

Commission on Mineral and Thermal Waters

Commission Eaux Minérales et Thermales



MINUTES OF THE 45th ANNUAL SESSION

Together with

**43nd IHA Congress: Groundwater and Society – 60 Years of IAH,
25th to 29th September 2016, Montellier, France**

&

Post Congress Tour

Along the Mediterenian Lion Gulf, South France,

30th September – 2th October

prepared by: Adam Porowski

According to the decision of the CMTW-IAH Meeting 2015 in Rome, Italy, **the meeting of the IAH Commission on Mineral and Thermal Water in 2016 was held in Montpellier, France.**

The meeting took place together with 43rd IHA Congress: Groundwater and Society – 60 Years of IAH, which was held in Montpellier from 25th to 29th September 2016. The Congress was dedicated to 60-th anniversary of the IAH.

The open meeting of the CMTW took place on Wednesday, 28th September, 12:45 – 14:00 during the official IAH Commissions and Network meetings.

The business meeting of the CMTW took place during the post congress tour to south France from 30th – 2nd October, 2016.

- The main organizer of the CMTW Congress: Michel BAKALOWICZ, Univ. of Montpellier, France, IAH French chapter President.
- Organizer and manager of the post-congress tour: Pierre MARCHET, Adour-Garonne Water Basin Agency, IAH French chapter Secretary.

IAH Congress 2016 summary and CMTW activity

The eight topics of the Congress were animated by specialists of each scientific field who proposed several “Provisional Sessions” during the abstract submission process. The definitive list of the Congress’ “sessions” was progressively completed till the end of the abstract submission and selection process.

During the Congress, each “session” comprises:

- oral presentations during parallel session(s);
- oral presentation of e-posters on the sessions.

Main topics of the scientific part of the Congress:

1. WHAT ROLE DO OR SHOULD HYDROGEOLOGISTS PLAY IN OUR SOCIETIES?
Session 1.03: Sharing groundwater knowledge
2. HYDROGEOLOGY(ISTS) AND ECONOMIC DEVELOPMENT
Session 2.01: Groundwater in semiarid regions – a long-term view on changes in aquifer balances. Hydrogeology in developing countries.
Session 2.02: Groundwater for sustainable water supplies in developing countries.
3. HYDROGEOLOGISTS FOR THE FUTURE: INFORMATION, EXCHANGE, EDUCATION AND TRAINING
Session 3.01: Groundwater data in the New Digital Age
4. ECONOMICS IN GROUNDWATER AND GROUNDWATER MANAGEMENT
Session 4.01: Innovative economic instruments and institutions for achieving sustained groundwater use. Integrated socio-economic and biophysical modeling for groundwater and conjunctive use management
5. GROUNDWATER, AND GLOBAL & CLIMATE CHANGE
Session 5.01: Groundwater resources in a world facing climate change
Session 5.02: Groundwater and global change

- Session 5.03: CO2 storage in deep saline aquifers and potential impacts on shallow aquifers
 Session 5.04: Emerging contaminants in the water cycle and risk to Groundwater
 Session 5.05: Groundwater and Ecosystems – Hydrological role of forests and wetlands
6. ACTIVE MANAGEMENT OF GROUNDWATER IN THE WATER CYCLE
 Session 6.01: Managed Aquifer Recharge
 Session 6.02: Treated WasteWater REUSE for groundwater recharge: addressing the challenge
 Session 6.03: Innovative tools to improve understanding of groundwater recharge processes.
7. GROUNDWATER USES AND MANAGING GROUNDWATER USE CONFLICTS
 Session 7.01: Groundwater and Energy Resources
 Session 7.02: Urban Hydrogeology
 Session 7.03: Agricultural and sanitation contaminants and implications for water services and health
 Session 7.04: Groundwater and man-made underground works
 Session 7.05: The Challenges for Transboundary aquifer management
 Session 7.06: Groundwater protection and governance: examples of groundwater protection models, and the role of the private sector
 Session 7.07: Transdisciplinary and participatory approaches in groundwater research and management
8. TOPIC 8 - PROGRESS IN CONCEPTUAL MODELS, TOOLS AND METHODS
 Session 8.01: Fiber-Optic Distributed Temperature Sensing as an innovative method in hydrogeology and geothermal energy
 Session 8.02: Groundwater Development and Protection in Coastal and Volcanic Environments with Complex Geological Structures
 Session 8.03: Geometrical structure and hydrogeological properties of Hard-Rock aquifers.
 Session 8.04: Isotopic and residence time tracers
 Session 8.05: Karst aquifers
 Session 8.06: Verification of conceptual patterns and expected natural effects of regional groundwater flow by interpretation of relevant field observations
 Session 8.07: Hydrogeophysics: innovative non-invasive technologies for groundwater resources exploitation and management
 Session 8.08: Mineral and Thermal water: an indicator of deep processes and source of economically valuable minerals
 Session 8.09: Hydrogeoecology: a focus on groundwater ecology
 Session 8.10: Recent developments in groundwater modeling and mathematical tools in Hydrogeology
 Session 8.11: Hydrogeodesy: new surface tools to characterize and monitor active and managed groundwater systems

The CMTW coordinated the session 8.08 “Mineral and Thermal water: an indicator of deep processes and source of economically valuable minerals

Scientific Lectures and posters by CMTW Members during the Congress, Topic T2, Session 2.3

28-Sep-2016	Porowski Adam (oral speech)	PL	Origin of Methane in Edge Oil-field Mineral Waters of the Iwonicz Zdrój Spa, Central Carpathian Synclitorium, SE Poland.
28-Sep-2016	Henriot Abel (speaker), Lachassagne Patrick France, Nicoud Gérard France, Travi Yves (e-poster)	FR	The contribution of a multidisciplinary approach to conceptualize the structure and functioning of a complex Natural Mineral Water Glacial aquifer
28-Sep-2016	Alazard Marina (speaker), Dewandel	FR	Hydrogeological conceptual model of a crystalline thermo-mineral carbo-gaseous aquifer driven by a

	Beno^t, Lachassagne Patrick , Bailly-comte Vincent, Coueffe Renaud, Grataloup S., Ladouche Bernard, Lanini Sandra, Wyns Robert <i>(e-poster)</i>		weathering profile and tectonic fractures
28-Sep-2016	Rman Nina , Andrej Lapanje, Joerg Prestor <i>(e-poster)</i>	SL	Hydrogeological findings in concession granting process - use of thermal water for balneology and direct use
28-Sep-2016	Balderer Werner <i>(e-poster)</i>	CH	Monitoring fluorescence of groundwater, mineral and thermal water at distinct wavelengths as potential tool for earthquake precursor research
28-Sep-2016	Vinograd Natalia, Porowski Adam <i>(e-poster)</i>	RU, PL	History and modern state of mineral water study at the Staraya Russa spa (Northwestern Russia)
27-Sep-2016	Piscopo Vincenzo (speaker), Taşkın M. Melih, Lotti Francesca, Kahraman Serkan, CŸylan Mert, Dişli Erkan, Ceyhan H. Adnan, Ayan A. Emre, Baiocchi Antonella, Biler R. Alper <i>(e-poster)</i>	IT, TR	Estimation of rock mass permeability using RQD and variation in hydraulic conductivity with depth

CMTW Meeting: 28 September 2016
IAH Commissions and Network Meeting

LIST OF PARTICIPANTS

No	Name	Country	e-mail
1	LAMOREAUX, JAMES (Chairman)	USA	jlamoreaux@pela.com
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3	POROWSKI, ADAM	PL	adamp@twarda.pan.pl
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ACCOMPANING PERSONS

No	Name	Country	
1	LaMoreaux, Nicole, Mrs	USA	Post-congress tour & cultural program
2	Balderer, Christina, Mrs	CH	Post-congress tour & cultural program

ABSENT MEMBERS

Name	Country	Member / Cand. Memb.	Absent with apologies
DOWGIAŁŁO, JAN (hon. Chairman)	PL	M	dowgian@yahoo.pl *
POROWSKI, ADAM (Secretary)	PL	M	adamp@twarda.pan.pl *
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STRBACKI, JANA	RS	CD	jana.stojkovic@rgf.bg.ac.rs
LOTTI, FRANCESCA	IT	CM (?)	*
KRALJ, PETER (hon. Chairman)	SLO	M	
DEÁK, JÓZSEF	HU	M	Deak47jozsef@gmail.com
FERU, ADRIAN	RO	M	*
MARCIN, DANIEL	SK	M	*
POPESCU, MARIA	GR	M	
CARELLA, ROBERTO	IT	M	
CALADO, Carlos	PT	M	
CRUZ, José Virgilio	PT	CM	
DOTSIKA, LIANA	GR	CM	

FRANCESCHI, Michel	FR	M	
FRICKE, Michael	FR	M	
HABERMEHL, Rien	AUS	M	
HERCH, Andrea	GER	M	
IBRAGIMOVA, Irada	AZN	M	
ISSAADI, Abderrahmane	ALG	M	
LAHERMO, Pertti. W.	FIN	M	
LAING, Colin	AUS	M	
LESMO, Renato	IT	M	
MOORE, JOHN	USA	M	
PANG, Zhonghe	CHINA	M	
POUCHAN, Pierre	FR	M	
ROSENTHAL, Eliahu	IS	M	
RISLER, JEAN J.	FR	M	
SCHNEIDER, Jean	AUS	M	
SHAWKI, Abdine	ET	M	
SHTEREV, KOSTADIN	BUL	M	
TAHLAWI, Mohamed Ragaie El	EGY	M	
VERDEIL, Pierre	FR	M	
VON STORCH, KURT	GER	M	
ZUURDEG, Boudewijn	NL	M	
CUCHI, Antonio	ES	M	

Agenda Part I: open meeting

1. Welcome of the participants and members:
Chairman: Jim Lamoreaux
Vice Chairman: Werner Balderer
2. Acceptance of the CMTW Minutes from Rome, Italy, 2015:
Chairman: Jim LaMoreaux – short info, and voting.
3. Updated information on the process of CMTW web-site construction, development, management:
Short info from Adam Porowski: website is still in the process;
4. Information / discussion about upcoming publications from CMTW meetings:
 - a) New Zealand mineral waters: Andy Shugg and Jim Lamoreaux
 - b) New publication: from CMTW meeting in Rome, 2015
 - c) New publication: Petar Papić (ed), 2016 *Mineral and Thermal Waters of Southeastern Europe*, Springer.

BUSINESS Meeting (during the post-congress tour)

LIST OF PARTICIPANTS

No	Name	Country	e-mail
1	LAMOREAUX, JAMES (Chairman)	USA	jlamoreaux@pela.com
2	BALDERER, WERNER (Vice Chairman)	CH	balderer@erdw.ethz.ch werner1111@msh.com bawerner@retired.ethz.ch
3	POROWSKI, ADAM	PL	adamp@twarda.pan.pl
6	RMAN, NINA	SL	Nina.Rman@GEO-ZS.SI

Agenda Part II:

5. New Regular Members (RM) & Candidate Members (CM) and new members acquisition – discussion.
 - a) **Petar Papic** – confirm of RM
 - b) **Nina Rman – nina PREPARED info about Slovenia; we confirmed membership;**
 - c) **Kriang Pirarai** – Senior Hydrogeologist with the Thailand Department of Ground Water Resources – voting about his Candidate Membership - confirmed
Info required
 - d) **Louis Mangani Nyirongo** – Sub Consultant Geologist at Snowy Mountain Engineering Corporation – eventual voting about his Candidate Membership ??
Info required – writ to him and ask (it is not recommended)
 - e) **Jana Štrbački** - Researcher Fellow, Department of Hydrogeology, Faculty of Mining and Geology at University of Belgrade, Serbia. – voting on her Candidate Membership;
CM confirmation
D) Luis Marques – confirm as a member
E) Vincenzo Piscopo - confirmation

Ad. 1.

The chairman of the CMTW, Jim Lamoreaux, together with vice chairman Werner Balderer, welcomed all participants of the open meeting, presented the Commission's activities, short history, and encouraged young scientists to join.

Ad.2.

The Minutes of the CMTW meeting in Italy, 2015, was prepared by secretary Adam Porowski. The Minutes were presented by the chairman and accepted unanimously by all members (including absent members, through internet – no remarks were provided).

Ad. 3.

The CMTW website still exists in the free of charge server with the following address:

<http://www.cmtw.c0.pl>

We decided to wait for new IAHR management; the case of website will be proceeded during the CMTW meeting in march 2017, MinWat2017 Conference, Luso, Portugal.

Ad. 4.

Publication from Rome meeting

Vincenzo Piscopo collected only 4 high quality papers from Rome. We decided to combine future papers from conference MinWat2017 to the special issue of *Sustainable Water Resources Management*.

Other publication activities

- a) Evian Publication is at present only 3 – 5 papers in length.
- b) Jim and Andy are going to compile the New Zealand Excursion notes.
Publication is in process.
- c) **New publication finished:** Petar Papić (ed), 2016 *Mineral and Thermal Waters of Southeastern Europe*, Springer.
- d) **New publication finished:** The Budapest publication was published in 2015
Istvan Fórizs (guest editor of spec. issue): *Environmental Earth Sciences* vol. 74, 2015.

POST - CONGRESS TOUR

Along the Mediterranean Gulf of Lion to French Catalonia, Corbières and Minervois mountains: karst and the Messinian Crisis of Salinity, Pliocene and Quaternary, and thermal and mineral hydrogeology

Regional geology and hydrogeology, water management, natural and historical famous sites

The departure is scheduled at 8:00 am on Friday 30th near the congress hall, and the return to Montpellier is scheduled at 4:00 pm on Sunday 2nd (this programme is still subject to small changes and additional information).

Some stops will not be accessible to the bus. So we will have to walk 10 to 15 minutes. It will be possible to wait for the group in the bus.

Friday September 30th : Montpellier – Perpignan – Tuchan

From Montpellier, the field trip will follow the Mediterranean coastline as far as Perpignan, where the first stops will show the karst of the Corbières mountains (spring of Fontestramar, deep borehole at Robol) before arriving in Perpignan city. Here we will broach the water policy of local authorities (the Departement Council of Pyrénées Orientales, the town authority Perpignan Méditerranée, the Syndicate for protection and management of the aquifers of the plain of Roussillon) and the specific geological and hydrogeological history: the multilayered aquifer of the plain of Roussillon and the karst of Corbières mountains, related to the Messinian Crisis of Salinity during which the Mediterranean dried up.

Lunch on site or close to Perpignan.

During the afternoon, we will visit the upstream part of the plain, with some stops on several sites which are good examples of the morning presentations: Gilbert Delta, Messinian trenching, columns at Ille-sur-Têt, swallow holes of the Agly River at Estagel, dam on the Agly River...

Diner and night in chalets at Tuchan (20 km North of Perpignan city)

Saturday October 1st : Tuchan – Carcassonne

Trip to the castle of Peyrepertuse, then to the gorges of Galamus and the road running along the Peak of Bugarach in order to look at the thermalism of the basin of Quillan and Rennes-les-Bains.

Picnic.

After a stop at Arques, the trip will go through the sites of several boreholes (Villeroige-Termenès and the Alaric mountain), before arriving in the famous city of Carcassonne that we will visit. Diner in the middle age city, and night in an apartment hotel located at the foot of the middle age ramparts.

Sunday October 2nd : Carcassonne – Montpellier

The field trip will continue towards the karst of the south slopes of the Black Mountain (the Montagne Noire), where there will be several stops as far as the village of Minerve, where we will have the picnic.

The trip back to Montpellier will show the aquifer of Pouzols, the oppidum of Ensérune on marine Miocene, which allows an exceptional view on the surrounding area.