



WWAC2016

4th IWA International Symposium on Water
and Wastewater Technologies in Ancient
Civilizations

PRELIMINARY PROGRAMME AND PARALLEL SESSIONS



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


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University of Coimbra | Coimbra | Portugal

September 17–19

Schedule:

September 17 (Saturday)		September 18 (Sunday)		September 19 (Monday)		September 20 (Tuesday)	
08:30-09:00	Reception of Participants						
09:00-10:00	Opening Ceremony	08:40-10:40	Parallel Sessions S3-S4	08:40-10:20	Parallel Sessions S7-S8		
10:00-10:30	Keynote 1			10:20-10:40			
10:30-11:00	Keynote 2	10:40-11:00					
11:00-11:20				10:40-12:00	Parallel Sessions S9-S10-S11		
11:20-13:00	Round Table <i>Arid and Semiarid: Ancient Knowledge for Exploiting and Distributing Water</i>	11:00-13:00	Parallel Sessions S5-S6	12:00-12:30	Closing Ceremony		
13:00-14:00		13:00-14:00		12:30-13:30			
14:00-14:30	Keynote 3						
14:30-15:00	Presentation: <i>Levadas da Madeira</i>	14:00-15:30	GWl Session-1st part	13:30-16:30	Visit to the University of Coimbra	08:00-19:30	Visit to the Water Museum, Lisbon (optional) (includes lunch)
15:00-15:20							
15:20-16:40	Parallel Sessions S1-S2	15:30-15:45					
16:40-18:30	<i>Aqueducts of Portugal</i> Exhibition (Science Museum) Welcome Cocktail	15:45-17:30	GWl Session-2nd part				
18:30-20:00	Meeting of IWA SG on WWAC	17:30-18:30	Poster Session	16:30-19:30	Visit to the Conimbriga Roman Ruins		
		20:00-23:00	Gala Dinner				

Parallel Sessions:

SEPTEMBER 17 (SATURDAY)

PARALLEL SESSION 1 – Water Cultures		CHAIRPERSON:	SEPTEMBER 17 (SATURDAY)
ROOM:			15:20 TO 16:40
ID	TITLE	AUTHORS	
23	Infrastructures of Power: the Control of Water as a Tool of Dominance in Contexts of Cultural Diversity and Colonialism	M. C. Pascual, A. Polónia	
50	The Question of the Foggara Origin in the Western Algerian Sahara. An overview for Advanced Search	A. Dahmen, T. Kassab	
59	Water Supply, Sanitation and Wastewater in the Peruvian Andean Region – From Centuries of Sustainable Development to Facing the Challenges of our Times	A. Reyes-Knoche	
78	Preliminary Results of the Archaeological Surveys Conducted at the Álamo Roman Dam (Alcoutim, Portugal) During the Years of 2006 and 2007	J. L. Cardoso, A. Gradim	

PARALLEL SESSION 2 – Urban Water and Wastewater Management		CHAIRPERSON:	SEPTEMBER 17 (SATURDAY)
ROOM:			15:20 TO 16:40
ID	TITLE	AUTHORS	
18	Water Resources Management Technologies in Minoan Era	A. N. Angelakis	
38	Historical Development of Wastewater Management in Kathmandu Valley, Nepal	R. B. Roka, R. Dongol, I. K. Kalavrouziotis	
87	The History of Sanitation and Wastewater Management in Portugal	S. E. Di Berardino	
14	The First Giant Machine of History: the Toledo Device, Patronage and Technological Transfer in the Sixteenth-Century Habsburg Empire	C. Zanetti	

SEPTEMBER 18 (SUNDAY)

PARALLEL SESSION 3 – Water Supply and Treatment		CHAIRPERSON:	SEPTEMBER 18 (SUNDAY)
ROOM:			08:40 TO 10:40
ID	TITLE	AUTHORS	
8	Giulio Aleni SJ (1582-1649) and the Introduction of Western Water Supply Methods in 17 th Century China	A. Koenig	
16	A Steady Flow Hydraulic Model of the 4 th and 5 th Century Aqueducts Supplying Constantinople	M. Crapper, F. Ruggeri, K. A. Ward, J. Crow	
29	The Byzantine Cisterns of Constantinople	K. A. Ward, M. Crapper, K. Altuğ, J. Crow	
36	The Augustan Aqueduct of Capua and its Historical Evolution	G. Libertini, B. Miccio, N. Leone, G. De Feo	
76	Design Principles for Ancient Roman Water Supply Networks: the Use of Still Water Basins and Single End Users Pressure Pipes	M. C. Monteleone	
86	The Aqueduct of the Roman Town Salona – Croatia	K. Marasović, J. Margeta, S. Perojević, M. Katić, D. Bojanić	

PARALLEL SESSION 4 – Cultural Heritage of Water Usage		SEPTEMBER 18
CHAIRPERSON:		(SUNDAY)
ROOM:		08:40 TO 10:40
ID	TITLE	AUTHORS
21	Water as a Weapon in the Ancient Times (but not only): Considerations about Technical and Ethical Aspects	L. J. Del Giacco, R. Drusiani, L. Lucentini, S. Murtas
32	Dutch Regional Water Authorities: a Precious Cultural Heritage for a Robust Future	H. J. M. Havekes, H. P. J. van Schaik
92	The View Point of Social Scientists about the <i>Foggara</i> Irrigation Systems	I. Ribeiro
58	Prevention of Flood Episodes at Relleu (Alacant Province, Spain) in the Old Times: Les Magenes Water Heritage	J. F. Climent, M. A. Soler, M. Salgot
73	Evolution of Rainwater Harvesting and Use in Hellas through the Centuries: a Preliminary Review	S. Yannopoulos, G. P. Antoniou, M. Kaiafa-Saropoulou, A. N. Angelakis
26	Lisbon Water Museum: the Identity of a Space	B. S. Bruno

PARALLEL SESSION 5 – Urban Water and Wastewater Management		SEPTEMBER 18
CHAIRPERSON:		(SUNDAY)
ROOM:		11:00 TO 13:00
ID	TITLE	AUTHORS
74	A Small River and the Big Capitals: the Logic of Qin Huai He River Management of China	X. Y. Zheng
68	Cultural Values of Qanat	H. Ghafori, M. L. Khaneiki
39	A Preliminary Study on Urban Planning and Water and Drainage Management Practices in the Ancient Greek Settlement of the Aetolian Makyneia, Greece	K. Kollyropoulos, F. Georma, F. Saranti, N. Mamassis, I. K. Kalavrouziotis
56	Prominent Features of the Augustan Aqueduct in the Naples Bay Area	W. Lorenz, G. Libertini, B. Miccio, N. Leone, G. De Feo
80	The Water Collecting System of the Sete Fontes, Braga (4th - 20th Century)	L. Fontes, F. Andrade, M. Pimenta, M. Guerreiro
1	The Past, Present and Future of Water Security: Lessons from History	G. S. Symmonds

PARALLEL SESSION 6 – Cultural Heritage of Water Usage		SEPTEMBER 18
CHAIRPERSON:		(SUNDAY)
ROOM:		11:00 TO 13:00
ID	TITLE	AUTHORS
2	Survey of Ancient Water Technologies in Semi-Arid and Arid Regions: Traditional Knowledge for the Future	L. W. Mays
5	Historic Tide Mills of Portugal – with Focus on Hydraulic and Operational Aspects	H. Wittenberg
54	The Drainage of Lake “L’Estany” in Spain	E. Batista, J. Hernandez
77	The Hydraulic System of <i>Bracara Augusta</i> (Braga, Portugal). Dicussing the Archaeological and Environmental Heritage	M. Martins, J. Meireles, M. C. Ribeiro, F. Magalhães, C. Braga
20	The Ancient Water Management System in Southern Parts of Port of Bushehr, Iran	H. Zarei
27	Jagüeyes (Detention Ponds) in Coastal Ecuador: Rescuing Traditional Knowledge on Sustainable Use of Biodiversity	J. G. Marcos

SEPTEMBER 19 (MONDAY)**PARALLEL SESSION 7 – Water Cultures****CHAIRPERSON:****ROOM:****SEPTEMBER 19****(MONDAY)****08:40 TO 10:20**

ID	TITLE	AUTHORS
60	Irrigation Technology in Pre-Hispanic Northern Chile	A. Tamburrino
69	Drainage in the Roman Goldmines in the Northwest of the Iberian Peninsula	R. Wahl-Clerici
64	Management of Water Resources in the Highlands of Edom During the First Millennium BCE: the Case of Sela (Tafila, Jordan)	R. Marsal, R. Da Riva, J. R. Muñiz
75	Evaluating Social and Economic Functions of Vaqfabad Qanat according to its Deeds of Endowment	A. A. S. Yazdi, Z. Cheraghi , E. Golzari
51	The Evolution of International Water Law – Legal Response to the Insufficiencies of the Classical International Water Law in Confronting the Contemporary Global Water Crisis	P. C. de Castro

PARALLEL SESSION 8 – Cultural Heritage of Water Usage**CHAIRPERSON:****ROOM:****SEPTEMBER 19****(MONDAY)****08:40 TO 10:20**

ID	TITLE	AUTHORS
72	Evolution of Cretan, Greece Aqueducts	T. G. Nikolaou, I. Christodoulakos, P. G. Piperidis, A. N. Angelakis
61	Trades Related to Ice Wells	J. L. De La Peña, R. Mantecon, M. Salgot
84	Ancient Hydraulic System of Ribela Valley in Coimbra	I. Anjinho, H. Simão, A. Sá Marques
91	From the Olive Grove to the Botanic Garden of the University of Coimbra: History and Contemporaneity of an XVIIIth Century Water Circuit	S. Filipe, P. Morgado, A. Gouveia
41	Utilization and Contribution of Underground Aqueducts of Turpan Oasis of China	G. N. Tolmbok

PARALLEL SESSION 9 – Water Supply and Treatment**CHAIRPERSON:****ROOM:****SEPTEMBER 19****(MONDAY)****10:40 TO 12:00**

ID	TITLE	AUTHORS
28	A GIS-Based Assessment of the Byzantine Water Supply System of Constantinople	F. Ruggeri, M. Crapper, J. R. Snyder, J. Crow
82	Water Supply in Roman Gold Mining: Las Médulas and the Northwest of the Iberian Peninsula	F. J. Sánchez-Palencia, B. X. Currás
70	Recovery of the Rio San Pedro, a Degraded River in Northern Mexico	B. A. Rivas L., M. Parga C., M. Gutiérrez, J. E. Magaña M.
85	Sete Fontes: a Challenge to Promote the Heritage Legacy and Facing Water Sources Scarcity in the City of Braga-Portugal	J. M. P. Vieira, A. A. L. S. Duarte, P. J. Ramísio

PARALLEL SESSION 10 – Water Cultures**CHAIRPERSON:****ROOM:****SEPTEMBER 19****(MONDAY)****10:40 TO 12:00**

ID	TITLE	AUTHORS
12	Water Management in Pre-Inca and Inca Civilizations	L. Ribeiro
22	Hydrotherapy: an Ancient Art, Legacy of Hippocrates, the Father of Medicine	E. Sazakli, E. Sazaklie, M. Leotsinidis, S. P. Varnavas
79	Squatting and Sitting Ancient Greek Toilets: a Preliminary Research on the Transition from “Natural?” to “Comfortable”	G. P. Antoniou
89	The Great Flood and the Foundation of China	A. G. Henriques

PARALLEL SESSION 11 – Environmental Issues**CHAIRPERSON:****ROOM:****SEPTEMBER 19****(MONDAY)****10:40 TO 12:00**

ID	TITLE	AUTHORS
7	The Effect of Chlorine Dose and UV Radiation on the Content of Biodegradable Organic Matter and its Microbiological Safety During Drinking Water Disinfection	K. Rakocz, A. Rosińska
9	Removal of Nitrogen from Mainstream Wastewater Using Fluidized Bed Reactor with Different HRTs at Ambient Temperature	W. H. Chen, S. Y. Chen, Y. T. Huang, Y. A. Chiang, J. G. Lin
35	Parameter Calibration of Inundation Simulation Model Using Records of Water Levels in Sewer Systems	Y. Hida, H. Chiba
90	Adapted Optimization Model for Planning Regional Wastewater Systems: Case Study	J. A. Zeferino, M. C. Cunha, A. P. Antunes