

Interactions of Water with Energy and  
Materials in Urban Areas and Agriculture

# IWRM

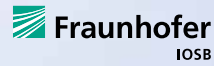
Integrated Water Resources Management

Karlsruhe 2012

21 – 22 November 2012

Karlsruhe Convention Center | Stadthalle

Organiser



Co-Organiser



Patronage



More information about  
IWRM Karlsruhe 2012 is available at  
[www.iwrm-karlsruhe.com](http://www.iwrm-karlsruhe.com)

## Program Structure



Wednesday 21 November 2012				Thursday 22 November 2012			
09:00 - 18:00	Opening			Exhibition	Keynote 3		
	Keynote 1				Keynote 4		
	Keynote 2				BMBF Session	BMBF Session	BMBF Session
	Sessions 1-3	Sessions 1-3	Sessions 1-3		Poster Session + Business Forum		
	Sessions 4-5	Sessions 4-5	Sessions 4-5		Sessions 4-5	Sessions 4-5	Sessions 4-5
Evening - Event			Keynote 5				
			Discussion + Wrap-Up				



9:00

## OPENING



### Welcoming

**Margret Mergen**

1<sup>st</sup> Mayoress of the City of Karlsruhe  
City of Karlsruhe



### Welcoming

**Prof. Hartwig Steusloff**

Chairman of the Congress Advisory Board  
Fraunhofer Institute of Optronics, System Technologies and Image Exploitation



### Welcoming

**Dr. Peter Fritz**

Vice President Research and Innovation  
Karlsruhe Institute of Technology



### Integrated Water Resources Management as a Challenge for Developing Countries

**Tanja Gönner**

Chair of the Management Board  
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

## KEYNOTES

9:40



### Keynote 1

#### Internationale Forschungsk Kooperation für ein Integriertes Wasserressourcen Management

**Dr. Karl Eugen Huthmacher**

Head of Department  
Federal Ministry of Education and Research Public Relations Department

10:10



### Keynote 2

#### Ausrichtung der Wasserwirtschaft unter globalen Aspekten und die Energiewende in Baden-Württemberg

**Franz Untersteller**

Minister of the Environment, Climate Protection and the Energy Sector  
Ministry of the Environment, Climate Protection and the Energy Sector

10:40

## COFFEE & EXHIBITION

11:10

SESSIONS

SESSION 1

**Climate Change & Water Management**

**Observed and modelled Changes of the hydrological Cycle in Mid-Europe**

**Prof. Christoph Kottmeier**  
Karlsruhe Institute of Technology

**Conducting Climate Adaptation within an IWRM Framework and „vertical“ Integration of Management Decisions**

**Dr. Johannes Cullmann**  
German Federal Institute of Hydrology (BfG)

**Impact of Climate Change on future hydro-climatic Conditions in the Western Bug River Basin**

**Dr. Dirk Pavlik**  
Dresden University of Technology

**The Implementation of Integrated Water Resources Management under uncertain socio-economic, and political and Climate Change Conditions**

**Dr. Abdelrahman Tamimi**  
Palestinian Hydrology Group, Palestine

**Management of Water Sheds**

**User Requirement Analysis for an Information System of the Integrated Rhine Programme**

**Thomas Batz**  
Fraunhofer Institute of Optronics, System Technologies and Image Exploitation

**Challenges in Flood Risk Management in the coastal Megacities of India**

**Dr. Shadananan Nair**  
Nansen Environmental Research Centre, India

**Multifunctional Spaces for Flood Management – an Approach for the City of Hamburg, Germany**

**Dr. Axel Waldhoff**  
Hamburger Wasserwerke GmbH

**Integrated Water Quality Monitoring and Modelling in the Three Gorges Reservoir, China**

**Andreas Holbach**  
Karlsruhe Institute of Technology

**Demand Side Management**

**Efforts to reduce the Water Losses in the Customer Premises in Kingdom of Bahrain**

**Abdulla Albastaki**  
Electricity and Water Authority, Kingdom of Bahrain

**Water Management and Islam: Enhancing the Curricula of spiritually-based Values and the Awareness Level related to Water for Sharia'ah Students - a Jordanian experience**

**Romuald Bolliger**  
Cologne University of Applied Sciences

**Application of Integrated Urban Water Management (IUWM) in Islamabad, Pakistan**

**Prof. Amir Haider Malik**  
COMSATS Institute of Information Technology (CIIT), Pakistan

**Transboundary Groundwater Resources Management within a Given Country: Policy Framework Depending on the Demand Side Water Management in Kumamoto Region, Japan**

**Prof. Tadashi Tanaka**  
University of Tsukuba, Japan

12:40

LUNCH & EXHIBITION

14:00

**Water Management in Urban Areas**

**The Contribution of Integrated Water Management to achieving environmental protection and sustainability outcomes in the new areas of Melbourne, Australia**

**Dennis Corbett**  
Melbourne Water, Australia

**Risks and potentials related to shallow urban aquifers – A Mexican example**

**Stefanie Kralisch**  
Karlsruhe Institute of Technology

**Water scarcity assessment in the City of Yogyakarta**

**Bambang Hargono**  
Ministry of Public Works, Indonesia

**Flooding in the city of Belém, Brazil: Causes and mitigation measures**

**Rosielle Souza Pegado**  
Cologne University of Applied Sciences

**Groundwater Management**

**Optimising conjunctive Groundwater use on large Alluvial Plains – major opportunity or impossible dream?**

**Prof. Stephen Foster**  
Global Water Partnership, United Kingdom

**Optimisation Framework for Groundwater Resources Allocation and use in rural Water Resources Management context**

**Dr. Mohammad Azizur Rahman**  
Geoscience Centre, University of Göttingen

**Genesis of the Groundwater on the eastern side of the Jordan Valley Area**

**Prof. Elias Salameh**  
The University of Jordan, Jordan

**Artificial recharge of Mornag Aquifer (Tunisia) with reclaimed wastewater for irrigation purposes**

**Dominique Fougeirol**  
IGIP - Ingenieur-Gesellschaft für internationale Planungsaufgaben mbH

**Water and Energy Management I**

**Vision for Increasing Irrigation Water Availability in the Jordan Valley through Improving IWRM**

**Issam Nofal**  
Ministry of Agriculture, Palestine

**Transitional and Contractual Management of Water Facilities in Kenya, Case of NZOWASCO**

**Godfrey Barasa**  
Nairobi City Water and Sewerage Company Ltd., Kenya

**Approach for restructuring of regional water distribution systems against the background of Water and Energy scarcity**

**Philipp Klingel**  
Karlsruhe Institute of Technology

**Water and agriculture in Kilimanjaro watershed catchments in Tanzania**

**Andrew Jacob Ngereza**  
Mikocheni Agricultural Research Institute (MARI), Tanzania

SESSION 2

15:30

**COFFEE & EXHIBITION**

16:00

**Sustainable Use of Water Resources I**

**IWRM strategy pre-screening for allocation of water resources of different qualities, focusing on sustainable agricultural development and socio-economic assessment**

**Dr. Bernd Rusteberg**  
Geoscience Centre, University of Göttingen

**The Analysis of Problem Perceptions and Systemic Interdependencies in the Case of the Water Supply Regime in Central Northern Namibia**

**Martin Zimmermann**  
Darmstadt University of Technology

**Indicators for sustainable water resources management in semi-arid areas: Case study of Tunisia in North Africa**

**Lotfi Baccar**  
Eco Resources International, Tunisia

**Sustainable Management of River Oasis along the Tarim River in Northwest China under Global Change**

**Prof. Markus Disse**  
Universität der Bundeswehr München

**Sanitation**

**The Sewchar Concept: An Innovative Tool for Material Flow Management in Sanitation Systems**

**Dr. Christoph Fühner**  
Helmholtz Centre for Environmental Research UFZ

**Development of a Tool to analyze Wastewater Treatment Sustainability: Indicators to Assess Technologies for Rural Areas in Developing Countries**

**Nayono Suwartanti**  
Karlsruhe Institute of Technology

**Phosphorus recovery by crystallization - implementation with municipal sewage water**

**Susanne Toball**  
Karlsruhe Institute of Technology

**Global optimal and predictive real-time control tools for large-scale sanitation systems**

**Claire de Bouteiller**  
ONDEO Systems, France

**Water & Energy Management II**

**CBR in the Reservoir Dispatching and Emergency Management System**

**Xiaomei Wang**  
Northwestern Polytechnical University, China

**Using pumps as turbines combined with pumps for water supply in an efficient way without the need of electrical power**

**Dr. Jochen Fritz**  
KSB AG

**Water use for power plants, desalination and potable water supply – A challenge to protect aquatic life**

**Lars Späth**  
Passavant Geiger GmbH

**Overview of Material and Energy Flows in German Wastewater Infrastructure: Status Quo of Energy balances and Energy potentials**

**Eve Menger-Krug**  
Fraunhofer Institute for Systems and Innovation Research ISI

SESSION 3

18:00

**EVENING EVENT**

incl. NEO 2012 - Innovationprice of the Technologieregion Karlsruhe

As part of the evening event at IWRM Karlsruhe 2012, the TechnologyRegion Karlsruhe awards the NEO Innovation Prize for outstanding work in research and innovation in the area of innovative environmental technology for water.



8:30

**KEYNOTES**



**Keynote 3**  
**IWRM in developing countries-  
 approach and experiences of GIZ**

**Dr. Dörte Ziegler**  
 Senior Manager, Division Water,  
 Energy, Transport  
 Deutsche Gesellschaft für  
 Internationale Zusammenarbeit  
 (GIZ) GmbH



**Keynote 4**  
**Water Tariffs – Challenges  
 and Chances**

**Dr.-Ing. Bernhard Klocke**  
 Head of Water and Power  
 Engineering & Vice President  
 GELSENWASSER AG

9:30

**SESSIONS**

**Water Quality Management**

**Classification of emerging pollutants for managed aquifer  
 recharge in the Lower Jordan Valley**

**Nathalie Schmidt**  
 Water Technology Centre (TZW)

**Evaluation of reservoir water quality as the basis for  
 an optimised water treatment – Case study in the Lake  
 Paranoá, Brasília**

**Dr. Gudrun Abbt-Braun**  
 Karlsruhe Institute of Technology

**Sensible water quality of karst regions in emerging  
 countries - appropriate and sustainable water treatment**

**Prof. Ursula Obst**  
 Karlsruhe Institute of Technology

**Transfer of Water Technologies**

**Experiences concerning the implementation of  
 innovative technologies and management strategies in  
 emerging countries – Example IWRM Indonesia**

**Prof. Franz Nestmann**  
 Karlsruhe Institute of Technology

**Storage of rain- and floodwater for small-scale  
 agricultural production in semi-arid regions of Namibia.  
 Lessons learned from the development and the  
 implementation of rain- and floodwater harvesting  
 technologies in the project “CuveWaters–IWRM in  
 Namibia”**

**Alexander Jokisch**  
 Darmstadt University of Technology

**Concepts for decentralized wastewater treatment in the  
 Miyun catchment, China**

**Mathias Gießler**  
 University of Rostock

**Implementation of IWRM**

**Droplets adding to a stream: A framework for local IWRM  
 strategies in the Lower Jordan Valley**

**David Riepl**  
 Karlsruhe Institute of Technology

**IWRM in Mongolia: Caught between national  
 aspirations and local realities?**

**Dr. Annabelle Houdret / Christian Schweitzer**  
 German Development Institute

**The long way of implementing river basin management in  
 Post- Soviet states – Conflict analysis in the Western Bug  
 River Basin (Ukraine)**

**Nina Hagemann**  
 Helmholtz Centre for Environmental Research UFZ



Federal Ministry  
 of Education  
 and Research

**BMBF-SESSION**

10:00 **POSTER-SESSION & EXHIBITION UNTIL 11.15 H**

10:30 **BUSINESS-FORUM**

**Vacuum Sewerage Solutions – The Key to Modern Water Collection and Management**

**Volker Zang**  
Passavant Roediger

**Source vulnerability assessments as a tool for a sustainable water supply**

**Dirk Muenstermann**  
HPC Harress Pickel Consult AG

**Online-Biototoxicity Measurement for the Analysis of Potable Water**

**Dr. Stephan Hüttmann**  
Sensatec GmbH

11:15

**Climate Change & Water Management II**

**The effects of climate change on water systems in hard rock areas – Challenges and strategies**

**Dr. Steffen Bender**  
Climate Service Center (CSC)

**Statistics of extremes and estimation of extreme rainfall in semi-arid climate area using regional frequency analysis**

**Karima Benhattab**  
USTO-Mohamed Boudiaf, Algeria

**Urbanization and rainfall pattern change in Bangkok Metropolitan Administration**

**Cilcia Kusumastuti**  
Universitas Atma Jaya Yogyakarta, Indonesia

**Climate change discharge projections for the Ruhr catchment**

**Joachim Liebert**  
Karlsruhe Institute of Technology

**Socio-Economic Allocation Criteria**

**Socio-technical aspects of water management: Case of Central Asia**

**Dr. Iskandar Abdullaev**  
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

**Water Pricing & Allocation: „Water as Economic-Social Good“**

**Fayez Abuhilou**  
Palestinian Water Authority

**Addressing water contests through institutional and political analysis: a handbook for water projects and programmes**

**Dr. Timothy Moss**  
Leibniz Institute for Regional Development and Structural Planning

**Tragedy of the commons in the Haihe River Basin. Comparison of experiment and spatial analysis results**

**Jacob Möhring**  
Potsdam Institute for Climate Impact Research

**Water Frameworks & Policies**

**Groundwater Resources Management in and around Eco-city, Tirupati, India and some adaptative measures**

**Prof. Lakshmi Narasimharao Kodali**  
Sri Venkateswara University, India

**Water degradation policies: Facts, policies and practices in water insecure countries**

**Abedalhamid Musa**  
n.n.

**Water governance in Egypt**

**Sherif Roshdy**  
Cologne University of Applied Sciences

**Smarter Water: Ensuring water sustainability via infrastructure, incentives and information**

**Graham Symmonds**  
Global Water Resources

SESSION 4

12:45

**LUNCH & EXHIBITION**

14:00

**SESSION 5**

**Sustainable Use of Water Resources II**

**Management of cascaded reservoirs in the Beijiang river basin: A pilot project**

**Dr. Divas Karimanzira**  
Fraunhofer Application Center System Technology AST

**Bathing waters in cities – a nexus between today's social wants and ecological needs of tomorrow**

**Dr. Helmut Lehn**  
Karlsruhe Institute of Technology

**Water Quality Modelling as an instrument to support management planning functions with the example of the Erft River**

**Dr. Ekkehard Christoffels**  
ERFTVERBAND -Watermanagement for Our Region

**Criteria of sustainability in Irrigation Farming**

**Dr. Michael C. Birkle**  
G.M.F. mbH - Gesellschaft für  
Meß- und Filtertechnik mbH

**IT-based Water Management Support**

**An architecture for referencing hydrologic concepts in distributed systems**

**Dr. Thomas Usländer**  
Fraunhofer Institute of Optronics, System Technologies  
and Image Exploitation

**Smart Water Management – Integrated Infrastructure for Water Resource Management**

**Francis Campan**  
ONDEO SYSTEMS, France

**Water CoRe – Water scarcity and droughts, coordinated actions in European regions**

**Barbara Ehrle-Mathey**  
Ministry of Environment, Energy, Agriculture and  
Consumer Protection of Hessen

**WHYMAP – The new global map of river and groundwater basins**

**Andrea Richts**  
Federal Institute for Geosciences and Natural  
Resources

**Public and Private Water Policies**

**New Paradigms of Water Tariffs – Expected evolutions on tariffs within developed countries**

**Bertrand vanden Bosche**  
ONDEO SYSTEMS

**Public or Private Water Management: experience from different European Countries**

**Johann Wackerbauer**  
IFO - Institute Center for Economics Studies (CES)

**A review of the status, limitation and needs in Water Resources Management in Kenya**

**Patrick Murigi**  
Karlsruhe Institute of Technology

**Water pricing for sustainable use of Resources**

**Dr. Werner Wahlß**  
Bavarian State Ministry of the Environment and Public  
Health

15:30

**COFFEE & EXHIBITION**



16:00

**KEYNOTE**



**Keynote 5**  
**Water – Money for Nothing ?**  
**Sven Dietrich**  
Siemens AG

16:30

**PANEL DISCUSSION**

- Moderation: Prof. Hermann Hahn, President,  
Heidelberg Academy of Sciences and Humanities



**Dr. Reza Ardakanian**  
Director of the UN-Water Decade  
Programme on Capacity Develop-  
ment (UNW-DPC)  
UN-Water

**Dr. Abdelmajid Layadi (tbc.)**  
Secretary-General  
EMA - Euro-Mediterranean  
Association for Cooperation  
and Development e.V.



**Dr.-Ing. Bernhard Klocke**  
Head of Water and Power  
Engineering & Vice President  
GELSENWASSER AG



**Sven Dietrich**  
Siemens AG

17:00

**CLOSING & BEST-POSTER AWARD**

**ACCOMPANYING EVENTS - Thursday 22 November 2012**

10:00

Regional Section „Central Asia“

**German Water Partnership e.V.**

More Information:  
<http://www.germanwaterpartnership.de>

13:30

European Innovation for Sustainable Water Management:  
Users meet Researchers

**WaterDiss2.0**

More Information:  
<http://www.waterdiss.eu/iwrm2012>

**Date:**

21 - 22 November 2012

**Venue:**

Karlsruhe Convention Center | Stadthalle  
Festplatz 9, 76137 Karlsruhe

**Opening times:**

09:00 - 18:00

**Contact:**

Jochen Bortfeld | Project Manager  
Tel.: +49 721 3720-5133 | Fax: +49 721 3720-99-5133  
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**Organiser:**

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Postfach 1208 | 76002 Karlsruhe  
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## Binding registration\*

Ms  Mr

Last-, Firstname	
Company	
Address	
Post code, town/	
city	
Phone   Fax	
E-mail	

\*See participation fees and conditions of withdrawal. The general and special conditions of participation at [www.iwrm-karlsruhe.com](http://www.iwrm-karlsruhe.com) are hereby recognised as legally binding in all their parts.

## Organiser:

Karlsruher Messe- und Kongress GmbH  
Festplatz 9 | 76137 Karlsruhe



**CONNECTING IDEAS.**  
Karlsruhe –  
Messen und Kongresse

## Admission prices IWRM Karlsruhe 2012

- Season ticket: €450**
- Season ticket concessions: €345\***
- Season ticket students/school pupils: €45\*\***

The admission price includes admission to the accompanying exhibition, the evening function and the daily lunchtime snack bar and drinks during breaks.

\* For visitors from valid DAC list countries for the years 2011 - 2013. These can be downloaded from the website.

\*\* With verification of a valid certificate, which must be presented at registration.

All prices include the current VAT.