka, India Arahalli Venkataronappa, Manjunatha | Ernst August, Nuppenau (Justus

Liebig University of Giessen, Germany)

15:15 Alternatives for urban wastes disposition avoiding aquifer contamination. Perspectives for developing countries Mejía Gómez, Juan Angel (*Guanajuato University, Mexico*)

12 October

Session D-2 (GIZ) Research for development – IWRM instruments for development cooperation

Convener: Katja Huebschen & Philipp Magiera (Deutsche Gesellschaft für Internationale Zusammenarbeit – GIZ, Germany)



Chair: Philipp Magiera (GIZ, Germany)

Since the introduction of the IWRM concept, it has been adopted in the development discourse as one approach to tackle the challenges many developing countries are facing regarding their water situation and management. But there are stumbling stones on the way to a more integrated water resources management. Development cooperation organisations working on water management issues worldwide use a wide range of advisory services, processes and instruments in helping partner countries to improve their water management. This session focuses on the transfer of research results into sustainable solutions for practical water management along the following lines:

- Which tools and instruments have been successfully used to manage water better and more sustainable?
- What is the scaling up potential of these tools and instruments?
- Which prerequisites are necessary for their use?
- How can scientific tools and instruments be coupled with the work of development cooperation agencies?

Room 4 | 14:00-15:30

^{14:00} Integration for sustainability: IWRM in development cooperation

Hübschen, Katja | Magiera, Philipp | Ziegler, Doerte (GIZ, Germany)

- 14:15 Transitioning from unplanned to planned wastewater irrigation in developing countries through an integrated approach Scheierling, Susanne (World Bank, USA), Bartone, Carl (World Bank, retired, USA)
- ^{14:30} Conditions for institutional durability of Payment for Watershed Ecosystem Services. Case study analysis from Pradera, Colombia and Munich, Germany

Muñoz-Escobar, Marcela | Pineda-Weffer, Camilo | Hollaender, Robert (University of Leipzig, Germany)

14:45 Participatory Irrigation Management in Northern Ghana: From Institutional Panacea to Reality Check Acheampong, Ernest (International Water Management Institute, West

Acheampong, Ernest (international water management institute, west Africa Ghana)

^{15:00} Chances and limits of the concept of IWRM in projects for water supply and sanitation– Experiences of consulting in Development Cooperation

Obermann, Matthias | Ditzel, Philipp | Vestner, Richard (Dorsch International Consultants GmbH, Germany)

15:15 Discussion

15:30 Coffee break (0.5 h) | IWRM Cinema in Room 6

Session E-2 (IB) Bridging the gap – From research to implementation

Conveners: And reas Suthhof & Stephanie Lorek (International Bureau of the German Ministry of Education and Research, Germany)

Chair: Andreas Suthhof (International Bureau of the German Ministry of Education and Research, Germany)

Innovative technical and conceptual solutions developed by R&D projects are often needed to address the particular challenges in the water sector in OECD as well as developing and transition countries. To practically contribute to sustainability objectives, R&D projects may often need to look beyond their "proof of concept" dimension and provide scientifically validated elements of response to the "real life" bottlenecks expected to be faced by scaling up pilot systems developed under R&D conditions. To succeed, a mutually reinforcing cooperation of academics and business as well as governmental authorities of the partner country plays a crucial role. Typical implementation gaps to be bridged for the up-scaling and dissemination of promising water related R&D projects results are: Access to finance for investment, appropriate institutional and legal framework conditions for sustainable operation as well as adequate competences of human resources for development, management and operation. This session has the objective to inform interested parties of the issues of implementation in IWRM R&D projects context and the financing aspects of implementing IWRM.

Room 5 | 14:00-15:30

- 14:00 Realistic Strategies for Water Sector Financing in Developing and Transitional Countries Boerkey, Peter (Organisation for Economic Co-operation and Development, OECD, France)
 14:15 Water Projects in German Development Cooperation – Financing matters! Zeeb, Stefan (KfW Development Finance, Germany)
 14:30 The Global Climate Destinger Finance
- 14:30 The Global Climate Partnership Funds GCPF for Water Finance in BRICS+V and other countries Strelnikova, Lada (Deutsche Bank AG, Germany)
- 14:45 "Assistance for Implementation" (AIM) for R&D projects: Lessons learned Suthhof, Andreas (International Bureau of BMBF, Bonn, Germany) &

Bergeron, Philippe (International Consultant, Germany)

- 15:00 Case study: Need versus Demand for Investment Finance. Lessons from AKIZ, Vietnam Rudolph, Karl-Ulrich (Institute of Environmental Engineering and Management, Germany)
- 15:15 A business driven approach for sustainable IWRM and local economic development Block, Thomas (GWFA - Global Water Franchise Agency GmbH, Germany) | Harbach, Michael (Institute of Environmental Engineering and Management, Germany)
- 15:30 Coffee break (0.5 h) | IWRM Cinema in Room 6



reflection

Perspective

oer 09:00-11:00 h | 16:00-18:00 h

Chair: Peter Krebs (University of Technology Dresden, Germany)

Sustainability, IWRM and Water Resources - A critical

Global Environmental Change and Integral Water Resource Management: Lessons Learnt from a Mexican

Christian Leibundgut (University of Freiburg, Germany)

Úrsula Oswald Spring (National University of Mexico)

Plenary **Keynote lectures**

Grand hall

09:00



09:30



10:00

10:30



GROUNDWATER GOVERNANCE: Understanding the resource and proposing implementable management measures

Héctor Garduño (International Consultant, IAH Member, Mexico) Foster, Stephen (Senior GWP Adviser and IAH Immediate Past President, Great Britain) | Tuinhof, Albert (Senior Partner, Acacia Institute, Chairman of the IAH Netherlands National Committee, Netherlands)

The Theoretical Foundation of Environmental Decision Support and its Application to River Management Peter Reichert (EAWAG, Switzerland)

11:30	Parallel sessions (Rooms 1–6)
13:00	Lunch
14:00	Parallel sessions (Rooms 1–6)
15:30	Coffee break
16:00	Second poster session (terrace level with foyer)
17:00	Reports by rapporteurs
17:45	Closing remarks
18:00	End of conference

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Session A-3 (TEC) Technologies and implementation of IWRM: Agriculture, scenario-based planning & network rehabilitation

Chair: Manfred van Afferden (Helmholtz Centre for Environmental Research – UFZ, Germany)

This session aims to identify and evaluate resource effective and promising technologies with a twofold objective: to meet growing needs and demands for water and to limit the negative consequences from a rapid urban expansion. The session highlights the following questions:

- What kind of new technologies are available, or could be made available, that will enable authorities and people responsible for urban water services to meet growing demands?
- What is the appropriate (socio-economic, technical, and governance) framing for a successful implementation of new technologies?
- At what scale can these technologies operate, at what cost?
- How to upscale pilot approaches?
- What about reliability in different contexts?

Room 1 | 11:30-13:00 h

^{11:30} Adapting to Water Scarcity - Constraints and Opportunities for Improving Irrigation Management in Khorezm, Uzbekistan

Tischbein, Bernhard | Manschadi, Ahmad (University of Bonn, Germany) | Conrad, Christopher (University of Wuerzburg, Germany) |Hornidge, Anna-Katharina | Bhaduri, Anik | UI Hassan, Mehmood | Lamers, John P.L. | Vlek, Paul L.G. (University of Bonn, Germany)

11:45 Transformation Business Practices can improve hydrology of Basin

Dhar, Murli (WWF, India)

- 12:00 Cyclic water use: towards an efficient and sustainable future Grover, Aruna Ramani (School of Planning and Architecture, New Delhi, India)
- 12:15 Integrated water resources management through scenarios based on using alternative water resources, Case study: Gavkhooni basin

Tavakol, Hasan (University of Tehran, Iran) | Goharian, Erfan (University of Tehran, Iran) | Sahaleh, Amir Sohrab (EPFL – Ecole Polytechnique Fédérale de Lausanne, Switzerland)

- 12:30 Results of Pilot Initiatives in Rehabilitation of a Deteriorated Canal Network in Coastal Region of Kerala, India Namboodiri, Madhavan (Association Réseau Experts Environnement Développement, Nancy, France)
- 12:45 Sustainable Drinking Water Supply as Part of IWRM Concept for Brasília DF, Brazil

Uhl, Wolfgang | Vasyukova, Ekaterina (University of Technology Dresden, Germany) | Braga, Fuad | Neder, Klaus (CAESB, Brazil)

13:00 Lunch (1 h)

Session B-3 (DSS) Information and decision support systems for improved knowledge management I

Chair: Bernd Klauer (Helmholtz Centre for Environmental Research – UFZ, Germany)

Decision Support Systems (DSS) help structuring and solving decision problems in IWRM. They are designed to assist decision makers to identify relevant information for the decision problem, to recognize the impact of different management options and to evaluate alternatives. DSS support efficient water management approaches and make decision processes transparent. Instruments for decision support include hydrological and economic models, water management scenarios, databases and geographic information systems. In IWRM research projects, various tools have been developed for diverse disciplines and interdisciplinary issues and will be presented during the session: the optimization of complex processes in farm management and agricultural systems, concepts for sustainable boat tourism, the cost-effective restoration of rivers and the management of public drinking water supply by an integrated management of water reservoirs. During the sessions, critical knowledge gaps in demand-oriented planning tools for IWRM implementation will be discussed.

Room 2 | 11:30-13:00 h

- 11:30 Planning and decision support tools for Integrated Water Resources Management in three river basins in Vietnam Stolpe, Harro | Borgmann, Andreas | Greassidis, Sandra | Jaschinski, Sylvia | Jolk, Christian | Zindler, Bjoern (*Ruhr University of Bochum, Germany*)
- 11:45 IWRM decision support with Material Flow Analysis: consideration of Urban System input Terekhanova, Tatyana | Helm, Bjoern | Traenckner, Jens (University of

Technology Dresden, Germany)

- 12:00 Interlinked Hydrological and Economic Modeling to Support Integrated Water Resources Management Harbach, Michael | Rudolph, Karl-Ulrich | Bombeck, Markus (Institute of Environmental Engineering and Management, Germany)
- 12:15 Analyzing large scale water management strategies in the Jordan River Basin using the WEAP tool Bonzi, Christopher (University of Tuebingen, Germany) | Hoff, Holger | Joyce, Brian (Stockholm Environment Institute, Sweden) | Tielboerger, Katja (University of Tuebingen, Germany)
- 12:30 Making informed decisions a collaborative and knowledge based IWRM planning exercise in Wadi Shueib, Jordan Riepl, David (Karlsruhe Institute of Technology KIT, Germany) | Wolf, Leif (CSIRO Land & Water, Australia) | Kaempgen, Benedikt | Hoetzl, Heinz (Karlsruhe Institute of Technology – KIT, Germany)
- 12:45 How to provide and transmit project outcomes to support decision makers in the long run? Approach and instruments of the CuveWaters project Roehrig, Julia | Liehr, Stefan (Institute for Social-Ecological Research – ISOE, Germany)

Session C-3 (GW) Adapted Groundwater Management: Advanced use of models and decision support systems

Chair: Stefan Geyer (Helmholtz Centre for Environmental Research – UFZ, Germany)

Groundwater provides for much of the water used in irrigation and industrial production and is of great importance for drinking water supply. Worldwide, however, groundwater resources are experiencing over-abstraction and an increasing threat of pollution coming from urbanisation, industrial development, agricultural activities and mining enterprises. In some intensively utilized aquifers, over-abstraction and the lowering of the water-table causes the loss of ecological functions of groundwater that is needed to sustain associated aquatic, terrestrial and coastal ecosystems. And for others, ecosystems are threatened by deterioration in groundwater quality due to diffuse pollution. Greater awareness and efforts are needed to balance the exploitation of groundwater with the increasing demands of water and land uses that can pose a threat to groundwater availability and quality. This session will address modelling and decisions support tools for sustainable groundwater management strategies. The following issues will be discussed:

- Can groundwater management strategies be optimized by targeted modelling concepts?
- How to adequately address the linkages of surface and groundwater in IWRM?
- How to improve the management of surface water and groundwater in the long-term perspective and what aspects need to be integrated?

Room 3 | 11:30-13:00 h

^{11:30} WEAP-MODFLOW Decision Support System for IWRM – Optimization of Groundwater Abstraction Rates

Massmann, Jobst (Federal Institute for Geosciences and Natural Resources – BGR, Germany) | Nouiri, Issam (National Institute of Agronomy of Tunisia (INAT), Tunis, Tunisia) | Schelkes, Klaus (Federal Institute for Geosciences and Natural Resources (BGR), Germany) | Droubi, Abdallah (Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD), Syria)

- 11:45 An expert system coupled to a groundwater flow model for real-time well field management Marti, Beatrice | Bauser, Gero | *Stauffer, Fritz (ETH Zurich, Switzerland)* | Kuhlmann, Uli (*TK Consult AG, Switzerland*) | Kaiser, Hans-Peter (*Water Works Zurich, Switzerland*) | Kinzelbach, Wolfgang (*ETH Zurich, Switzerland*)
- ^{12:00} Sustainable management of a coupled groundwater-agriculture hydrosystem using multicriterial simulation based optimisation

Grundmann, Jens | Schuetze, Niels | Lennartz, Franz (University of Technology Dresden, Germany)

- 12:15 Management of limited groundwater resources in Australia: new models and approaches for target water levels, sustainable yield, groundwater allocations and large scale reuse Wolf, Leif | Moore, Catherine | Cresswell, Richard (CSIRO, Australia) | Gallagher, Mark (Australia)
- 12:30 Mass discharge modeling in groundwater based on passive flux meter data: evaluation of calculation methods and tools Bronders, Jan (Flemish Institute for Technological Research VITO, Belgium) | Verreydt, Goedele (VITO, Artesis, Belgium) | Van Keer, Ilse | Diels, Ludo (VITO, Belgium) | Vanderauwera, Paul (Artesis, Belgium)
- 12:45 Geophysical Investigation for Groundwater Quality and Quantity in the Jordan Valley Al-Zoubi, Abdallah (Al Balga Applied University, Jordan)

13:00 Lunch (1 h)

Session D-3 (GOV)

The institutionalisation of IWRM in developing and emerging countries

Conveners: Ines Dombrowsky (German Development Institute – DIE, Bonn, Germany) | Nina Hagemann | Lena Horlemann (Helmholtz Centre for Environmental Research – UFZ, Leipzig, Germany), Sabrina Kirschke (Helmholtz Centre for Environmental Research – UFZ, Magdeburg, Germany), Andreas Thiel (Humboldt University of Berlin, Germany)

Chair: Timothy Moss (*Leibniz Institute for Regional Development and Structural Planning, Erkner, Germany*)

In 2002, most UN member countries agreed to introduce Integrated Water Resources Management (IWRM) plans by the year 2005. IWRM often requires a reform of governance of water implying a rearrangement – or rescaling – of current institutional structures at different levels of organization. This process simultaneously creates and aims at solving problems of institutional fit and interplay, especially when it comes to the introduction of institutions tailored to river basins. This special session aims at presenting and comparing different case studies in order to illustrate processes of IWRM-institutionalisation in developing and emerging countries and to draw attention to its problems and potentials. The central questions to be addressed will be:

- What are drivers of these IWRM-institutionalisation approaches?
- How do developing and emerging countries cope with the particular challenges and scale problems of IWRM?
- What kind of scalar approaches for solving water problems emerged?
- And, under what contextual circumstances does the introduction of IWRM coupled with river basin management provide an adequate solution, respectively what circumstances hinder successful introduction of IWRM?

Room 4 | 11:30-13:00 h

^{11:30} River Basin Management in post-socialist countries – a comparison of Mongolia and Ukraine

Dombrowsky, Ines (German Development Institute – DIE, Bonn, Germany) | Horlemann, Lena | Hagemann, Nina (Helmholtz Centre for Environmental Research – UFZ, Germany)

- 11:45 Lessons from reforms of water governance: what can non-EU countries learn from water management reforms in Europe? Thiel, Andreas (Humboldt University of Berlin, Germany) | Dombrowsky, Ines (German Development Institute – DIE, Bonn, Germany) | Horlemann, Lena (Helmholtz Centre for Environmental Research – UFZ, Germany)
- ^{12:00} Institutional constraints and opportunities to amend structural deficits in river hydromorphology and quality in the Western Bug catchment (Ukraine)

Hagemann, Nina (Helmholtz Centre for Environmental Research – UFZ, Germany) | Ertel, Anna-Maria | Truemper, Johanna | (University of Technology Dresden, Germany) | Manturova, Oksana (National Academy of Science, Kiev, Ukraine) | Kovalchuk, Oksana (Lviv Polytechnic National University, Ukraine) | Scheifhacken, Nicole (University of Technology Dresden, Germany)

- 12:15 An existence on the political sidetrack? The institutional isolation of donor organizations in Jordanian Hydropolitics Bonn, Thomas (University of Heidelberg, Germany)
- ^{12:30} Law and Policy, Actors and Institutions in Water Governance in Protected Areas in Vietnam, Costa Rica, India and South Africa

Gooch, Geoffrey (Linkoepings University, Sweden) | Rieu-Clarke, Alistair (University of Dundee, Great Britain)

12:45 Assessing Water governance, understanding the context and functioning of the water sector Vallee, Domitille (Food and Agricultural Organisation (FAO), Italy) | Rey,

Vallee, Domitille (Food and Agricultural Organisation (FAO), Italy) | Rey, Jacques | Mogbante, Dam (independent experts)



Session E-3 (ECO) Economic instruments in water resources management

Chair: Karl-Ulrich Rudolph (Institute of Environmental Engineering and Management, Witten/Herdecke, Germany)

The provision of clean drinking water and adequate sanitation is necessary to protect human health and the environment. Annual financial flows into the water sector as a whole need to be increased, but no single source will be large enough to fill this gap by itself. Various sources of funding, both traditional and innovative exist, and the sector needs them all. There is growing consensus that private finance for water projects makes sense not only because of the increased availability of additional funds in a chronically under-funded sector, but because it forces water schemes to be financially efficient and therefore sustainable in the long term. On the other hand, manifold examples for failed privatizations of water service provision are known. The session will raise the following questions:

- How can the financial sector and capital markets become the dynamic sources of sustainable funding for the water sector?
- How can bankability be linked to sustainability in water projects?
- What is the potential contribution of businesses to addressing water management challenges and what are the respective governance arrangements?
- How can water allocation be optimized in the absence of functioning water markets?

Room 5 | 11:30-13:00 h

of Bonn, Germany)

- 11:30 What role does business play in sustainable water resources management? A case study analysis from South Africa Kranz, Nicole (Freie Universität Berlin, Germany)
- 11:45 Economic Assessment of water storage for adaptation to climate change in Sub-Saharan Africa Xenarios, Stefanos | McCartney, Matthew (International Water Management Institute, East Africa & Nile Basin Office, Ethiopia) | Heracles, Polatidis (University of the Aegean, Greece) |Irit, Eguavoen (University
- ^{12:00} The potential of water trade to improve water use efficiencies: a scenario analysis in the Middle Olifants sub-basin of South Africa

Tsegai, Daniel (Center for Development Research – ZEF, Bonn, Germany) | Walter, Teresa (University of Hohenheim, Germany) | Kloos, Julia (Center for Development Research, Germany)

- 12:15 Can hydro-economic river basin models simulate water shadow prices under asymmetric access? Kuhn, Arnim | Britz, Wolfgang (University of Bonn, Germany)
- 12:30 Effectiveness of water demand side policies on Mongolian business users

Zulgerel, Altai (James Cook University, Australia)

12:45 Discussion

13:00 Lunch (1 h)

Session F-1 (TRA) Transdisciplinarity in IWRM Research

Conveners: Solvay Gerke | Anna-Katharina Hornidge | Ahmad M. Manschadi (*Center for Development Research. University of Bonn, Germany)*, Thomas Kluge | Engelbert Schramm (Institute for Social-ecological Resarch, ISOE, Germany)

Chair: Anna-Katharina Hornidge (Center for Development Research (ZEF), University of Bonn, Germany)

Integrated Water Resources Management (IWRM) research is characterized by (a) addressing highly complex real-life problems at the interface of society-nature interaction and (b) the clear aim and mandate to offer practically applicable solutions to natural resources management. Both characteristics, the high complexity of the addressed real-life problem as well as the aim to solve it, call for the research to take a system perspective that includes different academic disciplines as well as a high degree of insights into local lifeworlds (Berger/Luckmann, 1966). Thus, IWRM research is commonly identified as requiring transdisciplinary research approaches that incorporate local stakeholders and thus for the linking of different types of knowledge. Pohl and Hirsch Hadorn (2007) in particular emphasize the integration of systems, target and transformation knowledge, which often poses challenges with regard to the cooperation across disciplines as well as between science and local decision-makers/stakeholders. For coping with these and fostering the benefits of transdisciplinarity in natural resources governance related research, Mollinga (2010) suggests the employment of his boundary-crossing framework. These different conceptual approaches, as well as empirical experiences from IWRM-related research stand at the thematic focus of this panel.

Room 6 | 11:30-13:00 h

^{11:30} Crossing boundaries – contextualizing science: an overview of transdisciplinary research

Vilsmaier, Ulli (University of Frankfurt, Germany)

^{11:50} Transdisciplinarity in IWRM research: Experiences and problems

Schramm, Engelbert (Institute for Social-Ecological Resarch, ISOE, Frankfurt a.M., Germany)

12:10 Transdisciplinarity and its Challenges: The Integration of heterogenous Knowledge and its Universalism Krohn, Wolfgang (University of Bielefeld, Germany)

12:15 Questions, answers and discussion

Session A-4 (TEC) Technologies and implementation of IWRM: Alternative water resources and integrated sanitation planning

Chair: Dayanand Panse (Joint Secretary General, Indian Water Works Association, Mumbai, India)

The demand for clean and safe water continues to increase, as does the cost for meeting these increased demands. We must be smarter in how we utilize this precious resource. This session will focus on the future of water resources management, water reuse and desalination, as well as infrastructure and treatment improvements in water supply and wastewater sectors. Presentations and discussions will inform the audience about case studies in both developed and developing countries, and promote thinking on how water supply and wastewater treatment concepts can be improved and how appropriate service to the end users could be provided.

Room 1 | 14:00-15:30 h

14:00	Sustainable water resources management in fast developing urban areas – example from Hanoi, Vietnam Stefan, Catalin (University of Technology Dresden, Germany) Froehlich, Tim Fuchs, Lothar (Institut für technisch-wissenschaftliche Hydrologie GmbH, Germany) Werner, Peter (University of Technology Dresden, Germany)
14:15	Stakeholder Participation and Capacity Development dur- ing the Construction of Rainwater Harvesting Pilot Plants in Central Northern Namibia Zimmermann, Martin (University of Technology Darmstadt, Germany)
14:30	Development of an appropriate water treatment for the karst region Gunung Kidul, Southern Java, Indonesia Matthies, Kerstin Obst, Ursula (Karlsruhe Institute of Technology KIT, Germany)
14:45	A mathematical approach to find long-term strategies for the implementation of resource orientated sanitation Kaufmann Alves, Inka (University of Kaiserslautern, Germany)
15:00	Improvement in the Sustainability and Managing the Island aquifer using Tidal Response Technique

Singh, Ajay | Singh, V.S. (National Geophysical Reserach Institute – CSIR, Hyderabad, India)

^{15:15} Questions, answers and discussion

15:30 Coffee break (0.5 h) | IWRM Cinema in Room 6

Session B-4 (DSS) Information and decision support systems for improved knowledge management II

Chair: Harro Stolpe (Ruhr University Bochum, Germany)

Decision Support Systems (DSS) help structuring and solving decision problems in IWRM. They are designed to assist decision makers to identify relevant information for the decision problem, to recognize the impact of different management options and to evaluate alternatives. DSS support efficient water management approaches and make decision processes transparent. Instruments for decision support include hydrological and economic models, water management scenarios, databases and geographic information systems. In IWRM research projects, various tools have been developed for diverse disciplines and interdisciplinary issues and will be presented during the session: the optimization of complex processes in farm management and agricultural systems, concepts for sustainable boat tourism, the cost-effective restoration of rivers and the management of public drinking water supply by an integrated management of water reservoirs. During the sessions, critical knowledge gaps in demand-oriented planning tools for IWRM implementation will be discussed.

Room 2 | 14:00–15:30 h

14:00	CROPPAT: A farm level DSS for efficient resources use Barghouthi, Abdul-Hamid (<i>Palestinian Hydrology Group - PHG + Abu Dies</i>)
14:15	Irrigation water management using AQUACROP model Soundharajan, Bankaru Swamy (Indian Institute of Technology Madras, India)
14:30	Decision Support for the Management of Sustainable Boat Tourism Lorenz, Stefan Pusch, Martin (Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB) Germany)
14:45	A Decision Support Procedure for Integrative Management of Dammed Raw Water Reservoirs Slavik, Irene Uhl, Wolfgang Skibinski, Bertram (University of Technology Dresden, Germany) Rolinski, Susanne (PIK, Germany) Voelker, Jeanette (Helmholtz Centre for Environmental Research – UFZ, Germany) Benndorf, Jürgen Petzoldt, Thomas (University of Technology Dresden, Germany)
15:00	Cost-effectiveness in river restoration – spatial allocation of measures by means of the ecological stepping stone concept Bathe, Frauke Klauer, Bernd Schiller, Johannes (Helmholtz Centre for Environmental Research – UFZ, Germany)

^{15:15} Questions, answers and discussion

13 October

Session C-4 (MAR) Managed Aquifer Recharge as tool for the implementation of an Integrated Water Resource Management

Conveners: Gesche Gruetzmacher (Berlin Centre of Competence for Water, Germany), Céline Hervé-Bazin (Water Supply and Sanitation Technology Platform, Brussels, Belgium), IAH-MAR (International Association of Hydrogeologists – Commission on Management of Aquifer Recharge)

Chair: Gesche Gruetzmacher (Berlin Centre of Competence for Water, Germany)

Managed Aquifer Recharge (MAR) comprises a wide variety of systems in which water is intentionally introduced into an aquifer. The objective is i) to store excess water for times of less water availability (especially in arid and semiarid regions), ii) to introduce an (additional) barrier for purification of water for a specific use or iii) to reduce the risk of intrusion of impaired water (e.g. in coastal aquifers). MAR is a possible countermeasure against water scarcity and aquifer over-exploitation that is explicitly mentioned in the EU water framework directive and is already now implemented world wide. This session was initiated by the European Water Supply and Sanitation Technology Platform (WssTP) and will present case studies form India, China, and Israel. The role of MAR for safe-guarding water supplies under different environmental and economical conditions will be emphasised. Different infiltration techniques will be addressed, ranging from riverbank filtration to infiltration basins and injection wells.

Room 3 | 14:00–15:30 h

14:00 Managed Aquifer Recharge as Tool for an Integrated Water Resource Management – Research Needs from the European Perspective

Gruetzmacher, Gesche | Kneppers, A. | Kazner, C. | Zojer, H. (Berlin Centre of Competence for Water, Germany)

14:05 Riverbank filtration as an ecosystem service for human health in India

Sandhu, Cornelius | Grischek, Thomas (University of Applied Sciences Dresden, Germany)

14:00 TECHNEAU: Perspectives for bank filtration as natural drinking water treatment in India

Sprenger, Christoph | Lorenzen, G. | Rustler, M. (Freie Universität Berlin, Germany) | Grützmacher, Gesche (Berlin Centre of Competence for Water, Germany) | Pekdeger, Asaf (Freie Universität Berlin, Germany)

- 14:35 Integrated analyses of MAR techniques in Shandong, China Monninkhoff, Bertram | Kaden, Stefan (DHI-WASY GmbH, Germany)
- 14:50 Planning of Managed Aquifer Recharge (MAR) based on storm water runoff in the Jericho Region, West Bank Rahman, Mohammad Azizur | Rusteberg, Bernd | Sebastian, Schmidt | Annegret, Lutz (University of Goettingen, Germany) | Tamimi, A. Rahman (Palestine Hydrology Group) | Sauter, Martin (University of Goettingen, Germany)
- ^{15:05} RECLAIM WATER Managed aquifer recharge for safe indirect potable reuse

Wintgens, Thomas (University of Applied Sciences of Northwestern Switzerland) | Kazner, Christian | Melin, Thomas (RWTH Aachen University, Germany)

^{15:20} Questions, answers and discussion

15:30 Coffee break (0.5 h) | IWRM Cinema in Room 6

Session D-4 (GOV) Analysing water resources governance under global change conditions

Chair: Ines Dombrowsky (German Development Institute – DIE, Bonn, Germany) | Andreas Thiel (Humboldt University of Berlin, Germany)

Water management under changing conditions, such as climate change and rapid urbanisation require appropriate governance systems. Adaptive approaches to water resources management that are able to respond flexibly are a prerequisite to cope with increasing complexity and uncertainty. In the analysis of water governance structures, we need to address problems of fit, interplay and scale. Furthermore, we need a profound understanding about the functioning and design of governance systems in order to develop them. This session will raise the following questions:

- What kind of criteria and indicators are needed to analyze water governance and performance?
- How should a water governance system be designed in order to be able to cope with complexity and uncertainty?
- What lessons can be learnt from different case studies and how can approaches be transferred across different basins and governance levels?

Room 4 | 14:00–15:30 h

^{14:00} Strengthening Integrated Water Resource Management through institutional analysis: developing an analytical tool for projects and programmes

> Beveridge, Ross | Monsees, Jan | Moss, Timothy (Institute for Regional Development and Structural Planning – IRS, Germany)

- 14:15 Adaptive Water Governance: best practices and lessons learnt from synthesising research in basins around the world Kramer, Annika (Adelphi, Germany) | Pahl-Wostl, Claudia (University of Osnabrueck, Germany) | Nikitina, Elena (EcoPolicy, Russia) | Knieper, Christian (University of Osnabrueck, Germany)
- 14:30 Water conflict? Moving beyond the water-war discourse Aggestam, Karin | Sundell, Anna (University of Lund, Sweden)
- ^{14:45} The water governance challenge: The discrepancy between what is and what should be

Ravnborg, Helle Munk | Funder, Mikkel | Jensen, Kurt Mørck (Danish Institute for International Studies, Denmark)

^{15:00} Factors for success and failure in Integrated Water Resources Management

Evers, Mariele | Lange, Leonie (Leuphana University of Lueneburg, Germany)

15:15 Towards Adaptive and Integrated Management Paradigms to Meet the Challenges of Water Governance Halbe, Johannes (University of Osnabrueck, Germany)

Session E-4 (TEC) Economic valuation of water use: tools for integration in water resources planning

Conveners: Volkmar Hartje | Malte Grossmann (*Berlin University of Technology, Germany*) | Bernd Hansjuergens | Volker Meyer (*Helmholtz Centre for Environmental Research – UFZ, Germany*)

Chair: Volkmar Hartje (University of Technology Berlin, Germany) | Bernd Hansjuergens (Helmholtz Centre for Environmental Research – UFZ, Germany)

The session is designed to cover economic valuation of water use as a tool for integration in water resource planning. One of the major improvements in water management for which IWRM has been designed to achieve is to integrate competing water uses into a common set of water management objectives and to make a systematic evaluation of the priority of competing water uses, particularly those involving withdrawal. In the practice of water management, allocation decisions for water withdrawal and for minimum flow in the river are made on the basis of priority arguments of individual uses and historical entitlements. Increasingly, reallocation becomes an issue, supported by changes in water availability as a consequence of climatic change. Economic valuation can be used to support decision-making. The session will present papers with approaches to evaluate the value water for instream and offstream uses under the conditions of climatic change for the Elbe river basin.

Room 5 | 14:00-15:30 h

- 14:00 Developing baseline projections for future water demand Hartje, Volkmar | Mutafoglu, Konar (Berlin University of Technology, Germany)
- 14:15 Economic risks associated with low flows in the Elbe River Basin (Germany): an integrated economic-hydrologic approach to assess vulnerability to climate change Grossmann, Malte (Berlin University of Technology, Germany) |Vögele, Stefan (Research Centre Juelich – FZJ, Germany) |Mutafoglu, Konar (Berlin University of Technology, Germany) |Lienhoop, Nele (Helmholtz Centre for Environmental Research – UFZ, Germany) |Dietrich, Ottfried (Leibniz Centre for Agricultural Landscape Research (ZALF) Muencheberg, Germany) |Kaltofen, Michael (DHI-WASY GmbH, Germany)
- 14:30 Evaluation of adaptation strategies: PRIMATE a participatory multicriteria evaluation tool

Meyer, Volker | Lange, Martin | Drechsler, Martin (Helmholtz Centre for Environmental Research – UFZ, Germany)

14:45 Energy production and water: assessment of climate change impact on thermal and hydropower production Koch, Hagen (Brandenburg University of Technology Cottbus, Germany) | Vögele, Stefan (Research Centre Juelich – FZJ, Germany) | Grossmann, Malte (Berlin University of Technology, Germany) | Kaltofen, Michael (DHI-WASY GmbH, Germany)

15:00 Discussion



IWRM Cinema

Room 6

As a side event, you are invited to visit the IWRM Cinema in Room 6. Different movies and presentations of the current IWRM Projects, funded by the Federal Ministry of Education and Research (BMBF), will be shown during the coffee breaks and poster sessions. In that way, you have the possibility to get an impression of the project regions of the BMBF funding activity IWRM, to imagine the different problems concerning water resources management and to understand the scientific strategies and methods of IWRM.

Project	Date	Time	Duration	Title	Author(s)
Cuve Waters Namibia	October 12	11:00 h	25 min	Water for the people – Integrated Water Resources Management in northern Namibia	J. Röhrig, A. Jokisch, M. Brenda & K. Müller, ISOE
SMART	October 12	15:30 h	10 min	SMART – Sustainable Management of Available Water Resources with innovative Technologies	André Künzelmann, UFZ
IWRM Indonesia	October 12	16:00 h	15 min	Water in the Land of 1000 Mountains	Jürgen Dettling & IWG/KIT
Khorezm, Uzbekistan	October 13	11:00 h	25 min	Land and Water. Precious Resources for Uzbekistan	Johannes Eckelmann, Eulefilm
WISDOM Mekong-Delta	October 13	15:30 h	10 min	Water related Information System for the Mekong Delta	DLR-WV
IWRM Iran	October 13	16:00 h	15 min	Water Resources threatened in Iran – Ecology and Economy at stake	Tamara Nuñez von Voigt, inter 3



In alphabetical order of first authors | September 8, 2011

Abbt-Braun, Gudrun (Karlsruher Institut für Technology KIT, Germany) Investigations of the raw water quality for the use of drinking water in the catchment area of the rivers Volga and Oka

Abdullayev, Iskandar (German Technical Cooperation) Water Governance in Central Asia – socio-technical analysis of water management at local, national and regional levels

Ahrns, Johannes; Ronny Großer, Thomas Grischek (University of Applied Sciences Dresden)

Infiltration wells as elements in managed aquifer recharge and groundwater treatment – applications and problems

Wasim, Ali (Karlsruhe Institute of Technology); Abdallah Alzoubi (Al-Balqa Applied University, Jordan), Akiva Flexer (Tel Aviv University), Marwan Ghanem, (Palestinian Hydrology Groupe,), Josef Guttman (Mekorrot Company), Jawad Hassan (Al-Quds University), Heinz Hoetzl (Karlsruhe Institut of Technology KIT), Elias Salameh (Jordan University), Annat Yellindror, (Tel Aviv University) *Overview of the recent hydrogeological situation in the Jordan Valley and its impact on the Dead Sea*

Alkhoury, William (University of Goettingen), Muath Abu Saadah (Palestinian Hydrology Group), Martin Sauter (University of Goettingen), Elias Salameh (University of Jordan)

Impact of variations in precipitation patterns and temperature increase on water resources in the semi arid region of Wadi Kafrein/Jordan

Anatoliy, Zagrebin; Irina Iofina (Russian Academy of Sciences) New methods of xenobiotics bioidentification as a part of water management

Arfeen, Shamim (AOSED) Imitative Against Climate Change to Solve Safe Water Crisis

Asgharinia, Shahla; Mazda Kompanizare (Shiraz University) Modeling of steady flow around Qanats by MODFLOW and semi-analytical method

Azni, Idris; Rajab Ahmad, MohMohamad Lamin Mohd Norshahid, Ibn-Abubakar B.S.U. (University Putra Malaysia)

A preliminary study on Hylocereus undatus foliage as natural coagulant in water treatment

Bark, Kerstin (Freelance consultant and trainer)

Capacity development for water loss reduction in the frame of a transboundary stakeholder dialogue in West Africa

Bauwe, Andreas (University of Rostock)

Nitrate dynamics from artificial drained catchments during three discharge events across different spatial scales

Belau, Michael (Wasserwirtschaftsamt Hof)

Water Resources Management in Bosnia and Herzegovina – an evaluation for the UN

Bernhart, Franziska (Karlsruhe Institute of Technology KIT)

Data storage of an IWRM project in a central Geographic Information System (GIS)

Bernsen, Kristina; Erik Gawel (Helmholtz Centre for Environmental Research – UFZ/University of Leipzig)

The Virtual Water Concept: Normative and Governance Implications

Bonzi, Christopher (University of Tuebingen); Lucas Menzel, Tobias Toernros (University of Heidelberg)

Providing water-balance data under climate change for decision support in the Jordan River Basin

Borges, Pablo (University of Technology Dresden) Mitigation of growing stress on water resources in Brasília/DF - statistical analysis of regional climate trends in Central Brazil

Boettcher, Steven (Leibniz Centre for Agricultural Landscape Research (ZALF) Sustainable water resources management of small catchments under climate change: New approaches at the Fredersdorfer Muehlenfliess, East Brandenburg

Braid, Samantha (Aurecon South Africa (Pty) Ltd) Towards the development of IWRM implementation indicators in South Africa

Deffner, Jutta (Institute for social-ecological Research ISOE), Katharina Mueller (University of Technology Darmstadt IWAR), Thomas Kluge (Institute for Social-Ecological Research ISOE)

Urbanisation and sustainable sanitation development: A research based participa-tory planning method

El Ayni, Foued (Faculty of Sciences of Bizerte) Impact of agriculture activities in coastal aquifer in Tunisia (North Africa)

Espinosa-Gutiérrez, Gabriela M.; Ralf Otterpohl (University of Technology Hamburg-Harburg)

Improving decision making for Mexican urban sanitation systems by means of Material Flow Analysis (MFA)

Etzkorn, Christian; Novelle Holzhausen, Maria Soledad, Lars Ribbe (Cologne University of Applied Sciences – CUAS)

Monitoring and information systems to support water resources management: the potential role for State of the Basin Report

Ezeji, Joachim; Ian Smout, Lee Bosher (Loughborough University) Managing the impacts of growing cities under climate change in the Niger Delta, Nigeria

Foerster, Nikos; Martina Floerke, Heike Koeckler (University of Kassel) The price of water as a determinant of residential water demand? Empirical evidence for a survey of Hungary, Germany, and England & Wales

Franz, Claudia (University of Technology Dresden) Sediment characteristic and sedimentation rates of the Torto River, Planalto Central, Brasilia DF, Brasilien

Frimmel, Fritz H.; Gudrun Abbt-Braun (Karlsruhe Institute of Technology), Akiva Flexer, (Tel Aviv University), Joseph Guttman (Mekorot Water Company Ltd.), Nimrod Imbar (Tel Aviv University), Elias Salameh (The University of Jordan), Florencia Saravia (Karlsruhe Institute of Technology), Nayef Seder (Ministry of Water and Irrigation, Jordan), Annat Yellin-Dror (Tel Aviv University) Desalination of brackish water for the Lower Jordan Rift Valley: potential and limitations

Fuchs, Stephan; Miriam Leicht, Amani Alfarra (Karlsruher Institut für Technologie KIT)

Monitoring of surface water pollution based on biological indicators

Gaffron, Anne (Helmholtz Centre for Environmental Research – UFZ) Soil column tomography – Combined geoelectrical and hydrochemical investigations in laboratory scale to characterize tropical soils in their potential for artificial groundwater recharge

Geiger, Wolfgang (UNESCO Chair), Chr. Nillson, (Regierungsbaumeister Schlegel GmbH & Co. KG)

Hierarchal decision support system for preplanning and scarce data

Gerner, Alexander; Niels Schuetze, Gerd Schmitz (University of Technology Dresden)

Approaches for dealing with various aspects of vagueness in water resources assessment: an illustrative case study application in Oman

Guenther, Norbert; Susanne Aster, Marika Holtorff, Volker Kuehn, Peter Krebs, F. Wolfgang Guenthert

Developing the urban water system towards using the Paranoá Lake in Brasília as receptor and water resource – Project IWAS Água DF (Brasília)

Haaken, Klaus (Department of Geodynamics and Geophysics, University of Bonn)

Time-lapse electrical imaging as a tool for monitoring and quantification in managed aquifer recharge applications: a numerical feasibility study

Hack, Jochen (University of Technology Darmstadt)

Economic incentives in integrated water resource management – Hydroeconomic modeling as decision support

Hahn, Celia; Leah Wollenberger, Peter Werner, Thi Tran Nguyet (University of Technology Dresden), Dirk Weichgrebe, Sebastian Meier (Leibniz Universitaet Hannover), Nguyen Tung Phong, Vu Hai Nam (Vietnam Academy for Water Resources Research), Leonhard Fechter (Herbst Umwelttechnik GmbH, Berlin) Integrated water management concept for a craft village in Vietnam

Halbe, Johannes (University of Osnabrueck)

Towards Adaptive and Integrated Management Paradigms to Meet the Challenges of Water Governance

Hasan, Jawad (Al-Quds University), Wasem Ali, Heinz Hoetzl, Leif Wolf (Karlsruhe Institute of Technology KIT)

Quantitative and qualitative aspects of spring water resources of the West Bank in terms of water resources management

Hebben, Nicole (Karlsruhe Institute of Technology KIT)

Evaluation of reservoir water quality as the basis for an optimised water treatment – Case study Lake Paranoá (Brasília)

Heinz, Ingo (University of Dortmund (ret.)) Economic apraisal of IWRM strategies including water reuse

Hennings, Volker; Jobst Massmann (Federal Institute for Geosciences and Natural Resources)

Development of pedotransfer functions to estimate annual groundwater recharge rates in countries of the Arab region

Hilberg, Sylke; Jennifer Brandstaetter, Daniel Glueck (University of Salzburg) CO₂ partial pressure and calcite solubility – useful data to understand groundwater dynamics in alpine hydrogeology

Hoefer, Rene (Helmholtz Centre for Environmental Research – UFZ), Fabio Bakker (Companhia de Saneamento Ambiental do Distrito Federal (CAESB)), Henrique Roig (University of Brasilia, Dept. of Geo Sciences), Holger Weiss (Helmholtz Centre for Environmental Research – UFZ)

The impacts of urban dynamics on water resources in the Distrito Federal do Brasil

Hofmann, Juergen (Leibniz Institute of Freshwater Ecology and Inland Fisheries IGB Berlin)

Modelling nutrient emissions in changing environments of Central Asia: case study Kharaa River Basin / Mongolia

Hoellermann, Britta; Zoltan Szenasi, Stephan Klose, Henning Busche, Bernd Diekkrueger, Barbara Reichert (University of Bonn) Putting research into practice: Transfer of research results into the decision support system WEAP - Case study of the Drâa Basin, Moroc

Hossain, A.f.M. Afzal (Institute of Water Modelling, Bangladesh), Mohammad Azizur Rahman, (University of Goettingen), Sardar M. Shahnewaz, Begum Sharmina (Institute of Water Modelling, Bangladesh), M. Salah Uddin (University Goettingen)

Interactive Information System (IIS) for Groundwater Management and Agricultural Development in Northwest of Bangladesh Hossu, Michael; Andreas Dittmann (University of Giessen) Experiences with Capacity Development in the joint research project "IWRM Indonesia"

Ikhwan, Muhammad; Andrea Brunsch, Daniel Stoffel, Franz Nestmann (Karlsruhe Institute of Technology KIT)

Hydrological Assessment with respect to Climate Phenomena in a Karst Area, South Java, Indonesia

Jakhalu, Atoho (Humboldt University Berlin)

Governance of Inter-Sectoral Water Re-allocation within the Context of Urbanization in Hyderabad – Employing the Institutions of Sustainability (IoS) framework

Jaramillo, Marcela; Rogger Escobar, Jaime Ignacio Velez (Universidad Nacional de Colombia)

Riverbank Filtration, an unexplored but promising alternative to drinking water supply in Colombia, South America

Jokisch, Alexander (University of Technology Darmstadt, Germany) Decentralising water supply by subsurface storage of Oshana flood-water in the Cuvelai Etosha Basin of central-northern Namibia

Kallioras, Andreas (National University of Technology Athens) Investigation of groundwater recharge in arid environments through pilot unsaturated zone studies

Klausen, Jan Erling (Norwegian Institute for Urban and Regional Research (NIBR))

Water Pollution Abatement in a System of Multi-level Governance: A study of Norway's implementation of EUs Water Framework Directive (WAPABAT)

Klingel, Philipp; Marion Vogel, Franz Nestmann, (Karlsruhe Institute of Technology KIT)

Tools and workflows for Water Distribution Network Data Management in Developing Countries and its Application in an Algerian City

Kuenzer, Claudia (Earth Observation Centre of the German Aerospace Centre, DLR, Germany), Fabrice Renaud (United Nations University), Juliane Huth (Earth Observation Centre of the German Aerospace Centre, DLR), Gaohuan Liu (IGSNRR), Khac Tri Vo (SIWRR), Stefan Dech, (Earth Observation Centre of the German Aerospace Centre, DLR) *Drivers of Change in River Deltas*

Lehmann, Annekatrin (University of Technology Berlin / Karlsruhe Institute for Technology KIT), Helmut Lehn, Juergen Kopfmueller (ITAS / Karlsruhe Institute of Technology KIT)

Life cycle based sustainability assessment of technologies for sanitation Case study: Integrated Water Resources Management (IWRM) project in Gunung Kidul, Java, Indonesien

Lehmann, Paul (Helmholtz Centre for Environmental Research – UFZ) Making Water Affordable to All – A Typology and Evaluation of Options for Urban Water Pricing

Leitao, Sanderson Alberto (Brazilian Ministry of Science and Technology (MCT)) Risks of water scarcity and rationing in the city of Curitiba: myth or reality?

Lipp, Pia; Hans-Juergen Gross (Water Technology Center TZW Karlsruhe), Stefania Paris, Celine Schlapp (HUBER SE), Bassim Abbassi, (Al Balqa Applied University), Andreas Tiehm (Water Technology Center TZW Karlsruhe) Efficiency of waste water treatment by MBR – influencing factors on filtrate quality and operation

Lone, Farooq (Division of Environmental Sciences S.K.University of Agricultrural Sciences And Technology Of Kashmir(J&K) India)

Recycling of waste water in agriculture: Studies on the growth performance, quality and mineral composition of cabbage (Brassica oleracea var. capitata) under irrigation with waste water

Lorz, Carsten (University of Technology Dresden) IWAS-ÁGUA DF – A Brazilian-German Project on IWRM for the Federal District, Brazil

Lupo, Agnese (University of Technology Dresden) Polluted rivers are reservoirs of antibiotic resistant bacteria: the Bug and Poltva Rivers, Ukraine

Maelzer, Hans-Joachim; Anja Rohn (IWW Water Centre) Challenges of Climate Change and Adaption Strategies for Drinking Water Supply

Marx, Sina (University of Bonn)

Chances and Obstacles in Implementing Farmer's Self-management. A Case Study of the Koga Irrigation and Watershed Management Project in the Blue Nile Basin, Ethiopia

Mischke, Ute; Stephanie Natho, Markus Venohr (IGB Berlin), Jens Meisel, (IaG, Seddin), Juergen Hofmann (Leibniz Institute of Freshwater Ecology and Inland Fisheries IGB Berlin)

Recent water quality changes in the Yongding river basin: a success story?

Mohammad Azizur Rahman; Bentje Brauns; Bernd Rusteberg (University of Goettingen)

Assessment and Evaluation of Long-term Water Supply Management Strategies of Dhaka City, Bangladesh

Mohapatra, Prasanta (Indian Government) Environmental aspects of sustainable urban water system in Puri City, India

Mourad, Khaldoon; Ronny Berndtsson (University of Lund, Sweden) Water availability in Syria, will it be enough?

Mrozik, Karol (Poznan University of Life Sciences) The significance of spatial planning in Integrated Water Resources Man-

Nagase, Hiroyasu (University of Osaka)

A new treatment method to remove organic pollutants from water by photodegradation, polymerization and filtration

Naz, Farhat (University of Bonn)

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Role of women in groundwater governance in community based water management: a case study of Rural Northern Gujarat, India

Ndounla, Juliette (UTER-GVEA), D. Spuhler (Ecole Polytechnique Fédérale de Lausanne), J. Wéthé (UTER-GVEA), S. Kenfack (University of Ouagadougou), C. Pulgarin, (Ecole Polytechnique Fédérale de Lausanne)

Optimization of the H_2O_2 concentration in the photo Fenton process for drinking water disinfection in tropical-sahelian regions: A case Study on natural water in Ouagadougou, Burkina Faso

Nestmann, Franz; Peter Oberle, Daniel Stoffel, Muhammad Ikhwan (Karlsruhe Institute of Technology KIT)

Interdisciplinary Studies for an Adapted Water Resources Management – Technological Solutions for Karst Regions in South East Asia

Nijssen, David, Andreas Schumann (University of Bochum), Bertram Monninkhoff, Stefan Kaden (DHI-WASY GmbH) *Consideration of likelihoods for realization of water management strategies in a coastal region with sparse data in China*

Noedler, Karsten; Tobias Licha, Martin Sauter (University of Goettingen) Identification of significant transport processes for organic micropollutant classes during soil aquifer treatment (SAT) – a field experiment Oanh, Le Thi Hoang (University of Technology Dresden) Impact of sediment removal on nitrogen-related processes in Hoan Kiem Lake, Hanoi, Vietnam Paulsen, Hinrich (terrestris GmbH & Co. KG)

Free and Open Source Software for Geographic Information Systems (FOS-SGIS) and International Standards: Indispensable IWRM tools elucidated in the context of the MoMo project located in Mongolia

Pavlik, Dirk; Dennis Soehl, Christian Bernhofer (University of Technology Dresden)

Regional Climate Scenarios for IWRM – A dynamical downscaling approach for the Western Bug River Catchment in Ukraine

Pluntke, Thomas; Dirk Pavlik, Christian Bernhofer (University of Technology Dresden)

Water balance in a changing climate: Dealing with rare meteorological input data

Priess, Joerg (Helmhotz Center for Environmental Research – UFZ) Mapping erosion risks at different spatial resolutions – a case study from Northern Mongolia

Przybyla, Czesław (Poznan University of Life Sciences) Changes in groundwater levels in the catchment of the retention reservoir

Riechel, Mathia; Andreas Matzinger, (Kompetenzzentrum Wasser Berlin), Ilka Meier (Berliner Wasserbetriebe), Michael Stapf, Hauke Sonnenberg (Kompetenzzentrum Wasser Berlin), Erika Pawlowsky-Reusing (Berliner Wasserbetriebe), Pascale Rouault (Kompetenzzentrum Wasser Berlin)

Towards an impact-based planning instrument for combined sewer management in Berlin, Germany

Rodriguez, Ramiro; Jorge Lira, Isaias Rodriguez, (Geophysics Institute UNAM) Urban land expansions. Implications in environmental land uses and aquifer contamination risks

 $\label{eq:Rudolph, Karl-Ulrich; Andreas\, Kluska\, (Insitute\, of\, Environmental\, Engineering\, and\, Management)$

The Water EffiCenter – A Vision under BMBF and UN-Water

Sanchez, Juan Carlos (IUCN Environmental Law Centre) Climate Change Governance Capacity

Sawarieh, Ali; Heinz Hoetzl (Karlsruhe Institute for Technology KIT), Leif Wolf (CSIRO Land & Water, Dutton Park, Australia), Wasim Ali (Karlsruhe Institute for Technology KIT), Nayef Seder (Jordan Valley Authority, Jordan) *Qualitative and Quantitative Effects of Artificial Recharge of Storm waters on Wala-Heidan Well fields*

Schacht, Karsten; Bernd Marschner (University of Bochum), Sven Goenster (University of Kassel), Elisabeth Jueschke (Max Planck Institute of Biogeochemistry, Jena), Yona Chen, Jorge Tarchitzky (Hebrew University of Jerusalem), Jawad Al-Bakri, Emad Al-Karablieh, (Arab Technologist for Economical and Environmental Consultation, Amman)

Risk assessment as a tool in effluent reuse management: Soil suitability for treated wastewater irrigation in the Middle East

Schmidt, Natalie; Andreas Tiehm (Water Technology Center Karlsruhe) Pharmaceuticals and Endocrine Disruptors: Biodegradation during soil passage and in nitrifying batch tests

Schuetze, Niels; Sebastian Kloss, Jens Grundmann, Franz Lennartz, Gerd H. Schmitz, (University of Technology Dresden)

Incorporation of SVAT models and efficient optimization strategies into water resources management tools for improving crop water productivity from field to regional scale

Sigel, Katja (Helmholtz Centre for Environmental Research – UFZ), Matthias Hartmann, Juergen Staeudel (Bauhaus University of Weimar) *Participatory Environmental Sanitation Planning in Mongolia*

Sobowale, Adeyinka; Johnson Adewumi, Olufiropo Awokola (University of Agriculture), Olusanjo Bamgboye (NWRI)

Towards Integrated Water Resources Management in south west Nigeria: The role of CBI`S

Sorge, Sabine (University of Leipzig)

Organisational arrangements of wastewater treatment systems in rural areas of developing and transition countries

Steinel, Anke; Thomas Himmelsbach (Federal Institute for Geosciences and Natural Resources BGR)

Stormwater aquifer storage and recovery in sandy aquifers as adaptation to climate change: column studies to evaluate the fate of heavy metals

Steiniger, Bjoern (University of Technology Dresden)

Modelling the fate of organic micropollutants in a tropical reservoir in Brasilia, Brazil

Steiniger, Bjoern; Hilmar Boernick, (University of Technology Dresden), Hebben, Nicole, Gudrun Abbt-Braun, Fritz Frimmel, (Karlsruhe Institute for Technology KIT), Karsten Noedler, Tobias Licha (University of Goettingen), Cristine Cavalcanti, Cinthia Pinke (CAESB)

The occurrence of emerging organic pollutants in a tropical reservoir in Brazil – contributions to the management of Lake Paranoá

Sueltenfuss, Juergen (University of Bremen) Tritium: a re-invented instrument for monitoring human impacts on groundwater systems

Tavakol, Hasan; Banafsheh Zahraie (University of Tehran) State-of-the-Art Review on the Assessment of Human Activities` Impacts on the Hydrologic Cycle

Tesch, Sabine (Technische Universität Bergakademie Freiberg) Impacts of Climate Change on Groundwater Recharge of an Urban Area Truemper, Johanna; C. Burmeister (University of Technology Dresden), Jochen Schanze (lÖR Dresden)

Integrated projections of land cover and land-use parameters in IWRM

Uthpala, Pinto; Maheshwari Basant, (University of Western Sydney) Managing River Health in Peri-urban Regions – Perspectives from the Hawkesbury-Nepean Catchment, Australia

Vasyukova, Ekaterina; Johann Hahn, Wolfgang Uhl (University of Technology Dresden)

General approach to raise public awareness of sustainable water use as part of IWRM

Walther, Marc; Jens Grundmann (University of Technology Dresden), Olaf Kolditz (Helmholtz Centre for Environmental Research – UFZ), Rudolf Liedl (University of Technology Dresden)

Density-Dependent Saltwater Intrusion Modeling within an Integrated Water Resource Management for an Agricultural Used Coastal Arid Study Region in Oman

Wansun, Zhao (University of Wuhan)

Modelling of the water quality in middle and lower Hanjiang River under the influence of Cascade Reservoirs and Inter-basin water transfer project

Westerhoff, Thomas (Fraunhofer AST)

Alternatives to DMA measurements for leak detection in water distribution systems

Willy, Daniel Kyalo; Arnim Kuhn, Karin Holm-Mueller (University of Bonn) Functioning of Water Institutions under Power and Information Asymmetries: Insights from the Lake Naivasha Basin, Kenya

Yahya, Alfred (University of Heidelberg)

Elevated Nitrate Levels in the Groundwater of the Gaza Strip Distribution and Sources?

Zagrebin, Anatoliy; Irina Iofina (Russian Academy of Sciences) New methods of xenobiotics bioidentification as a part of water management



Exhibition

Actors from science, business and society present their achievements during the exhibition.

Projects and Exhibits

Research Project "CuveWaters" Model of a distillation plant for groundwater desalination in Namibia

Research Project "SMART" Model of the Fuheis demonstration site for wastewater treatment and reuse

Research Project "IWRM Mongolia" Mongolian iPit with information screen on the pilot project in Darkhan / Mongolia

Research Project "Shandong, China" Model of a multi-level groundwater quality measurement point

Research Project "IWRM Vietnam" IWRM Atlas with maps and tables, Web-GIS with 3D Animation **Research Project "IWRM Miyun Reservoir, China"** Web-Viewer for the experimental catchment area Miyun

Research Project "International Water Research Alliance Saxony" E-learning module on IWRM produced in cooperation with the German IHP/HWRP National Committee

National Contact Centre Water – German Federal Ministry of Education and Research (BMBF) Information desk

German Water Partnership Information desk

Vieweg+Teubner publishing house Information desk

Helmholtz Centre for Environmental Research – UFZ Information desk

German Association for Water, Wastewater and Waste – DWA Information desk



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Abbt-Braun, Gudrun \mid (Karlsruhe Institute of Technology KIT), Engler-Bunte-Institut, Germany

Abdullayev, Iskandar | Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Uzbekistan

Abo Omar, Ahmed | Ad Dakahlia Company for Water and Wastewater Treatment, El Salvador

Abrishamchi, Ahmad | Sharif University of Technology, Iran Islamic Republic Aburahma, Abdalrazzaq | Palestinian Hydrology Group, Jordan

Acheampong, Ernest | International Water Management Institute, Ghana Aggestam, Karin | University, Sweden

Ahmad, Rajab | University Putra Malaysia, Malaysia

Ahmadi, Azadeh | Isfahan University of Technology, Iran, Islamic Republic Ahrns, Johannes | University of Applied Sciences Dresden, Germany

Akawwi, Emad | Al-Balqa Apllied University, Jordan

Alamarah(tamimi), Abdelrahman | Palestinian Hydrology Group, West Bank and Gaza

Alazzy, Alaa Alden | Hehai University, China

Alfaro, Paulina | Karlsruhe Institute of Technology KIT, Germany

Ali, Wasim | Karlsruhe Institute of Technology KIT Germany

Aliba, Betty | National Water & Sewerage Corporation, Uganda Alkhoury, William | Goettingen University, Germany

Aikiloury, william | Goettingen oniversity, Germany

Al-Momani, Thair | SMART Project, Germany

Aluleimat, Ahmad | Ministry of Water & Irrigation/Waj, Jordan

Alzahrani, Khodran | King Saud University, Saudi Arabia

Al-Zoubi, Abdallah | Al Balqa Applied University, Jordan

Amunigun, Olayinka | Amunigun Nigeria Enterprises, Afghanistan

Anders, Jaegerskog | Stockholm International Water Institute, Sweden

Anderson, Aileen | Private consultancy, United Kingdom

Antwi, Nathaniel | Natalex Company Limited, Ghana

Anusi, Doris | SPED, Nigeria

Arahalli Venkataronappa Manjunatha | Justus Liebig University of Giessen, India Asgharinia, Shahla | Shiraz, Iran Islamic Republic

Aucharova, Alena | The Institute for Nature Management, Belarus

Aus der Beek, Tim \mid Centre for Environmental System Research, University of Kassel, Germany

Avendaño, Ruben Dario | Empresas Publicas de Medellin, Colombia

Bahadur KC, Krishna | Kyoto University, Japan

Balsiger, Joerg | ETH Zurich, Switzerland

Barghouthi, Abdul-Hamid | PHG + Abu Dies, Sustainable Development Center, West Bank and Gaza

В

Baerlund, Ilona | Helmholtz Centre for Environmental Research – UFZ, Germany Bathe, Frauke | Helmholtz Centre for Environmental Research – UFZ, Germany Bauer, Melanie | Projekttraeger Karlsruhe, PTKA-WTE, Germany

Bauwe, Andreas | University of Rostock, Germany

Belau, Michael | Wasserwirtschaftsamt Hof, Germany

Bensabat, Jacob | EWRE Ltd. (NRD), Israel,

Bergeron, Philippe | Federal Ministry of Education and Research – DLR-IB, Germany

Bernhardt, Iris | Karlsruhe Institute of Technology KIT, PT-WTE, Germany

Bernhart, Franziska | Karlsruhe Institute of Technology KIT, Germany

Bernsen, Kristina | University of Leipzig, Germany

Bhaduri, Anik | University of Bonn, Germany

Biedler, Murray | European Water Partnership, Belgium

Bjørnsen, Peter Koefoed | UNEP-DHI Centre on water and Environment, Denmark

Blanco, Angela | University of Technology Dresden, Germany Block, Thomas | GWFA Global Water Franchise Agency GmbH, Germany Blumensaat, Frank: University of Technology Dresden, Germany

Bogardi, Janos | University of Bonn, Germany

Bondaruk, Jan | Central Mining Institute (GIG), Poland

Bonn, Thomas | University of Heidelberg, Germany

Bonzi, Christopher | University of Tuebingen, Germany

Borchardt, Dietrich | Helmholtz Center for Environmental Research – UFZ, Germany

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General information

Conference language

The conference language is English.

Conference venue

The conference will be held at Maritim Hotel & International Congress Center Dresden, Germany. During the conference lunches and refreshments will be provided. There are excellent facilities for parallel sessions, exhibitions and welcome reception at the venue.

Address of conference venue:

Maritim Hotel & Congress Center Ostra-Ufer 2 / Devrientstr. 10–12 01067 Dresden | Germany phone: +49 (0) 351 / 216-0 fax: +49 (0) 351 / 216-1018 e-mail: info.dre@maritim.de http://www.dresden-congresscenter.de/en/home

How to get there (for maps, please see next pages): http://www.dresden-congresscenter.de/en/maps-transportation

From Dresden Central Station to the Congress Center: Please take regional train express direction Leipzig or Zittau to next stop "Dresden Bahnhof Mitte" (3 min). From Bahnhof Mitte have a short walk (10 min) along street Könneritzstraße to Ostra Ufer and to the congress center.

Alternatively, please take tram no. 11 direction "Bülau" to stop "Kongresszentrum".

From train station "Dresden Neustadt" to the Congress Center: Please take tram no. 11 direction "Zschernitz" or tram no. 6 direction "Wölfnitz" to stop "Kongresszentrum".

Conference fee

After June 15, 2011:

EUR 2	50
EUR 1	50
EUR 1	50
EUR 1	50
EOR I	5

Excursions

EXCURSION NO. 1 – CITY WALK DRESDEN

Friday, October 14

Dresden – the "Florence on the Elbe" – offers attractions in great variety. No book about the history of architecture can miss mentioning the Dresden Zwinger. The Frauenkirche Church, Semper Opera House and Royal Palace as well as many other historical monuments and ensembles determine the image of the city. Magnificent promenades on the bank of the Elbe, interesting museums and institutions, industrial monuments, charming details – Dresden has a lot for you to discover.

Time: 10–12 a.m.

Fee: EUR 7

EXCURSION NO. 2 – WWTP KADITZ & VISIT OF VINEYARD

Sorry, this excursion was cancelled due to lack of participants! Paid fees will be handled on-site, please ask the conference secretary.

EXCURSION NO. 3 – RESERVOIRS SAXONY

Saxony is the federal state with the highest number of reservoirs in Germany. The trip leads you to the reservoir Klingenberg and Gottleuba. The listed reservoir Klingenberg has been built between 1908 and 1914 and undergoes now reconstruction measures, so you will be able to see a immensely impressing building site and the pipes for raw water from other areas.

The tour can be rounded up at the "Schillergarten", a traditional restaurant next to the famous bridge "Blaues Wunder" where you can have a lunch just like Friedrich Schiller used to. Time: 8 a.m. – 1.30 p.m.

Fee: EUR 17 | *lunch is not included!* Meeting point for excursions: Maritim Hotel

Dresden tourist information

For more information on the city of Dresden, please contact: Dresden Tourismus GmbH http://www.dresden.de/index_en.php Phone: +49 (0) 351 50 160 160 Fax: +49 (0) 351 50 160 166 E-mail: info@dresden.travel

Conference secretary

The conference desk is open on October 12 and 13 8:00–18:30 h. Phone number during conference: +49 351 216 1511

Dr. Hildegard Feldmann | Christiane Wolf MSc F&U confirm Permoserstr. 15 04318 Leipzig | Germany Phone: +49 341 235-2264 or -2413

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WLAN access during the conference Oct. 12–13, 2011:

via Telekom hotspot:

Username: G-iwrm2011.kv@t-mobile.de Password: hotspot

Proceedings

A printed book of abstracts will be provided and additionally a USB stick comprizing full papers of the conference lectures as well as short papers for poster contributions of those who have submitted their papers.

Technical hints

Lecturers: Please bring your lecture on USB stick or CD, not on your own notebook! Please upload your file to the notebook in the conference room of your session latest in the coffee break before your session starts.

Poster authors: poster board size: 1.45 height x 1.15 m width, suitable for poster unit size A0 (118.9 cm, height, 84.1 cm width) upright size. Please bring pins for mounting your poster.

Conference venue at MARITIM Hotel & Internationales Congress Center Dresden – levels and rooms



Welcome reception | Icebreaker party

Tuesday, October 11, 19–22 h | incl. Festungsmauern Am Brühlschen Garten Am Brühlschen Garten 4 01067 Dresden | Germany http://www.festungsmauern-dresden.de

Please notice that a registration is needed.

The Icebreaker party will take place in the "Festungsmauern am Brühlischen Garten", which is situated very close to the river Elbe. It is a perfect opportunity to meet colleagues and friends or to get in touch with other participants of the conference. The party will start at 7:00 p.m. with a glass of wine, beer or non-alcoholic drinks. At 8:00 p.m. we offer a buffet with a choice of delicious finger food while listening to live jazz music.



Conference dinner

Wednesday, October 12, 20:00–23:00 h | EUR 60 Pulverturm an der Frauenkirche An der Frauenkirche 12 01067 Dresden | Germany http://www.pulverturm-dresden.de Join the conference dinner at the historic "PulverTurm" (Powder Tower) and enjoy luscious food just like Augustus the Strong. The buildung dates back to the 16th century and used to be an old munitions dump. You can see and feel the history of Saxony in this beautifully designed location with weapons and chainmail hanging from the ceiling.



MARITIM Hotel – City map



Committees

International steering committee

- Dr. Peter Koefoed Bjørnsen, UNEP-DHI Centre for Water and Environment, Denmark
- Prof. Dr.-Ing. Dr. h.c. Janos J. Bogardi, Global Water System Project, Bonn, Germany
- Prof. Dr. Dietrich Borchardt, Helmholtz Centre for Environmental Research – UFZ, Germany (Chair of the conference)
- Dr. Ines Dombrowsky, German Development Institute, Germany
- Héctor Garduño, International Consultant, Mexico
- Prof. Dr.-Ing. Norbert Jardin, Ruhrverband, Essen, Germany (IWA Board of Directors)
- Prof. Dr. Alan Jenkins, CEH, Natural Environment Research Council, Oxfordshire, Great Britain
- Dr. Rivka Kfir, South African Government, Water Research Commission, South Africa
- Prof. Dr. Peter Krebs, University of Technology, Dresden, Germany
- Prof. Dr. Helmut Kroiss, Vienna University of Technology, Austria
- Prof. em. Dr. Christian Leibundgut, University of Freiburg, Germany
- Prof. Dr. Wolfram Mauser, Ludwig-Maximilians University Munich, Germany
- Dr. Timothy Moss, Leibniz Institute for Regional Development and Structural Planning, Erkner, Germany
- Dayanand Panse, Indian Water Works Association, India
- Prof. Dr. Peter Reichert, Eawag, Duebendorf, Switzerland
- Prof. Dr. Seppo Rekolainen, SYKE, Finnish Environment Institute, Helsinki, Finland
- Prof. Dr. Dr. Karl-Ulrich Rudolph, University Witten/Herdecke, Germany
- Prof. David L. Rudolph, University of Waterloo, Ontario, Canada
- Prof. Dr. Min Yang, Chinese Academy of Sciences, China

Organizing committee

- Dr. Ilona Baerlund, Helmholtz Centre for Environmental Research UFZ, Germany
- Prof. Dr. Dietrich Borchardt, Helmholtz Centre for Environmental Research – UFZ, Germany (Chair of the conference)
- Dr. Hildegard Feldmann, F&U confirm, Leipzig, Germany
- Dr. Ralf Ibisch, Helmholtz Centre for Environmental Research – UFZ, Germany
- Sabrina Kirschke, Helmholtz Centre for Environmental Research UFZ, Germany
- Dr. Steffen Niemann, Helmholtz Centre for Environmental Research UFZ, Germany
- Christian Staerz, Helmholtz Centre for Environmental Research – UFZ, Germany
- Lisa Witzleben, Helmholtz Centre for Environmental Research – UFZ, Germany
- Christiane Wolf MSc, F&U confirm, Leipzig, Germany

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- IWA International Water Association, and
- Global Water Systems Project (GWSP).





International Water Association