

under the patronage of the French Ministry of Foreign and European Affairs  
and the French Ministry of Higher Education and Research



International Water Resources Association

# XIII<sup>th</sup> World Water Congress

1 – 4 September 2008 • Montpellier, France

[www.worldwatercongress2008.org](http://www.worldwatercongress2008.org)



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## GLOBAL CHANGES

# and WATER RESOURCES:

confronting the expanding and diversifying pressures

*Final Programme*

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International Water  
Resources Association



Organised by





IWRA is an international, non-governmental, non-political, non-profit, educational and development-oriented association. It has been consistently recognised and respected as a leading advocate in advancing the understanding and management of water resources worldwide since its establishment in 1972. The members of IWRA are from all parts of the world and represent every profession and academic discipline involved in the sustainable management of the world's water resources.

**I**WRA aims to build and strengthen partnerships and mechanisms to address water resource problems worldwide. Its unique role is to serve as a bridge in providing information and networking people and organisations across geographical, disciplinary, sectoral and professional boundaries.

The **Association** strongly endorses and promotes water resources education and research based on sound scientific, social and ethical principles, worldwide and for all sectors of society. In brief, it seeks to be international, interdisciplinary, and interesting.

Specifically, the **Association** aims to:

- Provide international, regional and national fora for water resources issues;
- Enhance the quality of knowledge used for decision-making;
- Promote cutting-edge research that improves understanding of water resource issues and policy options;
- Improve global access to water-related information;
- Facilitate exchanges of information and expertise between countries and professions; and
- Network with complementary organisations.

**IWRA** activities to achieve these aims include:

- Sponsorship of the triennial World Water Congress;
- Publication of *Water International*, the official journal of the Association (from 2008, co-published with Taylor & Francis);
- Publication of definitive books on different aspects of water management;
- Co-sponsorship of major conferences, symposia, seminars, workshops and training courses; and
- Maintenance of an interactive website.

**Please contact Mr. Wallace Mayne, Executive Director of the IWRA, for additional information, or to join the Association:**

#### Executive Office, IWRA

c/o, The Water Institute of Southern Africa  
 P. O. Box 6011, Halfway House, 1685 South Africa  
 Tel: 011 805 3537  
 Fax: 0865 119 531  
 Email: [iwra-office@wisa.org.za](mailto:iwra-office@wisa.org.za)  
 Web site: <http://www.iwrahome.org>

## IWRA Executive Board

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Cecilia Tortajada, Mexico

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# Message from the President



“Over the years, one of the main objectives of the World Water Congresses of the International Water Resources Association (IWRA) has been to provide a platform for open discussions and debates between scientists, practitioners and policy-makers from developed and developing countries, who are interested in the advancement and application of knowledge to solve the water-related problems of the world.

Right from its very beginning, IWRA has consistently promoted the fact that different approaches and processes for efficient and equitable water management can best be formulated by cross-fertilisation of ideas between engineering and social sciences. In fact, IWRA is the first international professional association that has promoted a holistic and multiuse approach to water management that is multisectoral and multidisciplinary in nature. Accordingly, the Association has encouraged dialogues, interactions and debates among sectors and disciplines on established paradigms, prevailing wisdoms, and future directions. We have always believed the world is heterogeneous, countries are at different stages of development, scientific and technological developments are continuous, and the future conditions will be very different compared to the past or present. This is, there are no universal solutions since one size does not fit all. Solutions, even for the same region, may vary with time to account for changing and evolving boundary conditions. IWRA has consistently used all the avenues that are available to it to promote generation, synthesis, application and dissemination of knowledge, including the World Water Congresses. Cost-effective and timely solutions for increasingly more complex water problems of the world can only be found through innovative ideas, open mind-sets, rapid scientific and technological advances, and free and frank discussions and debates between all stakeholders. As any student of history of scientific thoughts knows, knowledge does not advance through consensus.

From the perspective of IWRA, it is important to recognise that there are limits to what can be achieved within the current framework of dominant worldviews, paradigms and ideologies. Accordingly, whenever necessary or appropriate, these should be challenged and reassessed in order to achieve

continuous fine-tuning and evolution of thoughts. Current conceptual frameworks and theories on water development should be carefully analysed, and if necessary, reconsidered and modified. Such analyses and open discussions are essential to improve knowledge and contribute to more efficient water management in the coming years.

In this day and age, when many multidisciplinary professionals tend to defend narrow, ineffective and non-implementable, or partially implementable, approaches and solutions, we must actively promote serious and regular debates on different global views, ideologies, paradigms, practices and solutions on a transdisciplinary and multisectoral basis, with the ultimate goal to find better solutions than those that are currently available. The Montpellier Congress has been very specifically planned to ensure a high level of scientific content with the above philosophy in mind. I am confident that we shall go a long way to achieve these goals.

On behalf of the Association, I would like to acknowledge the extraordinary effort of Dr. Pierre Chevallier, Director Languedoc, Research Institute for Water and Environment; Dr. Bernard Pouyau, President of the Association VERSeau Développement; and Dr. Eric Servat, Director of Hydrosociences of the Montpellier Laboratory, as well as all the other members of the Team at Montpellier, for having made this Congress a reality. We express our most sincere appreciation to Dr. Olli Varis, Vice President of the IWRA and Chair of the International Scientific Committee, as well as to the other members of this Committee, for their hard work to ensure a high scientific level for this Congress. Last but not least, our thanks go to all the participants who have contributed to the realisation of the Congress and without whom this event would not have been possible.

Our next triennial Congress will be held in Brazil in 2011. We shall be looking forward to meeting many of our members there and continue with the dialogue that started in 1972, when our Association was first established.



*Cecilia Tortajada*  
**Cecilia Tortajada**

President, International Water Resources Association

Welcome

# Invitation



**Following** the success of the congresses in Melbourne (2000), Madrid (2003) and Delhi (2005), we are greatly honoured to organise in Montpellier, France the XIII<sup>th</sup> World Water Congress in September 2008, under the auspices of the International Water Resources Association (IWRA).

The ongoing interest of Montpellier and its region, Languedoc Rousillon in water issues began many centuries ago. Impressive witnesses to this heritage that has sculpted the landscape and the hearts and minds of the region's inhabitants are still visible today: the *Pont du Gard*, built by the Roman Empire to supply water for the city of Nîmes; the *Aqueduc du Peyrou* (early 18<sup>th</sup> Century) built by the world famous engineer, Pitot, in the heart of Montpellier; the complex development planning of the Camargue wetlands within the Rhône River delta (19<sup>th</sup> Century); and more recently, the construction of the Bas-Rhône Languedoc canal and its associated hydro-agricultural infrastructure.

Today, Montpellier offers diverse and complementary expertise in the field of water sciences and related research. Thanks to strong local links between the scientific community, local authorities and private companies, Montpellier is undoubtedly one of the most significant skill centres in Europe in the field of water. Its scientific community specialises in studies on the improvement of water management in the context of environmental sustainability under the constraints of global climate change.

The Congress is on track to becoming a stunning success: at the time of this writing, over 600 people from 70 different countries are registered. 260 oral presentations, 220 poster sessions, and 16 special sessions dealing with pressing and topical subjects, will present the most recent scientific research in the field. In addition, 4 side-events and

20 technical visits are available to congress participants. We are honoured to welcome the following internationally renowned figures: Angel Gurria, Secretary General of the OECD, Michel Jarraud, Secretary General of the World Meteorological Organisation, Bunker Roy, founder of Barefoot Colleges, and Luis Guedes, former Brazilian Minister of Agriculture, Livestock and Food Supply.

The French government has given its support through the Ministry of Ecology and Sustainable Planning and Development, through the Ministry of Foreign and European Affairs, and through the Ministry of Higher Education and Research. The Congress is officially labelled by the French Coordination for Water and is a part of the French contribution to the 2008 International Year of the Planet Earth.

We thank the French and international sponsors who are supporting this event: together they represent the large family of the water world: government agencies, local authorities, education and research establishments, associations, and large and small companies.

The Congress will also be an event for the citizens, including the youngest, of Montpellier and its region, with numerous public events (a film festival, art shows, exhibitions, talks, etc.).

It is an excellent opportunity to meet and get to know water specialists from all over the world, hopefully with fruitful future exchanges. We look forward warmly to greeting you at the XIII<sup>th</sup> World Water Congress.

*Welcome to Europe,  
Welcome to the Mediterranean border,  
Welcome to the south of France,  
Welcome to Montpellier!*

**Dr. Pierre Chevallier**  
Director Languedoc  
Research Institute for Water  
and the Environment

**Dr. Bernard Pouyau**  
President Association  
VERSeau Développement

**Dr. Eric Servat**  
Director HydroSciences  
Montpellier Laboratory



## Venue and dates

### VENUE

The XIII<sup>th</sup> IWRA World Water Congress will take place at the Corum at the heart of the Mediterranean city of Montpellier, France.

### CONGRESS DATES

1-4 September 2008

### FRANCE – THE HOST COUNTRY

France, the largest country in Western Europe, girt by four seas (North Sea, the Channel, Atlantic Ocean and the Mediterranean Sea) and flanked by mountain ranges (Pyrenees, Alps, Jura and the Vosges) offers to visitors a real diversity of landscapes and climates from one side to the other of the “Hexagon”.

With its rich historical tapestry passing from royalty and divine right to the Republic and democracy, the passage of time has profoundly marked the nation politically and has given rise to its rich culture and impressive architecture. France's heart lies very close to the diversity of her regions where the joining of traditional heritage and modern culture has always inspired excellence in creativity, whether in art and fashion, gastronomy and wine, and across industry, including leading-edge aeronautics and space engineering or other high-tech sectors, such as the high-speed rail industry.

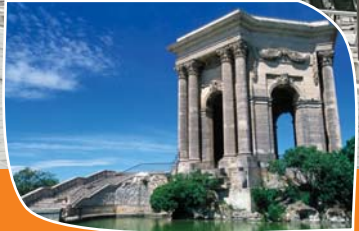


### ABOUT MONTPELLIER

Montpellier was one of the very first Western European cities to establish universities, in the 13<sup>th</sup> Century. Montpellier and its environs possess a richness in quality and diversity and a critical mass in the field of

water sciences and related fields. This renders it uniquely positioned in France and probably in Europe as the host of the XIII<sup>th</sup> IWRA World Water Congress.

Montpellier is geographically situated as an open portal between the developed countries of the North and the Mediterranean and tropical nations where the improvement of the conditions for water resources usage remains a mandatory requirement for sustainable development.



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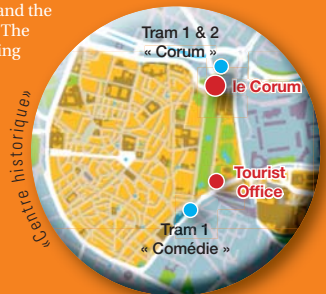
Montpellier provides world-class congress facilities at a place where the climate, the history, the southern French landscapes of coastlines, vineyards, “garrigue”, and mountains combine with the famous Mediterranean quality of life to make this Congress a unique event.

### For more information about Montpellier

visit the tourist office, located between the Corum and the Place de la Comédie. The friendly and welcoming staff there can get you going in the right direction and indicate the best places to visit in the city.

### Tourist Office

30, Allée Jean de Lattre De Tassigny,  
34000 Montpellier  
Tel: 04 67 60 60 60  
[www.ot-montpellier.fr](http://www.ot-montpellier.fr)



### HOW TO GET AROUND MONTPELLIER?

The Montpellier Agglomération Public Transit authority has a network of buses and tramways that will allow you to reach any part of the city. If you wish to find out more about their services, including bus and tramway schedules, please stop by the TAM offices (*Transports de l'Agglomération de Montpellier*) located by the « Gare » tram stop (lines 1 and 2):

### TAM

Rue du Grand St Jean - 34000 Montpellier  
Tel: 04 67 92 01 43  
[www.montpellier-agglomeration.com/tam/index2.php](http://www.montpellier-agglomeration.com/tam/index2.php)

# Congress Theme and Topics

The objective of the XIII<sup>th</sup> World Water Congress is to enhance the world's knowledge and raise global consciousness of the impact of global changes on water resources. The Congress contributes to the study of our planet's water resources by bringing together wide-interest participation, conferences and communications. This Congress is an important occasion on a global scale for open dialogue between public and private partners, between users and decision makers and between developing, emerging and developed countries. To achieve these objectives, the Congress will organise numerous debates, presentations and exhibitions among key water stakeholders.

## The interactions

between water resources and global changes are numerous and complex. Much is at stake for the future. The global change concept is made of three interdependent fields:

M. Bakalowicz © CNRS



**1. The intrinsic natural variability** of the environment is a permanent characteristic today as it has been in the near and the distant past. Water is a key player in this variability, acting all over the Earth's surface as a medium of matter transport, a sculptor of landscapes and a source of life and evolution.

**2. The impact of human societies** that modify their environment to their needs, particularly for crop and animal production, industrial activities as well as urbanisation. The monitoring and the integrated management of water resources represent decisive factors in these vital priorities for humanity.

**3. Current climate change**, visible since approximately one century ago, and its predominantly anthropological origins today receive general consensus from the scientific community. Global warming, a premier instance of global change, is strongly impacting the extent of glacier and snow cover; it also has a probable effect on precipitation and water flow regimes; and on the frequency and intensity of extreme events such as floods and droughts.

These three fields of climate change are undoubtedly inseparable. Recently however, tendencies have surged to set apart the third domain, climate change, from the two other fields, imputing that this alone is the cause of the adverse effects of global change. This is oversimplification. At a global scale, the water cycle is a complex system, where exchanges are always in flux, and where it is not possible to separate the impacts due to natural or anthropological influences, since a true state of equilibrium never exists. In reality, the stated dysfunctions of the water cycle and other related cycles are attributed to imbalances whose causes are varied and not just linked to climate change. The gap in the appreciation of water usage between the North and South is a real concern where perception and understanding of water uses differs. In the richest and most developed countries, water use issues relate to industrial needs and to the private consumer demands for leisure and domestic water. On the other hand, in less-developed countries, where economies and development are based mainly on agriculture, water uses and challenges relate mainly to crops and livestock.

In the future, water resources and the demands placed upon it at the local and regional scales, will become increasingly complex and disparities in access to water resources will grow. More than ever before, water will be a key issue for society and will drive mankind to undertake new initiatives to invent new approaches. However, the fundamental objective remains identical – to ensure that every human being has sufficient access to good quality water resources in the coming decades.





## The main topics of the XIII<sup>th</sup> World Water Congress

# GLOBAL CHANGES AND WATER RESOURCES

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### 1. WATER AVAILABILITY, USE AND MANAGEMENT

- OS1a Mediterranean
- OS1c Europe and North America
- OS1d Tropical zones
- OS1f Africa
- OS1h Multi-stakeholders and institutions for IWRM
- OS1i IWRM to combat water scarcity
- OS1j IWRM: Sustainable management of complex water systems
- OS1k IWRM and water allocation
- OS1m Water quality 1
- OS1n Water quality 2
- OS1q Hydrological diagnosis and forecasting: complex aquifers
- OS1s Hydrological diagnosis and forecasting: Advanced computational approaches

### 2. TOWARDS THE FUTURE: WATER RESOURCES AND GLOBAL CHANGES

- OS2a Trade and globalisation
- OS2b Environment and its variability

### 3. CLIMATE CHANGE AND DISASTERS

- OS3c Climate change: detecting trends, projecting future
- OS3d Climate change: Planning, adaptation and mitigation
- OS3e Regional and nationwide scenarios 1
- OS3f Regional and nationwide scenarios 2
- OS3g Climate change: disasters and extreme events

### 4. DEVELOPMENT OF WATER RESOURCES AND INFRASTRUCTURE

- OS4b Risk management 2
- OS4c Modelling and information management
- OS4d Remote sensing, DSS and GIS applications
- OS4e Infrastructure
- OS4g Risk management 1
- OS4h Risk management 3
- OS4i Water and energy

### 5. WATER GOVERNANCE AND WATER SECURITY

- OS5a Managing water under conflict situations
- OS5b Governing water towards sustainability
- OS5c Major international rivers
- OS5d Transboundary water issues
- OS5e Multiple and multisector uses
- OS5f Governance of water quality
- OS5g Human rights and local participation
- OS5k Local water governance 1
- OS5m Facing international and regional water governance challenges
- OS5n Institutional and legal development

### 6. WATER CONSERVATION AND DEMAND MANAGEMENT

- OS6a Economic instruments
- OS6b Water markets and water sharing approaches
- OS6d Water pricing: approaches and impacts
- OS6f The human dimension of water management
- OS6g Public-private partnership
- OS6j Urban and regional water conservation and reuse
- OS6k Rural water conservation and reuse

### 7. FINANCING WATER DEVELOPMENT

- OS7a Financing water development

### 8. CAPACITY BUILDINGS

- OS8a Capacity building

	1. Pasteur	2. Einstein	3. Joffre 1	4. Joffre A-B	5. Joffre C-D	6. Sully 3
09:30	Opening Ceremony					
11:00	Coffee break					
11:30	IWRA Pdt's adress					
11:55	Prince Sultan Bin Abdulaziz International Prize for Water					
12:00	KL1 Keynote lecture Angel Gurria					
13:00	Lunch					
14:00	<b>SSa1</b> Sustainable financing... lessons from the OECD (Part 1)	<b>OS7a</b> Financing water development	<b>OS1j E</b> IWRM: sustainable management of complex water systems	<b>SSH1 E</b> Assessment of climate change impact on the Arab region (Part 1)	<b>SSm1 E</b> Ten years of the Brazilian water law... (Part 1)	<b>OS6j E</b> Urban and regional water conservation and reuse
15:30	Coffee break					
16:00	<b>SSa2</b> Sustainable financing... lessons from the OECD (Part 2)	<b>SSi T</b> Water & Mountains	<b>OS1i E</b> IWRM to combat water scarcity	<b>SSH2 E</b> Assessment of climate change impact on the Arab region (Part 2)	<b>SSm2 E</b> Ten years of the Brazilian water law... (Part 2)	<b>OS6k E</b> Rural water conservation and reuse
17:00	17:00 Press conference					
17:30	Welcome cocktail					
18:00	Public conference Erik Orsenna					
20:30	<b>Monday</b>					
22h30	<b>1<sup>st</sup> September</b>					

Poster Session 1

	1. Pasteur	2. Einstein	3. Joffre 1	4. Joffre A-B	5. Joffre C-D	6. Sully 3
08:30	<b>SSb1 T</b> Future trends of water and food security in Central Asia (Part 1.)	<b>OS1a T</b> Mediterranean	<b>OS8a E</b> Capacity building	<b>OS3d E</b> Climate change : planning...	<b>SSq1 E</b> Innovation in water managt. in Japan... (Part 1)	<b>OS6f E</b> The human dimension of water management
10:00	Coffee break					
10:30	KL3 Keynote lecture M. Jarraud					
11:30	<b>SSb2 T</b> Future trends of water and food security in Central Asia (Part 2.)	<b>OS3e T</b> Regional and nationwide scenarios 1	<b>OS1k E</b> IWRM: water allocation	<b>OS2a E</b> Trade and globalisation	<b>SSq2 E</b> Innovation in water managt. in Japan... (Part 2)	<b>OS6g E</b> Public-private partnership
13:00	Lunch					
14:00	<b>SSc1 T</b> Challenge Program on Water and Food: water (Part 1)	<b>SSj T</b> Training needs in the water sector in Sub-Saharan Africa	<b>OS1c E</b> Europe and North America	<b>OS3f E</b> Regional, nationwide scenarios 2	<b>OS5d E</b> Trans-boundary water issues	<b>OS6c E</b> Water markets and water sharing approaches
15:30	Coffee break					
16:00	<b>SSc2T</b> Challenge Program on Water and Food: water (Part 2)	<b>OS5n E</b> Institutional and legal development	<b>OS1d E</b> Tropical zones	<b>OS3g E</b> Climate change: disasters...	<b>OS5e E</b> Multiple and multisector uses	<b>OS6d E</b> Water pricing: approaches and impacts
17:30	Ven Te Chow Award Dr. John Pigran					
18:00	<b>Tuesday</b>					
18:30	<b>2<sup>nd</sup> September</b>					

Poster Session 2

# Programme



# Schedule time table

	1. Pasteur	2. Einstein	3. Joffre 1	4. Joffre A-B	5. Joffre C-D
08:30	<b>SSd1 T</b> Risk Mgmt for water in the Mediterranean region (Part. 1)	<b>OS5a T</b> Managing water under conflict situations	<b>SSp1 E</b> ...Mekong region (Part 1)	<b>OS4c E</b> Modeling and information management	<b>OS5f E</b> Governance of water quality
10:00	Coffee break				
10:30	<b>KL4</b> Keynote lecture Bunker Roy				
11:30	<b>SSd2 T</b> Risk Mgmt for water in the Mediterranean region (Part. 2)	<b>OS1h T</b> Multi-stakeholders and Institutions for IWRM	<b>SSp2 E</b> ...Mekong region (Part 2)	<b>OS4d E</b> Remote sensing and GIS applications	<b>OS5g E</b> Human rights and local participation
13:00	Lunch				
14:00	<b>OS3c E</b> Climate change : detecting trends, projecting future	<b>SSI1 T</b> Challenges and current trends in agricultural research... (Part 1)	<b>OS1q E</b> Hydrological diagnosis and forecasting: complex aquifers	<b>OS4e E</b> Infra-structure	<b>SSn F</b> Normalisation and innovation...
15:30	Coffee break				
16:00	<b>OS1f E</b> Africa	<b>SSI2 T</b> Challenges and current trends in agricultural research... (Part 2)		<b>OS4i E</b> Water and energy	<b>OS5c E</b> Major international rivers
17:30	<b>Cultural event : Musée Fabre</b>				
18:00					
19:30	<b>Gala Dinner - IWRA awards</b>				
20:00					
23:00					

Poster Session 3

## Wednesday 3<sup>rd</sup> September

	1. Pasteur	2. Einstein	3. Joffre 1	4. Joffre A-B	5. Joffre C-D
08:30	<b>SSg1 T</b> Transboundary aquifers (Part 1)	<b>OS6a T</b> Economic instruments	<b>OS1m E</b> Water Quality 1	<b>OS4g E</b> Risk management 1	<b>OS5k E</b> Local water governance
10:00	Coffee break				
10:30	<b>KL5</b> Keynote lecture Luis Guedes				
11:30	<b>SSg2 T</b> Transboundary aquifers (Part 2)	<b>SSk T</b> French Water Agency actions...	<b>OS1n E</b> Water Quality 2	<b>OS4h E</b> Risk management 3	<b>OS5m E</b> Facing international and regional water governance challenges
13:00	Lunch				
14:00	<b>SSg3 T</b> Transboundary aquifers (Part 3)	<b>OS4b T</b> Risk management 2	<b>OS1s E</b> Hydrological diagnosis and forecasting: Advanced computational approaches	<b>OS2b E</b> Environment and its variability	<b>OS5b E</b> Governing water towards sustainability
15:30	Coffee break				
16:00	<b>Closing Ceremony</b>				
17:00	<b>General Assembly of IWRA</b>				
18:30					

Poster session 4

- Languages:**
- T=simultaneous translation  
English ↔ French
  - E=only English
  - F= only French

## Thursday 4<sup>th</sup> September

09h30	Opening ceremony (Room: Pasteur)
11h00	Coffee break
11h30	IWRA President's address (Room: Pasteur)
11h55	Prince Sultan Bin Abdulaziz International Prize for Water (Room: Pasteur)
12h00	KL1 Keynote lecture : Angel Gurria (Room: Pasteur)
13h00	Lunch

14h00  
15h30

- **SSa1 Sustainable financing to ensure affordable access to water and sanitation: lessons from the OECD (Part 1) (Room: Pasteur)**
- **SSh1 Assessment of climate change impact on the Arab Region (Part 1) (Room: Joffre A-B)**
- **SSm1 Ten years of the Brazilian water law: achievements and new challenges (Part 1) (Room: Joffre C-D)**
- **OS1j IWRM: Sustainable management of complex water systems (Room: Joffre 1)**
  1. Utilisation Des écotechniques Pour L'assainissement Des Eaux Usées Domestiques Dans Le Département De L'hérault - *Author: Jean Louis Brouillet*
  2. Exploitation Minière, Destruction Des Sources D'eau Et Réhabilitation Des Sols. Expériences Du Recodéal En Milieux Ruraux De La Province Du Kasai (r.d.c) - *Author: Jean Pierre Tshipamba-dikamba*
  3. Harmonising Consumptive Use And The Environment Through A Regional Irrigation Business Approach - *Author: Hector M. Malano*
  4. Gaming With Eutrophication : Contribution To Integrating Water Quantity And Quality Management At Catchment Level - *Author: Lucie Clavel*
  5. Improvement Of Iwrm Integrating Enhanced Reservoir Operation For Securing Water Quality, Water Quantity And Environmental Sustainability - *Author: Mélanie Bauer*
  6. A New Compact Model Coupling Rainfall-runoff And Routing Model To Support Reservoir Releases Management - *Author: Simon Munier*
- **OS6j Urban and regional water conservation and reuse (Room: Sully 3)**
  1. Singapore's Experience In Water Demand Management - *Author: Tay Teck Kiang*
  2. Urban Wastewater Reuse For Landscape Irrigation In A Seaside Resort: Microbial Requirements. - *Author: Eric Blin*
  3. Impact Of The 2006 Who Water Reuse Guidelines On Global Water Conservation And Reuse - *Author: Hillel Shuval*
  4. Community Water Supply And Sanitation In Nongteng Resettlement Residential Area For Uem In Vientiane The Capital City Of Lao P.d.r - *Author: Daophet Bouapha*
  5. The Role Of Small Scale Wastewater Treatment In The Development Of Water Resources In West Bank Of Palestine - *Author: Mohammed Yousef Sbeih*
  6. Decision Tool To Evaluate And Plan Water Resources At Souk-ahras - *Author: Samia Snani*
- **OS7a Financing water development (Room: Einstein)**
  1. A Simulation And Scenario Testing Of Canal Irrigation Cooperatives In India For Financial Viability And Sustainability - *Author: G.g.koppa*
  2. Financing Access To Water For All: World Water Forum To Be Held In Istanbul Should Pass From Words To Action - *Author: Gülser Öztunalı Kayir*
  3. International Investments In The Water Sector: Last Decade Analysis And Way Forward Towards Mdgs - *Author: Alejandro Jiménez*
  4. Can Smallholder Farmers Meet The Full Financial Costs Of Irrigation Services? - *Author: S. Perret*



15h30	<b>Coffee break</b>
16h00 17h30	<ul style="list-style-type: none"> <li>■ <b>SSa2 Sustainable Financing to Ensure Affordable Access to Water and Sanitation: Lessons from the OECD (Part 2) (Room: Pasteur)</b></li> <li>■ <b>SSH2 Assessment of climate change impact on the Arab Region (Part 2) (Room: Joffre A-B)</b></li> <li>■ <b>SSi Water in Mountains (Room: Einstein)</b></li> <li>■ <b>SSm2 Ten years of the Brazilian water law: achievements and new challenges (Part 2) (Room: Joffre C-D)</b></li> <li>■ <b>OS1i IWRM to combat water scarcity (Room: Joffre 1)</b> <ul style="list-style-type: none"> <li>1. Exploration And Evaluation Of Effective Integrated Water Management In The Development Of Agricultural Production Systems - <i>Author: Cailing Hu</i></li> <li>2. L'assainissement, Une Composante Clé De La Gestion Des Ressources En Eau - <i>Author: Christophe Le Jallé</i></li> <li>3. Water Policies And Agricultural Polices: - <i>Author: Consuelo Varela-ortega</i></li> <li>4. Bilan Geophysique Des Ressources En Eau Du Socle Sous Climats Mediterraneens Et Arides. - <i>Author: Jean Pierre Mercury</i></li> <li>5. How To Transfer Regional Experiences With Combatting Water Stress To Other Regions ? - <i>Author: J. Buma</i></li> <li>6. Optimal Conjunctive Use Of Groundwater And Surface Water In An Irrigation Network - <i>Author: A. Montazar</i></li> </ul> </li> <li>■ <b>OS6k Rural water conservation and reuse (Room: Sully 3)</b> <ul style="list-style-type: none"> <li>1. Water Conservation And Demand Management - <i>Author: Manisha Deb Sarkar</i></li> <li>2. Technical Issues Involved In Modernizing Farm Irrigation System - <i>Author: Bruno Molle</i></li> <li>3. Spatial Redistribution Of Water Resources In A Tunisian Semi-arid Catchment Subject To Conservation Works - <i>Author: Guillaume Lacombe</i></li> <li>4. Pilot Study On Agricultural Water Conservation And Efficiency Measures - <i>Author: Abdel-zaher Kamal Abdel-razek</i></li> <li>5. Classifying, Clustering &amp; Clumping; Defining Groups Of Irrigators In Australia's Namoi Valley. - <i>Author: G. Kuehne</i></li> <li>6. Integrated Assessment Of The Impact Of A Small Reservoir On Land Use And Livelihood In Burkina Faso - <i>Author: Katrin Zitzmann</i></li> </ul> </li> </ul>
17h00 18h00	<b>Press conference (Room: Press room)</b>
18h00 19h00	<b>Welcome cocktail</b>
20h30 22h30	<b>Public Conference - Erik Orsenna (Room: Pasteur)</b>



## Poster session 1 (Room: Poster room, 1<sup>st</sup> floor)

1. L'agriculture De Conservation Une Alternative Pour Ameliorer L'efficience De L'utilisation De L'eau -  
*Author: Issam Nouiri*
2. Le Sous-bassin Versant De La Rivière Jacaré Et Les Territoires De Gestion Des Eaux - *Author: Carlos Herminio De Aguiar Oliveira*
3. Hydroeconomic Models For Integrated Water Resource Management - *Author: Julien J. Harou*
4. Preliminary Results About The Health Impact Of A Water And Sanitation Program In Tangier (morocco) -  
*Author: Catherine Arfi*
5. Analysis Of Climate Change Trend And Possible Impacts In The Upper Brahmaputra River Basin –  
The Brahmatwinn Project - *Author: Wolfgang-albert Flügel*
6. Knowledge Technologies In Water Resources Management - *Author: K. Olsevicova*
7. Evaluation Des Paramètres De Fonctionnement Et De Performance Des Systèmes De Distribution D'eau  
Potable En Algérie. Cas De La Région De Biskra - *Author: R. Masmoudi*
8. Combined Use Of High Spatial Resolution Optical And Radar Satellite Data For The Monitoring Of Wheat  
Crops In The Semi-arid Tensift/Marrakech Plain - *Author: R. Hadria*
9. Land Use And Crop Evapotranspiration In Tensift/Marrakech Plain: Inter-annual Analysis Based On Modis  
Satellite Data - *Author: I. Benhadj*
10. Ríos Del Sur Del Valle Del Cauca Y Norte Del Cauca - *Author: Janio Jaramillo Flechas*
11. Study On The Water Availability In Iran, Using The International Water Indicators  
*Author: Hossein Malekinezhad*
12. Groundwater Resources In Jordan Valley: An Integrated Approach To The Hydrogeological Investigation  
Of Unconsolidated Aquifers - *Author: M. Toll*
13. Le Lac De Guiers (sénégal) - *Author: Awa Niang Fall*
14. Les Aquifères Karstiques Littoraux Du Levant (Syrie, Liban) Et Leur Décharge En Mer  
*Author: Michel Bakalowicz*
15. Water Resource In West Africa: Potential, Usages And Prospect - *Author: Hama Maïga*
16. Sedimentation And Irrigation Schemes In The Niger River Basin - *Author: Adam Mamadou*
17. La Recharge Artificielle Des Nappes Souterraines Dans Les Régions Semi Arides. Cas De La Nappe  
Alluviale Ain Chabro-hammamet (NE Algérien) - *Author: Karima Seghir*
18. Impact De La Sécheresse Sur Les Ressources Hydriques Dans Une Région Semi Aride. Caractérisation  
Hydrogéologique, Hydro Chimique, Bactériologique. Cas De La Nappe Alluviale Ain Chabro-hammamet  
(NE Algérien) - *Author: Karima Seghir*
19. Simulation Of Daily Runoff For The Salaca River Basin - *Author: Elga Apsite*
20. Les Principales Actions Pour Une Gestion Intégrée D'une Rivière Urbaine : La Bièvre, Affluent De La  
Seine En Ile-de-france - *Author: Sabrina Charles Bouhafsi*
21. La Mine D'arsenic De Matra (Corse) Et La Contamination De La Bravona - *Author: Julia-laurence Culioli*
22. The Impacts Of Direct Seeding On Soil And Environment Protection In The Mediterranean Climate -  
*Author: M.r. Khaledian*
23. Two Coordinated Models For Iwrm Of The Balsas River Basin In Mexico -  
*Author: Sergio Armando Trelles-jasso*
24. Reservoir Operation At Drought Condition Under The Uncertainty - *Author: H. Seyyedi*
25. De L'analyse Vers La Modélisation Dynamique De La Nappe Phréatique Du Bassin Versant Du Souss (sud-  
ouest Marocain) - *Author: Karima Askassay*

08h00  
18h00

08h00  
18h00

26. Potential Of The Rainwater In The Areas Of Northeast Climate Semi-arid Of Brazil -  
*Author: Josiclêda Domiciano Galvincto*
27. Un Modèle De Gestion Intégrée Des Ressources En Eau Dans Une Zone Hyperaride : Cas De L'oasis De Béni Abbès (vallée De La Saoura, Sud Ouest Algérie) - *Author: Touhami Merzougui*
28. Vers Une Gestion Intégrée Des Ressources En Eau : Le Cas Des Territoires Arides De L'industrie Phosphatière - *Author: Graveline Nina*
29. Electrical Resistivity Modeling Of Quartz Reef And Dolerite Dyke In Granite Hard Rocks -  
*Author: Benoit Dewandel*
30. Appeau : Which Agrosystems And Public Policies For A Sustainable Management Of Water Resources ? - *Author: D. Leenhardt*
31. Simulations Of Multipurpose Water Availability In A Semi-arid Catchment Under Different Management Strategies. - *Author: Julien Burté*
32. Planning And Restoring Of Small Hydropower Stations For Small Basins : Actual Conditions And Potential Developments. - *Author: Elena C. Carcano*
33. Mineral Ions Adsorption Onto Inert Solid Biomaterials Of Vegetal Origin - *Author: Mohamed Chibani*
34. Water Allocation Strategies And Their Implications - *Author: Nicole Kretschmer*
35. Evaluation Of On-farm Irrigation Scheduling: Case Study Of Drip Irrigated Potatoes In Southern Tunisia -  
*Author: Kamel Nagaz*
36. Water Reuse In Action In South Australia: A Review Of Agricultural And Municipal Reuse Schemes And Innovation. - *Author: Stephanie Rinck-Pfeiffer*
37. Areas Of Use For Generic Decision Support Systems For Integrated Water Resources Management -  
*Author: Evers Mariele*
38. Caractérisation Des Aquifères Par Résonance Magnétique Des Protons : Un Exemple Au Niger -  
*Author: Marie Boucher*
39. Institutional Diversity, Market Pressure And Performance Of Irrigation Systems: Comparative Perspective In Nepal And Thailand - *Author: Ganesh P. Shivakoti*
40. Aspects Hydrogéologiques Et Socio-legaux Des Eaux Souterraines Dans La Satisfaction Des Besoins Domestiques Au Niveau Du Bassin Versant De La Volta - *Author: Nicola Martin*
41. Quelles Réformes Institutionnelles Pour Une Meilleure Efficience De L'eau En Agriculture Afin D'atteindre Les Omd? - *Author: Philippe Guettier*
42. Integrated Water Basin Management In Poayng Lake Basin In China - *Author: Fu Chun*
43. Elaboration Of A Learning And Testing Simulation Tool To Improve Water Management The Crau Hay Cropping System - *Author: A. Merot*
44. Integration Des Données Géophysiques Et Géochimiques Dans L'étude De L'aquifère Superficiel De Ghardimaou(tunisie) - *Author: Mohamed Hédi Inoubli*
45. Wastewater Treatment By Adsorption Onto Carpobrotus Edulis Used As Natural Adsorbent -  
*Author: Mohamed Chibani*
46. Numerical Modelling And Isotopes Underline Climate Impacts On Groundwater Nitrate In Temperate Agricultural Settings - *Author: Martine M. Savard*
47. Associations D'irrigants Et Bien Club : Cas D'étude De La Plaine De Kairouan (tunisie) -  
*Author: Mohamed Salah Bachtá*
48. Assessing The Benefits Of Groundwater Protection Levels: A Case In The Upper Rhine Aquifer, France -  
*Author: Jean-daniel Rinaudo*
49. Modelling Runoff In Semi Arid Mountainous Watersheds Using The Simple Conceptual Model Gr4j – Examples In The High Atlas Mountains - *Author: Vincent Simonneau*
50. Construction Of A Water Management Support System For The Chekka Bay Area (lebanon) -  
*Author: Michel Bakalowicz*

■ **SSb1 Future trends of water and food security in Central Asia, implications for reaching the millenium development goals (Part 1) (Room: Pasteur)**

■ **SSq1 Scientific and technological innovation in water management in Japan and proportion of international collaboration (Part 1) (Room: Joffre C-D)**

■ **OS1a Mediterranean (Room: Einstein)**

1. Gestion De La Demande En Eau En Méditerranée, Progrès Et Politiques - *Author: Gaëlle Thivet*
2. L'eau En Méditerranée, Situation Actuelle Et Perspective - *Author: Mohammed Blinda*
3. Regionalisation De L'envasement - Application Aux Lacs Collinaires De L'afrique Du Nord - *Author: Imane Ayadi*
4. Impact Of Global Climate Change On Agricultural Water Use In The Mediterranean Region - *Author: Sevilyay Topcu*
5. Hydrological Modelling In The High Atlas Mountains With The Help Of Remote-sensing Data: Milestones Of The Sudmed Project - *Author: G. Boulet*
6. Comportement Des Producteurs Agricoles Et Efficacité D'usage De L'eau En Semi-aride Tunisien - *Author: Fraj Chemak*

■ **OS3d Climate change: Planning, adaptation and mitigation (Room: Joffre A-B)**

1. Omere A Long Term Hydrological Research Observatory About Anthropogenic And Climate Change Impacts On Water And Matter Flow In Mediterranean Rural Catchments - *Author: M. Voltz*
2. Population Vulnerability And Climate Variability In The Sahel: - *Author: Malick Zoromé*
3. Water Balance Model To Predict Climate Change Impacts In Watershed Epitácio Pessoa – Paraíba River - Brazil - *Author: Josicleda D. Galvıncio*
4. New Solutions For Water Supply Management In A Climate Change Context - *Author: Guillaume Arama*

■ **OS6f The human dimension of water management (Room: Sully 3)**

1. La Reconnaissance Sociale Comme Préalable Du Progrès Technique - *Author: Claire Gout*
2. Water Matters In New Zealand: Exploring And Articulating Social Values - *Author: Ann Winstanley*
3. Water Soft Paths: Planning Beyond Demand Management - *Author: Paul A. Kay*
4. Identifying Water-poverty Links At Plot Level: - *Author: Stephen Vosti*
5. Increasing Water Use Efficiencies Through Participatory On-farm Water Management Studies - *Author: Shahab Daneshvar*
6. Economic Costs On Health Related To Water: Mexico Case - *Author: Boris Marañón-pimentel*

■ **OS8a Capacity building (Room: Joffre 1)**

1. Capacity Development In Iwrm Through E-learning – Experiences Of Water Virtual Learning Centre At Ait, Thailand - *Author: Mukand S. Babel*
2. Capacity Building Programmes For Effective Transboundary Water Management - *Author: Anton Earle*
3. Une Démarche Pédagogique à L'appui D'échanges D'expériences Sud-sud : Les Stages Collectifs Du Projet Sirma - *Author: J Poncet*
4. Improving Farmers' Adaptive Capacity To Manage Water Dynamics Through Participatory Agent-based Modelling And Simulation In Northeast Thailand - *Author: W. Naivinit*
5. Teaching Canal Hydraulics And Control Using A Computer Game Or A Scale Model Canal - *Author: Pierre-Olivier Malaterre*
6. From Revindication To Proposition: Capacity Building In Negotiation About Water Management In Periurban Areas. - *Author: Raphaële Ducrot*

08h30  
10h00

Coffee break

10h30  
11h30

KL3 Keynote lecture : Michel Jarraud (Room: Pasteur)

11h30  
13h00

■ **SSb2 Future trends of water and food security in Central Asia, implications for reaching the millenium development goals (part 2) (Room: Pasteur)**

■ **SSq2 Scientific and technological innovation in water management in Japan and proportion of international collaboration (Part 2) (Room: Joffre C-D)**

■ **OS1k IWRM and water allocation (Room: Joffre 1)**

1. Water Allocation And Climate Change In A West African Transboundary Basin (volta) -  
*Author: Devaraj De Condappa*
2. The Use Of Multi-objective Optimization For Reservoir's System Operation With An Evolutionary Algorithm: The Case Of The Metropolitan Region Of Fortaleza, Brazil - *Author: Francisco Venicius Fernandes Barros*
3. Sustainabel And Beneficial Use Of National Dam Water Resources In Swaziland -  
*Author: Jonathan I. Matondo*
4. Coordinating Policy Initiatives Between Governments In The Water Industry - *Author: Brian Davidson*
5. Mogire, A Model For Integrated Water Management - *Author: Arnaud Reynaud*
6. Integrated Watershed Management Using Multicriteria Decision Making Technique -  
*Author: Eun-sung Chung*

■ **OS2a Trade and globalisation (Room: Joffre A-B)**

1. Erratic Rains And Erratic Markets - *Author: Wolfram Laube*
2. Community Impacts Of Water Markets In Australia's Murray Darling Basin: Implications For Social Sustainability - *Author: Jane Edwards*
3. Should U.s. Water Takings Jurisprudence Influence Nafta Ch. 11 Appropriation Claims For Water? -  
*Author: Jonathan R. Schutz*
4. Water And Free Trade Agreements - *Author: Pablo Solón*
5. Water And Trade In Agriculture. Investigating Virtual Water Hypothesis In The Euro-Mediterranean Region.  
*Author: Alexandre Le Vernoy*

■ **OS3e Regional and nationwide scenarios 1 (Room: Einstein)**

1. Climate And River Runoff Changes In West And Central Africa: Past Variability And Prediction Of Water Resources For The 21st Century. - *Author: G. Mahé*
2. Impact De La Variabilité Climatique En Zone équatoriale : Exemple De Modification De Cycle Hydrologique Des Rivières Du Sud-cameroun - *Author: Gaston Liéno*
3. Melting Of Low Latitude Andean Glaciers According To Global And Local Climate Variations -  
*Author: Eric Cadier*
4. The Water Resources Of Perú And The Consequences Of Climate Change - *Author: Daniel N. Leavell*
5. Climate Change Impacts On Water Availability In The Semi-arid Elqui Valley, Chile -  
*Author: Maxime Souvignet*
6. Response Of Lake Mar Chiquita (argentina) To Climate Change: Data Analysis And Application Of A Lake-catchment Model - *Author: Magali Troin*

■ **OS6g Public-private partnership (Room: Sully 3)**

1. Water Soft-path Application In Industrial Systems: A Pulp And Paper Case Study -  
*Author: Elizabeth Hendriks*
2. Euro Promocap Iwat Project, "make More With Same Or Make Same With Less" - *Author: Didier Perez*
3. Private Sector Participation In Water Supply: Prospects And Challenges In Developing Economies -  
*Author: E.O. Longe*
4. Aquifer Storage And Recovery: - *Author: John Ward*

13h00

Lunch

■ **Ssc1 Challenge Program on Water and Food: water, agriculture and poverty alleviation in basin focal projects (Part 1) (Room: Pasteur)**

■ **Ssj Training needs in the water sector in Sub-Saharan Africa (Room: Einstein)**

■ **OS1c Europe and North America (Room: Joffre 1)**

1. Un Modèle Pluie-débit Distribué Parcimonieux Pour La Prédétermination Et La Prévision Des Crues éclair. Application Au Bassin Du Gardon D'anduze (france). - *Author: Christophe Bouvier*
2. The Future Of Europe's Freshwaters – Perspective Up To 2030 - *Author: Ilona Bärlund*
3. Is The Water Framework Directive Going To Work? - *Author: José Albiac*
4. A Comparative Evaluation Of Selected Aspects Of The Eu's Water Framework Directive Versus The U.S. Clean Water Act - *Author: Timothy D. Steele*
5. Canadian Agriculture And Water - *Author: Darrell R. Corkal*
6. Geochemical Evolution And Timescale Of Seawater Intrusion Into The Confined Coastal Aquifer Of The Rhone Delta - *Author: V. De Montety*

■ **OS3f Regional and nationwide scenarios 2 (Room: Joffre A-B)**

1. Regional Tests For Trend Detection In Maximum Pluviometric Series In The French Mediterranean Region. - *Author: Nicolas Pujol*
2. The Amancay Project: From Decennial To Interannual Climate Variability In Tropical And Subtropical South America - *Author: Françoise Vimeux*
3. Possible Impacts Of Climate Change On The Nile Flows And Future Water Management In The Nile Basin - *Author: Mohamed Abdel Aty Sayed*
4. The Impacts Of Global Climate Change On Irrigation Water Requirement Of Wheat In China - *Author: Junguo Liu*
5. Vulnerability Of Mediterranean Hydrosystems To Climate Changes And Human Activities: The Vulcain Project - *Author: Yvan Caballero*
6. Area Differentiated Analysis Of Impacts Of Climate Change Scenarios On Groundwater Resources In Northwestern Germany - *Author: Frank Wendland*

■ **OS5d Transboundary water issues (Room: Joffre C-D)**

1. Transboundary Basins And Their Development Projects: Status Of Some Projects And Elements Of Analysis *Author: Julie Ladel*
2. Ewater: The European Multilingual Ground Water Information System. - *Author: E. Balloffet*
3. Cost Sharing Of An International Watercourse With Respect To State Sovereignty - *Author: Fady Hamade*
4. La Gestion Intégrée Des Ressources En Eau Transfrontalières Et Les Systèmes D'information. - *Author: Philippe Guettier*
5. The Triangle Of Needs: A Framework For Promoting Cooperation In Transboundary River Basins - *Author: Maria Placht*
6. The Eu Water Framework Directive Implementation In The Iberian Context - *Author: Rodrigo Maia*

■ **OS6c Water markets and water sharing approaches (Room: Sully 3)**

1. Péréquations Tarifaires Et Approvisionnement En Eau Des Quartiers Insalubres De Casablanca. *Author: Anne Olivier*
2. Market-based Water Policies And The Search For Environmental Justice And Sustainability - *Author: Antonio A. R. Ioris*
3. Who Gets What? Policy Lessons On How To Share Scarce Irrigation Water During Droughts - *Author: Sophie Thoyer*
4. Monitoring The Impacts Of Water Trading Some Methods And Results From An Australian Water Market - *Author: Bjornlund Henning*
5. Water Sharing Among Competing Farmers In Temperate Climate: A Study Of Different Pricing Mechanisms *Author: Jean-philippe Terreaux*
6. The Challenge Of Agricultural Water Conservation And Water Demand Management In South Africa. - *Author: Andrew Pott*

14h00

15h30

15h30

Coffee break



## ■ SSc2 Challenge Program on Water and Food: water, agriculture and poverty alleviation in basin focal projects (Part 2) (Room: Pasteur)

### ■ OS1d Tropical zones (Room: Joffre 1)

1. Delineation Of Superficial Alluvial Aquifers Using Dem Geoprocessing : Application To Semi-arid Northeast Brazil  
*Author: Pascal Kosuth*
2. The Reverse Side On The River Management In These 60 Years In Japan - as The Examples Of The Conflict Between The Upper And Downstream People - *Author: Yutaka Takahasi*
3. Assessment Of Water Availability In Some River Basins Of Western Nepal - *Author: Jagat K. Bhusal*
4. Water Availability Reduction In Reservoirs For Different Sediment Yield Scenarios In A Semiarid Watershed -  
*Author: José Carlos De Araújo*
5. Challenges Of Water Resources Planning In The Andes - *Author: Jean-christophe Pouget*
6. Environmental Kuznets Curve For Irrigation And Its Implications For Future Water Demands -  
*Author : Madhusudan Bhattarai*

### ■ OS3g Climate change: disasters and extreme events (Room: Joffre A-B)

1. Impact Of Climate Change On Hydrological Risks - *Author: Philippe Cantet*
2. Impact Du Projet Energie De L'omvg Dans La Gestion Des Extrêmes Hydrologiques Dans Le Parc National Du Niokolo-koba Et Dans La Moyenne Vallée Du Fleuve Gambie. - *Author: Justino Vieira*
3. Impact Of Hurricanes In Urban Centers: Metropolitan Area Of Mexico City - *Author: Augustin Felipe Breña-puyol*
4. Capacity Building In Developing Countries As The Aftermath Of Natural Disasters - *Author: Tadeusz Malkiewicz*
5. Simulating Hydraulic Management Of The Rhone Delta Under Flood And Sea Surge Conditions -  
*Author: Philippe Chauvelon*
6. Groundwater Use In Earthquake Emergency: A Case Study In Japan - *Author: Tadashi Tanaka*

### ■ OS5e Multiple and multisector uses (Room: Joffre C-D)

1. Industrie Et Agriculture à Casablanca (cas De La Commune Rurale Bouskoura Et La Commune Urbain Ain Harrouda) - *Author: Fatima Zidane*
2. Participatory Risk Management Approaches For Water Planning And Management: Insights From Australia And Bulgaria - *Author: Katherine A. Daniell*
3. Water Resource Allocation Modelling To Harmonise Supply And Demand In The Malaprabha Catchment, India -  
*Author: Biju George*
4. Strategy Of Morphopedologic Unities Use Face To Climatic Change On Soudan Sahelian Zone. - *Author: S. Valet*
5. Facilitating Policy-oriented Learning About The Multi-actor Dimension Of Water Governance -  
*Author: Leon M. Hermans*
6. Household Water Demand Prediction Model With Changing Economic Effects By Using Input-output Table Model -  
*Author: Pongsak Suttinon*

### ■ OS5n Institutional and legal development (Room: Einstein)

1. La Directive Cadre Eau : Quels Enjeux ? Quelles Méthodes ? Quelles Stratégies ? - *Author: Anaïs Giraud*
2. Le Conseil Directif Du Cachapoal, Exemple De Gouvernance De L'eau En Chili - *Author: Lilian Jara Rojas*
3. Gouvernance De L'eau Dans Les Métropoles Brésiliennes: Une Nouvelle Perspective Pour La Coopération Interinstitutionnelle - *Author: Ana Lucia Britto*
4. Construire Gouvernance Dans La Prestation Du Service D'eau Dans Cochabamba - *Author: Econ. Rossina Alba Maydana*
5. Institutional Structures In The Water And Sanitation Sector - *Author: Patricia Phumpiu*
6. Governmental Intervention Into Water Rights Trading In The Context Of China's Water Policy Reform - *Author: Min Jiang*

### ■ OS6d Water pricing: approaches and impacts (Room: Sully 3)

1. Economic Assessment Of Basin Scale Strategies To Achieve Water Quality Goals (good Status) In The Elbe River Basin - *Author: Malte Grossmann*
2. Residential Water Price Elasticity And Full Water Cost Estimation According To The European Water Framework Directive - *Author: Nikitas Mylopoulos*
3. Irrigation Water Use And Its Effective Efficiency In Portugal - *Author: Naim Haie*
4. Water Supply: Costs And Performance Of Water Utilities. Evidence From Switzerland - *Author: Andrea Baranzini*
5. Decentralization In The Management Of Irrigation And The Need Of Social Mediation Process: Lessons Learned From Isimm In Egypt - *Author: Mohamed H.a. Nawar*

16h00  
17h30

18h00  
19h00

Ven Te Chow Award, Dr. John Pigram (Room: Pasteur)

## Poster session 2 (Room: Poster room, 1<sup>st</sup> floor)

1. Characterisation Of Underground Flows In Karstic Aquifers By Studying Dom Fluorescence. Example Of Two Mediterranean Systems (Lez And Causse D'aumelas, Southeastern France) -  
*Author: Christelle Batiot-guilhe*
2. Economic Implications Of Increasing Nitrate In Groundwater Due To Climate Change, Prince Edward Island, Canada - *Author: George Somers*
3. Evolution Des Caractéristiques Physico-chimiques Et Bactériologiques Des Eaux Souterraines Des Quartiers Périphériques De La Ville De Brazzaville (congo) - *Author: Jean De Dieu Nzila*
4. Calibration Of Watershed Models With Multi-objective Evolutionary Algorithms - *Author: Francisco Venicius Fernandes Barros*
5. Samir, A Tool For Irrigation Monitoring Using Remote Sensing For Landcover Mapping And Evapotranspiration Estimation - *Author: Vincent Simonneaux*
6. Natural Flows Determination In Gauged Hydrological Basins (part I) - *Author: Humberto Silva-hidalgo*
7. An Investigation The Effects Of Generalized Skew Coefficient (third Moment) On Instantaneous Annual Maximum Discharges. - *Author: Nasser Tahmasebi*
8. Evaluation Of The Impact Of Surface Industry Treatment On The Quality Of Wadi Isser -  
*Author: Sihem Tireche*
9. Rainfall-runoff Modeling For Flood Forecasting: Application Of Global Methodologies To A Medium-size Basin In Brazil - *Author: Bruno Rabelo Versiani*
10. Pretreatment Of Activated Sludge By Ultrasonic Irradiation - *Author: Rana Kidak*
11. Etat Actuel De L'invasion Marine Dans La Baie D'alger - *Author: Toubal Ahmed Chérif*
12. On The Origin Of Cyanobacteria Blooms In The Enxoé Reser - *Author: Henrique Coelho*
13. Estimation Of Precipitation Climatographies Using Atmospheric Models - *Author: Scott Swerdlin*
14. Caractérisation Et Modélisation Des Interactions Karst/rivière En Crue - *Author: Viencent Bailly-comte*
15. Application Of Model Metq For The Rivers Basins Under Different Natural Conditions In Latvia -  
*Author: Anda Bakute*
16. Cartographie De La Vulnérabilité Des Aquifères De L'ouest De L'île De La Réunion Au Transfert De Polluants. - *Author: Frédéric Feder*
17. Comparative Adsorption Of Levodopa From Aqueous Solution On Different Granular Activated Carbons -  
*Author: Isaribel Quesada- Penate*
18. The Underground Brackish Waters In South Algeria: Potential And Viable Resources -  
*Author: Bouchekima Bachir*
19. Monitoring Of Processes In A Surface Water Treatment Plant - *Author: Zielina Michal*
20. Impact Of Filter Operation On Filtrate Quality - *Author: Zielina Michal*
21. 1- To 10-day In-advance Ensemble Flood Forecasting For Ethiopia - *Author: Thomas Hopson*
22. Secular Evaluation Of Características Físico-químicas Of Waters Used In The Irrigated Perimeter Waterfall II In Serra Talhada/pe Brazil - *Author: Josimar Gurgel Fernandes*
23. Hydrological Processes Analysis In Amazonia - *Author: Alfredo Ribeiro Neto*
24. Modélisation Des Flux D'azote D'un Bassin Versant Semi Humide Par Le Modèle Swat -  
*Author: Aouissi Jalel*
25. Qualité Des Eaux Alimentants La Ville De Casablanca De La Source Au Consommateur. (cas Des Nitrates Et Ion Chlorures) - *Author: Fatiha Zidane*
26. Atmospheric Input Of Contaminants To A Small Mediterranean Basin - *Author: C. Salles*
27. Cost-effective Abatement Of Water Pollution From Agricultural Sources Classified In Risk Classes -  
*Author: Tihomir Anceva*

08h00  
18h00

08h00  
18h00

28. Areas Of Use For Generic Decision Support Systems For Integrated Water Resources Management -  
*Author: Evers Mariele*
29. Current Situation Of Water Supply And Improvement Of Sanitary Conditions In Republic Of Tajikistan -  
*Author: Inom Sh. Normatov*
30. An Investigating The Effects Of Generalized Skew Coefficient(third Moment ) On Instantaneous Annual Maximum Discharges. (case Study : Dez Basin In South Western Of Iran) - *Author: Nasser Tahmasebi*
31. Problems Of Wastewater Clearing - *Author: Inom Sh. Normatov*
32. Water Quality Evaluation Of The Akumal Aquatic Ecosystem (SE Mexico) -  
*Author: Laura Hernández-terrónes*
33. Groundwater Hydrochemistry Of The Eastern Area Of The Northern Algerian Sahara – Identification Of An Endemic Fluorosis Risk. - *Author: Nora Bouchahm*
34. Mangrove Et Bioremediation : Efficience Socio-écologique D'un Dispositif D'épuration Des Eaux Usées à Mayotte - *Author: S. Becerra*
35. Using Neural Network Models To Forecast The Inflow Of Doroudzan Dam – Iran -  
*Author: Ali Torabi Haghighi*
36. Natural Flows Determination In Gauged Hydrological Basins (part II) - *Author: Humberto Silva-hidalgo*
37. Water Salinity Of Alluvial Aquifer In Semi-arid Context: Origin, Dynamics And Anthropogenic Impacts. -  
*Author: Julien Burte*
38. Deficit Irrigation Reliability Analysis: - *Author: Maryam Shekarzifard*
39. Using Neural Network Models To Forecast The Inflow Of Doroudzan Dam – Iran -  
*Author: Ali Torabi Haghighi*
40. Experiences In Water Quality Simulations Of A Medium-sized Agricultural Temporary River Basin  
*Author: Matthias Obermann*
41. Characterization Of The Aquifers In The Mountains Of The Mediterranean Zone: An Example Of The Central Corsica - *Author: B. Khouméri*
42. Phosphorus (p) And Natural Organic Matter (nom) Excesses In Dam Waters From Anthropogenic Activities : Diagnosis And Realistics Natural Water Treatments - *Author: F. De Nardi*
43. Modélisation Des Nutriments Et Des Matières En Suspension Dans Un Bassin Versant De La Lagune De Bizerte - *Author: Jalel Aouissi*
44. Infiltration Assessment For Better Watershed Management In Northern Mexico -  
*Author: Jose Luis González Barrios*
45. Impact Des Activités Industrielles Sur La Pollution De La Nappe D'eau De La Ville De Souk Ahras, Algérie. - cas D'une Unité De Production De Peintures-- *Author: Mohammed Meksouin*
46. Dependence Of Total Evaporation Of Irrigated Cultures On Climatic Factors: The Hysteresis' Effect -  
*Author: Yusup Rysbekov*
47. Apport Des Données Spot-vegetation à La Modélisation De La Fonte De Neige Dans Le Haut Atlas Marocain - *Author: A. Boudhar*
48. Technological Characteristics Of Irrigated Agriculture At The Villa Juarez, Durango Aquifer. North Of Mexico. - *Author: Ignacio Orona Castillo*
49. Our Cousins Chimpanzees And Baboons Face Global Warming By Digging Wells To Filtrate Drinking Water  
*Author: G. Galat*

08h30  
10h00

■ **SSd1 Risk management for water in the Mediterranean region, an example of actions in research development (Part 1) (Room: Pasteur)**

■ **SSp1 Imagining future waterscapes in the Mekong region (Part 1) (Room: Joffre 1)**

■ **OS4c Modelling and information management (Room: Joffre A-B)**

1. Stochastic Models Of Low Flow For The Risk Evaluation - *Author: Mikhail Bolgov*
2. Impacts Of Climate Change And Human Activities On Runoff Decrease In Haihe Catchment, Northern China - *Author: Lv Yungang*
3. Design And Development Of Software For Training The Watershed Managers In The Estimation Of Runoff In A Catchment - *Author: T. B. Kavitha*
4. Defining Indicators Of Irrigation Performance In The Context Of Iwrm Monitoring In West Africa  
*Author: Jacques Rey*
5. Application Of Multi-agent Systems And Ambient Intelligence Approaches In Water Management  
*Author: Peter Mikulecký*
6. The Use Of Material Flow Analysis And Indicators For Supporting Enhanced Water Policy Decisions  
*Author: Lara Jacob*

■ **OS5a Managing water under conflict situations (Room: Einstein)**

1. Privatisation Of Irrigation Water Services: Conflict, Mediation And New Partnerships In The Elguerlane Project, Morocco - *Author: Annabelle Houdret*
2. Managing Water In The Segura Basin: Conflicts Around Gated Communities In Murcia -  
*Author: Anna Zimmer*
3. Water, Environment And Pacific Settlement Of Disputes - *Author: Maria José Cervell Hortal*
4. Résolution De Conflits De L'eau: Analyse Des Dispositifs Juridico-administratifs En France Et Au Brésil - *Author: Noemia Bohn*
5. Past And Present Can Help Build Better Future For The States Sharing Water Resources (Israeli-Arab Water Conflict) - *Author: Mohamed Asheesh*
6. Israël/Palestine : Pour Sortir De La Crise De L'eau Dans Un Contexte De Forts Changements Démographiques. - *Author: Pierre Blanc*

■ **OS5f Governance of water quality (Room: Joffre C-D)**

1. New Challenges For Water Quality Monitoring: Potential Role Of Novel Monitoring Tools -  
*Author: Catherine Gonzalez*
2. Surface Waters Vulnerability Assessment: A Case Study (tuscano And Picientino Rivers) - *Author: M. Giugni*
3. Towards A New Drinking Water Governance In France? From Europe To Local Scale -  
*Author: Aurélie Roussary*
4. Coupled Water And Nutrient Modelling Of An Intermittent French River: The Vène -  
*Author: Nanée Chahinian*
5. Estimation Of Environmental Flows At The Orange River Mouth Using An Improved Spatial Interpolation Approach. - *Author: Billy Troy*

10h00

**Coffee break**

10h30  
11h30

**KL4 Keynote lecture Bunker Roy (Room: Pasteur)**

■ **SSd2 Risk management for water in the Mediterranean region, an example of actions in research development (Room: Pasteur)**

■ **SSp2 Imagining future waterscapes in the Mekong region (Part 2) (Room: Joffre 1)**

■ **OS1h Multi-stakeholders and institutions for IWRM (Room: Einstein)**

1. Modelling Regional Water Demand For Agriculture With Stakeholders : An Example In The Drôme Basin. - *Author: Ph. Le Grusse*
2. Boire Ou Manger? Boire Et Manger. Vers Une Gestion Intégrée Du Kapilaler De Klaten - *Author: Robin Bourgeois*
3. Bases Of A Strategic Plan Of Sustainable Water Resources Management: The Case Of South Region Of Cordoba, Argentina - *Author: Juan Carlos Bertoni*
4. Integrated Management Of The Water Resources Of The Volta Lake In Ghana – The Vra Experience - *Author: Emmanuel M. K. Amekor*
5. The Niger River And Water Resource Management - *Author: Gilles Rocquelain*
6. Implementing Iwrm In Egypt: From Concept To Reality - *Author: Eric Viala*

■ **OS4d Remote sensing, DSS and GIS applications (Room: Joffre A-B)**

1. An Integrated Modelling And Remote Sensing Approach For Hydrological Study In Arid And Semi-arid Regions - *Author: A. Chehbouni*
2. Gis For Sustainable Water Development In Central Asia - *Author: Victor Dukhovny*
3. Monitoring Of Surface Water Quality In Large Rivers With Satellite Imagery - *Author: Jean Michel Martinez*
4. Remote Sensing And Hydrochemistry Of Lakes-groundwater Interaction - *Author: Sarah Tweed*
5. Effect Of Catchment Land Use Change On The Water Resources And Water Quality - *Author: Olga Barron*
6. The Aquastress Integrated Solutions Support System: I3s - *Author: C.j. De Zeeuw*

■ **OS5g Human rights and local participation (Room: Joffre C-D)**

1. Rainwater Tanks In Schools – Learning Water Conservation From The Corrugated Iron Sheets - *Author: Amit Chanan*
2. Community Perceptions Of Water Quality And Current Institutional Arrangements In The Great Barrier Reef Region Of Australia - *Author: Silva Larson*
3. Getting Access Right - *Author: Irit Eguavoan*
4. Local Water Governance In South Africa: To Which Extent Participatory Approaches Facilitate Multi-stakeholder Negotiations? The Kat River Valley Experience - *Author: S. Farolfi*
5. Drawing Water For Thirsty Lands: Stories Of The Closing Krishna River Basin In South India - *Author: Jean Philippe Venot*
6. A Human Right To Water For Food Production? - *Author: Inga T. Winkler*

11h30  
13h00

13h00

Lunch

14h00  
15h30

■ **SS11 Challenges and current trends in agricultural research for improving water use and management in cropping systems (Part 1) (Room: Einstein)**

■ **SSn Normalisation and innovation / research in the water sector - the bridges required in the European context (Room: Joffre C-D)**

(...)

14h00  
15h30

## ■ OS1q Hydrological diagnosis and forecasting: complex aquifers (Room: Joffre 1)

1. Transfer Functions In A Karst Watershed Using Correlation And Spectral Analyses -  
*Author: Vincent Bailly-comte*
2. Active Water Management Resources Of Karstic Water Catchment: The Example Of Le Lez Spring (montpellier, South France) - *Author: Nathalie Dörfliger*
3. Hydraulic Characterisation Of A Karst Aquifer Using Large-scale Pumping Tests In The Conduit System -  
*Author: Thomas Reimann*
4. Recent Progress Of The Hydrogeological Conceptual Model Of Hard Rock Aquifers -  
*Author: P. Lachassagne*
5. Gestion Intégrée De L'aquifère D'une île Haute Carbonatée : Lifou (archipel Des Loyauté, Pacifique Sud-ouest) - *Author: Michel Allenbach*
6. Freshwater Lens Level And Temperature In The Corallian Karstified Island Of Lifou (new Caledonia, Soutwest Pacific) - *Author: Pierre Genthon*

## ■ OS3c Climate change: detecting trends, projecting future (Room: Pasteur)

1. Impact De La Variabilité Climatique Sur Les Ressources Hydriques Du Bassin De L'amazone  
*Author: Jhan Carlo Espinoza Villar*
2. Comparative Study Climatic Changes With Contemporary Basin River Changes In Iran  
*Author: Manijeh Ghohroudi Tali*
3. Impacts Of Climate Change On The Water Resources Of Coastal Mediterranean Rivers In Southern France -  
*Author: Franck Lespinas*
4. Utilizing North American Regional Reanalysis For Climate Change Impact Assessment On Water Resources In Central Canada - *Author: Sung Joon Kim*
5. Sensitivity Of Hydrological Systems To Gcm-based Climate Scenarios In Northern Manitoba (canada) Boreal Forest Region - *Author: Woonsup Choi*
6. Climate Change And Water Availability In North-west Algeria: Investigation By Dendrochronology And Stable Water Isotopes - *Author: Luc Lambs*

## ■ OS4e Infrastructure (Room: Joffre A-B)

1. About Efficiency Of Water Use In Agrarian Sector (case Study Of Tashkent Province, Uzbekistan)  
*Author: Munojat Ishankulova*
2. Efficiency Of Artificial Groundwater Recharge By Percolation Tanks In A Semi-arid Hard Rock Aquifer Context, South India. - *Author: Sylvain Massuel*
3. Assessment Of Sustainable Agriculture In The Irrigated Perimeter Of Tadla, Morocco Using The Criwar Strategy Module - *Author: Rob A.I. Kselik*
4. Informal Water Suppliers Meeting Water Needs In The Peri-urban Territories Of Mumbai, An Indian Perspective - *Author: Anastasia Angueletou-marteau*
5. Reliability Of Water Supply Systems In Central Europe Using Poland As An Example -  
*Author: Wojciech Dabrowski*
6. Development In The Sewage Infrastructure Of Mexico-city Under Different Climate Change Scenarios -  
*Author: José Agustín Breña*

15h30

Coffee break



■ **SS12 Challenges and current trends in agricultural research for improving water use and management in cropping systems (Part 2) (Room: Einstein)**

■ **OS1f Africa (Room: Pasteur)**

1. Confronting Models And Observation As A Necessary Step In Evaluating Global Change And Water Resources - *Author: F. Delclaux*
2. An Initiative For Improving Modeling, Observing Systems, Data Access, And Training Related To Precipitation In Africa - *Author: Scott Swerdlin*
3. Ecosystem Services And The Variability Of Lake Chad During A Drought Period. - *Author: Jacques Lemoalle*
4. Hydrologie Des Bassins Versants Du Haut Atlas Marocain. - *Author: Lahoucine Hanich*

■ **OS4i Water and energy (Room: Joffre A-B)**

1. The Water Footprint Of Energy Carriers - *Author: Winnie Gerbens-Leenes*
2. Problematic Hydric-environmental Of The Construction Of The Hydroelectric Dam "el Cimarrón", El Salvador C.a - *Author: Julio César Quiñónez Basagoitia*
3. Hydrodynamic Modelling In Large Reservoirs For Water Resources Management  
*Author: Alfredo Ribeiro Neto*
4. Evaluation Of Small, Mini And Micro Hydro Power Potential In River Basins Of Mexico  
*Author: Sergio Armando Trelles-jasso*
5. Current Problems Of Water Energy Resources Of Tajikistan And Central Asia - *Author: Inom Normatov*

■ **OS5c Major international rivers (Room: Joffre C-D)**

1. Improve Water Governance Of River Basins In China - *Author: Jiebin Zhang*
2. The Making And Unmaking Of A River Delta: Historical Patterns Of Human-nature Interactions In The Mekong Delta - *Author: David Biggs*
3. Integrated Management Of The Brahmaputra Basin: Constraints And Hope For Regional Development -  
*Author: Muhammad Mizanur Rahaman*
4. Transboundary Water Cooperation And The Regional Public Good: The Case Of The Mekong River -  
*Author: Oliver Hensengerth*
5. Transboundary River Basins In Southern Mexico: Water Issues And Constraints In International Relations -  
*Author: Edith Kauffer*
6. Modelisation Semi-spatialisee Des Ressources En Eau Du Fleuve Niger à Koulikoro. - *Author: Alain Dezetter*

16h00  
17h30

18h00  
19h30

**Cultural Event - Fabre Museum**

20h00  
20h30

**Gala diner - IWRA awards**



## Poster session 3 (Room: Poster room, 1<sup>st</sup> floor)

1. Influence Du Climat Sur Les Ressources En Eau Souterraines En Zone Soudano-sahelienne -  
*Author: Raymond Malou*
2. The Development Of A Roadmap For Stakeholder Participation In The Orange-senqu River Basin Commission – An Alternative Approach - *Author: Daniel Malzbender*
3. Projection Des Ressources En Eau De La Tunisie Sous L'effet Des Changements Climatiques Globaux -  
*Author: Roudha Gafrej Lahache*
4. Qualified Professionals Are A Must For Sustainable Water And Sanitation Services -  
*Author: Tapio Sakari Katko*
5. Persistence In North American Palmer Drought Severity Index Data Reconstructed From Tree Ring History -  
*Author: G. Padmanabhan*
6. Sharing Water At Catchment Level: The Impact Of Context On Cooperative Game Solutions -  
*Author: Mathieu Désolé*
7. About Multiyear Flow On Hydropost Kerki (amudarya River) And Water Distribution Between Turkmenistan And Uzbekistan - *Author: Yusup Rysbekov*
8. State Of The Tajikistan Glaciers And Adaptation Of Economic Activities In Conditions Of Global Warming -  
*Author: Jochen Froebrich*
9. Gouvernance De L'eau Au Maroc : Place Et Rôle Des Agences De Bassins Hydrauliques -  
*Author: Mohammed El Alaoui*
10. Appropriations Du Cadre De L'association Des Usagers Des Eaux Agricoles Par Les Irrigants Au Maroc:analyse Comparative De Cas Au Moyen Atlas Et Moyen Sebou. - *Author: Lahssan Bekkari*
11. Water Management For Peace - *Author: Cremer Sylvie*
12. Trends In Agricultural Water Demand For The Mitidja Irrigated Plain (Algeria). - *Author: P. Le Goulven*
13. A Gis For African International River Basins Management - *Author: Claudine Dieulin*
14. Floodplain Vegetation Response To Interannual Flood Regime Through Coupled In Situ And Remote Sensing Data - *Author: Tatiana Balyuk*
15. Ngos Strategies In Water Supply And Sanitation Projects - *Author: Alejandro Jimenez*
16. Human Rights And Water Resources: Recognition, Governance Structures, Realization -  
*Author: Daniel R. Lynch*
17. Climate Change And Small Scale Irrigation In Northern Ghana - *Author: Patricia Adiam*
18. Is Small Scale Irrigation A Valuable Recourse To Climate Variability In The Sahel? -  
*Author: Théophile Mandé*
19. Caractérisation Par Fluorescence 3d De La Matière Organique Des Eaux Naturelles Dans Les Environnements Côtiers De L'état De Céara (brésil) - *Author: Nabila Abbad*
20. Water Use Allocation Towards Valuing Water Resources: Canadian And Global Perspectives -  
*Author: Abdel-Razek Kamal Abdel-Zaher*
21. Peruvian Andean Glaciers Retreat Analysis. Inventory Of The Glaciers And Lakes Situated In The White Cordillera - *Author: Arnaldo Tacsí*
22. Retrait Glaciaire En Cordillères Blanche Et Centrale Des Andes Péruviennes Comparaison Des Glaciers De L'arteson (cb) Et Du Shullcon (cc) - *Author: Pascaline Bourgain*
23. Direct Seeding Into Mulch System And Climate Change, A Case Study In The South Of France -  
*Author: Reza Khaledian*
24. Limits Of Groundwater Governance Induced By The Collective Action In California Us And Guanajuato Mexico - *Author: Gabriela Angeles-Serrano*
25. Multi-objective Optimization Of Water Resource Systems Using Hec-resprn - *Author: Beth Faber*
26. For The New Pressures Does The Same Single Answer Holds? - *Author: Alberto Flávio Pêgo E Silva*
27. Les Inondations De Novembre 2002 à La Ville De Mohammedia (Maroc) Bilan Et Perspectives -  
*Author: Abdelmalik Saloui*

08h00  
18h00



08h00  
18h00

28. Impact Of The Water Escapes On The Total Losses Of The Dam Ouizert - Algeria -  
*Author: Boualem Remini*
29. Intégration De La Variabilité Spatio-temporelle Des états De Surface Dans La Modélisation Des Ressources En Eau Du Fleuve Niger. - *Author: S. Ardoïn-Bardin*
30. The Sudono-sahelian Bocage: - *Author: S. Valet*
31. Monitoring Of CO<sub>2</sub> Flux And Contribution For Components In The Soil-plant System In A Grassland From Northeastern Mexico - *Author: Armando López-Santos*
32. Revealing Representation Mismatch Between Actors Through Role Playing Games: Example Of Periurban Catchment Management In Sao Paulo (Brazil). - *Author: Raphaële Ducrot*
33. Water Resources Of Small Coral Islands Facing Climate Change And Disasters - *Author: Olivier Banton*
34. Water Demand Management: A Strategic Climatic Change Adaptive Strategy In Water-scarce Mena? *Author: Lamia El-fattal*
35. Hazardous Hydrological Phenomena In Aral Sea Basin Under The Conditions Of Future Climate Change - *Author: Natalya Agaltseva*
36. Temporal Flow Variations: A Challenge For Surface Water Management In Tanzania - *Author: Patrick Valimba*
37. Relation Entre L'érosion Et La Diminution Des Débits Vers L'aval Au Sahel - *Author: Luc Descroix*
38. Impact Of The North Atlantic Oscillation On River Runoff In Poland In The Second Half Of The 20th Century - *Author: Dariusz Wrzesi*
39. Gerer L'eau En Afrique Australe : Du Concept D'"hydropolitiques" Entre Conflits Et Cooperations Et De Ses Consequences Du Regional Au Local. - *Author: Agathe Maupin*
40. The Run-off In The Sudono-sahelian: - *Author: S. Valet*
41. Competing For Water - *Author: Mikkel Funder*
42. Aqua 2020 A Prospective Approach, Unique In France - *Author: Claude Allet*
43. "water Is God's": Commonality View And The Challenges Of State Institutions In Nigeria - *Author: Emmanuel M. Akpabio*
44. The Foundation For A New Water Culture: Science For A Democratic Water Governance - *Author: Graciela Ferrer*
45. Constitution D'une Grille De Pluies Mensuelles Periode 1900-2000 Pour L'afrique - *Author: Nathalie Rouché*
46. Climate Change And Water Management Planning In The Czech Republic - *Author: Oldrich Novicky*
47. The Role Of Irrigation In Farmer's Risk Management Strategies: A French Case Study - *Author: Cathrine Golden*
48. The Un Convention On International Watercourses: Do We Need It? - *Author: Maria Tzatzaki Vasiliki*
49. Integrated Water Resources Management And Access To Water Projects Could Be Better Co-ordinated Or How To Link Centralised Co-operation And Ngos Projects? - *Author: Julie Ladel*
50. Pilote-reg : Une Approche Opérationnelle Pour Estimer La Demande En Eau Régionale Avec Les Acteurs. *Author: Camacho J.m*
51. Variabilité Hydroclimatique Et Sante : Exemple De La Dysenterie Et Des Diarrhees Dans Le Faubourg De Sor A Saint-louis (Senegal) - *Author: Moussa Mbaye*
52. Reconstruction Of The Precipitation Variations Over The Last 100 Years On The Coropuna Glacier (south Peru): Evolution Of The Available Water Resource. - *Author: Jean-Denis Taupin*
53. Governance Institutions And Community Vulnerabilities To Climate-induced Water Stress - Case Studies In Canada And Chile. - *Author: Darrell R. Corkal*
54. Réseaux De Surveillance De La Qualité Des Rivières Et Nouveaux Intégrateurs Biologiques En Languedoc-Roussillon (France). - *Author: Luc Barbe*
55. Caractérisation Des Crues Sur Un Système Karstique Urbanisé Et Définition De Seuils D'alerte. - *Author: P. Fleury*

## ■ SSg1 Transboundary aquifers (Part 1) (Room: Pasteur)

### ■ OS1m Water quality 1 (Room: Joffre 1)

1. Qualite De L'eau De L'oasis Du Rio Mendoza (Argentine) - *Author: Emilie Lavie*
2. Nanofiltration As A Sustainable Water Defluoridation Operation Dedicated To Large Scale Pilot Plants In The World - *Author: Maxime Pontie*
3. Surface Water Management From BĂrlad Watershed - *Author: Gheorghe Purnavel*
4. Use Of Atrazine And Groundwater Availability In Brazil - *Author: Asdr bal De Albuquerque Arraes*
5. Organic Trace Substances Relevant For Drinking Water - *Author: Gabriele Wessel*
6. Hydrogeochemistry And Balance Between Minerals And Solutions In The Mercurial Zone Of Azzaba, N-e Algeria - *Author: Moussa Benhamza*

### ■ OS4g Risk management 1 (Room: Joffre A-B)

1. Retention Potential In River Headstream Areas - *Author: Jan Kocum*
2. Flood Management At The Basin Level In France: Equity And Acceptability Of Rural-urban Risk-sharing Policies - *Author: Katrin Erdlenbruch*
3. Predict's Experience Of Assistance Of Local Communities For Flood Management. *Author: Alix Roumagnac*
4. Flash Flood Risk Management In Real Time For Assistance To Coordinators - *Author: Emma Haziza*
5. Optimization The Operation Of Bakhtegan Lake Basin's Dams In Flood Control Aspect *Author: Ali Torabi Haghigh*
6. Dam Break Simulation By Means Of A High Resolution Algorithm Applied To La Parota, Guerrero, M xico - *Author: Maritza Arganis*

### ■ OS5k Local water governance 1 (Room: Joffre C-D)

1. Local Institutions And Adaptation To Climate-induced Water Problems - *Author: Harry Diaz*
2. Community Organizations In Water Resource Governance: Rural-urban Interface Of Irrigation Management In Thailand - *Author: Ram Chandra Bastakoti*
3. Role Of Stakeholders In Red River Basin For Iwrm Water Security And Poverty Reduction - *Author: Pham Thi Bich Ngoc*
4. Surface Irrigation And Livelihoods - *Author: Nitin Bassi*
5. Defining Rules For Model Use In Participatory Water Management - *Author: Pieter Bots*
6. Canadian Legal Framework Of Water And Governance In The Prairie Provinces - *Author: Margot Hurlbert*

### ■ OS6a Economic instruments (Room: Einstein)

1. Economic Value Of Provisioning Services And Livelihood Dependence On The Ga-mampa Wetland, South Africa - *Author: Olalekan Adekola*
2. Groundwater Development And Wetlands Preservation: - *Author: Irene Blanco*
3. Enhanced Cost-effective Agri-environmental Measures For Groundwater Protection - *Author: Thomas Schmidt*
4. Situational Analysis Of The Environmental-financial And Social Factors In The River Basin Lerma Chapala, For The Recovery Of The Levels Of The Lake Of Chapala. - *Author: Rabin dranarth Romero*
5. Can Water Pricing Policies Regulate Irrigation Use? - *Author: Fran ois Molle*
6. Les D terminants De L'adoption Des Techniques D' conomie D'eau D'irrigation En Tunisie - *Author: Ayoub Fouzai*

08h30  
10h00

10h00

Coffee break

10h30  
11h30

KL5 Keynote lecture Luis Guedes (Room: Pasteur)

11h30  
13h00

## ■ SSg2 Transboundary aquifers (Part 2) (Room: Pasteur)

■ SSk French Water Agency actions aligned with integrated water resources management and the European Water Framework Directive (Room: Einstein)

11h30  
13h00

### ■ OS1n Water quality 2 (Room: Joffre 1)

1. An Integrated Approach For The Management Of Pharmaceutical Products In Environmental Waters - *Author: Clémence Coetsier*
2. Managing Nutrients In The Environment For Improved Soil And Water Quality - *Author: Toor Gurpal*
3. Evaluation Of Strategies To Reduce Nitrate Pollution Of Groundwater - *Author: Ralf Kunkel*
4. Impact Of The Hydrologic Behavior On The Pollutant Dynamics In An Intermittent Mediterranean River (Vène, France). - *Author: Marie-George Tournoud*
5. Monitoring To Support Water Quality Management In North-central Chile - *Author: Lars Ribbe*
6. A Real Time Water Quality Monitoring Network And Water Quality Indices For River Nile - *Author: Amir Ali Khan*

### ■ OS4h Risk management 3 (Room: Joffre A-B)

1. European Strategies For Sustainable Flood Plain Management To Reduce Flood Risk - *Author: Mariele Evers*
2. Floods Forecasting And Warning Operations Enhancement By Grid Technology Adoption In Civil Protection Organization - *Author: Vincent Thierion*
3. Seasonal Sea Level Outlook With Exceedance Probability - *Author: Md. Rashed Chowdhury*
4. Methods Of Facing With Drought In Fars Province – Iran - *Author: Mir Hassan Seyed Seraji*
5. An Integrated Approach For Debris-flow Risk Mitigation In The North Coastal Range Of Venezuela *Author: Jose L. Lopez*

### ■ OS5m Facing international and regional water governance challenges (Room: Joffre C-D)

1. To Increase Water Productivity Throughout Proper Institutional Arrangements Among Governance Hierarchy - *Author: Vadim Sokolov*
2. Need For Codifying International Law/obligations For Ensuring Environmental Flow Downstream: Lessons From Bangladesh. - *Author: Miah M. Maniruzzaman*
3. The Berlin Rules On Water Resources: A New Paradigm For International Water Law - *Author: Joseph William Dellapenna*
4. If There Were A Water Crisis, How Would We Know? - *Author: James E. Nickum*
5. Gestion De La Demande En Eau Au Moyen Orient Et En Afrique Du Nord: Enjeux Et Perspectives- *Author: Hammou Laamrani*

13h00

Lunch



## ■ SSg3 Transboundary aquifers (Part 3) (Room: Pasteur)

### ■ OS1s Hydrological diagnosis and forecasting: Advanced computational approaches (Room: Joffre 1)

1. Hydrologic Forecasting Of Fast Flood Events In Small Catchments With A 2d-swe Model. Numerical Model And Experimental Validation. - *Author: Luis Cea*
2. Spatially Distributed Water Fluxes In An Andisol Under Banana Plants: Experiments And 3d Modeling - *Author: Julie Sansoulet*
3. Mhydas - Spatially Distributed Hydrological Modelling Of Agrosystems : Model Development And Application Cases For Water And Pollutant Transfer In Various Agro-hydro-meteorological Conditions - *Author: R. Moussa*
4. Universal Bhp Distribution And Nonlinear Prediction In Complex Systems Using The Ruelle-takens Embedding *Author: Rui Gonçalves*
5. To Study Of The Appropriate Probability Distributions For Maximum Annual Flows Series Using L-moment Method In Arid And Semi-arid Regions Of Iran - *Author: Ali Salajegheh*
6. An Investigating The Effects Of Generalized Skew Coefficient(third Moment ) On Instantaneous Annual Maximum Discharges. (case Study : Dez Basin In South Western Of Iran) - *Author: Nasser Tahmasebi*

### ■ OS2b Environment and its variability (Room: Joffre A-B)

1. Changing Perceptions: Water Quality And Demand In The United Arab Emirates - *Author: Isaac Wait*
2. Water Resources And Water Management In Kingdom Of Bahrain: Past, Present And Future Prospective - *Author: Najat Mohammad Es'haqi*
3. Integrating Water Balance And Cost-effectiveness Analysis For Water Management: An Application In Jordan And Lebanon - *Author: Stéphanie Aulong*
4. Sensibilité Aux Variations Climatiques D'un Bassin A Forts Enjeux – Le Cas De La Garonne - *Author: Anne Dupeyrat*
5. Impacts Des Aménagements Hydro-agricoles Sur Les Ressources En Eau Du Delta Du Fleuve Sénégal - *Author: Fatou Ngom Diop*
6. Understanding Hydrologic Variability For Better Surface Water Allocations In Karkheh Basin Iran - *Author: Ilyas Masih*

### ■ OS4b Risk management 2 (Room: Einstein)

1. Approche Géochimique De La Vulnérabilité Des Eaux Souterraines De La Nappe Phréatique De La Plaine De Kairouan (Tunisie) - *Author: S. Ben Ammar*
2. Projet Aware - Réduire La Pollution De L'eau Par Les Produits Phytosanitaires En Améliorant Les Pratiques D'application Par L'utilisation Des Techniques D'information Et De Communication Embarquées - *Author: Michael Douchin*
3. Étude Des Inondations Par DÉbordement De RÉseau Dans Les Milieux Défavorisés D'abidjan; Côte D'ivoire - *Author: Kouassi Dongo*
4. Evaluation Du Risque Lié Aux Variations Spatiotemporelles De La Pluviométrie Au Sahel - *Author: Joan Bastide*
5. Fiabilité Et Exploitation D'un Barrage Déversoir Soumis Au Phénomène De L'ensablement - *Author: Mouloudi Yahia*
6. Caractérisation De La Sècheresse Au Sud Tunisien - *Author: Manel Ellouze*
7. Projet Pilote Pour L'alerte De Crue Sur Un Bassin Versant Gere Par Une Collectivite - *Author: Nelly Peyron*

### ■ OS5b Governing water towards sustainability (Room: Joffre C-D)

1. L'eau Virtuelle, Quel éclairage Pour La Gestion Et La Répartition De L'eau En Situation De Pénurie ? - *Author: Sara Fernandez*
2. On The Necessity Of Reconsideration Of The Water Balance Equation Components. - *Author: Iofin K. Zinovic*
3. Standards Applied To Water Use: An Attempt To Build Up Normative Indicators - *Author: Arnaud Büchs*
4. Rational Use Of Water And Soil Management Under A Center Pivot System - *Author: Joao Carlos Cury Saad*
5. Limits To The Groundwater Governance In California U.S. And Guanajuato Mexico - *Author: Gabriela Angeles-serrano*
6. An Historical Perspective Of Governance To Enlighten Concerted Water Management In France - *Author: Sophie Richard*

14h00  
15h30

15h30

Coffee break

16h00

Closing ceremony (Room: Pasteur)

17h00  
18h00

IWRA General Assembly (Room: Pasteur)

## Poster session 4 (Room: Poster room, 1<sup>st</sup> floor)

1. Social Constraints To And Institutional Solutions For Rural Women's Participation In Natural Resource Management - *Author: Sanjeeta Singh Negi*
2. Etude De L'épuration Par Electrocoagulation Des Rejets Liquides D'une Industrie De Traitement De Surface A Casablanca - *Author: Fatiha Zidane*
3. The Blue Revolution Initiative: Why A Regional Water Program For The Middle-East - *Author: Eric Viala*
4. Flood Control Dams Projects For The Central Region Of Argentina - *Author: Claudio Antonio Fattor*
5. Analysis Of Source Water Contamination In Rural And Semi-rural Areas In Europe And United States
6. Improving The Effectiveness Of Water International Development Aid In Central America - *Author: Rosa Castizo Robles*
7. Water Use In Greenhouses In The Mediterranean Region - *Author: Meir Teitel*
8. Les Légionelles Et Les Réacteurs (UV) Ultra-violets. - *Author: Karine Cristiane De Oliveira Souza*
9. Methodology To Finance The Urban Stormwater Source Control In Developing Countries - *Author: André Luiz Lopes Da Silveira*
10. Strategies For Urban Drainage Charge In Porto Alegre – Rs – Brazil - *Author: Francisco Rossarolla Forgiarini*
11. Prix Des Céréales, Subventions Européennes Et Demande En Eau D'irrigation : Quelles Relations Et Comment Les Analyser ? - *Author: Sara Fernandez*
12. Impacts Of Low-cost Water Storage Tank Technology: - *Author: Dr Madhusudan Bhattarai*
13. La Lombrifiltration: Une Nouvelle écotechnologie De Traitement Des Eaux Organiquement Polluées Par L'utilisation De Lombriciens. - *Author: Patricio Soto*
14. Contribution à La Caractérisation D'une Nappe Souterraine En Contexte Urbanisé - *Author: Emma Haziza*
15. Water, Sanitation Services And Children's Health In The Poor Areas In Abidjan (Côte D'Ivoire) - *Author: Jean Stéphane Claon*
16. Quality Control Of Drinking Water Sold In Plastic Bags In Abidjan (Côte D'Ivoire) - *Author: Jean Stéphane Claon*
17. Development Of A Chemical-free Water Treatment System Through Integrating Fibre Filters, Ultrasound And UV-c - *Author: Claire Hellio*
18. A Gis Integrated Tool To Evaluate The Residual Potential Hydropower Production At Watercourse Scale - *Author: Julio Alterach*
19. Methodology For The Evaluation Of The Residual Potential Hydropower Production In Italy Taking Into Account The Catchment Water Resource Exploitation - *Author: Julio Alterach*
20. Rainfed Agriculture Improvement: Water Management Is The Key Challenge - *Author: Giuliana Trisorio Liuzzi*
21. Towards Food Security: Promising Pathways For Increasing Agricultural Water Productivity - *Author: Hamdy Atef*
22. A Settlement Has Historical Importance Of Thermal Water In Turkey - *Author: Derya Altunbas*
23. The Wisdom Project – A Water-related Information System For The Mekong Delta, Vietnam - *Author: Steffen Gebhardt*
24. La Problématique De L'assainissement Pluvial De Natal/rn – Le Bassin Du Fleuve Quintas - *Author: Kleiton Cassemiro Do Nascimento*
25. Développement D'un Outil D'analyse événementiel Adaptée à La Lecture De La Dynamique D'une Crue éclair - *Author: Emma Haziza*
26. Dynamique Démographique, Evolution Des Etats De Surface Et Ressources En Eau Au Sahel : Couplage Variabilité Anthropique Et Modèle Hydrologique. - *Author: Pierre Diello*
27. Analysis Of The Hydraulic Efficiency Of Storm Water Inlets Mostly Used In Argentina - *Author: Claudio Fattor*

08h00  
18h00

## Thursday 4<sup>th</sup> September

08h00  
18h00

28. Inter Basin Water Transfers In Large Quantities And Over Long Distances By Flexible Underwater Pipelines - *Author: Felix Bogliolo*
29. Photocatalytic Reaction Engineering For Solar Water Detoxification. - *Author: Vincent Goetz*
30. Partage D'expérience Entre équipes Scientifiques Pour L'étude Des Dynamiques Hydrologiques Appliquée à La Gestion - *Author: Pascal Kosuth*
31. Effect Of Tillage Time, Tilth And Evaporativity On Water Conservation By Soil Mulch - *Author: Shirahatti Shashidhar*
32. Etude Du Phénomène De L'abrasion D'une Pompe Algérienne Pour L'alimentation En Eau Potable Dans Le Grand Sud Algérien. - *Author: O. Khodjet- Kesba*
33. Prix Des Services De L'eau En Algérie, Un Outil De Gestion Durable - *Author: Sofiane Boukhari*
34. Brackish Water Desalination Through Eolic Reverse Osmosis For Rural Communities - *Author: Belzahet Treviño Arjona*
35. A Dma Design For "napoli Est" Water Distribution System - *Author: Maurizio Giugni*
36. Assessment Of Flood Damage Risk For Engineering Structures In River Floodplains - *Author: Borris Gjunsburgs*
37. Melamchi Intersectoral Water Transfer Project In Kathamndu: - *Author: Janardan Khatri-Chhetri*
38. Selection Of Hydrological Design Criteria As Answer To Water Demand In Argentinian Isolated Communities - *Author: Seoene Rafael*
39. Watershed Based Agricultural Land Use Management For The Future Inter-regional Sustainable Development - *Author: Kiyama Shoichi*
40. Smallholder Irrigation Impacts On Wetlands Livelihoods And Aquatic Resources Use - *Author: Madhusudan Bhattarai*
41. Increasing Mineralization In The Complex Terminal Aquifer In Kebili Region (South Tunisia) - *Author: Marouan Ben Hammadi*
42. Geochemical Characterization And Origin Of Carabobo's Area Formation Water, Orinoco Oil Belt, Venezuela - *Author: Moises Pirela*
43. Hydraulic Model Of Trickle-irrigated Laterals Based On The Theory Of Spatially Varied Flow - *Author: Nina Philipova*
44. Water Saving And Growth Of Alfalfa (*Medicago sativa* L.) Using Subsurface Drip Irrigation - *Author: Rafael Figueroa- Viramontes*
45. Crop Water Stress Detection From Remote Sensing Using The Ssebi-2 Algorithm - *Author: Claire Jacobs*
46. La Gestion De La Ressource En Eau Face Aux Contraintes Climatiques En Moyenne Montagne Cristalline - *Author: Yohann Benmalek*
47. Influences Of Public Ecological Awareness And Price On Potable Water Consumption In The Geneva Area *Author: Catenazzo Giuseppe*
48. Système D'information Scientifique Et Technique En Matière De Gestion Intégrée Des Ressources En Eau En Afrique De L'ouest - *Author: Abou Amani*
49. Enhanced Risk Management Strategies For Mitigating Future Droughts In Central Asia - *Author: Oliver Olsson*
50. Greywater Use In Mena: a Water Scarcity Issue Or A Poverty Alleviation Strategy? - *Author: Marwan Owaygen*
51. Calcul Numérique De L'écoulement Permanent Dans Les Barrages En Terre - *Author: A. Hachemi*
52. Coping With Water Scarcity In Kingdom Of Bahrain - *Author: Najat M. Es'Haqi*
53. Une Plate-forme De Modélisation De La Variabilité Spatio-temporelle Des Flux Au Sein Du Bassin Amazonien. - *Author: Gérard Cochonneau*

# Keynote lectures

## Keynote lectures

We have the honour and pleasure to welcome the following distinguished **keynote speakers** at the Congress.



■ **Angel Gurría, OECD Secretary-General**  
Angel Gurría took up the post of Secretary-General of the OECD on June 1<sup>st</sup>, 2006 following a distinguished career in Mexico's public service, including: Minister of Foreign Affairs (1994 – 1998) and Minister of Finance and Public Credit (1998 – 2000). Mr. Gurría developed a close relationship with the OECD, overseeing the initial years of Mexico's membership and chairing the OECD's Ministerial Council Meeting in 1999.

He served as Mexico's Permanent Representative to the International Coffee Organisation, based in London, from 1976 to 1978, and held various roles in the financial area of Mexico's Federal Electricity Commission, National Development Bank (Nafinsa), Rural Development Fund, and the Office of the Mayor of Mexico City. Following a 14-year tenure at Mexico's Finance Ministry from 1978 to 1992, he became President and CEO of Mexico's export-import bank, Bancomext in 1992. In 1993, Mr. Gurría was appointed President and CEO of Mexico's national development bank, *Nacional Financiera*.

**Keynote lecture on September 1<sup>st</sup>, from 12:00 to 13:00 in the Pasteur Room**



■ **Michel Jarraud, OMM Secretary-General**  
Michel Jarraud was appointed Secretary-General of the World Meteorological Organisation by the Fourteenth World Meteorological Congress and took up his post on January 1<sup>st</sup>, 2004. He

was re-appointed by the Fifteenth World Meteorological Congress for a second four-year term starting January 1<sup>st</sup>, 2008. Before joining the WMO Secretariat as Deputy Secretary-General in January 1995, Mr Jarraud devoted part of his career to the internationally renowned European Centre for Medium-Range Weather Forecasts (ECMWF). He was appointed Deputy Director of the Centre in 1991, having been Director of the Operational Department since 1990. From June 1978 to December 1985, he was a Researcher in numerical weather prediction at ECMWF. Mr Jarraud started his career with the French National Meteorological Service, Météo-France, as a researcher (September 1976-May 1978). He joined Météo-France again in January 1986 as Director of the Weather Forecasting Department, until December 1989.

**Topic: "Les défis posés par les changements climatiques dans le domaine de l'eau"**  
**Keynote lecture on September 2<sup>nd</sup> from 10:30 to 11:30 in the Pasteur Room**



■ **Sanjit "Bunker" Roy, Founder of the Barefoot College**  
Since founding the Social Work and Research Centre in 1972, Roy has been living in Tilonia, a village in one of India's largest,

driest and poorest states and devoting his life to bettering the conditions of the rural poor. Better known as the Barefoot College, the centre has trained two generations of villagers without any formal paper qualifications to become health-care workers, solar engineers, hand-pump mechanics and teachers in their communities. Thanks largely to its efforts, over 100,000 people in 110 villages now have access to safe drinking water, education, health and employment.

**Topic: "Rural Rainwater Harvesting"**  
**Keynote lecture on September 3<sup>rd</sup> from 10:30 to 11:30 in the Pasteur Room**



■ **Luis Carlos Guedes Pinto, Former Brazilian Minister of Agriculture, Livestock and Food Supply**  
Luis Carlos Guedes Pinto graduated in Agronomy Engineering in 1965 and earned his PhD in

Agronomy in 1973 at "Luiz de Queiroz" Agricultural College, University of São Paulo (ESALQ/USP). Between 1973-1982 he participated in the creation of EMBRAPA (Brazilian Agency for Agricultural Research), became Chief of Staff to the President and Head of the Technical Advising Unit, among other responsibilities. In 2003-2004 he was president of CONAB, Brazil's crop supply agency. He held the post of Vice Minister of the Ministry of Agriculture, Livestock and Food Supply in 2005-2006. He was Brazilian Minister of Agriculture, Livestock and Food Supply for the period 2006-2007.

**Topic: "Water and agricultural production"**  
**Keynote lecture on September 4<sup>th</sup>, from 10:30 to 11:30 in the Pasteur Room**



# Technical visits

Over the course of the three days immediately following the Congress, you can get to know the region a little better by going on any of the of the guided tours we propose. For more information on the place and time of departure of each tour, please visit the Corum reception desk.

## Friday September 5<sup>th</sup>, 2008

■ **VISIT N°1.** Management of agricultural impacts on water resources in rural areas. Visit to the Roujan and Neffiés catchment basins.

Duration: Full day • Number of participants: 25  
Price: 40€ (meal included)

■ **VISIT N°2.** L'Etang de l'Or. Lagoon and wetland, water quality and management of natural environments. The RAMSAR and Natura 2000 site, "birds" and "habitats". Management: basin contract.

Duration: Full day • Number of participants: 30  
Price: 35€ (meal included)

■ **VISIT N°3.** Hérault river catchment basin. Concerted management of a typical Mediterranean catchment basin and water sharing. Water infrastructure management plan.

Duration: Full day • Number of participants: 30  
Price: 40€ (meal included)

■ **VISIT N°4.** Impact of Mediterranean rainfall events on karstic systems. Karstic systems in Nîmes and Aumelas. Taking underground reservoirs into account in flood alert systems.

Duration: Full day • Number of participants: 50  
Price: 50€ (meal included)

■ **VISIT N°5.** Flood risk management. Operational demonstration (Predict/Forecasting Services). Real-time flood risk management tools

Duration: Half day • Number of participants: groups of 15 • Price: 15€

■ **VISIT N°6.** Water transfer infrastructure in the Rhone. Key installations in the regional hydraulic network. Visits to capture, transfer, pumping and management infrastructure. Regional perspective – Aqua 2020.

Duration: Half day • Number of participants: groups of 20 • Price: 30€

■ **VISIT N°7.** Nîmes, urban flood warning system: ESPADA. Warning centre of the city of Nîmes: forecasting tools and flood management in urban areas (Grand Prix of French Engineering 2006).

Duration: Half day • Number of participants: 20  
Price: 25€



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■ **VISIT N°8.** Thau Lagoon. From the fight against erosion in marine environments to qualitative management of the catchment basin. An example of integrated management of coastal zones.

Governance tools that enable holistic integrated management (biodiversity, shell fish centre).

Duration: Full day • Number of participants: 50  
Price: 40€ (meal included)

■ **VISIT N°9.** Water and energy. Infrastructure development along the Rhone River. The hydro-electric station in Vallabrègues. Hydraulic infrastructure and protection of the environment. Visit to the Pont du Gard.

Duration: Full day • Number of participants: 50  
Price: 50€ (meal included)

■ **VISIT N°10.** La Narbonnaise. Actions in governance for a sustainable environment. Water management programme « Eau'Dyssée »: composting plants and re-utilisation of waste water.

Duration: Full day • Number of participants: 50  
Price: 25€ (free meal included)

■ **VISIT N°11.** The Lez spring. The capture, treatment, and supply of drinking water for the city of Montpellier. One of the largest karstic sources in Europe.

Duration: Half day • Price: 15€

■ **VISIT N°12.** Waste water treatment in the Agglomeration of Montpellier – the latest in technology. Working together to manage the waters of the Lez catchment basin. The restoration of the river and its ecosystem.

Duration: Half day • Price: 15€

■ **VISIT N°13.** The Camargue: vast wetlands declared of National Interest which include the Rhone delta and periphery zones. Camargue National Reserve. Infrastructure and water management (fresh water / salt water). Visit to Aigues Mortes.

Duration: Full day • Number of participants: 50  
Price: 40€ (meal included)



■ **VISIT N°14.** Le Grau du Roi – waste water treatment and reutilisation project. Utilisation of tertiary lagoon treatment in wetlands and water reutilisation project for green spaces in urban areas.

Duration: Full day • Number of participants: 40  
Price: 40€ (meal included)

■ **VISIT N°19.** Flood prevention site for the Montpellier Agglomération. Large scale projects designed to protect the inhabitants of the Lez lower river valley, including dikes and a diversion canal.

Duration: Half day • Price: 15 €

■ **VISIT N°20.** The technology behind the « Mare Nostrum » aquarium in Montpellier Agglomération. An aquarium equipped with the latest technical advancements for water treatment and closed circuit water management

Duration: 1 hour • Price: 15 €

## Saturday September 6<sup>th</sup>, 2008

■ **VISIT N°12.** Waste water treatment in the Agglomeration of Montpellier – the latest in technology. Working together to manage the waters of the Lez catchment basin. The restoration of the river and its ecosystem.

Duration: Half day • Price: 15€

■ **VISIT N°15.** Public information and awareness raising about the environment and the management of the water environment. Restinclières Departmental Domaine. Infrastructure and water management plan for the Lez, Mosson and the Etangs of Palavas.

Duration: Half day • Number of participants: 30  
Price: 15€

■ **VISIT N°16.** Hydraulic infrastructure and water re-utilisation in the Orb catchment basin. Seasonal variations due to tourism and seasonal resource protection (Geoasseev process in Sérignan).

Duration: Full day • Number of participants: 30  
Price: 40€ (meal included)

■ **VISIT N°18.** Coastal karstic systems. Underwater karstic resurgences (la Vise) and coastal resurgences (Fontestramar). Complex systems that require specific techniques and approaches (autonomous underwater vehicles).

Duration: Full day • Number of participants: 40  
Price: 50€ (meal included)

■ **VISIT N°19.** Flood prevention site for the Montpellier Agglomération. Large scale projects designed to protect the inhabitants of the Lez lower river valley, including dikes and a diversion canal.

Duration: Half day • Price: 15 €

■ **VISIT N°20.** The technology behind the « Mare Nostrum » aquarium in Montpellier Agglomération. An aquarium equipped with the latest technical advancements for water treatment and closed circuit water management

Duration: 1 hour • Price: 15 €

■ **VISIT N°5.** Flood risk management. Operational demonstration (Predict/Forecasting Services). Real-time flood risk management tools

Duration: Half day • Number of participants: groups of 15 • Price: 15€

## Sunday September 7<sup>th</sup>, 2008

■ **VISIT N°17.** From the identification to the management of water resources in Mediterranean karstic environments. Karstic systems of the Lez river and of Cent Fonts.

Duration: Full day • Number of participants: 50  
Price: 50 €

■ **VISIT N°20.** The technology behind the « Mare Nostrum » aquarium in Montpellier Agglomération. An aquarium equipped with the latest technical advancements for water treatment and closed circuit water management

Duration: 1 hour • Price: 15 €

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## Technical exhibition

We have the pleasure of welcoming a very large number of exhibitors in the field of water resources on level 0 of the Corum facilities for the duration of the Congress. These are leading water professionals in the research and industry sectors linked to the institutional world. You will be able to visit their displays and presentations (see below).



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### XIII<sup>ème</sup> World Water Congress 1<sup>st</sup> - 4<sup>th</sup> September 08 – Exhibition Level 0

Exhibitors	N°
EGIS	1
KROHNE	2
Région Languedoc Roussillon ; BRL	3 & 4
Agglomération de Montpellier	5 & 6
INGENIO	7
Agences de l'eau	8
Prince Sultan International Prize for Water	9
FARMEX	10
SWELIA	11
ECA HYTEC	12
BRGM	13 & 14
Hydrosciences Laboratory	15
Agropolis International ; Echel-Eau ; Pôle Risque	16
Global Water System Project	17
Club JRD	18
IRD Éditions	19
CIHEAM	20
Département de l'Hérault	21 & 23
INRA	22
Eau Thermale Avène	24
Véolia	25
Suez – SDEI	26
Studio Maione Ingegneri Association	27
Corporate Technology Services	28
VERSeau Développement ; ILEE ; IAHS	29
IWRA ; Recife 2011 ; Taylor & Francis	30

### Meeting room « Salle département de l'Hérault »

#### PROGRAMME FOR THE VIDEO SPACE

Presentation of activities and pertinent issues by certain organisations such as Suez, KROHNE, BRL, Studio Maione Ingeneri Association, Agences de l'Eau, and Water Evaluation and Planning software.

A meeting room « Salle département de l'Hérault » is available for reservation in 2 hour blocks during the Congress at the heart of the Congress facilities. We encourage participants to use this service to organise any significant meetings with other participants during the Congress. The room is free of charge to all participants according to availability and has a capacity of 15-20 people. Please contact the reception area in the Corum for more details.



# LE CORUM BERLIOZ HALL - LEVEL 0

XIII WORLD WATER CONGRESS OF IWRA  
SEPTEMBER 1-4, 2008



Salle du département  
de l'Hérault



# Local and regional tourism

So that you can discover Montpellier and the region, three organised local and regional tours are proposed by Enjoy Montpellier for an additional fee (registration is on a first come, first serve basis – there are a limited number tickets). For more information or to reserve your ticket (depending on availability), please enquire at the Corum reception desk during the Congress.



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## ■ ST. GUILHEM LE DESERT – CLAMOUSE'S CAVES HALF-DAY TOUR LUNCH INCLUDED

After passing through the vine growing villages of Gignac and Aniane and then crossing the Devil's Bridge - France's oldest example of Romanesque architecture - you'll arrive in St-Guilhem-le Désert, a picturesque village built around an 11<sup>th</sup> century abbey. There you'll enjoy a guided tour of the abbey and a peaceful stroll through the winding streets of this charming village. Then, depart for a guided tour of the caves of Clamouse, where you'll be struck by the abundance and size of the cave's unusual rock formations. Lunch will be served and you'll return to Montpellier.

Departure from Corum Level 0, in Montpellier at 8:30 AM on September 2<sup>nd</sup>.  
Price: 70 €

## ■ AIGUES-MORTES HALF-DAY TOUR

Start off with a sight-seeing bus tour of sea-side resort, La Grande Motte, famous for its pyramid shaped buildings. Continue on to a guided visit of the town of Aigues-Mortes, the French kingdom's first Mediterranean port. When the Edict of Nantes was revoked in 1685, the ramparts and towers of Aigues- Mortes were turned into a large prison for Protestants. This port remains one of the most extraordinary and well-preserved medieval fortifications in Europe. From here you can also enjoy a unique panoramic view over the Camargue wetlands.

Departure from Corum Level 0, in Montpellier at 8:30 AM on September 3<sup>rd</sup>.  
Price: 50 €



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## ■ GUIDED TOUR OF MONTPELLIER 2 HOUR WALKING TOUR

Taking a walk in Montpellier is to discover a city of a thousand facets: La Place de la Comédie, an unmissable destination in Montpellier, one of the largest pedestrian spaces of Europe overlooked by the Opéra Comédie and filled with street artists as well as numerous outdoor cafés and restaurants. The historical centre, Ecusson, is known for its shopping and old stone structures. Visit Saint Pierre cathedral - an imposing structure that shares its walls with the oldest still functioning Medical University in Western Europe, Peyrou Esplanade with its royal square in which sits the immense statue of Louis XIV, the medieval *mikvés* (ritual Jewish baths).

Departure from Corum Level 1, in Montpellier at 10:00 AM on September 1<sup>st</sup>.  
Price: 12 €

## ■ MORE ABOUT MONTPELLIER AND ITS REGION

Montpellier is located in the south of France, and is famous for its Mediterranean lifestyle. Take advantage of the long summer days, and explore its old medieval town or after the Congress, just travel a short distance to the nearby Mediterranean beaches and seaside towns. Travelling about Montpellier and its environs is easy with its world class tram system. Buses, car hire or taxis are also available to get out and discover the region.

To learn more about Montpellier and the region, please visit the city Tourism Office, located between the Corum conference center and the Place de la Comédie (*see map p.5*):

**Tourism Office**  
30, Allée Jean de Lattre De Tassigny,  
34000 Montpellier  
Tel: 04 67 60 60 60



## Social events / Press

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### WELCOME COCKTAIL

■ All Congress participants are invited to attend the welcome cocktail on the inaugurating evening of the Congress, Monday September 1st. It will be held on the 3rd floor of the Corum in the Congress facilities, and will be an opportunity to meet other participants and discuss in a relaxed environment. The welcome cocktail is free of charge for all registered participants.

### CONFERENCE SESSION FOR THE GENERAL PUBLIC

■ Theme: "*Réflexions autour de l'eau*" by the writer Erik Orsenna (Académie Française). Bernard Pouyaud, hydro-climatologist and Research Director at the IRD will chair the session.

Erik Orsenna has recently completed a book on water resources, following up on the ideas relating to environmental issues that he developed in 2005 with his work on the Gulf Stream, and continued in his book on cotton in 2006.

This free conference session will take place in the Salle Pasteur at 8:30 PM, on Monday September 1st.

### CULTURAL EVENT

■ One of France's top art galleries, Fabre Museum will hold special evenings linking art and water. "*Courbet and water*" showcases one of France's finest 19th-century artists, Gustave Courbet and his works about water. The evening includes guided visits of a special and unique exhibition of Courbet's works and the museum's permanent water collections.

The event is free for all registered congress participants and will be held on the 2<sup>nd</sup> and 3<sup>rd</sup> of September. You can get your free tickets at the Corum reception desk. Meet at 18:00 in front of the Corum for the start of each visit.

### GALA DINNER

■ The gala dinner is the premier social and networking event of the XIII<sup>th</sup> IWRA World Water Congress. It will be held on the evening of the 3<sup>rd</sup> of September 2008, following the Fabre Museum visit. With fine French cuisine and light entertainment, it will also be the occasion for the awarding of IWRA prizes. The dinner will be held on the 3<sup>rd</sup> of September starting at 20:00, on the 3<sup>rd</sup> floor of the Corum.

### NUITS D'Ô

■ Take advantage of the last nights of summer: at the Domaine d'Ô, under the pine trees and the starry sky, let yourself be carried away and savour the "Nuits d'Ô", evenings featuring a blend of open air live music and cinema.

The Domaine d'Ô opens up from 29<sup>th</sup> to 31<sup>st</sup> August, at 19:30, concerts will begin at 20:00. Caterers will provide light fair on site.

• How to get there: Domaine d'Ô – 178 rue de la carrièrassa at Montpellier, « Malbosc » Tramway 1 stop. Information : 04 67 67 68 68 or at [www.addm34.fr](http://www.addm34.fr)

### A ROOM RESERVED FOR THE PRESS: SALLE BARCELONE

■ In order to best provide for the needs of the journalists attending the conference, a room has been reserved for the press for the duration of the Congress (September 1<sup>st</sup>-4<sup>th</sup>). Located on the ground floor of the Corum, near the exhibitors' stands, the video viewing area, and the conference rooms, Salle Barcelone can hold 28 people. Here members of the press will find tables, chairs, and a wireless network router at their disposal, and it's also an ideal place when it comes time for interviews.

For all press-related information contact: René Lechon  
Tel.: 06.12.34.02.49 or [renel.echon@wanadoo.fr](mailto:renel.echon@wanadoo.fr)

Water related events organised by other distinguished organisations will be held in the days following the World Water Congress. All registered Congress participants are invited to attend these events free of charge, depending on availability. The following is a list of these additional side events.

### ■ AQUASTRESS - PUBLIC PARTICIPATION IN WATER MANAGEMENT

Organised by: AquaStress consortium represented by Cemagref  
Date and time: 5<sup>th</sup> of September 2008 from 9:30 to 16:00  
Place: Corum

AquaStress will be an opportunity to provide to the international community feedback about the achievements of the AquaStress European Integrated project (6<sup>th</sup> PCRD). The main goal of the project (2005–2009) is to develop stakeholder driven, European scale, comprehensive integrated approaches to the diagnosis, prognosis and mitigation of water stress. This event will present the main results of the 6 Work Blocks (field activities and stakeholder forums; Characterisation of systems and water stress; Water stress mitigation options; Infrastructure to support solutions processes; Testing, Validation and Evaluation; Dissemination and Training) and the 8 test sites (Portugal, Netherlands, Sardinia, Poland, Bulgaria, Cyprus, Tunisia and Morocco).

### ■ XXI<sup>ST</sup> SEMINAR OF INTERNATIONAL CLIMATOLOGY ASSOCIATION CLIMATE AND CLIMATE RISKS IN THE MEDITERRANEAN REGION

Organised by: GESTER (*Gestion des Sociétés des Territoires et des Risques*) of Paul Valéry University, Montpellier and the International Climatology Association in partnership with Météo-France.  
Date: 9<sup>th</sup>–13<sup>th</sup> of September 2008  
Place: Université Paul Valéry, building H, Route de Mende, 34199 Montpellier

Over half of the expected 250 participants originate from other countries in Europe, Africa and South America. The objective of this side event is to promote Francophone research in the fields of fundamental and applied climatology. The event will provide a forum for networking and sharing the latest knowledge in the fields relating to climate: global warming, water resources, renewable energies, climate and tourism, climate and risks.

### ■ SOCIETY, WATER AND HEALTH IN THE MEDITERRANEAN REGION

Organised by: Mediterranean Agronomic Institute, Montpellier (IAM.M) and University Montpellier 1  
Date: 5<sup>th</sup> of September 2008 from 8:30 to 17:00  
Place: Institut agronomique méditerranéen de Montpellier, 3191 route de Mende, 34093 Montpellier

Population increase and pressure on natural resources has been rising rapidly in the Mediterranean region. Water as a rare resource, is used for agriculture (80% in Mediterranean regions), but also for domestic, tourist and industrial purposes. Current and potential conflicts show the importance of multi-thematic and inter-institutional approaches for:

- Identification of zones and where shortages are critical, and how management policies can solve these problems; and
- Water access rights and how global health policy can regulate diseases linked to water quality.



D.R.

## The International Scientific Committee

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International Water Resources Association  
**XIII<sup>th</sup> World Water Congress**

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