

# **Invitation**

The Babes-Bolyai University together with the Italian Geochemical Society, is pleased to invite the national and international scientific community to participate in the first edition of the Carpathian Fluid Geochemistry School in the Eastern Carpathians (Romania) from the 23<sup>rd</sup> to the 29<sup>th</sup> of July 2023.

The summer school is addresses to MSc holders, PhD students and postdoctoral researchers. Its main aim is to bring together the next generation of researchers, active in studies concerning fluid geochemistry, and to introduce them with innovating direct sampling techniques in different geodynamic settings. The summer school is supported by a group of expert teachers in a spectacular gas degassing region in the Carpathians (one of the highest carbon emitting regions in Eastern Europe). Furthermore, it gives young scientists an opportunity to experiment and evaluate new protocols and techniques to be used on fluid emissions covering a broad variety of methods.

### **Objectives:**

Provide the basic tools that are currently used in the sampling and analysis of fluids in volcanic and tectonic settings; and air pollution, in addition to discussing the interpretation of geochemical data and construction of conceptual models for different systems, in a hand-on approach.

#### Thematic areas:

- 1. Direct sampling of fluids (gases and water) and data interpretation;
- 2. Sampling of noble gases;
- 3. In-situ measurements using multi-gas technique;
- **4.** Measurement of diffuse degassing from soil and water surface;
- **5.** Lake physico-chemical parameters;
- **6.** Groundwater dating;
- 7. Paleoclimate reconstruction;
- **8.** Air pollution;

**Language:** The official language is English.

**Inscription:** Participants interested in the first Carpathian Fluid Geochemical School are requested to complete the following registration form <a href="https://forms.gle/N5b4othfQKCW8V7B9">https://forms.gle/N5b4othfQKCW8V7B9</a>. This will allow your subscription to be added in our database and the interested party will be able to receive updated information about the course and payment.

**COVID situation:** According to the situation updated in January of 2023, Romania does not present restrictions for the entry of foreigners into national territory and there is free movement within the country for residents and foreigners. The use of masks is not mandatory.

#### **Important dates:**

January circular and registration form open

Registration deadline 14 April 2023

Payment deadline 15 May 2023

#### **Estimated cost:**

Cost of the summer school is 650 euros which includes logging, transportation and meals in Romania.

**Estimated participants: 25-30** 

#### **Professors:**

The first edition of the school, will be attended, by national and international professors/researchers specialized in the area of study, with extensive experience and responsible for the latest scientific advances in the field of fluid geochemistry.



Franco Tassi
University of Florence, Italy
National Research Council
Institute and Institute
of Geosciences and Georesources
(CNR-IGG), Italy



Artur Ionescu
Babes-Bolyai University, Romania
University of Perugia, Italy
Institute for Nuclear Research,
(ATOMKI) Debrecen, Hungary



Palcsu Laszlo Institute for Nuclear Research, (ATOMKI) Debrecen, Hungary



Francesco Cappecchiacci University of Florence, Italy Vesuvian Observatory, Naples, Italy



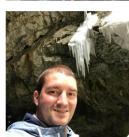
Zoltan Torok
Babes-Bolyai University, Romania
Research Institute for
Sustainability and Disaster
Management Based on High
Performance Computing
(ISUMADECIP), Romania



Sergio Calabrese University of Palermo, Italy National Institute of Geophysics and Volcanology (INGV), Palermo Section, Italy



Carlo Cardellini
University of Perugia, Italy
National Institute of Geophysics
and Volcanology (INGV),
Bologna Section, Italy



Horatiu Stefanie Babes-Bolyai University, Romania



Giancarlo Tamburello National Institute of Geophysics and Volcanology (INGV), Bologna Section, Italy



Fausto Grassa National Institute of Geophysics and Volcanology (INGV), Palermo Section, Italy



Francesco Frondini University of Perugia, Italy



Andrei Radovici Babes-Bolyai University, Romania

### General program:

23<sup>rd</sup> July – Arrival in Cluj-Napoca, Registration and ice-breaker

24<sup>th</sup> July – Seminars on sampling techniques and details on the field work (Cluj-Napoca FSIM building)



*Iustinian Petrescu Amphitheatre – Faculty of Environmental Science and Engineering* 

**25<sup>th</sup> July** - travel from Cluj-Napoca to Balvanyos (stay at Istvana Panzio), stop at Corund (aragonite mine and CO<sub>2</sub>/CH<sub>4</sub> emissions) and Lupeni for lunch.



*Csiga Domb – Corund (CO<sub>2</sub>/CH<sub>4</sub> mixed emissions with hypersaline waters)* 

Fieldwork activities: direct sampling (water + gas), multi-gas, diffuse emissions.

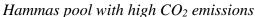
26th July - CO2 emission sampling and monitoring at Balvanyos

Fieldwork activities: direct sampling (water + gas), multi-gas, diffuse emissions, passive detectors



Istvana Panzio Balvanyos







Torjai Stinky Cave - Balvanyos

27th July – Szent Anna crater lake and Mohos peat bog

Fieldwork activities: direct sampling (water + dissolved gas), multi-gas, diffuse emissions, lake chemical-physical profiles



Szent Anna crater lake



Mohos peat bog

 ${\bf 28^{th}\ July}$  – Travel from Balvanyos back to Cluj-Napoca + farewell party

29th July - transfer to airport

## **Organizers**:



Babes-Bolyai University, Faculty of Environmental Science and Engineering, Cluj-Napoca, Romania



International association of Volcanology and Earth's Interior (IAVCEI) Commission on the Chemistry of Volcanic Gases (CCVG)



Societa Geochimica Italiana (So.Ge.I.)