

*Commission on Mineral and Thermal Waters*

*Commission Eaux Minérales et Thermales*



# **MINUTES OF THE 48<sup>th</sup> ANNUAL SESSION**

Together with

**International Conference “Groundwater – 2019”  
Pyatigorsk, 2 – 5 October, 2019**

*prepared by: Adam Porowski, Natalia Vinograd*

*October 2019*

According to the decision of the CMTW-IAH Meeting 2018 in Velenje, Slovenia, **the meeting of the IAH Commission on Mineral and Thermal Water in 2019 was held in Pyatigorsk, Russia.**

The meeting of the CMTW-IAH was organized jointly by the Russian Chapter of the International Association of Hydrogeologists (IAH), St.Petersburg University Centre for Geology LLC, Water Centre of St.Petersburg University LCC and State Commission on Mineral Reserves of the Russian Federation.

The meeting took place together with the International Conference “Groundwater – 2019”, which was held in Pyatigorsk, south Russia from 2<sup>nd</sup> to 6<sup>th</sup> October 2019. The Conference was held under the auspices of the **State Commission on Mineral Reserves of the Russian Federation and the Federal Agency for Subsoil Use of the Russian Federation.**

**Organizing Committee of the Conference and CMTW IAH scientific session:**

- Nina Erofeeva (Head of the Department of Oil and Gas Geology, Groundwater and Buildings of the Federal Agency for Subsoil Use of the Russian Federation)
- Prof Igor Shpurov (General Director of the State Commission on Mineral Reserves of the Russian Federation)
- Dr Mikhail Leonov (Deputy General Director of the State Commission on mineral reserves of the Russian Federation)
- **Dr Natalia Vinograd** (Associate Professor of St. Petersburg State University, IAH Vice-President, CMTW IAH member)
- Dr Aleksandr Pisarnitsky (Chairman of the Board of the Eurasian Union of Subsoil Use Experts) (ECOEN)
- Mikhail Kuzmin (Director of the North-Caucasian branch of the State Commission on mineral reserves of the Russian Federation)
- Alexey Tudvachev (Deputy General Director, St. Petersburg University Centre for Geology, LLC)
- Dr Evgeny Potapov (Head of the Sector of Hydrogeology of the Pyatigorsk Research Institute of Balneology)
- Dmitry Kuklin (Director of “Geominvod”, LLC)
- **Dr Jim Lamoreaux** (IAH - CMTW Chairman, CEO PelaGeoenvironment)
- **Dr Adam Porowski**, (IAH – CMTW Secretary, hydrogeologist researcher in the Institute of Geological Sciences Polish Academy of Sciences)

### **Scientific committee of CMTW IAH Session:**

- Dr Natalia Vinograd (Associate Professor of St. Petersburg State University, IAH Vice-President, CMTW IAH)
- Alexey Tudvachev (Deputy General Director, St. Petersburg University Centre for Geology, LLC)
- Dr J. Lamoreaux (IAH - CMTW Chairman, CEO PelaGeoenvironment)
- Dr Adam Porowski, (IAH – CMTW Secretary, hydrogeologist researcher in the Institute of Geological Sciences Polish Academy of Sciences)
- Alexey Tudvachev (Deputy General Director, St. Petersburg University Centre for Geology, LLC)
- Dr Evgeny Potapov (Head of the Sector of Hydrogeology of the Pyatigorsk Research Institute of Balneology)
- Dmitry Kuklin (Director of “Geominvod”, LLC)

### **Conference location:**

#### **Pyatigorsk**

Pyatigorsk is located in the Stavropol region; it is one of the oldest balneological resorts in Russia. Numerous mineral springs and mud deposits are compactly located on a relatively small area. However, it is good not only for health, but also as a new interesting route in the tourist collection of a traveler. Situated at the foot of the mount Mashuk, in picturesque groves, this colorful piece of the North Caucasus is always happy to guests regardless of their nationality and social status. Its natural wealth - mineral water, therapeutic mud and clean mountain air - are free for everyone!

#### **Geographical Information**

The area of the Caucasian Mineral Waters is the most picturesque corner of the North Caucasus located in the southern part of the Stavropol Region of Russia, on the Northern slopes of the Main Caucasian ridge, between the Black and Caspian seas. For several tens of kilometers from the North to the South, the steppe gradually turns here in the mountains. Grass steppes are replaced by luxurious deciduous and pine forests, changed higher by Alpine meadows. The cone-shaped, volcano-like mountains: Byk (Bull), Zmeyka (Snake), Zheleznaya (Iron), Beshtau, Mashuk are very well seen from the steppe plain. The slopes of these low mountains are completely covered with thick hornbeam and oak forests. Caucasian Mineral Waters are located on the distance of only 90 km from the highest mountain in Europe — Elbrus, the two-headed peak of which is clearly visible almost throughout the region. It is situated in the III time zone — GMT + 3 hours (Moscow time).

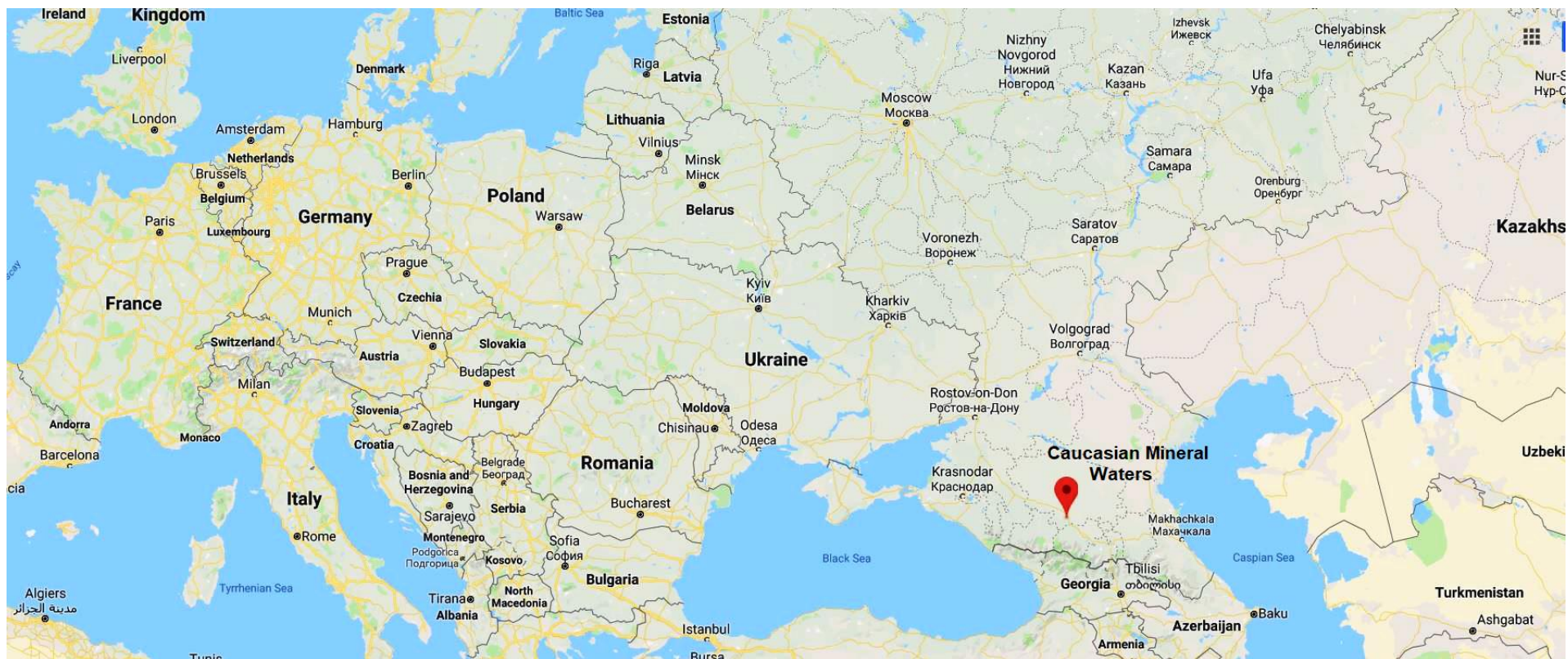


Fig. 1 Location of the CMTW-IAH meeting in 2019.

### Mineral water

As a result of its complex geological structure, the region of Caucasian Mineral Waters has a great variety of mineral water types. Local hydrogeologists will present the information on geology and hydrogeology of the area and mineral water springs.

### Weather conditions

The weather in the beginning of October is very liable for outdoor activities, with day temperatures from +13°C to +18°C; rains are not very probable.

### **Conference venue**

The conference “Groundwater-2019” and CMTW IAH session took place at “Beshtau”\*\*\* hotel opened in 2014 and situated in the central part of the town (beshtau26.ru).

### **Fieldtrip and excursion**

The 2-days field trip covered the variety of mineral water types of the region of the Caucasian Mineral Waters. Participants visited mineral water springs and water intakes of the most famous spas of the region in Essentuki, Pyatigorsk, Kyslevodsk and Zheleznovodsk. The second day was devoted to the mountain sceneries: the participants ascended the Mussa-Achitara peak (3168 m asl) by cable cars and seen the highest peak of Europe – Elbrus (5642 m asl) on the return way.

During the excursion around the town of Pyatigorsk, participants visited the cultural and natural sights of the place, the top of Mashuk mount with a spectacular view and tried the water from natural springs of several types.

### The program of the fieldtrip

#### *October 3 (Thursday)*

- 15:00 Beginning of the excursion program (Pyatigorsk)
- 15:00 – 17:30 Excursion around the town of Pyatigorsk
- 17:30 Departure to Stanitsa Suvorovskaya settlement.
- 18:00 – 19:30 Visit to the Suvorovskaya thermal springs
- 20:00 Return to Pyatigorsk

#### *October 4 (Friday) – October 5 (Saturday)*

Two-days excursion around Caucasian Mineral Waters area

#### *October 4*

- 8:00 Departure to Zheleznovodsk spa
- 9:00 – 10:30 Excursion around the spa to the springs of famous mineral waters “Slavyanovskaya” and “Smirnovskaya”
- 10:30 Departure to Essentuki spa

11:30 – 12:30 Excursion around the spa to the famous mineral waters “Essentuki – 4” and “Essentuki – 17”

15:00 Departure to Kislovodsk spa

16:00 – 16:30 Visit to the drinking gallery of the famous mineral water “Narzan”.

16:30 – 17:30 Excursion around the Kislovodsk park.

17:30 Departure to Dombay.

*October 5*

10:00 – 12:30 Cable car ascent to the Mussa-Achitara peak (3168 m asl) in three stages:

1st stage – Dombay-1 (1590-2277 m)

2nd stage – Dombay-2 (2277-3008 m)

3rd stage - Dombay 3 (3008 – 3168 m)

13:00 Departure to Karatchayevsk.

15:30 – 19:00 Return to Pyatigorsk through picturesque places of the Northern Caucasus, passing Gum-Bashi passage, where Elbrus mountain can be very well seen. Stop on the road in the Tea house to try famous Caucasian tea and local authentic jams.

19:00. Arrival to Pyatigorsk.

## **Program of the Conference “Groundwater-2019” and 48<sup>th</sup> CMTW IAH meeting**

*October 2 (Wednesday)*

9:00 – 10:00 Registration & welcoming tea/coffee

10:00 – 13:30 Opening Ceremony (joint meeting, simultaneous translation English/Russian available)

- Welcome from the state and local authorities
- Welcome from the CMTW-IAH (dr Adam Porowski)
- Presentations of the participants of the Conference “Groundwater-2019”

(11:30 – 12:00 Coffee break)

13:30 – 14:30 Lunch

### **14:30 – 16:45 CMTW IAH Session (working language is English)**

14:30 – 14:50 Introduction, welcome from CMTW Secretary and Organizing Committee

14:50 – 15:10 Natalia Vinograd (St.Petersburg University, Russia): “Mineral therapeutic waters in Russia – types and distribution”

15:10 – 15:30 Evgeny Potapov (Pyatigorsk Research Institute of Balneology, Russia): “Mineral waters of the Caucasian Mineral Water region”.

15:30 – 15:50 Mikhail Kuzmin (North Caucasian Branch of the State Commission on mineral reserves of the Russian Federation, Russia):

“The largest mineral water occurrences of Caucasus and problems of their exploitation”.

15:50 – 16:10 Nina Brodskaya (State Russian Hydrometeorological University, St.Petersburg, Russia):

“Environmental problems of the exploitation of the mineral water occurrences in urban areas”.

16:10 – 16:30 Barbara Kielczawa (Wroclaw University of Science and Technology, Poland)

“Mineral and thermal waters of Southwestern Poland”.

16:30 – 16:45 Coffee break

**16:45 – 17:30 CMTW IAH Business meeting**

*October 3rd (Thursday)*

10:30 – 13:30 **CMTW-IAH Session**

10:30 – 10:50 Ali Bulbul (Pamukkale University, Denizli, Turkey):

“Hydrogeochemical evolution of Baslioglu (Salihli) mineral water

10:50 – 11:10 Anastasia Romanova (Institute of Geological Science of the Polish Academy of Science, Warsaw, Poland):

“Hydrogeological features of the mineral therapeutic waters of the Polish Carpathians”.

11:10 – 11:30 Adam Porowski (Institute of Geological Science of the Polish Academy of Science, Warsaw, Poland):

“Geochemistry of REE in mineral and thermal waters of flysh and crystalline formation: case studies from Carpathian and Sudetes mountains, South Poland”.

11:30 – 12:00 Coffee break

12:00 – 12:20 Istvan Forisz (Institute for Geological and Geochemical Research, Research Centre for Astronomy and Earth Sciences, Hungarian Academy of Sciences, Hungary):

“Hydrogeochemical study of the CO<sub>2</sub> rich mineral medical springs at Balatonfüred, Hungary”, (authors: Főrizs I., Deák J., Dobos I., Scheuer Gy., Czuppon Gy)

13:00 – 13:30 Discussion, questions and answers.

## Lectures and posters by CMTW Members during Conference

2-Oct-2019	<b>Porowski Adam</b>	PL	Welcome speech
2-Oct-2019	<b>Vinograd Natalia,</b> <i>(oral speech)</i>	RU	Mineral therapeutic waters in Russia – types and distribution.
3-Oct-2019	<b>Romanova Anastasiia</b> <i>(oral speech)</i>	PL	Geochemistry of REE in mineral and thermal waters of flysh and cristalline formation: case studies from Carpathian and Sudetes mountains, South Poland.
3-Oct-2019	<b>Porowski Adam</b> <i>(oral speech)</i>	PL	Geochemistry of REE in mineral and thermal waters of flysh and cristalline formation: case studies from Carpathian and Sudetes mountains, South Poland.
3-Oct-2019	<b>Fórizs Istvan, Fórizs I.,</b> Deák J., Dobos I., Scheuer Gy., Czuppon Gy <i>(oral speech)</i>	PT	Hydrogeochemical study of the CO2 rich mineral medical springs at Balatonfüred, Hungary.

## 48<sup>th</sup> CMTW IAH Meeting LIST OF PARTICIPANTS

No	Name	Country	e-mail
2	Porowski Adam (secretary)	PL	<a href="mailto:adamp@twarda.pan.pl">adamp@twarda.pan.pl</a>
4	Vinograd Natalia	RU	<a href="mailto:natalia_vinograd@yahoo.com">natalia_vinograd@yahoo.com</a> <a href="mailto:nv.70@hotmail.com">nv.70@hotmail.com</a>
3	Fórozs Istvan,		<a href="mailto:forizs.istvan@csfk.org">forizs.istvan@csfk.org</a>
<i>Non-members</i>			
12	Romanova Anastasiia	PL	<a href="mailto:a.romanova@twarda.pan.pl">a.romanova@twarda.pan.pl</a>
13	Barbara Kielczawa	PL	<a href="mailto:barbara.kielczawa@pwr.edu.pl">barbara.kielczawa@pwr.edu.pl</a>
14	ALÍ BÜLBÜL	Tr	<a href="mailto:abulbul@pau.edu.tr">abulbul@pau.edu.tr</a>
15	Evgeny Potapov	RU	
16	Nina Brodskaya	RU	
17	Alexey Tudvachev	RU	
23	Szócs Teodora	HU	<a href="mailto:szocs.teodora@mfgi.hu">szocs.teodora@mfgi.hu</a>
24	LACHASSAGNE, PATRIK	FR	<a href="mailto:patrick.lachassagne@danone.com">patrick.lachassagne@danone.com</a>
25	POLA, MARCO	IT	<a href="mailto:Marco.pola@unipd.it">Marco.pola@unipd.it</a>



26	FABBRI, PAOLO	IT	<a href="mailto:Paolo.fabbri@unipd.it">Paolo.fabbri@unipd.it</a>
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### ACCOMPANING PERSONS

No	Name	Country
1	Wife of F6rizs Istvan	HU

### ABSENT MEMBERS

Name	Country	Member / Cand. Memb.	Absent with apologies
LAMOREAUX, JAMES (Chairman) <a href="mailto:jlamoreaux@pela.com">jlamoreaux@pela.com</a>	USA	M	YES
PISCOPO, VINCENSO <a href="mailto:piscopo@unitus.it">piscopo@unitus.it</a>	IT	M	YES
RMAN, NINA <a href="mailto:Nina.Rman@GEO-ZS.SI">Nina.Rman@GEO-ZS.SI</a>	SL	M	YES
HAŁAJ, ELŻBIETA <a href="mailto:elzbieta.halaj@gmail.com">elzbieta.halaj@gmail.com</a>	PL	M	YES
WACHOWICZ-PYZIK, ANNA <a href="mailto:amwachowicz@poczta.fm">amwachowicz@poczta.fm</a>	PL	M	YES
VYLITA, TOMÁŠ <a href="mailto:tomasvylita@seznam.cz">tomasvylita@seznam.cz</a>	CZ	M	YES
MARQUES JOSE MANUEL <a href="mailto:Jose.marques@tecnico.ulisboa.pt">Jose.marques@tecnico.ulisboa.pt</a>	PT	M	YES
CARREIRA PAULA <a href="mailto:carreira@ctn.tecnico.ulisboa.pt">carreira@ctn.tecnico.ulisboa.pt</a>	PT	M	YES
FABBRI PAOLO <a href="mailto:Paolo.fabbri@unipd.it">Paolo.fabbri@unipd.it</a>	IT	M	YES
BALDERER, WERNER (Vice Chairman) <a href="mailto:bawerner@retired.ethz.ch">bawerner@retired.ethz.ch</a>	CH	M	YES
PAPIĆ, PETAR <a href="mailto:papic@rgf.rs">papic@rgf.rs</a>	RS	M	YES
SHUGG, ANDREW <a href="mailto:Aquaregia1@iinet.net.au">Aquaregia1@iinet.net.au</a>	AU	M	YES
STRBACKI, JANA	RS	CD	YES

<a href="mailto:jana.stojkovic@rgf.bg.ac.rs">jana.stojkovic@rgf.bg.ac.rs</a>			
DEÁK, JÓZSEF <a href="mailto:Deak47jozsef@gmail.com">Deak47jozsef@gmail.com</a>			YES
Szócs Teodora <a href="mailto:szocs.teodora@mfgi.hu">szocs.teodora@mfgi.hu</a>	HU		YES
LACHASSAGNE, PATRIK <a href="mailto:patrick.lachassagne@danone.com">patrick.lachassagne@danone.com</a>	FR		YES
POLA, MARCO <a href="mailto:Marco.pola@unipd.it">Marco.pola@unipd.it</a>	IT		YES
LOTTI, FRANCESCA	IT	CM (?)	YES
KRALJ, PETER (hon. Chairman)	SLO	M	YES
FERU, ADRIAN	RO	M	YES
MARCIN, DANIEL	SK	M	YES
POPESCU, MARIA	GR	M	YES
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	YES
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	

### CMTW Business meeting agenda

1. Welcome of the participants and members: Adam Porowski, secretary
2. Acceptance of the 47<sup>th</sup> CMTW Minutes in Velenje, Slovenia, 2018

- Adam Porowski - short info, and voting.
3. Information / discussion about upcoming publications:
    - a) Special issue of Environmental Earth Sciences, editors: Porowski A., Rman N, Fórizs I., Lamoreaux J.
  
  4. New Regular Members applications from:
    - a) Prof. ALİ BÜLBÜL from Pamukkale University, Geological Engineering Department, [abulbul@pau.edu.tr](mailto:abulbul@pau.edu.tr)
    - b) MSc Anastasiia Romanova, Institute of Geological Sciences Polish Academy of Sciences, [a.romanova@twarda.pan.pl](mailto:a.romanova@twarda.pan.pl)
    - 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**
  
  5. Elections of new CMTW management: discussion postponed due to not enough members present.