

# XXII International Congress of the Carpathian-Balkan Geological Association (CBGA)

## Program



### Tuesday, September 6, 2022

- 15.30–18.30 Registration, Grandhotel Plovdiv  
19.00–20.00 CBGA Council Meeting, Grandhotel Plovdiv

### Wednesday, September 7, 2022

- 08.30–12.30 Registration, Agricultural University

#### Agricultural University Hall 1 Aula

09.30–10.00	<b>Opening Ceremony</b> Welcome Address: Irena Peytcheva (CBGA President); Adresses from organizers, regional and national/international institutions <i>Ivan Zagorchev</i> . The Carpathian-Balkan Geological Association – A successful geoscientific project during one hundred years of changing geopolitical environment
10.00–10.45	<b>Plenary Session 1</b> <i>Nikolaus Froitzheim</i> . Structure and evolution of the Rhodopes
10.45–11.00	<b>Tea &amp; Coffee Break</b>
<b>Session GT10. Economic Geology</b> <i>Conveners: Sibila Borojević Šoštarić, Todor Serafimovski, Vasilios Melfos</i>	
11.00–11.30	<b>Invited lecture</b> <i>Kalin Kouzmanov, Daphné Peyresaubes, István Márton, Tsvetana Jeleva, Nikolay Zhivkov, Marcel Guillong</i> . Vein stratigraphy in the Ada Tepe and Kupel low-sulfidation gold deposits, Bulgaria: Implications for ore-forming processes
11.30–11.45	<i>Marko Holma, Mario Arancibia</i> . Cosmic-ray muography applied to porphyry copper environments
11.45–12.00	<i>Sibila Borojević Šoštarić, Tomislav Brenko</i> . Miocene Western Balkan lithium-borates

	metallogenic zone
12.00–12.15	<i>Kamen Bogdanov, Stefan Velev, Victoria Vangelova.</i> Drone based alteration mapping and trace-elements vectors toward gold mineralization in the Pesovets epithermal system, Panagyurishte ore district, Bulgaria
12.15–12.30	<i>Sean P. Gaynor, Milorad D. Antić, Vladica Cvetković, Kristina Šarić, Urs Schaltegger.</i> Metallogenic implications of the high-precision U-Pb zircon geochronology of igneous rocks from the Rogozna skarn-hosted Au-Zn-Pb-Cu project
12.30–14.00	<b>Lunch Break</b>
14.00–14.45	<b>Plenary Session 2</b> <i>Mihai Ducea, Peter Luffi.</i> Chemical mohometry: Assessing crustal thickness of ancient orogens using geochemical and isotopic data
<b>Session GT10. Economic Geology</b>	
14.45–15.00	<i>Venelin Jelev, Nugzar Bitsadze, Giorgi Ananiashvili, Giorgi Aslanishvili, Irakli Shavishvili, Nino Popkhadze, Malkhaz Natsvlishvili.</i> New data on Sakdrisi Au-Cu deposit (Georgia, Lesser Caucasus)
15.00–15.15	<i>Sergiu Drăgușanu, Călin G. Tămaș.</i> The alluvial gold from Olănești and Cheia Rivers, Southern Carpathians, Romania
15.15–15.30	<i>Christos L. Stergiou, Vasilios Melfos, Panagiotis Voudouris, Lambrini Papadopoulou, Grigorios-Aarne Sakellaris.</i> Geology, mineralogy and geochemistry of the metamorphic rock- and quartz-hosted polymetallic vein mineralization at Kolchiko, Serbo-Macedonian Massif, Northern Greece
15.30–16.00	<b>Tea &amp; Coffee Break</b>
<b>Session GT10. Economic Geology</b>	
16.00–16.15	<i>Călin G. Tămaș, Daniel Veres, Catherine Chauvel.</i> New Pb isotopic data for Romanian ore deposits – A new step for paleopollution assessment and metal tracing in the Carpathian – Balkan region
16.15–16.30	<i>Jana Kuncheva, Stefan Velev, Danail Yovchev.</i> Mineral alterations and gold assemblages in Krassen HS epithermal deposit, Panagyurishte ore region, Bulgaria
16.30–16.45	<i>Aleksandar Gadzhalov, Irina Marinova, Mihail Tarassov, Elena Tacheva.</i> Relationship of sulfur isotope composition and common trace element content in pyrite and marcasite from the low-sulfidation Surnak gold deposit, SE Bulgaria
16.45–17.00	<i>Vasil Dimitrov, Martin Marinov, Georgi Magaranov, Daniel Marinov.</i> New exploration data on geology, structure and mineralization of Rozino sediment-hosted low-sulphidation epithermal gold deposit, Eastern Rhodopes, Bulgaria
17.00–17.15	<i>Stanislav Stoykov, Kiril Kutzarov.</i> Mineral composition and technological properties of Kaolin-Quartz deposit ‘Esenitzite’ Northern Bulgaria
17.15–17.30	Summary discussion

## Agricultural University Hall 2

### Session GT2. Stratigraphy, Paleontology and Paleogeography

*Conveners: Lubomir Metodiev, Miroslav Bubík*

11.00–11.30	<p><b>Invited lecture</b></p> <p><b>Vladimir Nikolov. A whisper from within the fossil bone: Dinosaurs, mammals, and the birth of paleohistological research in Bulgaria</b></p>
11.30–11.45	<i>Ljupko Rundić. Ostracods (Crustacea) as indicators of the Middle Miocene Badenian marine transgression (Central Paratethys, Bosnia &amp; Serbia)</i>
11.45–12.00	<i>Silviya Petrova, Daniela Reháková, Elisabetta Erba, Jacek Grabowski, Helmut Weissert. Calpionellid revision and microfacies of the Torre de' Busi section (Lombardy basin, J/K boundary)</i>
12.00–12.15	<i>Bogdan-Stelian Haiduc, Bogdan-Alexandru Torcărescu, Ștefan Vasile, Vicente Daniel Crespo, Daniel Țabără, Sergiu Loghin. The fossil vertebrate site of Stăuceni (Moldavian Platform, northeastern Romania) – new data on age and depositional setting</i>
12.15–12.30	<i>Vlad A. Codrea, Márton Venczel, Alexandru A. Solomon, Marian Bordeianu, Cristina Fărcaș, László Veress. Paleogene terrestrial vertebrates of Transylvania – key for a better understanding of the 'Grande Coupure' Event</i>
12.30–14.00	<b>Lunch Break</b>

### Session GT2. Stratigraphy, Paleontology and Paleogeography

14.45–15.00	<i>Josep Sanjuan Girbau, Marian Bordeianu, Vlad A. Codrea. The charophyte flora (aquatic plants) from the Suceag Oligocene fossil site (western Transylvanian Basin, Romania). Biostratigraphy, palaeoecology and palaeobiogeography</i>
15.00–15.15	<i>Ioan I. Bucur, Iuliana Lazăr. Upper Jurassic-lowermost Cretaceous microfossils from Haghimaș Mountains (Eastern Carpathians, Romania)</i>
15.15–15.30	<i>Antoneta Seghedi. The Variscan basement of the North Dobrogea Orogen. Review of existing paleontological and geochronological data</i>
15.30–16.00	<b>Tea &amp; Coffee Break</b>

### Session GT2. Stratigraphy, Paleontology and Paleogeography

16.00–16.15	<i>Alfred Uchman, Platon Tchoumatchenco. Ichnofossils from turbiditic deposits of the Emine Formation (Campanian–Paleocene) in the Eastern Stara Planina Mountains, Bulgaria</i>
16.15–16.30	<i>Miroslav Bubík, Tiiu Elbra, Juraj Franců, Petr Schnabl, Lilian Švábenická. Biostratigraphy, palaeoenvironment and magnetic signature across the Maastrichtian–Paleocene slumps and slides of the Subsilesian Unit (Outer Flysch Carpathians, Czech Republic)</i>
16.30–16.45	<i>Marian Munteanu, Sarolta Lőrincz, Mihaela Melinte-Dobrinescu, Mihai Ducea, Relu-</i>

	<i>Dumitru Roban, Vlad Victor Ene, Valentin Nistor.</i> The silicic igneous clasts in the Cretaceous successions of the Eastern Carpathian Moldavide tectonic units: paleogeographic insights
16.45–17.00 on-line	<i>Anna Katamidze, Khatuna Mikadze, Giorgi Tlashadze, Nana Ikoshvili.</i> Biostratigraphy of the Dzirula massif (Georgia) at the Albian-Cenomanian Boundary
17.00–17.15	<i>Halina Hotsanyuk, Mykola Pavlun, Antonina Ivanina.</i> Biostratigraphy on ammonoids of the Jurassic sediments of the Ukrainian Carpathians
17.15–17.30	Summary discussion

### Agricultural University Hall 3

#### Session SS3. Geologica Rhodopica - Updated

*Conveners: Neven Georgiev, Jan Pleuger, Kalin Naydenov*

11.00–11.15	<i>Neven Georgiev, Kalin Naydenov, Jan Pleuger, Nikolaus Froitzheim.</i> The Middle Allochthon and possible solutions for its modes of appearance within the Rhodope Metamorphic Complex
11.15–11.30	<i>Kalin Naydenov, Neven Georgiev, Jan Pleuger, Nikolaus Froitzheim, Anna Lazarova.</i> The Middle Allochthon of the Rhodopean Complex and its geochronological “DNA” code
11.30–11.45	<i>Alexandre Kounov, Ianko Gerdjikov, Milorad D. Antić, Neven Georgiev and Richard A. Spikings.</i> Structural and thermochronological constraints on the late Alpine evolution of the northern Rila Mountains (Rhodope Metamorphic Complex, Bulgaria)
11.45–12.00	<i>Aral I. Okay.</i> Strandja Massif – a Late Jurassic orogen
12.00–12.15	<i>Maximilian Voigt, Reneta Raykova, Eline Le Breton, Jan Pleuger.</i> Modelling of the crustal and uppermost mantle structure in the Bulgarian Rhodopes
12.12–12.30	<i>Nikolay Zhivkov, Stefan Metodiev, Paul Ivascanu, Istvan Marton, Mathias Knaak, Bilgin Vidinli, Tsvetana Jeleva, Neli Hadzhieva, Basrie Ali, Vladimir Bodurov, Valeri Dospatski, Nikolay Mihaylov, Boris Ivanov, Kuncho Kunchev.</i> A new structural model for the Surnak prospect, SE Bulgaria. Exploring the potential for listric fault-related epithermal gold mineralization
12.30–13.30	<b>Lunch Break</b>
<b>Session SS3. Geologica Rhodopica - Updated</b>	
14.45–15.00	<i>Jan Pleuger, Zlatka Cherneva, Linus Klug, Elis Hoffmann, Nikolaus Froitzheim, Neven Georgiev, Kalin Naydenov.</i> Geology of the Bjala Reka-Kechros Dome in the eastern Rhodopes
15.00–15.15	<i>Boris Ivanov.</i> Angular unconformity constraining the timing of gold mineralization in the Ada Tepe area, Eastern Rhodopes of Bulgaria
15.30–16.00	<b>Tea &amp; Coffee Break</b>

## Session GT7. Tectonics

*Conveners: Laszlo Fodor, Frantz Neubauer*

16.00–16.15	<i>Zoltán Németh</i> . New methodology for lithotectonic units defining, applicable for orogenic belts world-wide: The results of its testing in the Western Carpathians
16.15–16.30	<i>László Fodor, Attila Balázs, Gábor Csillag, István Dunkl, Gábor Héja, Péter Kelemen, Szilvia Kövér, András Németh, Anita Nyerges, Dániel Nyíri, Éva Oravecz, Ildikó Selmeczi, Balázs Soós, Lilla Tőkés, Marko Vrabec, Csilla Zadravec</i> . Migration of basin formation and contrasting deformation style in the western and southern Pannonian Basin (central Europe)
16.30–16.45	<i>Marc U. Grund, Lorenzo Gemignan, Jörg Giese, Jan Pleuger, and Mark R. Handy</i> . Linking long-term erosion and denudation with climate-change induced drainage and basin evolution at the Dinaric-Hellenic junction
16.45–17.00	<i>Aral I. Okay</i> . Thrace Basin – a major Oligocene clastic depocentre
17.00–17.15	<i>Ramiro Matos</i> . The Roboré microcontinent, SW Amazonian Craton: new insights on the Orosirian-Ectasian crustal evolution from U-Pb geochronology
17.15–18.00	Summary discussion

## 18.00–19.00 Poster Session

**19.30 Welcome cocktail at Grand Hotel Plovdiv**

**Thursday, September 8, 2022**

### Agricultural University Hall 1

09.00–09.45	<b>Plenary Session 3</b> <i>Christoph A. Heinrich</i> . Porphyry copper systems: The role of magmatic sulfides in the process chain of metal enrichment
-------------	--

## Session SS7. Critical Raw Materials: Mineralogy and Geochemistry of New and Unconventional Mineral Resources

*Conveners: Atanas Hikov, Panagiotis Voudouris, Jan Cempírek, Rossitsa Vassileva*

## Session SS9. Novel Applied Geophysics

*Convener: Marko Holma*

09.45–10.00	<i>Jan Cempírek, Jakub Buday, Jakub Vrábek, Pavel Pořízka, Jozef Kaiser</i> . Large-area multi-element LIBS mapping – versatile tool for petrogenetic research of rare-element pegmatites
10.00–10.15	<i>Milan Novák, Jan Cempírek, Radek Škoda</i> . Rare-element pegmatites of the Bohemian Massif, Czech Republic

10.15–10.30	<i>Gavril Săbău, Elena Negulescu.</i> Pegmatites in Romania: present state of knowledge and perspectives for critical raw materials
10.30-10.45	<i>Ladislav A. Palinkaš, Franjo Šumanovac, Josipa Kapuralić, Gordana Rajić.</i> Facies analyses of the Upper Cretaceous bauxites, in the Jajce area, Bosnia and Herzegovina, in response to lithospheric bulges caused by compressional regime during gradual closure of the Dinaridic part of the Tethys
10.45–11.00	<b>Tea &amp; Coffee Break</b>
<b>Session SS7. Critical Raw Materials: Mineralogy and Geochemistry of New and Unconventional Mineral Resources</b>	
<b>Session SS9. Novel Applied Geophysics</b>	
11.00–11.15	<i>Atanas Hikov, Elitsa Stefanova, Valcana Stoyanova, Zlatka Milakovska, Tomasz Abramowski, Silvia Chavdarova, Milen Stavrev, Irena Peytcheva.</i> Critical metals in deep-sea polymetallic nodules from the Interoceanmetal exploration area in the Clarion-Clipperton Fractures Zone (CCZ), NE Pacific
11.15–11.30	<i>Marko Holma.</i> Cosmic-ray based density-scanning of large geological objects in mineral exploration and mining
11.30–11.45	<i>Dezso Varga, Gergo Hamar, Gabor Nyitrai, Laszlo Balazs, Gergely Suranyi.</i> Muography: imaging the interior of large scale objects with cosmic radiation
11.45–12.00	<i>Ladislav A. Palinkaš, Sabina S. Palinkaš, Sibila Borojević Šoštarić, Franjo Šumanovac.</i> Metallogeny of Dinarides in the frame of Wilson cycle
12.00–12.15	<i>Irena Peytcheva, Atanas Hikov, Stoyan Georgiev, Elitsa Stefanova, Dimitrina Dimitrova, Desislav Ivanov, Ventsislav Stoilov, Ivaylo Vasilev, Marko Holma.</i> Combining agile exploration methods with mineral chemistry for better geo-modeling of critical raw materials in Assarel porphyry copper deposit
12.15–12.30	<i>Panagiotis Voudouris, Vasilios Melfos.</i> Critical metal/metalloid endowment in Cenozoic gold and silver deposits of Greece
12.30–12.45	<i>Imasiku A. Nyambe.</i> Geological signatures of critical raw materials in Zambia: A case review of sediment-hosted Cu-(Co) deposits and critical raw minerals
12.45–14.00	<b>Lunch Break</b>
14.00–14.45	<b>Plenary Session 4</b> <i>Svetoslav V. Georgiev.</i> Rhenium-osmium (Re-Os) geochronology of sedimentary rocks and oils: novel Insights into the paleoenvironment and the formation of petroleum systems
<b>Session GT11. Energy Resources (Hydrocarbon, Geothermal)</b>	
<i>Conveners: Nikola Botoucharov, Miloš Markič</i>	
14.45–15.15	<b>Invited lecture</b> <i>Leonardo Caixeta, Emanuil Kozhuharov.</i> Mio-Pliocene play: Gas potential offshore Bulgaria

15.15–15.30	<i>Miloš Markič, Jernej Kerčmar, Dejan Šram.</i> Oil and gas in the Mura-Zala Basin (Pannonian Basin System, North-East Slovenia)
15.30–15.45	<i>Nikola Botoucharov, Alexander Zdravkov, Doris Gross, Achim Bechtel, Irena Kostova.</i> Lower-Middle Jurassic source rocks in North Bulgaria (south central and western parts) – review from the basin and Rock Eval analyses
15.45–16.00	<i>Andreea Marza, Doru Stoianovici, Ioan Munteanu.</i> Reservoir characterization of the gas condensate field F03-FB, Netherlands
16.00–16.15	<i>Igor Bagriy, Olena Ivanik, Ninel Maslun, Viktor Dubosarskiy, Iryna Suprun.</i> Theoretical and applied principles of forecasting, prospecting and exploration of hydrocarbons within onshore and offshore areas of Ukraine by innovative geological-structural-thermo-atmospheric-hydrochemical research approach
16.15–16.30	<b>Tea &amp; Coffee Break</b>

### Session SS8. Geodynamic, Metallogenic and Magmatic Evolution of the Central Tethyan Belt (Anatolides-Caucasus-Iranian Belts)

*Conveners: Robert Moritz, İlkay Kuşcu, Hadi Shafaii Moghadam*

16.30–16.45	<i>Robert Moritz.</i> Episodic ore deposit genesis during protracted orogenic evolution: Lessons from the Anatolide-Lesser Caucasus-Iranian segment of the Central Tethyan metallogenic belt
16.45–17.00	<i>İlkay Kuşcu, Richard Tosdal, Gonca Gencalioğlu-Kuşcu.</i> Spatio-temporal associations between magmatic-hydrothermal system and associated magmatism in the Turkish Tethyan collage
17.00–17.15	<i>François Turlin, Robert Moritz, Serdar Keskin, Şafak Utku Sönmez, Alexey Ulyanov.</i> A 2.0 Ga-long history of the Gondwana-derived Eastern Pontides, NE Turkey, recorded by a Variscan granitoid
17.15–17.30	<i>Nino Popkhadze, Şafak Utku Sönmez, Robert Moritz, Malkhaz Natsvlishvili, Nona Gagnidze.</i> The Late Cretaceous Sakdrisi epithermal deposit, Bolnisi district: Geology and ore deposit setting, Lesser Caucasus, Georgia
17.30–17.45	<i>Şafak Utku Sönmez, Robert Moritz, Jonathan Lavoie, Alexey Ulianov, François Turlin, Nino Popkhadze, Malkhaz Natsvlishvili, Jorge Spangenberg.</i> Magmatic and Metallogenic Evolution of the Late Cretaceous Beqtakari Epithermal Deposit, Bolnisi District, Lesser Caucasus, Georgia
17.45–18.00	<i>Ralf Halama, Krzysztof Sokół, Khachatur Meliksetian, Ivan P. Savov.</i> Petrogenesis of the alkaline igneous Tezhsar Complex and its Ti-rich garnets (Lesser Caucasus, Armenia)
18.00–18.15	<i>Mohammad Reza Hosseini, Saeed Alirezaei, Robert Moritz.</i> The Taftan volcano-plutonic complex, southeast Iran: a fertile young continental arc in an active subduction setting in the Central Tethys



## Agricultural University Hall 2

### Session GT4. Magmatism

*Conveners: Milan Kohut, Kristina Šarić, Rositsa Ivanova*

09.45–10.15	<p><b>Invited lecture</b></p> <p><b>Vladica Cvetković. Magmatism of the Sava Vardar zone as an example of how complex tectonomagmatic divisions can be</b></p>
10.15–10.30	<i>Tomáš Sobocký, Peter Bačík.</i> Granitic and pegmatitic rocks of Western Carpathians, Slovakia: a review of rare metal mineralization
10.30–10.45	<i>Igor Broska, Michal Kubiš, Milan Kohút, Martin Ondrejka, Marián Putiš, Pavel Uher, Keewook Yi, Dušan Starek.</i> Permian granite magmatism of the Western Carpathians: age, geochemical and mineralogical characteristics
10.45–11.00	<b>Tea &amp; Coffee Break</b>

### Session GT4. Magmatism

11.00–11.15	<i>Máté Szemerédi, Andrea Varga, Réka Lukács, István Dunkl, Ioan Seghedi, Mihai Tatu, Zoltán Kovács, János Szepesi, Sándor Józsa, Béla Raucsik, Szabolcs Harangi, Barnabás Jáksi, Árpád Máthé, Elemér Pál-Molnár.</i> Late Paleozoic igneous episodes in the Pannonian Basin and the Apuseni Mts: petrology, zircon U–Pb dating, and regional correlations
11.15–11.30	<i>Sanja Šuica, Simon Richard Tapster, Ivan Mišur, Nina Trinajstić.</i> The Late Cretaceous syenite from the Sava suture zone (eastern Croatia)
11.30–11.45	<i>Anca Dobrescu.</i> Mid-Cretaceous adakite/TTG-like magmatism at north Getic basement of the South Carpathians (Romania): origin on geochemical basis and age data review
11.45–12.00	<i>Stoyan Georgiev, Eleonora Balkanska, Irena Peytcheva, Albrecht von Quadt, Marcel Guillong.</i> Petrology and age of Plovdiv pluton, Bulgaria
12.00–12.15	<i>Milan Kohút, Robert Anczkiewicz, Daisuke Araoka, Igor Broska, Vojtěch Erban, Yulia Erban Kochergina, Zuzana Fekiačová, Tomáš Magna, Jaroslav Lexa, Clemente Recio, Keewook Yi, Toshihiro Yoshimura.</i> The Miocene granitic rocks of the Central Slovakian Neovolcanic Field: Isotopic constraints and dating
12.15–12.30	<i>Jörg Ostendorf, Robert Anczkiewicz, Milan Kohut.</i> Petrogenesis of calc-alkaline volcanic rocks of the Slanské Vrchy mountains, eastern Slovakia: Constraints from Sr, Nd, and Hf isotopes, trace elements, and LA-ICP-MS U–Pb zircon geochronology
12.30–14.00	<b>Lunch Break</b>

### Session GT4. Magmatism

14.45–15.00	<i>Marinel Kovacs, Zoltan Pécskay.</i> Mogoşa volcano from the Miocene Gutâi Volcanic Zone, Eastern Carpathians (NW Romania). Petrological approach
15.00–15.15	<i>Ioan Seghedi, Réka Lukács, Ildikó Soós, Marcel Guillong, Olivier Bachmann, Barbara</i>



	<i>Cserép, Szabolcs Harangi</i> . Sharp changes in magma evolution during the Quaternary volcanism of South Harghita, eastern-central Europe: constraints from bulk rock and zircon geochemistry and U-Pb dating
15.15–15.30	<i>Vlad-Victor Ene, Daniel J. Smith, Simon Tapster, Marian Munteanu, Emilian Rosu</i> . Constraining the source of arc-like magmas in a post-subduction setting: South Apuseni Mountains, Romania
15.30–15.45	<i>Stefan Velev</i> . New data about volcanic rocks and forms from Hannah Point, Livingston Island, Antarctica
<b>Session GT5. Metamorphism</b>	
<i>Conveners: Marian Janak, Philip Machev, Gavril Sabau</i>	
15.45–16.00	<i>Marian Janák</i> . Variscan metamorphic evolution of the Western Carpathians: a case study from the Tatra Mountains
16.00–16.15 on-line	<i>Evgenia Kozhoukharova</i> . Precambrian metamorphic complex in the Rhodope Massif - unified stratigraphic system
16.15–16.30	<b>Tea &amp; Coffee Break</b>
<b>Session SS2. Large Cenozoic Explosive Eruptions in The Carpatho-Balkanian Region and their Influence on Climate and Ecosystems</b>	
<i>Conveners: Peter Marchev, Réka Lukács</i>	
16.30–16.45	<i>Peter Marchev, Brian Jicha; Raya Raicheva; Aral Okay; Irena Peytcheva</i> . The role of the 33.4 Ma Duzhdovnitsa supereruption in the formation of the giant Mn concentration in the Paratethys: inferences from the Obrochishte and Binkilic Mn deposits
16.45–17.00	<i>Kristalina Stoykova, Peter Marchev, Raya Raycheva, Georgi Grančovski</i> . Marine nannoplankton response of the Rhodope Early Oligocene supereruptions: a case study from the St. Sozon and St. Irini sections, Limnos Island, Greece
17.00–17.15	<i>Stoyan Georgiev, Dimitrina Dimitrova, Mariana Yossifova, Milena Vetseva, Rositsa Ivanova</i> . Revealing the age of the detrital component and the potential sources of Miocene distal large pyroclastic eruptions recorded in Maritsa East lignite basin, Bulgaria
17.15–17.30	<i>János Szepesi, Réka Lukács, Marcel Guillong, Maxim Portnyagin, Dawid Szymanowski, Sándor Józsa, László Fodor, Ildikó Selmeczi, Emőke Tóth, Samuel Müller, Zoltán Kovács, Olivier Bachmann, Harangi Szabolcs</i> . Late Miocene Si-rich pyroclastites in the Tokaj Mts and in the covered Nyírség area: New zircon U-Pb age and geochemical data
17.30–17.45	<i>Mihovil Brlek, Simon Richard Tapster, Julie Schindlbeck-Belo, Sean P. Gaynor, Steffen Kutterolf, Folkmar Hauff, Svetoslav V. Georgiev, Nina Trinajstić, Sanja Šuica, Vlatko Brčić, Kuo-Lung Wang, Hao-Yang Lee, Christoph Beier, Adam B. Abersteiner, Ivan Mišur, Irena Peytcheva, Duje Kukoč, Bianka Németh, Mirka Trajanova, Dražen Balen, Marcel Guillong, Réka Lukács</i> . Perspectives on the Early Miocene silicic volcanism of the Carpathian-Pannonian Region
17.45–18.00	<i>Péter Gál, Réka Lukács, Krisztina Sebe, Marcell Guillong, Karin Sant, Maxim</i>

	<i>Portnyagin, Ildikó Selmeczi, Olivier Bachmann, Szabolcs Harangi.</i> Distal distribution of the Badenian Demjén Ignimbrite eruption unit in Hungary
18.00–18.15	<i>Réka Lukács, Marcel Guillong, Mihovil Brlek, Nina Trinajstić, Sanja Šuica, Razvan Bercea, Sean P. Gaynord, Péter Gál, János Szepesi, Krisztina Sebe, Sándor Józsa, Reinhard Roetzel, Slavomír Nehyba, Karin Sant, Maxim Portnyagin, Dawid Szymanowski, László Fodor, Olivier Bachmann, Harangi Szabolcs.</i> Proximal and distal deposits of Miocene large explosive volcanic eruptions of Si-rich magmas in the Carpathian-Pannonian Region: a summary of the latest results based on zircon U-Pb age and geochemical data

### Agricultural University Hall 3

#### Session SS4. Pre-Alpine Basement Evolution Between Alps and Iran: Significance for Western Tethys Evolution

*Conveners: Franz Neubauer, Yongjiang Liu, Ianko Gerdjikov*

09.45–10.00	<i>Franz Neubauer, Yongjiang Liu, Yunpeng Dong, Ruihong Chang, Johann Genser, Sihua Yuan.</i> Pre-Alpine tectonic evolution of the Eastern Alps: From Prototethys to Paleotethys
10.00–10.15 on-line	<i>Qianwen Huang, Yongjiang Liu, Franz Neubauer, Johann Genser, Sihua Yuan, Ruihong Chang, Qingbin Guan, Shengyao Yu.</i> Tectonic history of Proto- and Paleo-Tethys Oceans in the Eastern Alps: Evidence from the Schladming Complex
10.15–10.30 on-line	<i>Qingbin Guan, Yongjiang Liu, Franz Neubauer, Johann Genser, Sihua Yuan, Qianwen Huang, Ruihong Chang.</i> Subduction initiation in the west Proto-Tethys Ocean record by the ophiolitic Speik Complex of Eastern Alps
10.30–10.45	<i>Ruihong Chang, Franz Neubauer, Yongjiang Liu, Johann Genser, Sihua Yuan, Qianwen Huang, Qingbin Guan.</i> Protolith and metamorphic ages of eclogites from the Eastern Alps: The Permian to Cretaceous Wilson cycle of the Austroalpine unit
10.45–11.00	<b>Tea &amp; Coffee Break</b>

#### Session SS4. Pre-Alpine Basement Evolution Between Alps and Iran: Significance for Western Tethys Evolution

11.00–11.15 on-line	<i>Sihua Yuan, Franz Neubauer, Yongjiang Liu, Johann Genser, Qianwen Huang, Ruihong Chang, Qingbin Guan.</i> Permian-Triassic metagabbros in the Raabalpen basement of the eastern Lower Austroalpine Unit: U-Pb zircon dating and palaeogeodynamic implications
11.15–11.30	<i>Anna Lazarova, Ianko Gerdjikov, Alexandre Kounov, Stoyan Georgiev, Dian Vangelov.</i> Lower Paleozoic low-grade metamorphic units from the Central Balkan Zone, Bulgaria: tectonic relationships, framework and geodynamic significance

#### Session GT1. Earth System Sciences

*Conveners: Urs Schaltegger, Kristalina Stoykova, Natalya Kilifarska*

11.45–12.00 on-line	<i>Tsvetelina Velichkova</i> . External forcing factors with possible influence on the North Atlantic climate variability
12.00–12.15	<i>Natalya Kilifarska, Klaudio Peqini</i> . Ozone response to short-lasting changes in galactic cosmic rays
12.15–12.30	<i>Dimitar Ouzounov, Menas Kafatos, Patrick Taylor</i> . Geohazards and climate adaptation: Geosphere coupling-driven interaction
12.30–14.00	<b>Lunch Break</b>

### Session GT3. Sedimentology, Facies Analysis

*Conveners: Athanas Chatalov, Alfred Uchman, George Ajdanlijsky*

14.45–15.00 on-line	<i>Oleksandr Kostiuk</i> . Lithofacies and depositional environments of the Paleocene deposits of Carpathian flaky (Skybova) cover within basins of the Stryi and Prut rivers
15.00–15.15	<i>Relu D. Roban, Mihai N. Ducea, Gelu Costin, Antoneta Seghedi, Mihaela C. Melinte-Dobrinescu, Ioan Munteanu, Ionelia Panea</i> . The provenance of green clasts from the Outer Carpathians: contributions to the understanding of the East European Platform edge architecture
15.15–15.30	<i>Marija Horvat, Dunja Aljinović, Nenad Tomašić, Dražen Kurtanjek, Vlasta Čosović</i> . Introduction to the bulk rock chemistry of the Eocene hemipelagic/pelagic deposits in the Dinaric foreland basin
15.30–15.45	<i>Cristian Victor Mircescu, Ioan I. Bucur, George Pleş</i> . The Upper Jurassic-Lower Cretaceous evolution of the easternmost Getic Carbonate Platform (Southern Carpathians, Romania): insights from the Postăvaru and Piatra Mare Massifs
15.45–16.00	<i>Dušan Plašienka, Jozef Madzin, Ján Soták</i> . Development of the Gosau-type wedge-top basins in the Western Carpathian Klippen Belt: inferences from the Pupov Formation (NW Slovakia)
16.00–16.15	<i>Mihaela Melinte-Dobrinescu, Relu-Dumitru Roban, Dragoş Mitrică, Vlad Apotrosoaei, Teodora Baboş, Adrian Gherghe</i> . Cretaceous anoxic and oxic marine depositional intervals in the Romanian Carpathians: causes and consequences
16.15–16.30	<b>Tea &amp; Coffee Break</b>

### Session GT12. Hydrogeology

*Conveners: Aleksey Benderev, Zoran Stevanovic, Peter Gerginov*

16.30–17.00	<b>Invited Lecture</b> <i>Zoran Stevanović, Peter Malik, Jacek Rozkowski, Adrian Iurkiewicz, Aleksey Benderev</i> . Hydrogeology development in some core CBGA countries – A centenary overview
17.00–17.15	<i>Arjan Beqiraj, Endri Raço, Sabina Cenameri, Aurela Jahja</i> . Use of multivariate statistical analysis for the identification of the hydrochemical processes in the Tirana - Fushe Kuqe alluvial aquifer, north-western Albania
17.15–17.30	<i>Vesna Ristić Vakanjac, Veljko Marinović, Nikola Milovanović, Marina Čokorilo Ilić</i>

	<i>Boris Vakanjac, Jugoslav Nikolić, Saša Bakrač.</i> Influence of geological substrate in runoff formation, a case study: small basins in southeastern Serbia
17.30–17.45	<i>Emmanuel Andreadakis, Emmanuel Skourtsos, Christos Filis, Eleni Kapourani.</i> Large extent of karstic formations but lack of large karstic springs. Tectonic structure explains the paradox
17.45–18.00 on-line	<i>Halyna Medvid, Vasyl Harasymchuk.</i> Hydrogeological conditions of gas fields formation in the Bilche-Volytsia zone of the Carpathian Foredeep (Ukraine)

**18.00–19.00 Poster Session****Friday, September 9, 2022****Agricultural University Hall 2****Session SS6. Magma Fertility Vectors and Hydrothermal Alteration Footprints Related to Mineralization Systems of the Carpathian-Balkan Area***Conveners: Albrecht von Quadt, István Márton, Vladica Cvetković*

09.00–09.30	<b>Invited Lecture</b> <i>Tim Ireland, Stoimen Bilyarski, Nenad Protic, Irena Peytcheva, Stoyan Georgiev, Petyo Filipov, Elitsa Stefanova.</i> Detrital zircon chrono-chemistry of mineralized Cretaceous and Tertiary magmatic complexes in the Balkans
09.30–09.45	<i>Dragana Bosić, Vladica Cvetković, Miodrag Banješević, Aleksandar Pačevski, Siyuan Chen, Kristina Šarić.</i> Correlation between alterations and Cu-Au mineralization within first phase andesites in the Čukaru Peki deposit
09.45–10.00	<i>Miloš Velojić, Dina Klimentyeva, Bojan Kostić.</i> The geochronological comparison of three major porphyry systems in Timok magmatic complex: Bor, Veliki Krivelj and Čukaru Peki
10.00–10.15	<i>Miglena Grigorova, Georgi Ivanov, Aneta Aleksieva, Mariana Trifonova, Antoaneta Marinova, Anastasiya Stoyanova, Ivan Petrov, Betina Petkova, Ilian Atanasov, Viktor Stoychev, Hristomir Stanev, Paul Ivășcanu, Stefan Metodiev, Kuncho Kunchev, Miroslav Kavaramov, Nuțu Groza, Martin Dobrev, Ross Overall, Mathias Knaak, Alexandru Szakács, István Márton.</i> Revised geology model and exploration targeting vectors at the Chelopech highsulphidation style Au–Cu deposit, Bulgaria
10.15–10.30	<i>Dina Klimentyeva, Miloš Velojić, Bojan Kostić, Albrecht Von Quadt.</i> Application of decision trees and random forests to zircon geochemistry
10.30–11.00	<b>Tea &amp; Coffee Break</b>
<b>Session SS6. Magma Fertility Vectors and Hydrothermal Alteration Footprints Related to Mineralization Systems of the Carpathian-Balkan Area</b>	
11.00–11.15	<i>Atanas Hikov, Elitsa Stefanova.</i> LA-ICP-MS trace element study of alunite from

	Pesovets epithermal system, Central Srednogorie, Bulgaria
11.15–11.30	<i>Elitsa Stefanova, Stoyan Georgiev, Irena Peytcheva, Peter Marchev, Raya Raicheva, Kalin Kouzmanov, Albrecht von Quadt.</i> From porphyry copper to distal epithermal mineralization in the Elatsite-Chelopech ore field (Bulgaria): Insights from trace element signatures of sulfide minerals
11.30–11.45	<i>Albrecht von Quadt, Irena Peytcheva, Stoyan Georgiev, Elitsa Stefanova, Peter Marchev, Raya Raicheva, Adrian Boyce, Torsten Vennemann.</i> Pb-S isotope geochemical signature of porphyry and base-metal vein deposits in the region of Elatsite Cu-Au porphyry deposit
11.45–12.15	<b>Invited Lecture</b> <i>Urs Schaltegger, Maria Ovtcharova, Sean P. Gaynor, Andre N. Paul, Dylan Colón, Philipp Widmann, Nicolas D. Greber, Joshua H.F.L. Davies.</i> New insights into planetary processes at high temporal resolution using U-Pb zircon geochronology
12.15–12.30	<i>Sava Markovic, Manuel Brunner, Lukas Müller, Irena Peytcheva, Marcel Guillong, Cyril Chelle-Michou, Christoph A. Heinrich, Albrecht von Quadt.</i> Zircon petrochronological patterns of Au-rich porphyry and epithermal deposits in the Golden Quadrilateral (Apuseni Mts., Romania)
12.30–14.00	<b>Lunch Break</b>
<b>Session SS1. Studies of Ophiolites &amp; Mafic Igneous Rocks and their Mineralizations: Examples from Southern Europe &amp; Beyond</b>	
<i>Conveners: Ivan Savov, Nikolay Bonev</i>	
14.00–14.30	<b>Invited Lecture</b> <i>Ralf Halama.</i> Insights from the eclogite-facies Raspas Complex (Ecuador) into subduction of oceanic lithosphere at the South American convergent margin
14.30–14.45	<i>Ivan P. Savov, Ahmet M. Oteles, Helen Leeming, Larissa Dos Santos, Sebastien Meffre, Yoichi Usui, Iliya Dimitrov.</i> The Balkan-Carpathian Ophiolite REVISITED: Insights from new petrology, geochemistry and age results
14.45–15.00	<i>Nikolay Bonev, Petyo Filipov, Zornitsa Dotseva.</i> U-Pb zircon age constraints on a metaophiolite peridotite body from the high-grade metamorphic basement of the eastern Rhodope Massif, Bulgaria
15.00–15.15	<i>Razvan Caracas.</i> Structure and volatile content of ultramafic magmas
15.15–15.30	<i>Marina Koreschkova, Hilary Downes, Maria Stifeeva, Ekaterina Akimova, Irena Peytcheva, Dimitrina Dimitrova, Lubomira Macheva.</i> Thermal history the lower crust of the central part of the Siberian craton
15.30–16.00	<b>Tea &amp; Coffee Break</b>
<b>Session GT8. Quaternary Geology and Landscape Evolution</b>	
<i>Conveners: Ljupko Rundić, Lidija Galović, Marlena Yaneva</i>	
16.00–16.15	<i>Lidija Galović, Koen Beerten, Mihajlo Pandurov, Rodoljub Gajić, Petar Stejić, Ajka</i>

	<i>Šorša, Nina Hećej, Rosa Maria Poch, Stjepan Husnjak</i> . Abrupt climate changes – Evidence from Quaternary sedimentological sequences in Croatia (ACCENT)
16.15–16.30	<i>Nadja Ognjanova-Rumenova, Ivan Botev</i> . Effects of climate change on lakes biotic response in Cirque “Seven Rila lakes”, Bulgaria
16.30–16.45	<i>Gabriel Ion, Adrian Popa, Florin Duțu, Vlad Apotrosoaei, Constantin Lazăr</i> . Quaternary submerged landscapes in the NW Black Sea
16.45–17.00	<i>Alexander Radulov, Marlena Yaneva, Yordanka Donkova, Valentin Nikolov, Nikolay Nikolov</i> . Transient metamorphosis of the Stob terrace riser
17.00–17.15	Invitation not yet accepted

### Agricultural University Hall 3

#### Session GT15. Cultural heritage

*Conveners: Alexandra Maran, Stefka Pristavova, Calin Tamas*

09.15–09.30	<i>Ioan Denuț, Marinel Kovacs, Ioan Bereș, Alexandra Sîngeorzan</i> . A cultural institution as a geotourism attraction: Baia Mare Mineralogical Museum (Romania)
09.30–09.45	<i>Mariia Oliinyk, Ihor Bubniak, Andriy Bubniak, Anatiliy Vivat</i> . 3D model of Mlynky Cave, Ukraine
09.45–10.00	<i>Valentina Cetean, Radu Fărnoagă, Constantina Filipciuc, Emil Rusu, Antonio Ulmeanu, Ioan Scutelnicu</i> . Non-invasive investigations at Măgura Călanului Dacian limestone quarry. Technical challenges in a geosite with heritage value
10.00–10.15	<i>Petko Petrov</i> . Mineral kingdom in the Earth and Man National Museum Sofia, Bulgaria
10.15–10.30	<i>Konstantin Kostov</i> . Geoconservation problems of the protected karst phenomena in Bulgaria
10.30–11.00	<b>Tea &amp; Coffee Break</b>

#### Session SS11. Geochemistry and Hazardous Substances (HS) Evaluation in River Basins

*Conveners: Zlatka Milakovska, Georgi Zhelezov*

11.00–11.15	<i>Aurelia Andreea Scarlat, Ovidiu Gabriel Iancu, Valentin Nicolae Coțac, Ciprian Chelariu, Iuliana Buliga, Andreea Maftai</i> . Spatial geochemical distribution of some potentially toxic elements within river bed sediments from Rodna Mountains, Eastern Carpathians, Romania
11.15–11.30	<i>Tsvetan Kotsev, Velimira Stoyanova, Assen Tchorbadjief</i> . Main steps of a protocol for mapping metal contamination of soil in river floodplains using geographical data
11.30–11.45	<i>Mohammad-Mourad Rachad Halwani</i> . Danube River - on the path of scientific knowledge
11.45–12.15	<i>Violeta-Monica Radu, Valentina Cetean, Radu Fărnoagă, Elena Tudor, Robert Szabo, George Dincă, Alexandru Ivanov</i> . Variation of the geochemistry of alluvial sands along the river basins. Case study: Mureș River, Romania
12.15–12.30	<i>Valentin Nicolae Coțac, Ovidiu Gabriel Iancu, Aurelia Andreea Scarlat, Adriana Ion</i> .



	Radiological risk assessment and spatial distribution of naturally occurring radionuclides within river bed sediments in the Ditrău alkaline Massif, Eastern Carpathians, Romania
12.30–14.00	<b>Lunch Break</b>
<b>Session GT17. Agrogeology, environmental geochemistry, resilience</b>	
<i>Conveners: Mateja Gosar, Stefan Shilev, Arjan Beqiraj</i>	
14.00–14.15	<i>Mateja Gosar, Miloš Miler, Špela Bavec, Martin Gaberšek.</i> The environmental impact of closed mining waste deposits in Slovenia
14.15–14.30	<i>Violina Angelova.</i> Characterization of serpentine soils from Eastern and South Rhodopes Mountains (Bulgaria)
14.30–14.45	<i>Adriana Ion, Vlad Ene, Ana Cosac.</i> Naturally occurring radioactive materials and risk assessment in Lişava uranium mining sector, Banat Mountains, Romania
<b>Session GT16. Education in Geology and Public Awareness</b>	
<i>Conveners: Stanislav Stoykov, Goran Tasev, Michael Sandy</i>	
14.45–15.00	<i>Kristina Šarić, Ana Fociro, Michael Wagneich, Hugo Ortner, Christoph von Hagke, Hans-Jürgen Gawlick, Eva Gerlšová, Darko Tibljaš, Miklos Kazmer, László Bujtor, Jolanta Burda, Ela Machanec, Adriana Trojanowska Olichwer, Ágnes Gál, Paul Tibuleac, Luka Gale, Jana Fridrichová, Igor Duriška.</i> Ceepus Network CIII-RS-0038: improving geological education to better serving the society
15.00–15.15	<i>Michael R. Sandy.</i> Remnants of Soviet-Era In-Situ Leaching Uranium Mining infrastructure in the Thracian Basin, Momino, near Rakovski, Plovdivska, Bulgaria - a preliminary investigation; preservation potential and educational value
15.15–16.00	<b>Tea &amp; Coffee Break</b>
<b>Session GT18. Open Session</b>	
<i>Conveners: Lubomir Metodiev, Marlena Yaneva</i>	
16.00–16.15	<i>Dimitar Kaykov, Ivaylo Koprev, Danail Terziyski.</i> An in-depth study of blast induced flitch movement
16.15–16.30	<i>Radule Tošović.</i> The role and importance of economic geology of Serbia in current market and strategic conditions
16.30–17.30	Virtual Posters

**17.30–18.30 Poster Session**



**Saturday, September 10, 2022**

**Agricultural University Hall 2**

**Session SS10. Application and Advances in Geochronology and Thermochronology**

*Conveners: Eleonora Balkanska, Alexandre Kounov, Maria Ovtcharova*

09.30-10.00 on-line	<b>Invited Lecture</b> <i>Takahiro Tagami, Shigeru Sueoka.</i> Thermochronological investigations of orogenic belts
10.00–10.15	<i>Alexandre Kounov, Diane Seward, Jean-Pierre Burg, Daniel Bernoulli.</i> Thermochronological constraints on fault activities. Examples from Kraishte area (West Bulgaria)
10.15–10.30	<i>Firat Sengun.</i> Detrital rutile geochemistry, U-Pb ages and origin of the Jurassic sandstones in the Western Sakarya Zone
10.30–10.45	<i>Eleonora Balkanska, Alexandre Kounov, Stoyan Georgiev, Milorad Antić, Takahiro Tagami, Shigeru Sueoka, Jan Wijbrans.</i> Thermochronological evolution of the Plovdiv pluton, Bulgaria
10.45–11.00	<i>Anna Gumsley, Ianko Gerdjikov, Alexandre Kounov, David Chew, Krzysztof Szopa, Petras Jokubauskas, Beata Marciniak-Maliszewska, Foteini Drakou.</i> Early Cretaceous thermal event of the Sakar Unit (Strandja Zone, SE Bulgaria/NE Turkey)
11.00–10.15	<i>Kata Molnár, Pierre Lahitte, Benkó Zsolt, Giuditta M. Fellin, Colin Maden, János Szepesi, Marjan Temovski.</i> Plio-Pleistocene volcanic activity in the Mariovo basin, N. Macedonia
11.15-11.45	<b>Tea &amp; Coffee Break</b>
<b>Session SS10. Application and Advances in Geochronology and Thermochronology</b>	
11.45–12.15	<b>Invited Lecture</b> <b><i>Richard Spikings, Daniil Popov, Andre Paul.</i> Intermediate temperature (&gt;150°C) thermochronology using the U-Pb and <sup>40</sup>Ar/<sup>39</sup>Ar methods</b>
12.15-12.30	<i>Ashley Gumsley, Anna Gumsley, Ianko Gerdjikov, Alexandre Kounov, David Chew, Krzysztof Szopa, Beata Marciniak-Maliszewska and Foteini Drakou.</i> Variscan metamorphism and deformation affecting the Sakar Unit of the Strandja Zone (SE Bulgaria/NE Turkey)
12.30–12.45	<i>Ekaterina Salnikova, Anna Ivanova, Alexander Kotov, Julia Plotkina.</i> Chemical abrasion in application to high U metamict zircons
12.45–13.00	<i>Daniel S. Campos, Elizabeth J. Catlos, Milan Kohút, Igor Broska, Daniel F. Stockli.</i> Investigating exhumation of the high Tatra Mountains: Implications for the Western Carpathians, Slovakia by zircon and apatite (U-Th)/He thermochronometry
<b>13.00-13.30</b>	<b>Closing Ceremony. Presentation of the CBGA2026 host</b>

### Agricultural University Hall 3

#### Session GT9. Geophysics and Seismology

*Conveners: Stefan Shanov, Franjo Šumanovac, Dragomir Gospodinov*

09.30–09.45	<i>Franjo Šumanovac, Ivan Medved, Josipa Kapuralić.</i> Three-dimensional crustal model of the Dinarides and marginal areas based on gravity and seismic models
09.45–10.00	<i>Sonia Dimitrova, Inessa Vorobieva, Alexander Gorshkov, Lyuba Dimova, Reneta Raykova.</i> Modelling of seismicity in the territory of Bulgaria
10.00–10.15	<i>Dimitar Ouzounov.</i> An interdisciplinary approach to studying Pre-Earthquake processes
10.15–10.30	<i>Josipa Kapuralić, Franjo Šumanovac, Ivan Medved.</i> Characterization of the contact between Adriatic and Pannonian lithosphere based on the 3D velocity model from local earthquake tomography
10.30–10.45	<i>Mykhailo Orlyuk, Roman Kutas, Andriy Marchenko, Maria Bakarjieva, Iryna Makarenko.</i> Geophysical characteristics of the Eastern (Ukrainian) Carpathians lithosphere: oil and gas potential aspect
10.45–11.00	<i>Sergiy Anikeyev, Valentyn Maksymchuk, Natalia Pyrizhok, Roman Kuderavets.</i> Density model of the earth's crust on the Pancake profile
11.00–11.15	<i>Natalia-Silvia Asimopolos, Laurentiu Asimopolos.</i> Filtering and smoothing of geophysical dataset regarding the anomalies' regionality and depth of the geological model
11.15–11.45	<b>Tea &amp; Coffee Break</b>

#### Session GT6. Mineralogy and Applied Mineralogy

*Conveners: Mihail Tarassov, Thomas Kerestedjian, Călin Tămaș*

11.45–12.00	<i>Mihail Tarassov, Eugenia Tarassova.</i> Low-crystalline secondary tungsten trioxides hydrates in the geochemical and phase evolution of tungsten in the oxidation zone: an example from the Grantcharitsa tungsten deposit, Bulgaria
12.00–12.15	<i>George Dincă, Andrei-Ionuț Apopei, Robert Szabo, Valentina Cetean, Violeta-Monica Radu, Alexandru-Anton Ivanov.</i> Mineralogical and chemical characterization of sphalerite and wurtzite from Săcărâmb Au-Ag-Te ore deposit
12.15–12.30	<i>Robert Szabo, Violeta-Monica Radu, George Dincă, Alexandru Anton Ivanov, Valentina Cetean.</i> Mineral diversity on the northern slopes of Vâlcan Mountains, South Carpathians, Romania
12.30–12.45	<i>Athanasios Godelitsas.</i> Mineral surface Science and Nanogeoscience
12.45–13.00	<i>Gavril Săbău, Elena Negulescu.</i> New mineralogical data from the Jolotca deposit, Romania: mineral hosts for Nb, Y, intermediate and heavy REE

**13.30–15.00 Farewell with a glass of wine from the AU winery,**

## Poster Session:

### Session GT1. Earth System Sciences

1. *Antonia Mokreva, Tsvetelina Velichkova*. North Atlantic Oscillation (NAO) and factors affecting its variability
2. *Laurentiu Asimopolos, Natalia-Silvia Asimopolos*. Wavelet studies of geomagnetic field recordings in observatories
3. *Gabriel Iordache, Sorin Anghel, Irina Catianis, Laura Duțu, Florin Duțu, Andrei Gabriel Dragos*. Hydrological and sedimentary regime changes of the Danube River at the Danube Delta apex

### Session GT2. Stratigraphy, Paleontology and Paleogeography

4. *Daniel Țabără, Ciprian Chelariu, Hamid Slimani, Ramona Bălc, Monika J. Fabiańska, Magdalena Misz-Kennan, Raluca Bindiu-Haitonic, Marian Chelariu*. Integrated biostratigraphy, organic geochemistry and thermal maturity assessment of Upper Cretaceous deposits in the northern part of the Romanian Eastern Carpathians
5. *Valeri Sachanski, Iskra Lakova, Polina Andreeva, Hristo Kiselinov, Stoyan Tanatsiev*. In search of the Ordovician–Silurian boundary in Bulgaria
6. *Eliza Anton, Vlad Apotrosoaei, Gabriel Ion, Andrei Briceag, Iulian Pojar, Constantin Lazăr, Mihaela Melinte-Dobrinescu*. Middle Miocene (Badenian) calcareous nannofossil and geochemical fluctuations in the Romanian Carpathian Bend Zone
7. *Andrei Briceag, Mihaela Melinte-Dobrinescu, Antoneta Seghedi, Andrei Gabriel Dragoș*. The Geological and Paleontological Heritage of the Southern Dobrogea (Romania)
8. *Dejan Radivojević, Meri Ganić, Miloš Radonjić*. Bukovo delta sediments - witness of climate and tectonic changes (SE Serbia, Dacian Basin)
9. *Silviya Petrova, Daniela Reháková, Lubomir Metodiev*. New data on the stratigraphy of the Oxfordian–lower Tithonian strata from the Central Balkan Mts (Bulgaria)
10. *Lubomir Metodiev, Silviya Petrova, Docho Dochev, Louiza Dimova*. Interfluvial waterlogged paleosols preserved within offshore shales? Preliminary data from the Aalenian of West Bulgaria
11. *Lubomir Metodiev, Autumn Pugh, Crispin Little, Ivan Savov, Robert Newton, Paul Wignall, James Riding, Docho Dochev, Iliya Dimitrov*. Palaeoenvironmental changes and macroevolutionary trends during the early Toarcian mass extinction in Bulgaria
12. *Miloš Radonjić, Ljupko Rundić*. Stratigraphy of the Devonian-Carboniferous flysch of the Carpatho-Balkanides of Serbia
13. *Ștefan Vasile, Oleksandr Kovalchuk, Vicente Daniel Crespo, Bogdan-Alexandru Torcărescu, Valentin Dumitrașcu, Alina Floroiu*. The fossil assemblage from Măru, a new window into the late Pliocene continental faunas of the Dacian Basin (southern Romania)
14. *Marian Bordeianu, Vlad A. Codrea, Alexandru A. Solomon*. A Turolian (MN 11-12) ochotonid from the Moldavian and Scythian platforms (Romania). Biostratigraphy and palaeobiogeography
15. *Vlad A. Codrea, Alexandru A. Solomon, Marian Bordeianu, Cristina Fărcaș*. Eocene-Oligocene Perissodactyls of Romania, a short overview

16. *László Veress, Vlad A. Codrea, Marian Bordeianu*. Mapping the Paleogene sirenians in Transylvania
17. *Marlena Yaneva, Petar Nikolov, Elena Koleva-Rekalova, Nadja Ognjanova-Rumenova*. Integrated palaeontological and sedimentological study of the Middle Miocene deposits (Galata and Euxinograd Formations) from Northeastern Bulgaria in connection with climate evaluation
18. *Mensi Prela*. The Middle-Upper Jurassic Deposits in the Rahoveci area (Kosovo) and Mirdita area (Albania)
19. *Valeri Sachanski, Miloš Radonjić, Iliana Boncheva, Iskra Lakova*. Paleozoic eurypterids and phyllocarid crustaceans in the Balkans
20. *Lilian Švábenická, Andrea Svobodová, Daniela Reháková, Miroslav Bubík, Lucie Vaňková, Martin Košťák, Petr Skupien, Tiiu Elbra, Petr Pruner, Petr Schnabl*. Biostratigraphy, stable isotopes and paleomagnetism across the Jurassic–Cretaceous boundary at the Ropice Section (Western Carpathians, Silesian Unit)
21. *Jelena Milivojević, Nenad Zelenović, Zorica Lazarević*. Paleoeological characteristics of palynomorphs from Tertiary sediments of the Drmno Depression.
22. *Zorica Lazarević, Jelena Milivojević*. Insects and Plant Fossils from Valjevo-Mionica Basin (Western Serbia)
23. *Antonina Ivanina, Mykola Pavlun, Halina Hotsanyuk*. Coal “exotic” in flysch of the Ukrainian Carpathians

### **Session GT3. Sedimentology, Facies Analysis**

24. *Polina Andreeva, Docho Dochev, Hristo Kiselinov, Lubomir Metodiev, Silviya Petrova*. Depositional settings of the Campanian–Maastrichtian carbonate deposits in section Komunari, Eastern Fore-Balkan, northeastern Bulgaria
25. *Jacopo Dal Corso, Athanas Chatalov, Robert J. Newton, Daoliang Chu, Yadong Sun, Huyue Song, Haijun Song, Yiran Cao, Ivan P. Savov*. Carbonate carbon isotope record of the Carnian Pluvial Episode in the western Balkanides (Bulgaria)
26. *George Ajdanlijsky, Tsvetana Zheleva, Alexander Zdravkov, Kalin Kouzmanov*. Lithofacies characteristics and depositional environment of the Shavar Formation, SE Bulgaria
27. *Jelena Stefanović, Giovanna Della Porta, Dejan Radivojević*. Evidence of a depositional change on the Getic Carbonate Platform during the Early Cretaceous (Eastern Serbia)
28. *Millena Vetseva, Yavor Stefanov, Docho Dochev*. Phosphate-Glaucinite Nodules and Hardgrounds from the Cenomanian-Coniacian Succession in NE Bulgaria – New data and Interpretation
29. *Zlatka Milakovska, Atanas Hikov, Valeri Sachanski, Elitsa Stefanova, Irena Peytcheva, Silvia Chavdarova, Milen Stavrev*. Depositional environment of the Silurian metalliferous sediments from the Asaritsa section, West Balkan (Bulgaria)

### **Session GT4. Magmatism**

- 30v. *Violeta Vornicu, Ioan Seghedi, Zoltan Csiki-Sava, Mihai N. Ducea*. New U-Pb zircon ages of the Upper Cretaceous volcano-sedimentary deposits from the Hațeg Basin (Southern Carpathians) and temporal intrabasinal correlation
31. *Shumlyanskyy L.V., Shumlyanskyy V.O*. New data on the U-Pb zircon age of rhyolite volcanoes in the Berehove-Byihan ore district, Ukraine

32. *Ivan Yatsenko, Oksana Stupka*. Igneous origin of super-reduced mineral particles (spherules and native metals) found in sediments of the Outer Zone of the Eastern Carpathians
33. *Elizabeth J. Catlos, Igor Broska, Milan Kohút, Thomas M. Etzel, J. Richard Kyle, Daniel F. Stockli, Daniel Paul Miggins, Daniel Campos*. Geochronology, geochemistry, and geodynamic evolution of Tatric granites from crystallization to exhumation (Tatra Mountains, Western Carpathians)
34. *Sergii Kurylo, Igor Broska*. Magma mixing in the Variscan granites (Malá Fatra Mts., Western Carpathians): evidence from the mineral compositions
35. *Stefka Pristavova, Svetlana Encheva, Petar Petrov, Petko Petrov, Petyo Filipov*. Orbicular Gabbro from the Northern Part of the Plana Pluton, Bulgaria – new data
36. *Rositsa Ivanova, Dimitrina Dimitrova, Athanasios Godelitsas*. Trace elements content in some zeolitized pyroclastic rocks in Eastern Rhodopes (SE Bulgaria)

#### **Session GT5. Metamorphism**

37. *Bojan Kostić, Maja Milošević, Danica Srećković-Batočanin*. Contact-metamorphic rocks on the Europe-Adria suture zone in central Serbia
38. *Tzvetomila Vladinova, Milena Georgieva*. Rutile trace element composition in medium-grade metasedimentary rocks of Sakar unit, Sakar-Strandja Zone, SE Bulgaria
39. *Philip Machev, Lubomira Macheva, Julia Plotkina, Ekaterina Salnikova, Maria Stifeeva, Irena Peycheva*. Early Cambrian magmatism in the Vlahina Mountains (SW Bulgaria) questioning the affinity with the Vertiskos Unit (Serbo-Macedonian massif)
40. *Lubomira Macheva, Julia Plotkina, Philip Machev, Ekaterina Salnikova, Irena Peycheva*. Decoding metamorphic evolution of metaeclogites from Devisil lithotectonic unit (East Rhodopes, Bulgaria)

#### **Session GT6. Mineralogy and Applied Mineralogy**

41. *Maja Milošević, Bojan Kostić*. Mineralogical and physicochemical characterization of bentonite clay from Svrljig, Serbia
42. *Hristiana Georgieva, Rossen Nedialkov*. Propylitic vs sodium-calcium alterations: comparative analysis of hydrothermal epidote and chlorite into the Elatsite porphyry Cu-Au deposit, Bulgaria
43. *Sanna Uusitalo, Mikhail Mekhregin, Jari Havisto, Francisco Senna Vieira, Timo Dönsberg, Kamen Bogdanov, Marko Paavola, Janne Paaso*. Development of proximal sensing in Goldeneye Project “Earth observation and Earth GNSS data acquisition and processing platform for safe, sustainable and cost-efficient mining operations”
44. *Alexander Vlahov*. XRD crystallinity degrees and formation temperature of graphite in some regional metamorphic rocks from the Central and Eastern Rhodopes, Bulgaria: test of the new  $GD_{(0-30)}$  scale
45. *Georgios Lazaridis, Lambrini Papadopoulou, Vasilios Melfos, Panagiotis Voudouris*. The ‘manganese event’ in the byproducts of hydrothermal speleogenesis
46. *Milen Stavrev, Mihail Tarassov, Atanas Hikov, Silvia Chavdarova, Irena Peycheva*. Mineralogy and geochemistry of gold from the Babyak Mo-Ag-Au-W-Bi-base metal deposit, Western Rhodopes, Bulgaria
47. *Yana Tzvetanova, Nadejda Lihareva, Louiza Dimowa, Liliya Tsvetanova, Aleksandar Nikolov, Iskra Piroeva, Zlatka Delcheva, Ognyan Petrov*. Study of Cd uptake onto modified forms of natural clinoptilolite tuff

48. *Vladislav Kostov-Kytin, Milen Kadiyski, Rositsa Nikolova*. Further on the choice of space group for scapolite group members
49. *Dimitrina Dimitrova, Mihail Tarassov, Mariana Yossifova, Milena Vetseva, Stoyan Georgiev, Yana Tsvetanova*. Trace elements in pyrite and marcasite formed in silty clay from the Maritsa East lignite basin, Bulgaria

### Session GT7. Tectonics

- 50v. *Ilias Lazos, Sotirios Sboras, Christos Kanellopoulos, Antonios Vafidis, Emmanouil Manoutsoglou*. Geological and geophysical mapping within the Samaria Gorge, Lefka Ori, Western Crete, Greece and new insights by 3D visualization
51. *Marína Molčan Matejová; Tomáš Potočný; Dušan Plašienka*. New data from the mélange complexes of the Meliata Unit s.s. in a freshly excavated section, Čoltovo Village (Western Carpathians, Slovakia)
52. *Liudmyla O. Shumlianska*. Indentor mechanism of formation and development of the geodynamic system of the Caucasus
53. *Liudmyla O. Shumlianska*. Features of Earthquake Source Mechanisms in the subcrustal lithosphere of the Caucasus region
54. *Ján Soták, Marina Molčan Matejová*. Post-Eocene backthrusting in marginal units of the Central Western Carpathians: tectono-sedimentary mélanges and inverted thrust sheets
55. *Mircea Țicleanu, Paul Constantin*. Structural reconsiderations in the southwestern part of the South Carpathians
56. *Nataliia Vergelska*. Geodynamics of coal-bearing formation of Transcarpathia
57. *Georgios Lazaridis, Emmanouil Katrivanos, Despina Dora*. Spatio-temporal correlation of speleogenesis with active tectonics in Asprorema Cave (Mt. Pinovo, Greece)
- 58v. *Volodimir Shlapinskyi, Miroslav Pavliuk, Yaroslav Lazaruk, Miroslav Ternavskyi*. The Pokuttya deep fault of the Ukrainian Carpathians
59. *Oleh Hnylko*. Holyatyn Structure as the fragment of the Subsilesian Unit in the Ukrainian Outer Carpathians
60. *Tomáš Potočný, Marína Molčan Matejová, Dušan Plašienka*. Third order mélange: preliminary concept of the problematic internal structure of the Meliata Unit s.s. in Bohúňovo locality (Western Carpathians, Slovakia)
61. *Maciej Kania, Mateusz Szczęch*. The Gorce Mountains lineaments network geometry and topology
62. *Martin Dobrev, Petya Kuzmanova, Elka Chokova*. Structural and lithological settings controlling ore mineralization of Chelopech Au–Cu deposit, Bulgaria

### Session GT8. Quaternary Geology and Landscape Evolution

63. *Despina Dora, Georgios Lazaridis, Konstantinos Vouvalidis, Konstantinos Tokmakidis, George Veni*. Morphometric and statistical analyses of caves in Lefka Ori massif (Crete, Greece)
- ?? *Georgios Lazaridis, Despina Dora*. Functional role of Mikri Gournas Cave in the karstic system of Mt. Olympus (Greece)



### **Session GT9. Geophysics and Seismology**

64. *Valentyn Maksymchuk, Natalia Pyrizhok*. Seismicity of the Transcarpathia Depression in the 21st century
65. *Mykhailo Orlyuk, Inna Pashkevich, Andriy Marchenko, Andriy Romanets*. On the possible mantle nature of the long-wave Central-European magnetic anomaly

### **Session GT10. Economic Geology**

66. *Christos L. Stergiou, Vasilios Melfos, Panagiotis Voudouris, Lambrini Papadopoulou, Nikolaos Kantiranis, Irena Peytcheva, Dimitrina Dimitrova, Elitsa Stefanova*. Geochemistry and laser ablation mineral chemistry of pyrite and sphalerite from the epithermal veins overprinting the porphyry type mineralization at Aspra Chomata, Kassandra mining district, Northern Greece
67. *Ralica Sabeva, Denitsa Apostolova*. LA-ICP-MS study of pyrite and chalcopyrite from quartz-polymetallic veins in Hurd Peninsula, Livingston Island, Antarctica
68. *Eftychia Peristeridou, Vasilios Melfos, Lambrini Papadopoulou, Nikolaos Kantiranis, Panagiotis Voudouris*. Enrichment of rare earth elements in coastal black sands from Kavala district, Northern Greece
69. *Evangelos Skoupras, Vasilios Melfos, Panagiotis Voudouris, Christos L. Stergiou, Nikolaos Kantiranis, Lambrini Papadopoulou, Grigorios-Aarne Sakellaris*. The stibnite vein-type mineralization in Rizana, Northern Greece
70. *Petko Popov, Kamen Popov*. Metallogenic Evolution of Bulgaria
71. *Christoph A. Heinrich, James A. D. Connolly*. Porphyry copper systems II: The role of magmatic sulfides in the process chain of metal enrichment

### **Session GT11. Energy Resources (Hydrocarbon, Geothermal)**

72. *Nikoleta Aleksić, Aleksandar Kostić*. The thermal maturity of the organic matter in sedimentary rocks in the area of East Herzegovina (Bosnia and Herzegovina)
73. *Ivanna Kolodiy, Olena Anikeyeva, Natalia Zhabina, Vasyl Harasymchuk*. Lithofacial and hydrogeological features of the Upper Jurassic sediments of the Ukrainian Precarpathians in terms of oil and gas potential
- 74v. *Yurii Khokha, Myroslava Yakovenko, Oleksandr Lyubchak*. Gas generation potential of the organic matter on the example of the sedimentary layer of the Ukrainian Carpathians (Western oil and gas region)

### **Session GT12. Hydrogeology**

75. *Evelina Damyanova, Marin Ivanov, Krastina Malcheva, Boyka Mihaylova, Aleksey Benderev*. On the temperature regime of karst springs in Bulgaria - status and problems
76. *Peter Gerginov, Simeon Valtchev, Mila Trayanova, Aleksey Benderev*. Geothermal water field "Rupite", Bulgaria – additional research
77. *Boyka Mihaylova*. G. Bonchev's paper "Contribution to the springs in Bulgaria", 1937 and its significance for hydrogeology in Bulgaria



### Session GT13. Geohazards

78. *Athanasios Chatziioannou, Alexandros Chatzipetros*. Tectonic regime of the Vlachogianni Fault in the epicentral area of the March 2021 earthquake sequence in Northern Thessaly (Central Greece)
79. *Boyko Berov, Rumiana Vatseva, Plamen Ivanov, Rosen Nankin, Miroslav Krastanov*. Landslide movements study and land cover changes in Balchik area on the Northern Black Sea coast of Bulgaria
80. *Plamen Ivanov, Nikolai Dobrev, Boyko Berov, Antoaneta Frantzova, Miroslav Krastanov, Rosen Nankin*. Landslide Risk for the territory of Bulgaria by administrative districts
81. *Mateusz Szczęch, Maciej Kania*. Inventory of landslides in the Gorce National Park and its vicinity
82. *Lyuba Dimova, Reneta Raykova*. Tsunamigenic seismic sources in the Balkan Peninsula adjacent seas

### Session GT14. Engineering Geology and Urban Geology

- 83v. *Doncho Karastanev, Boriana Tchakalova, Dimitar Antonov*. Field experiment of cement-modified loess

### Session GT15. Cultural heritage

84. *Bilyana Kostova, Boyan Dumanov, Zhivko Uzunov, Katerina Mihaylova, Ventseslav Stoyanov*. Phase and thermal analysis of Roman ceramic materials
85. *Marinel Kovacs, Ioan Denuş*. Geoheritage in the Neogene Gutâi Volcanic Zone (Eastern Carpathians, Romania) - State of the art
86. *Aleksandra Maran Stevanović*. Professor Vladimir K. Petković (1873–1935) - one of the founders of the Carpathian-Balkan Geological Association
87. *Andrei Dragoş, Sorin Anghel, Gabriel Iordache*. Aerial photogrammetry at the Argamum archaeological site
88. *Vasilios Melfos, Eugenia Adam*. Geochemical characterization and provenance of obsidian artifacts from the middle Neolithic site of “Episkopi”, Ioannina region, NW Greece
89. *Stefka Pristavova, Kamelia Marinova, Galina Grozdanova, Tsveta Stanimirova*. New petrography data of golden engobe pottery from site “Orlovo”, Eastern Rhodope, South Bulgaria

### Session GT17. Agrogeology, environmental geochemistry, resilience

90. *Denitsa Apostolova, Achim Bechtel, Irena Kostova, Maya Stefanova, Ralica Sabeva*. Geochemical study of biomarkers in coal-fired TPPs combustion wastes, Bulgaria: Bobov Dol TPP
91. *Aurela Jahja, Arjan Beqiraj, Anisa Petroshi, Vilma Popoçi*. Eutrophic water condition of the Lake Belsh: preliminary results
92. *Valentina Pezdir, Martin Gaberšek, Mateja Gosar*. Influence of dust events on mineral matter input to ombrotrophic bog
93. *Vilma Petkova, Bilyana Kostova, Ventseslav Stoyanov, Tiit Kaljuvee*. The impact of cement replacement materials in phase formation in mortars

94. *Vilma Petkova, Bilyana Kostova, Ekaterina Serafimova, Tiit Kaljuvee*. High-energy milling application as an ecological approach for increasing of chemical reactivity of sedimentary phosphorites
95. *Margarita Melfou, Katerina Giouri, Christos L. Stergiou, Vasilios Melfos, Lambrini Papadopoulou*. Mineralogy and geochemistry of edible salts and their solid residues from the Greek market

#### **Session GT18. Open Sesion**

96. *Mircea Țicleanu, Paul Constantin, Radu Nicolescu*. Small-sized Pliocene (Dacian) trovants from Bistrița (Mehedinți, Romania)
- 97v. *Ilias Lazos, Christos Kanellopoulos, Sotirios Sboras, Leonidas Moforis, Nikolaos Kallithrakas-Kontos, Emmanouil Steiakakis, Emmanouil Manoutsoglou*. Lithofacies and geochemical study of the Trypali Unit at the Samaria Gorge, Western Crete, Greece.
98. *Radule Tošović*. The role and importance of economic geology of Serbia in current market and strategic conditions

#### **Session SS1. Studies of Ophiolites & Mafic Igneous Rocks and their Mineralizations: Examples from Southern Europe & Beyond**

99. *Petyo Filipov, Milan Ichev, Nikolay Bonev, Stoyan Georgiev, Zornitsa Dotseva*. LA-ICP-MS U-Pb zircon age of amphibolite protoliths associated with the metaophiolites near the villages of Dobromirtsi and Bubino, east Rhodopes, Bulgaria

#### **Session SS2. Large Cenozoic Explosive Eruptions in The Carpatho-Balkanian Region and their Influence on Climate and Ecosystems**

100. *Ivan Yatsenko*. Traces of mantle explosive events in sediments of the Eastern Carpathians
101. *Raya Raicheva, Peter Marchev, Aral Okay, Andrea Orlando, Ioannis Baziotis, Brian Jicha, Rositsa Ivanova, Irena Peytcheva*. Correlation of the tuffs from Eastern Thracian Basin, Turkey with the Oligocene Rhodope Massif supereruptions

#### **Session SS4. Pre-Alpine Basement Evolution Between Alps and Iran: Significance for Western Tethys Evolution**

102. *Hristo Kiselinov, Stoyan Georgiev, Iskra Lakova, Ivan Zagorchev, Polina Andreeva*. Early–Middle Palaeozoic metasediments and metagabbros in the Western Balkan and Fore-Balkan Units (NW Bulgaria): U-Pb zircon dating, palynological age and palaeogeodynamic implications
103. *Michael E. Brookfield*. Reconstructing the Adria platform at the Permo-Triassic boundary: a Bahama Bank model
104. *Ruihong Chang, Franz Neubauer, Johann Genser, Yongjiang Liu, Sihua Yuan, Qingbin Guang, Qianwen Huang, Shengyao Yu*. Hf isotopic constraints for Austroalpine basement evolution of Eastern Alps: review and new data
105. *Milan Kohút, Andreas Gärtner, Ulf Linnemann*. Provenance and detrital zircon study of the Tatric Unit basement (Western Carpathians, Slovakia)

106. *Franz Neubauer, Yongjiang Liu, Ruihong Chang, Johann Genser, Qingbin Guan, Qianwen Huang, Shengyao Yu, Sihua Yuan.* A large Permian plutonic system cross-cutting different Austroalpine basement units: implications for Permian and Cretaceous tectonics of Eastern Alps

#### **Session SS6. Magma Fertility Vectors and Hydrothermal Alteration Footprints Related to Mineralization Systems of the Carpathian-Balkan Area**

107. *Georgi Milenkov, Rossitsa Vassileva, Sylvina Georgieva, Valentin Grozdev, Irena Peytcheva.* Trace-element signatures and U-Pb geochronology of magmatic and hydrothermal titanites from Petrovitsa Pb-Zn deposit, Madan region, Central Rhodopes
108. *Milen Stavrev, Brian Jicha, Irena Peytcheva, Atanas Hikov, Silvia Chavdarova.* New  $^{40}\text{Ar}/^{39}\text{Ar}$  evidence for Paleogene magmatic-hydrothermal activity in the Western Rhodopes, Bulgaria
109. *Valentin Grozdev, Rossitsa Vassileva, Irena Peytcheva, Philip Machev, Albrecht von Quadt.* Link between magmatic and hydrothermal processes: a case study on Ca-garnets from SW Bulgaria

#### **Session SS7. Critical Raw Materials: Mineralogy and Geochemistry of New and Unconventional Mineral Resources**

110. *Sylvina Georgieva, Rossitsa D. Vassileva, Georgi Milenkov, Elitsa Stefanova.* Chemical composition of epidote-group minerals in pegmatites from Petrovitsa Pb-Zn deposit, Bulgaria: evidence for REE redistribution between allanite and epidote during fluid-mineral interaction
111. *Yana Georgieva, Georgi Milenkov, Rossitsa Vassileva.* Geochemical characteristics and U/Pb geochronology of pegmatites from the Govedarnika Pb-Zn deposit, Central Rhodopes, Bulgaria
112. *Silvia Chavdarova, Milen Stavrev, Atanas Hikov, Irena Peytcheva.* New data on the geochemical and mineralogical features of the main manganese- and iron-bearing ore occurrences in the Central Srednogorie Zone, Bulgaria
113. *Rossitsa D. Vassileva, Sylvina Georgieva, Georgi Milenkov.* Rare earth mineral association in pegmatites from Kroushev Dol Pb-Zn deposit
114. *Stela Atanasova - Vladimirova, Rossitsa Vassileva, Sylvina Georgieva, Georgi Milenkov, Iskra Piroeva.* Application of X-ray elemental mapping on REE minerals: a case study of allanite, monazite, apatite and zircon
115. *Zlatka Milakovska, Atanas Hikov, Valkana Stoyanova, Irena Peytcheva, Valentina Lyubomirova, Tomasz Abramowski.* REY in pore waters of Fe-Mn nodule bearing sediments of the Interoceanmetal exploration area in the Clarion-Clipperton Fracture Zone, NE Pacific
116. *Christina Stouraiti, Christoforos Zamparas, Angeliki Papoutsas, Harilaos Tsikos, Panagiotis Voudouris, Stylianos Lozios, Konstantinos Soukis, Constantinos Mavrogonatos.* First occurrence of gasparite-(Ce), chernovite-(Y) and retzian in Greece: mineral chemistry and implications for REE enrichment in the Mn-oxide ore
117. *Mariana Yossifova, Dimitrina Dimitrova, Milena Vetseva, Stoyan Georgiev, Yana Tzvetanova.* Preliminary data on critical element contents in lignite coal from the Maritsa East lignite basin, Bulgaria
118. *Angeliki Papoutsas, Dimitra Skentzou, Panagiotis Voudouris, Christina Stouraiti, Charalambos Vasilatos.* Enrichment of critical metals in mafic rocks: The case of Maronia Pluton, Northern Greece

**Session SS10. Application and Advances in Geochronology and Thermochronology**

119. *Firat Sengun*. The in situ Rb-Sr dating of detrital muscovite from the Jurassic sandstones in the Central Sakarya Zone, NW Anatolia
120. *Iulian Pojar, Mihaela Melinte-Dobrinescu, Andrei Gabriel Dragoş, Relu Dumitru Roban, Mihai Ducea, Tomas Capaldi, Cornel Olariu*. Detrital zircon geochronology and sedimentary provenance of the Lower Danube River