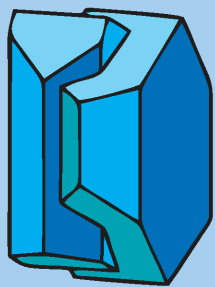


emc² 18–23 August
2024

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PROGRAMME



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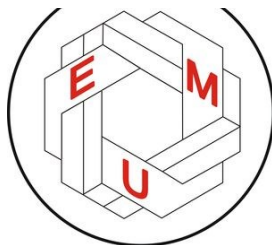
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Suirbhéireacht Gheolaíochta
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An Roinn Comhshaoil, Aeráide agus Cumarsáide
Department of the Environment, Climate and Communications



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Underlined author name indicates presenter.

Underlined author name in red indicates student presenter.

Non-students are invited to help judge student presentations (for student prizes) by uploading assessments at <https://forms.gle/ss5TauV22PxZpWJWA>

PROGRAMME AT A GLANCE 1

MONDAY 19TH AUGUST

Session No.	Session Title	Room
Session 31:	The Testimony of the Minerals: A Celebration of Edward S. Grew at 80	Room 1
Session 2:	The Petrology of Accessory Minerals: from the Ubiquitous to the Exotic	Room 2
Session 12:	Understanding the geology and formation of ore deposits - new constraints on the enrichment processes of metals	Room 3
Session 16:	Mineralogy and circular economy	Room 4
Session 27:	All change: subsolidus, melting, volatile and redox reactions in the upper mantle	Room 5
Session 22:	Biominerals and environment	Room 6
Session 20:	Archaeometry: Geoscience-based approaches for studying the human past	Room 7
Session 24	Volatiles and metals in volcanic systems: constraining their behaviour and processes between magma, gas emissions, and primary ore deposits	Room 7

TUESDAY 20TH AUGUST

Session No.	Session Title	Room
Session 1:	Apatite - an accessory mineral with a big footprint in geochemical, environmental, and biological processes	Room 1
Session 26/28:	Origin and composition of CO ₂ -bearing fluids and melts as transport agents between mantle and crust	Room 2
Session 6:	Structure-properties relationships of framework, layered and related minerals	Room 3
Session 31 <i>Continued:</i>	The Testimony of the Minerals: A Celebration of Edward S. Grew at 80	Room 4
Session 32:	The future of mineralogy, petrology, geochemistry and cosmochemistry - New informatics approaches to harnessing the multidimensionality of complex Earth and planetary systems	Room 4
Session 18/19:	Characterization of gem materials and their geographical/geological origin	Room 5
Session 12:	Understanding the geology and formation of ore deposits - new constraints on the enrichment processes of metals	Room 6
Session 5:	Spectroscopic approaches for crystallochemical characterization of minerals and mineral behavior under ambient and non-ambient conditions: application for Earth and Planetary exploration	Room 6
Session 21/23	Microbial biomineralization/microbes transforming metals	Room 7
Session 16 <i>continued</i>	Mineralogy and circular economy	Room 7

Tuesday, 7.00 pm, Lecture Theatre 1 – Burke

Public Lecture: Perspectives on the Energy Transition – Everything starts with a rock

Dr Karen Hanghøj, Director, British Geological Survey

THURSDAY 22ND AUGUST

Session No.	Session Title	Room
Session 11:	Platinum group elements and minerals	Room 1
Session 7:	Recent challenges and advances in theoretical and experimental mineral physics	Room 1
Session 10:	The role of mafic and ultramafic rocks in carbon capture and storage	Room 2
Session 4:	Partial Melting in Continental Settings	Room 2
Session 25:	One drop at a time: fluid, melt and multiphase inclusions as tools to understand geological processes	Room 3
Session 17:	Innovation and challenges in process mineralogy, geomaterials and supporting analytical techniques	Room 3
Session 34:	Exploring solar system evolution using meteorites and returned samples	Room 4
Session 26/28 <i>continued:</i>	Origin and composition of CO ₂ -bearing fluids and melts as transport agents between mantle and crust	Room 4
Session 14:	Atypical critical metal ores and ore deposits	Room 5
Session 8:	Medical mineralogy and hazardous natural materials. State of the art and future trends	Room 6

Thursday, 7.30-11.00 pm, Croke Park Hogan Banqueting Suite

Conference Banquet

FRIDAY 23RD AUGUST

Session No.	Session Title	Room
Session 3:	Multi-mineral petrochronology of metamorphism and deformation: linking grain-scale processes to lithosphere dynamics	Room 1
Session 29:	Water in the deep (and not so deep) Earth	Room 2
Session 33:	New Minerals, nomenclature, and classification	Room 3
Session 37:	General	Room 3
Session 9:	Crystallisation of carbonates: Mechanisms, kinetics, methods, case studies, and novel applications	Room 4
Session 35/36:	Geoscience outreach in museums and beyond	Room 5
Session 13:	Micro- and nano-mineralogy of critical metals	Room 6
Session 38:	Chemical evolution of sediments and igneous rocks and their implications on Earth's ocean, crust and mantle	Room 6

PROGRAMME AT A GLANCE 2

Session No.	Session Title	Room
Session 1:	Apatite - an accessory mineral with a big footprint in geochemical, environmental, and biological processes	Room 4, Tuesday
Session 2:	The Petrology of Accessory Minerals: from the Ubiquitous to the Exotic	Room 2, Monday
Session 3:	Multi-mineral petrochronology of metamorphism and deformation: linking grain-scale processes to lithosphere dynamics	Room 1, Friday
Session 4:	Partial Melting in Continental Settings	Room 2, Thursday
Session 5:	Spectroscopic approaches for crystallochemical characterization of minerals and mineral behavior under ambient and non-ambient conditions: application for Earth and Planetary exploration	Room 6, Tuesday
Session 6:	Structure-properties relationships of framework, layered and related minerals	Room 3, Tuesday
Session 7:	Recent challenges and advances in theoretical and experimental mineral physics	Room 1, Thursday
Session 8:	Medical mineralogy and hazardous natural materials. State of the art and future trends	Room 6, Thursday
Session 9:	Crystallisation of carbonates: Mechanisms, kinetics, methods, case studies, and novel applications	Room 4, Friday
Session 10:	The role of mafic and ultramafic rocks in carbon capture and storage	Room 2, Thursday
Session 11:	Platinum group elements and minerals	Room 1, Thursday
Session 12:	Understanding the geology and formation of ore deposits – new constraints of the enrichment processes of metals	Room 3, Monday Room 6, Tuesday
Session 13:	Micro- and nano-mineralogy of critical metals	Room 6, Friday
Session 14:	Atypical critical metal ores and ore deposits	Room 5, Thursday
Session 16:	Mineralogy and circular economy	Room 4, Monday Room 7, Tuesday
Session 17:	Innovation and challenges in process mineralogy, geometallurgy and supporting analytical techniques	Room 3, Thursday

Session 18/19:	Characterization of gem materials and their geographical/geological origin	Room 5, Tuesday
Session 20:	Archaeometry: Geoscience-based approaches for studying the human past	Room 7, Monday
Session 21/23:	Microbial biomineralization/microbes transforming metals	Room 7, Tuesday
Session 22:	Biominerals and environment	Room 6, Monday
Session 24	Volatiles and metals in volcanic systems: constraining their behaviour and processes between magma, gas emissions, and primary ore deposits	Room 7, Monday
Session 25:	One drop at a time: fluid, melt and multiphase inclusions as tools to understand geological processes	Room 3, Thursday
Session 26/28:	Origin and composition of CO ₂ -bearing fluids and melts as transport agents between mantle and crust	Room 2, Tuesday Room 4, Thursday
Session 27:	All change: subsolidus, melting, volatile and redox reactions in the upper mantle	Room 5, Monday
Session 29:	Water in the deep (and not so deep) Earth	Room 2, Friday
Session 31:	The Testimony of the Minerals: A Celebration of Edward S. Grew at 80	Room 1, Monday Room 4, Tuesday
Session 32:	The future of mineralogy, petrology, geochemistry and cosmochemistry - New informatics approaches to harnessing the multidimensionality of complex Earth and planetary systems	Room 4, Tuesday
Session 33:	New Minerals, nomenclature, and classification	Room 3, Friday
Session 34:	Exploring solar system evolution using meteorites and returned samples	Room 4, Thursday
Session 35/36:	Geoscience outreach in museums and beyond	Room 5, Friday
Session 37:	General	Room 3, Friday
Session 38:	Chemical evolution of sediments and igneous rocks and their implications on Earth's ocean, crust and mantle	Room 6, Friday

Monday, 19th August		
Lecture Theatre 1 – Burke		
08.15-08.30	Introduction and Welcome	D. Chew, E. Tomlinson
08.30–09.20	PLENARY LECTURE What's so special about Mössbauer spectroscopy anyway?	C. McCammon
09.20-09.25	Exhibitor Announcement - MDPI	
09.25-09.30	Exhibitor Announcement – Agilent	
09.30–09.35	Exhibitor Announcement – Cambridge University Press	

Lecture Theatre 1 - Burke		
Session 31. The Testimony of the Minerals: A Celebration of Edward S. Grew at 80		
Session Chairs: Bob Hazen, Barb Dutrow, Gerhard Franz and Jesse Walters		
09.40–10.20 KEYNOTE	Data-driven discovery in mineralogy: Mineral evolution, mineral ecology, and Edward Grew's legacy	<u>Hazen, Robert M.</u>
10.20-10.40	Titanium in ultra-high-pressure rocks: Implications of the new minerals wenjiite, Ti_5Si_3 , maurogemmiite, $Ti_{10}Fe_3O_3$, paulrobinsonite, $Ti_8Fe_4O_2$, and TiFe	<u>Grew, E.*</u> , Xiong, F., Mugnaioli, E., Xu, X., Yang, J., Wirth, R., Franke, P. and Yates, M.
10.40-11.00	Magnesianqingheite, a new member of the alluaudite supergroup of minerals	<u>Cámara, F.</u> , Chopin, C. and Deldicque, D.
11.00-11.40	BREAK	
11.40-12.00	$Fe^{3+}GeO_6H_5$ and $Fe^{3+}SnO_6H_5$: hints of novel H behaviour in perovskite-related structures	<u>Welch, M.D.</u> , Najorka, J. and Kleppe A.K.
12.00-12.20	3D electron diffraction for the crystallo-chemical characterization of micrometric and sub-micrometric mineral phases in mantle inclusions	<u>Mugnaioli, E.</u> , Grew, E., Wirth, R., Ferrero, S., Lorenzon, S., Borriello, R., Xiong, F., Xu, X., Yang, J. and Borghini A.
12.20-12.40	Eudialyte decomposition and the formation of a cuspidine-wöhlerite skarn associated with the Sierra La Vasca complex, Mexico.	<u>Mitchell, R.H.</u> and Rodriguez Vega, A.
12.40-13.00	Extreme chemical disequilibrium patterns in hydrothermal vein minerals – a case study from Columbian emeralds	<u>Franz, G.</u> , Khomenko, V., Schiperski, F., Gernert, U. and Nissen, J.
13.00-14.00	LUNCH	

Lecture Theatre 1 – Burke

Session 31. The Testimony of the Minerals: A Celebration of Edward S. Grew at 80

14.00-14.40	Mechanisms of uranium incorporation into garnet	<u>Marschall, H.R.</u> , Ackermann, C., Millonig, L.J., Kutzschbach, M., Walters, J.B., Schmidt, A., Woodland, A.B. and Hezel D.C.
14.40-15.00	Garnet in low-temperature metamorphic rocks: far from simple, far from cubic	<u>Cesare, B.</u> , Mugnaioli, E., Tacchetto, T., Lorenzon, S., Biagioni, C., Nestola, F., Campomenosi, N. and Della Ventura, G.
15.00-15.20	A Single-Crystal UV/Vis Spectroscopic Investigation of $^{VIII}Fe^{2+} + ^{VI}Fe^{3+} \rightarrow ^{VIII}Fe^{3+} + ^{VI}Fe^{2+}$ Intervalence Charge Transfer in Aluminosilicate Garnets	<u>Geiger, C.A.</u> and Taran, M.N.
15.20-16.00	BREAK	
16.00–16.20	Boron-rich fluids in a highly evolved niobium-yttrium-fluorine (NYF) type pegmatite	<u>Anderson, A.J.</u> , Scott, M., Wise, M.A. and Boucher, B.M.
16.20–16.40	Bond-valence constraints for tourmalines with Li and various X-site occupancy	<u>Bačík P.</u> and Ertl, A.
16.40–17.00	On the limitation of Li in tourmalines with Na and vacancies at the X site	<u>Ertl, A.</u> and Bačík P.

Lecture Theatre 2 – Davis

Session 2. The Petrology of Accessory Minerals: from the Ubiquitous to the Exotic

Session Chairs: Callum J Hetherington, Ewa Slaby, Bartosz Budzyń

09.40–10.20 KEYNOTE	Exotic radio-minerals in the geological disposal of radioactive waste	Corkhill, C.L. , Mottram, L. M., Friskney A. A., Harding L., Kvashnina K., Bazarkina E. F. and Hyatt N.C.
10.20-10.40	Titanite as a petrogenetic indicator of the magmatic and post-magmatic evolution – Closepet Batholith (Dharwar craton, southern India)	Gmochowska, W. , Slaby, E., Gumsley, A., Anczkiewicz, R., Kozub-Budzyń, G.A. and Bhattacharya, S.
10.40-11.00	Super- and Subsolidus Processes in the Rolvsnes Granodiorite, W Norway, Recorded by Titanite	Drivenes, K. , Buisman, I., Coint, N., Huyskens, M, Knies, J, Larsen, R.B. and Sørensen, B.E.
11.00-11.40	BREAK	
11.40-12.00	Two types of titanites in the Precambrian granitoids of southern Lithuania, East European Craton	Demina, O. , Šiliauskas, L., Skridlaitė, G. and Næraa, T.
12.00-12.20	Bahalda Pluton of Singhbhum Craton (eastern India) - Archean crust undisturbed for three billion years	Gumsley, A. , Slaby, E., Dey, S., Chew, D., Gmochowska, W., Wudarska, A., Gumsley, A.P., Szopa, K., Krzykowski, T., Marciniak-Maliszewska, B. and Drakou, F.
12.20-12.40	Modern-style cold subduction in the Proterozoic: Insights from detrital rutile analysis	Lueder, M. , Hermann, J., Pereira, I., Tamblyn, R. and Rubatto, D.
12.40-13.40	LUNCH	

Lecture Theatre 2 – Davis

Session 2. The Petrology of Accessory Minerals: from the Ubiquitous to the Exotic

13.40-14.00	Crystal mush formed and remobilized within 1 Ma: insights from glomerocryst-loaded silicic laccoliths	<u>Pietranik, A.</u> , <u>Słodczyk, E.</u> , <u>Pańczyk, M.</u> , <u>Schaltegger, U.</u> and <u>Senger, M.</u>
14.00-14.20	New features on the use of apatite as a petrogenetic indicator in mafic layered intrusions	<u>Kieffer, M.A.</u> , <u>Dare, S.A.S.</u> , <u>Namur, O.</u> and <u>Mansur E.T.</u>
14.20-14.40	Lu-Hf, Sm-Nd and U-Pb isotopic decoupling in phosphates from the Central African Copperbelt	<u>Vincent, V.I.</u> , <u>Torremans, K.</u> , <u>Chew, D.M.</u> , <u>Subarkah, D.</u> , <u>Fisher, C.M.</u> , <u>Gilbert, S.</u> , <u>Farkas, J.</u> , <u>Drakou, F.</u> , <u>Doran, A.L.</u> , <u>Collins, A.S.</u> , <u>Stacey, J.</u> , and <u>Hitzman, M.</u>
14.40-15.00	The geochemical signature and trace-element remobilisation in the Prakovce-Zimná Voda REE-U-Au quartz-vein hydrothermal mineralisation developed in exocontact of rare metal granites, Western Carpathians, Slovakia	<u>Ondrejka, M.</u> , <u>Uher, P.</u> , <u>Ferenc, Š.</u> , <u>Majzlan, J.</u> , <u>Bačík, P.</u> , <u>Molnárová, A.</u> and <u>Števkó, M.</u>
15.00-15.20	REE mineral assemblage in REE-fluorite masses from Kråkmo pegmatite, Tysfjord-Hamarøy area, Norway	<u>Škoda, R.</u>
15.20-16.00	BREAK	
16.00-16.20	Nb-Ta minerals in granitic pegmatites: tracers of magmatic to hydrothermal evolution (Western Carpathians, Slovakia)	<u>Uher, P.</u> , <u>Ondrejka, M.</u> , <u>Bačík, P.</u> , <u>Broska, I.</u> , <u>Števkó, M.</u> , <u>Georgiev, S.</u> and <u>Kurylo, S.</u>
16.20-16.40	Fluorine and bismuth-bearing accessory minerals indicate magma evolution in rare element pegmatites in Embu County, Kenya	<u>Muriungi, N.</u> , <u>Büttner, S.H.</u> , <u>Glodny, J.</u> and <u>Harder, S.</u> (REMOTE)

Lecture Theatre 3 – Syngé

Session 12. Understanding the geology and formation of ore deposits - new constraints on the enrichment processes of metals

Session Chairs: Maximilian Korges, Philip Rieger, Hilde Koch, Malte Junge

09.40–10.20 KEYNOTE	CARBONATITES: A Key Resource for REE	Giebel, R.J.
10.20-10.40	Precious and base metal sources and enrichment processes in a proto-arc VMS system	Belgrano, T.M. , Milton, J.A. , Diamond, L.W. , Wolf, R.C. and Teagle, D.A.H
10.40-11.00	Prerequisites for large SMS deposits along slow-spread mid-ocean ridges: implications for the Polish contract area at the MAR (26–33°N)	Ciężela, J. , Kozłowska-Roman, A. , Tomczak, M. , Elsharif, E. , Woźniak, W. and Wojtulek, P.
11.00-11.40	BREAK	
11.40-12.00	Ore resources on Mars: comparative study of 16 martian meteorites	Fitt, M. , Ciężela, J. , Mojzsis, S. , Lazarov, M. , Junge, M. , Kaliwoda, M. , Jokubauskas, P. , Szczęśniewicz, M. , Pańczyk, M. and Lei, Ch.
12.00-12.20	Mineral chemistry and texture of metasomatic mica in halos around the Leinster spodumene pegmatites, Ireland	Geiger, E.J. , Brodbeck, M. , Menuge J.F. and Nazari-Dehkordi, T.
12.20-12.40	The Partitioning of Lithium between Granitic Minerals and Melts	Horányi, B. , Gaillard, F. , Gion A.M. , Gloaguen É. , Melleton J. and Plunder A.
12.40-13.00	Examining relationship between Organic matter-rich Cenomanian-Turonian limestones and base metals in the Kebbouch South Pb-Zn deposit (Diapirs zone, Northern Tunisia): insight from LA-ICP-MS trace elements analysis	Jaballah, S. , Jemmali, N. , Mc Clenaghan, S. , Rddad, L. and Henchiri M. (REMOTE)
13.00-14.00	LUNCH	

Lecture Theatre 3 – Sygne**Session 12. Understanding the geology and formation of ore deposits - new constraints on the enrichment processes of metals**

14.00-14.20	The role of trisulfur radical ion in the transport of molybdenum by hydrothermal fluids	<u>Kokh, M.A.</u> , Wilke, M., Klemme S. and Pokrovski G.S.
14.20-14.40	Critical raw materials contents in Fe-Mn crusts from Canary Island Seamount Province: controls of the mineralogy and environment.	<u>Marino, E.</u> , González, F.J., Medialdea, T., Somoza, L., Lobato, A.B., Reyes, J. and Bellido, E.
14.40-15.00	The Geyer SW tin skarn deposit, Erzgebirge, Germany: mineral chemistry records changing fluid/rock ratios and metal fluxes	<u>Meyer, N.</u> , Burisch, M., Gutzmer, J. and Markl, G.
15.00-15.20	Overprinting of primary magmatic signature by fluid-driven processes in a F-bearing system: The Mueilha granite (Central Eastern Desert, Egypt)	<u>Michaud, J. A-S</u> , Holtz, F., Kontak, D. J., Goldmann, S., Abu El-Rus, M.
15.20-15.40	Exploring Critical Element Enrichment Pathways in Black Shales: A Case Study of Türisalu Formation in Estonia	<u>Ndiaye, M.</u> , Kallaste, T., Graul, S. and Hints, R.
15.40-16.00	BREAK	

Lecture Theatre 4 – Emmett

Session 16. Mineralogy and circular economy

Session Chairs: Daniel Vollprecht, Cyrill Grengg, Mario Tribaudino

09.40–10.20 KEYNOTE	The potential of Mineralogy in Circular Economy	Pavese A.
10.20-10.40	Waelza slag as potential Fe source – a geometallurgical case study to convert waste to resource	Gronen, L. , Gondorf, C. , Gürsel, G. , Feldrappe, V. and Weitkämper, L.
10.40-11.00	Investigation of a Lithium-Ion-Battery Recycling Slag	Gantz, C. , Neumann, A. , Roggendorf, H. and Stöber, S.
11.00-11.40	BREAK	
11.40-12.00	Material/Substance flow analysis of biomass ash in the United Kingdom	Chen, D.T. and Stagemann, J.A.
12.00-12.20	Why is Raman spectroscopy not used for characterizing MSWI Bottom Ash? – A comparative study of different analytical methods	Kremlicka, T. , Demschar, P. and Sedlazeck, K.P.
12.20-12.40	Reactivity of Municipal Solid Waste Fly Ash into Magnesium Phosphate Cement	Bernasconi, D. , Viani, A. , Zárybnická, L. , Das, G. , Bordignon, S. , Borfecchia, E. , Caviglia, C. , Destefanis, E. , Gobetto, R. and Pavese, A.
12.40-13.00	Sustainable binders for soil stabilisation of pavement roads based on recycling of wood biomass ash, municipal and solid waste incineration ash and concrete demolition waste	Pandolfi Balbi, E. , Comodi, P. , Fastelli, M. , Zucchini, A. , Cambi, C. , Corradini, A. , Mantovani, L. , Cerni, G. , Bou Farhat, H. and Snellings, R.
13.00-14.00	LUNCH	

Lecture Theatre 4 – Emmett

Session 16. Mineralogy and circular economy

14.00-14.20	Reactive binder components for building materials by thermochemical upcycling of mineral wastes and by-products	Steindl, F. , Grengg, C., Rudic, O., Radinger, S., Hussein, A., Weisser, K., Krammer, A., Doschek-Held, K., Ratz, B., Steiner, S., Gatschlhofer, C. and Mittermayr, F.
14.20-14.40	Resource Optimization in Ceramics: Integrating MMVF Waste for Sustainable Glaze Innovations	Sisti, M. , Andreola, F., Barbieri, L., Guidetti, D., Gualtieri, A.F., Fantini, R., Colombo, F. and Arletti, R.
14.40-15.00	A circular approach in reusing sludges from water potabilization and urban wastewater treatment plants through alkaline activation	Clausi, M. , Cofano, V., Medini, M., Occhipinti, R. and Pinto, D.
15.00-15.20	Recycling detoxified asbestos-cement in several industrial applications: Towards an end of the “asbestos problem”!	Capitani, G. , Bernasconi, A., Bianchi, A., Bizjan, B., Conconi, R., Ferrario, S., Ferrini, S., Lavagna, L., Marian, M., Mauri, M., Dalpiaz, M., Pavese, M., Squitieri, L., Tarantino, S.C., Vergani, F. and Viti, C.
15.20-15.40	Mineral wastes – key players to reach resource efficiency and CO ₂ neutrality in construction industry.	Grenng, C. , Rudic, O., Steindl, F., Raic, S., Hussein, A., Radinger, S., Ratz, B., Zögl, I. and Mittermayr, F.
15.40-16.20	BREAK	

Lecture Theatre 5 – O'Cadhain

Session 27. All change: subsolidus, melting, volatile and redox reactions in the upper mantle

Session Chairs: Emma Tomlinson, Caterina Melai

09.40–10.20 KEYNOTE	The continental subduction factory as a precursor to long-term volatile storage in the lithosphere	<u>Aulbach, S.</u>
10.20-10.40	The redox state of marble-cake mantle: clues from deeply recycled C-bearing crustal materials	<u>Malaspina, N.</u> , Langenhorst, F., Pollok, K., Cerantola, V., Murri, M., Longa, C., Bersani, D. and Montanini A.
10.40-11.00	Crustal recycling into the mantle: evidence from HSE and Os isotope compositions of Ligurian garnet pyroxenites (N Apennine, Italy)	<u>Montanini, A.</u> , Luguët, A., Van Acken and T.R.
11.00-11.40	BREAK	
11.40-12.00	Insights into molecular hydrogen solubility in SiO ₂ polymorphs from redox-buffered experiments at subduction conditions	<u>Toffolo, L.</u> , Tumiati, S., Confortini, G., and Fumagalli P.
12.00-12.20	Volatile storage and melting processes in the thermal boundary layer and lower lithosphere beneath continents	<u>Foley, S.F.</u> , Chen, C.F., Ezad, I.S. and Jacob, D.E.
12.20-12.40	A new machine learning single-crystal barometer and thermometer for peridotitic garnet	<u>O'Sullivan, G.J.</u> , Janney, P.E., Higgins, O. and Tomlinson, E.
12.40-13.40	LUNCH	

Lecture Theatre 5 – O'Cadhain

Session 27. All change: subsolidus, melting, volatile and redox reactions in the upper mantle

13.40-14.00	Oxidation state and metasomatism of the lithospheric mantle beneath Letlhakane, Botswana: Insights into effects of metasomatism on the Re-Os system	Rakipov, A. , Woodland, A.B., Heckel, C. and Luguet, A.
14.00-14.20	Slip system-controlled segregation of minor and trace elements in olivine low-angle grain boundaries	Dimitriou, D. , Reddy, S., Evans, K., Fougerouse, D., Saxey, D. and Tacchetto, T.
14.20-14.40	Quantifying the melting conditions of Archean mantle peridotites	Kaekane, J.B. , Hoare, B.C. and Tomlinson, E.L.
14.40-15.00	The melting behaviour of fertile and depleted peridotite at high pressures	Melai, C. , Walter, M.J., Yang, J., Rinaldi, M. and Tomlinson, E.
15.00-15.20	Petrogenesis and indicator mineral chemistry of the K-richterite- and leucite-bearing diamondiferous Kareevlei Kaapvaal lamproite	Qashani, Z. , Hashibi, S., Howarth G. H., Janney, P. E., le Roux, P. and Robey, J.
15.20-16.00	BREAK	
16.00–16.20	The origin of melilitites: an experimental study	Poli, S. and Melluso, L.
16.20–16.40	Olivine in ultramafic lamprophyres from the Delitzsch carbonatite complex, Saxony, records metasomatic activity in the Central European lithospheric mantle	Hellers, M. , Bussweiler, Y., Kühle, T., Wombacher, F., Möckel, F. and Münker, C.
16.40–17.00	^{182}W , ^{142}Nd , and Pb isotopes indicate entrainment of Hadean recycled crust within the Deccan-Réunion plume	Pakulla, J.J. , Tusch, J., Hasenstab-Dübeler, E., Ravindran, A., Jansen, M.W., Leitzke, F.P., Gadpallu, P., Duraiswami, R.A. and Münker, C.

Lecture Theatre 6 – Swift**Session 22. Biominerals and environment**

Session Chairs: Giovanni De Giudici, Juraj Majzlan

09.40–10.20 KEYNOTE	Investigating the physical basis of biomineralization: New insights from polysaccharides	<u>Dove, P.M.</u> , Knight, B.M., McCutchin, C.A., Edgar, K.J. and De Yoreo, J.J.
10.20-10.40	Determination of Great Barrier Reef Ca–C–O mineralogy and trace element systematics using synchrotron X-ray techniques	<u>Missen, O.P.</u> , Mills, S.J., Villalobos-Portillo, E.E. and Castillo-Michel, H. (REMOTE)
10.40-11.00	Durability assessment of microbially-induced calcite precipitation	<u>La Bella, M.</u> , Noiriél, C., Schroer, L., Cnudde, V. and Naillon, A.
11.00-11.20	Copper oxidation zone at Lubietová (Slovakia) as a combination of ore weathering and biologically-induced mineralization	<u>Majzlan, J.M.</u> , Chovan, M., Števkó, M., Jeleň, S., Milovská, S. and Milovský, R.
11.20-11.40	Bioremediation: learning from bio-geo processes in extreme environments	<u>Onnis, P.</u> , Kirk, R., Rehmanji M., Falagan, C., Ramos, V., Jennings, E., Newsome, L., Gandy, C., Jarvis, A., Rollinson, G., Medas., D., De Giudici, G. and Hudson-Edwards, K.A.
12.00-12.20	BREAK	

Lecture Theatre 7 – Beckett

Session 20. Archaeometry: Geoscience-based approaches for studying the human past

Session Chairs: Sabine Klein, Thomas Rose, Katrin Westner

09.40–10.20 KEYNOTE	Trading Egyptian blue – on material provenance and processing	<u>Rodler-Rørbo, A.</u>
10.20-10.40	Costa Rican gold and copper ore deposits and their potential significance for local pre-Columbian metal artwork production	<u>Westner, K.J.</u> , Klein, S., Gassmann, G., Alvarado, G.E., Schäfer, S. and Welk, E.
10.40-11.00	Improved classification of a large lithic find inventory using pXRF	<u>Burri, T.</u> , Eggenberger, U. and Widmer, A.-B.
11.00-11.40	BREAK	
11.40-12.00	Stones and pigments made by Raimondo di Sangro: New findings in Eighteenth Century Naples	<u>Tempesta G.</u> , Monno A., de Ceglia F.P., Maraschi A., Rigante E.C.L. and Calvano C.D.
12.00-12.20	Material analysis of Egyptian and Egyptianising scarabs by XRF and Raman spectroscopy	<u>Aspiotis, S.</u> , Bonnerot, O. and Mascia, L.
12.20-12.40	Weathering of the tuffeau building materials under the microscope. Focus on gypsum	<u>Naumenko-Dèzes, M.O.</u> , Beck, K., Wille, G. and Kloppmann, W.
12.40-13.40	LUNCH	
13.40-14.00	Thermal decomposition of dolomite: Raman spectroscopy as a thermometric tool for the analysis of carbonates in mortar binders	<u>Zöllner, M.T.</u> , Dariz, P., Riedel, J. and Schmid, T.
14.00-14.20	A new digital data infrastructure to make Pb isotope data fit for the future	<u>Rose, T.</u> , Greifelt, T., Westner, K. J., Hornschuch, A., Hsu, Y.-K., Wiethoff, H. and Klein, S.

Lecture Theatre 7 – Beckett**Session 24. Volatiles and metals in volcanic systems: constraining their behaviour and processes between magma, gas emissions, and primary ore deposits**

Session chair: Michael Stock

14.00-14.20	The effect of pressure on sulfur stability in silicate melts	Thomas, R.W. and Wood, B.J.
14.20-14.40	The effect of water on chlorine solubility in basalts	Rusiecka, Monika, K.* and Wood, B. J.
14.40-15.00	Speciation equilibria of H ₂ O, HCl, and NaCl in low-density magmatic-hydrothermal fluids	Salomone, F. and Dolejš, D.
15.00-15.20	The Volatility of Hg at Magmatic Temperatures	Boulliung, J., Wood, B.J. and Mather, T.A.
15.20-16.00	BREAK	
16.00-16.20	Decoding the H ₂ O degassing mechanism as a trigger for the explosive eruption of the Lower Laacher See phonolite	Marks, P.L. and Nowak, M.
16.20-16.40	On the paragenesis of quartz and native copper in the continental flood basalts of Western Volyn (Ukraine)	Batsevych, N.V. , Naumko, I.M., Vovk, O.P., Beletska, Yu.A. and Triska, N.T. (REMOTE)

TUESDAY, 20TH AUGUST

Tuesday, 20th August		
Lecture Theatre 1 – Burke		
08.25	Announcements	D. Chew, E. Tomlinson
08.30–09.20	PLENARY LECTURE Natural Quasicrystals - Novel State of Matter, Open State of Mind	L. Bindi
09.20-09.25	Exhibitor Announcement – European Journal of Mineralogy	
09.25-09.30	Exhibitor Announcement – Springer	
09.30–09.35	Exhibitor Announcement – iCRAG	

Lecture Theatre 1 – Burke		
Session 1. Apatite - an accessory mineral with a big footprint in geochemical, environmental, and biological processes		
Session Chairs: David Chew, Alicja Wudarska, Bartosz Puzio		
09.40–10.20 KEYNOTE	Crystal Structure, the foundation for apatite's many and varied uses.	Rakovan, J.
10.20-10.40	Contaminant metal desorption induced by apatite additions to a contaminated sediment	Kaplan, D.I. and Knox, A.S.
10.40-11.00	Facts and myths about the environmental role of hydroxylpyromorphite $Pb_5(PO_4)_3OH$	Maneck, M.
11.00-11.40	BREAK	
11.40-12.00	Thermodynamic sublattice model for the solid-solution aqueous-solution equilibria in the apatite system $(Ca,Sr)_5[(P,V)O_4]_3(OH,F)$	Kersten, M. and Kulik, D.A.
12.00-12.20	Exploring iodine-containing apatite: synthesis, characterization, and environmental implications	Puzio, B.
12.20-12.40	Sequestration of arsenic from aqueous solutions by lead apatites precipitation strategy	Stępień, E. and Maneck, M.
12.40-13.00	REE recovery from apatite-rich rock containing accessory monazite	Staszek, K. , Maneck, M. and Majka, J.
13.00-14.00	LUNCH	

TUESDAY, 20TH AUGUST

Lecture Theatre 1 – Burke		
Session 1. Apatite - an accessory mineral with a big footprint in geochemical, environmental, and biological processes		
14.00-14.20	Effects of Phosphorus Concentration on Apatite Trace Element Partitioning and the Formation of Immiscible Phosphorus Rich Melts in the Lower Crust	Manselle, P.A. , Foley, S. and Shcheka, S.S.
14.20-14.40	In-situ laser ablation Lu-Hf apatite geochronology: applications to date mafic intrusions and detrital apatite.	Kharkongor, M.B. , Glorie, S., Mulder, J., Dare, S., Abersteiner, A., Kirkland, C. and Bedoya, A.
14.40-15.00	Insights into the tectonometamorphic evolution of the Norwegian Caledonides and Fennoscandia from apatite petrochronology	Piraquive, A. , Machado, J.P., Huyskens, M., Redfield, T.F., Schönenberger, J., Jakob, J. and Knies, J.
15.00-15.20	Pb mobility in Apatite: Exploring chemical influences and its potential for nano-scale petrochronology	Ullah, M. , Klötzli, U., Černok, A., Khubab, M. and Goudarzi, M.
15.20-15.40	Bat guano-derived hydroxylapatite: an overlooked testimony of past biological activity and a sink of metals in cave environments	Galliano, Y. , Bellatreccia, F., Bruxelles, L., De Waele, J. and Carbone, C.
15.40-16.00	Oxygen isotope study of fluorapatite in conodonts – insights from chemical analyses	Wudarska, A. , Wiedenbeck, M., Männik, P., Lepland, A., Hints, O., Wilke, F.D.H., Emsbo, P., Couffignal, F. and Scicchitano, M.R.
16.00-16.20	BREAK	

TUESDAY, 20TH AUGUST

Lecture Theatre 2 – Davis		
Session 26/28. Origin and composition of CO₂-bearing fluids and melts as transport agents between mantle and crust		
Session Chairs: Antonio Acosta-Vigil, Melanie J. Sieber, Luca Toffolo, Jesse Walters		
09.40–10.00	Hydrocarbons in the Ivittuut cryolite body, SW Greenland	Szreter, A. , Finch, A.A. and Friis, H.
10.00–10.20	Co-existing fenitizing fluids and carbonatite melts derived from ultramafic lamprophyres	Ezad, I.S. , Chattopadhyay, S., Shcheka, S.S., Foley, S.F. and Tuimati, S.
10.20-10.40	The distribution and generation of Archean to Recent carbonatites	Gibson, S.A. , McKenzie, D. and Lebedev, S.
10.40-11.20 KEYNOTE	Distribution of hydrous carbonate liquid in dunite: an experimental study	Fumagalli, P. , Capizzi, L., Ildefonse, B., Tumati S. and Poli S.
11.20-11.40	BREAK	
12.00-12.20	Bromine partitioning between olivine, orthopyroxene and silicate melt at MORB and OIB source conditions	Joachim-Mrosko, B. , Clay, P., Pawley, A., Burgess, R., Ballentine, C.J. and Busemann, H.
12.20-12.40	Boron isotope fractionation in subducted oceanic crust	Xu, J.D. , Marschall, H.R., Gerdes, A., Schmidt, A. and John, T.
12.40-13.00	Sources of sulphur in pyrite-rich eclogite and omphacitite xenoliths from the Navajo Volcanic Field (USA)	Pohlner, J.E. , Aulbach, S., Stern, R.A., Schulze, D.J. and Helmstaedt, H.
13.00-14.00	LUNCH	
14.00-14.20	The speciation of sulfur in silicate melts between 1250 and 1050°C	Gorojovsky, L.R. and Wood, B. J.
14.20-14.40	A key role for paragonite mica in the recycling of volatiles and fluid-mobile elements in subduction zones	De Hoog, J.C.M. , Harris, B.H. and Halama, R.
14.40-15.00	Fluid mobile elements and volatile behaviour during serpentinite dehydration	Asetre, J.H. , Alard, O., Ezad, I.S. and Foley, S.F.
15.00-15.40 KEYNOTE	Redox dehydration in subduction zones	Padrón-Navarta, J.A.
15.40	BREAK	

Lecture Theatre 3 – Syngé		
Session 6. Structure-properties relationships of framework, layered and related minerals		
Session Chairs: Georgia Cametti, Michael Fischer, Paolo Lotti		
09.40–10.20 KEYNOTE	The interdependence of structure and redox properties of clay minerals	<u>Neumann, A.</u>
10.20-10.40	Isotopic fractionation during Sr adsorption on clay minerals: comparison between theoretical calculations and macroscopic experimental data	<u>Blanchard, M.</u> , Ferrage, E., Dazas, B., Tertre, E., Isnard, E. and Savoye, S.
10.40-11.00	Insights from single-crystal X-ray diffuse scattering on disorder in framework and layered minerals	<u>Lepore, G.O.</u> , Schmidt, E.M., Morana, M., Minelli, A. and Margheri, S.
11.00-11.20	BREAK	
11.40-12.00	Exploring pyrochlores: incorporation of Tl and Pb in synthetic microlite and elsmoreite	<u>Margheri, S.</u> , Morana, M., Taddei, A., Checchia, S., Goudjil, M., Bindi, L., d’Acapito, F. and Lepore, G.O.
12.00-12.20	Temperature dependence of elastic properties and damage of natural and man-made silica materials during heating and cooling - From quartz sandstones to silica refractories	<u>Pabst, W.</u> , Gregorová, E. and Kotrbová L.
12.20-12.40	Thermoelastic properties of paracelsian-related danburite and hurlbutite	<u>Münchhalfen, M.</u> and Schreuer, J.
12.40-13.00	Structure-properties relationships of flexible framework materials	<u>Ross, N.L.</u>
13.00-14.20	LUNCH	
14.00-14.20	Zeolite for an effective solar protection: understanding the stability unravelling the structure.	<u>Arletti, R.</u> , Fantini, R., Fischer, M., Brauer, J., Cavalli, R., Argenziano, M. and Mino, L.
14.20-14.40	Secondary and authigenic phase formation in the 50-year-old tuff from Surtsey (Iceland)	<u>Montesano, G.</u> , Rispoli, C., Petrosino, P. and Cappelletti, P. (REMOTE)

TUESDAY, 20TH AUGUST

Lecture Theatre 4 – Emmett		
Session 31. The Testimony of the Minerals: A Celebration of Edward S. Grew at 80 (continued)		
Session Chairs: Bob Hazen, Barb Dutrow, Gerhard Franz and Jesse Walters		
09.40–10.00	Metamorphic and detrital tourmaline in the Archean meta-turbidites of the Beartooth Mountains, MT-WY, USA: Evidence for lithologically diverse Mesoarchean crust	<u>Henry, D.J.</u> , Mogk, D.W., Mueller, P.A., Loocke, M. and Dutrow, B.L.
10.00–10.20	Chromium-bearing tourmalines from the Jack Hills, Western Australia: Implications for Cr mobility	<u>Dutrow, B.L.</u> , Henry, D.J., Cavosie, A.J., Valley, J.W. and Loocke, M.
10.20-10.40	New insights into the origin and metamorphic evolution of the Waldheim prismatic granulite (Saxon Granulite Complex) from pseudosection modeling, B isotopes and nanogranitoids	Rötzler, J., Grew, E.S., <u>Ferrero, S.</u> , Borghini, A., Meixner, A., Wilke, M. and Yates, M.G.
10.40-11.00	A potentially new tourmaline with tetrahedrally coordinated boron	<u>Cempírek, J.</u> , Skřápková, L. and Jonsson, E.
11.00-11.20	CLOSING REMARKS	
11.20	BREAK	

Lecture Theatre 4 – Emmett		
Session 32. The future of mineralogy, petrology, geochemistry and cosmochemistry - New informatics approaches to harnessing the multidimensionality of complex Earth and planetary systems		
Session Chairs: Shaunna Morrison, Anirudh Prabhu, Robert Hazen, Marko Bermanec		
12.00-12.40 KEYNOTE	Minerals as a case study of a bounded (as opposed to open-ended) evolutionary system – Mineralogical Society Hallimond Lecture	<u>Hazen, Robert M.</u>
12.40-13.40	LUNCH	
13.40-14.00	A data sharing ecosystem for everyday datasets	<u>Hezel, D.C.</u>
14.00-14.20	Factors of development of lithodynamic processes in the coastal zone of the north-western Black Sea region (Ukraine)	<u>Melnyk E.V.</u> , Granova A.K. and Volynska V.O. (REMOTE)
14.20-15.00	Predicting unknown mineral occurrences with Mineral Association Analysis and improving our understanding of mineralogy.	<u>Prabhu, A.</u> , Morrison, S.M., Eleish, A., Fox, P., Golden, J., Downs, R.T., Perry, S., Burns, P.C., Ralph, J. and Hazen R.M.
15.00-15.20	Using Machine Learning for automatic rock classification	<u>Tamanna, Tamanna</u> , Hezel, D.C., Srivastava, N. and Faber, J.
15.20-15.40	MinPlot 2.0: A new tool for formula recalculation, visualization, and comparison of large mineral compositional datasets	<u>Walters, J.B.</u> and Gies, N.
15.40	BREAK	

TUESDAY, 20TH AUGUST

Lecture Theatre 5 – O'Cadhain		
Session 18/19. Characterisation of gem materials and their geographic/geological origin		
Session Chairs: Alessandra Costanzo, Isabella Pignatelli, Lee Groat, Giovanna Agrosí		
09.40–10.00	Growth history of a multicoloured tourmaline crystal from the Mavuco gem deposit (Alto Ligoña pegmatite district, NE Mozambique)	<u>Altieri, A.</u> , Pezzotta, F., Skogby, H., Hålenius, U. and Bosi, F.
10.00–10.20	Detecting instability of opal: insights from infrared spectroscopy	<u>Chauviré, B.</u> , Mevellec, J.-Y., Fereire, J., Thomas, P.S. and Fritsch E.
10.20-10.40	Trace element composition as indicator of prehnite genesis in igneous rocks from Vis Island, Croatia	Topalović, E., <u>Čobić, A.</u> , Paradžik, A., Fiket, Ž., Petrinec, Z., Kniewald, G. and Bermanec, V.
10.40-11.00	Baltic Amber Inclusions: a multi-analytical approach to their characterization	<u>Costanzo, A.</u> , Bojarski, B., Kosior, M., Klikowicz, A. and Cipriani, M.
11.00-11.40	BREAK	
11.40-12.00	The southern Canadian Cordillera – a new gem district?	<u>Groat, L.A.</u>
12.00-12.40 KEYNOTE	Why I study Diamonds	<u>Harris, J.W.</u>
12.40-13.40	LUNCH	
13.40-14.00	Diffusivity of Al vacancies in corundum	<u>Jollands, M.C.</u>
14.00-14.20	Partially crystalline silica varieties in gemmology: The case study of the blue Andean opal	<u>Monico S.</u> , Marinoni N., Gatta G.D., Adamo I., Prospero L., Mácová P. and Ševčík R.
14.20-14.40	Crystallogenic features of topaz and beryl from chamber pegmatites of Volyn (Ukrainian shield): elements of similarity and differences	Naumko, I.M., <u>Vovk, O.P.</u> and Nedbailo D.R. (REMOTE)

TUESDAY, 20TH AUGUST

Lecture Theatre 6 – Swift		
Session 12. Understanding the geology and formation of ore deposits - new constraints on the enrichment processes of metals (continued)		
Session Chairs: Maximilian Korges, Philip Rieger, Hilde Koch, Malte Junge		
09.40–10.00	Lithostratigraphic controls on the mineralizing system at the Stonepark Zn-Pb deposit, SW Ireland	<u>Rieger, P.</u> , Hitzman, M.W., Susin, V., Holdstock, M., Dunlevy, E. and Melo, A.
10.00–10.20	Critical-Ireland: Using Irish mafic intrusions as a natural laboratory to understand PGE mineralising processes	<u>Stock, M.J.</u> , Beckwith, J., Geifman, E., Morrison, A., Bretagne, E., Carter, E., Cooper, M., Holness, M.B., Andersen, J.C. Ø., Huber, C. and Chew D.M.
10.20-10.40	Revived interest in dismissed historical Cu-Fe-Zn deposits in the Northern Apennine ophiolites (Italy)	<u>Tagliacollo, L.</u> , Bonadiman, C., Saccani, E., Bianchini, G., Brombin, V. and Tassinari, R.
10.40-11.00	Constraining REE enrichment in alkaline-silicate magmatic systems using new thermodynamic models	<u>Weller, O.M.</u> , Holland, T.J.B., Soderman, C.R., Green, E.C.R., Powell, R., Beard, C.D. and Riel, N.
11.00-11.20	Tracing the fluid and metal sources of the polymetallic mineralization in the Cyclades, Greece, by a multi-isotope study of hydrothermal barite	<u>Wind, S.C.</u> , Schneider, D.A., Hannington, M.D. and Fietzke, J.
11.20	BREAK	

TUESDAY, 20TH AUGUST

Lecture Theatre 6 – Swift		
Session 5. Spectroscopic approaches for crystallochemical characterization of minerals and mineral behavior under ambient and non-ambient conditions: application for Earth and Planetary exploration		
Session chairs: Giovanni B. Andreozzi, Stylianos Aspiotis, Lisa Baratelli, Simone Bernardini, Gioacchino Tempesta		
12.00-12.20	The electrical conductivity in riebeckite, $\text{Na}_2\text{Fe}^{2+}_3\text{Fe}^{3+}_2\text{Si}_8\text{O}_{22}(\text{OH})_2$, and geophysical implication	Bernardini, S. , Della Ventura, G. and Mihailova, B.
12.20-12.40	Developing new web based software for analysing and interpreting spectroscopy in Earth and Environmental Sciences	Byrne, J.M.
12.40-13.00	From rocks to wastes: Tracing the fate of chromium in nickel mining areas	Delina, R.E.G. , Perez, J.P.H., Prieur, D., Scheinost, A.C., Bazarkina, E.F., Kvashnina K.O. and Benning, L.G.
13.00-13.20	Tc and Pu retention by magnetite – Combining experimental and theoretical techniques	Katheras, A.S. , Zimmermann, T., Karalis, K., Krack, M., Scheinost, A.C. and Churakov, S.V.
13.20-14.20	LUNCH	
14.00-14.40 KEYNOTE	Raman spectroscopy to study mineral host-inclusion systems: when experiments meet ab initio simulations	Murri, M. , Prencipe, M., Mihailova, B., Angel, R.J. and Alvaro M.
14.40-15.00	Identification of ferrous hydroxychlorides in rocks and inclusions - hibbingite ($\gamma\text{-Fe}_2(\text{OH})_3\text{Cl}$) versus parahibbingite ($\beta\text{-Fe}_2(\text{OH})_3\text{Cl}$)	Koděra, P. , Majzlan, J., Pollok K., Kiefer, S., Šimko, F., Scholtzová, E., Luptáková, J. and Cawthorn, G.
15.00-15.20	Spectroscopic and mineralogical investigation of boninites from Cyprus as potential analogues of Mercury lavas	Landi, A.I. , Carli, C., Capaccioni, F., Maturilli, A., Helbert, J., Alemanno, G. and Pratesi, G.
15.20-15.40	Impact of crystal-to-glass ratio and acquisition geometry on the reflectance spectra of synthetic Nakhlitic rocks.	Pisello, A., Fastelli, M. , Baroni, M., Schmitt, B., Beck, P., Zucchini, A., Petrelli, M., Comodi, P. and Perugini, D.
15.40-16.00	Investigating Uranium in Mineral Systems using M4,5-edge X-ray Adsorption Spectroscopy	Shaw, S. , Waters, C, Neill, TS, Morris, K, Baker, ML, Mosselmans, FW, Iyatye, K
16.00	BREAK	

TUESDAY, 20TH AUGUST

Lecture Theatre 7 – Beckett		
Session 21/23. Microbial biomineralization/microbes transforming metals		
Session Chairs: Casey Bryce, John Moreau, Gerhard Franz		
09.40–10.20 KEYNOTE	Microbial reduction of metals: mechanisms, environmental implications, and biotechnological applications	<u>Kimber, R.L.</u> , Egan Morriss, C., Byrd, N. and Lloyd, J.R.
10.20-10.40	Phototrophic iron oxidation under complex geochemical conditions	<u>Bryce, C.</u> , Nikeleit, V., Byrne, J. and Kappler, A.
10.40-11.00	A new way for microorganisms mediated by minerals to capture solar energy	<u>Lu, A.H.</u>
11.00-11.40	BREAK	
11.40-12.00	Geochemical and microbiological reactions controlling siderite in redox active soils	<u>Chen, Z.</u> , Perez, J.P.H., Trivedi, C.B., Stammerer, J.A., Gislason, S.R. and Benning, L.G.
12.00-12.20	On the occurrence of Carboniferous MnFe-oxide stromatolites from the Merdani Formation (Merzouga, Morocco)	<u>Bernardini, S.</u> , Abbassi, A., Della Ventura, G., Cipollari, P., Boukili, B., Cavallo, A., Sodo, A. and Cosentino, D.
12.20-12.40	Geochemical and Microbiological Contribution to Speciation and Mineralogy of Antimony in Subsurface Environment	<u>Kwon, M.J.</u> , Zhang, Y., Jang Y., Park, S., Boyanov, M.I., O’Loughlin E.J. and Kenneth, K.M.
12.40-13.00	Microbial interactions with nuclear waste glass	<u>Thorpe, C.L.</u> , Crawford, R., Manifold, G., Boothman, C., Morris, K., Lloyd, J.R., Corkhill, C.L. and Hand, R.J.
13.00-14.00	LUNCH	

TUESDAY, 20TH AUGUST

Lecture Theatre 7 – Beckett		
Session 16. Mineralogy and circular economy (continued)		
Session Chairs: Daniel Vollprecht, Cyrill Grengg, Mario Tribaudino		
14.00-14.20	Nano- to microscale weathering of thallium in ore deposits	<u>Đorđević, T.</u> , Kolitsch, U., Stöger-Pollach, M., Schwarz, S. and Majzlan, J.
14.20-14.40	MinerAll - A new tool for characterizing the utilization potential of mine tailings	<u>Kärenlampi, K.</u> , Markkanen, M., Jooshaki, M., Salvador, D., Rama, M. and Kauppila T.
14.40-15.00	Exploring the use of magnetite to recover critical metals from waste	<u>O’Neill, K.E.B.</u> , Biswakarma, J., Crane, R. and Byrne, J.M.
15.00-15.20	The potential of recycling eggshell waste calcite for the sustainable capture of rare earth elements	<u>Rateau R.</u> , Maddin M., Szucs A., Terribili L., Drost K., Guyett. and Rodriguez-Blanco J.D.
15.20-15.40	A comparison between a flux and TEOS based synthesis of zircon-hafnon solid solutions	<u>Neumann, A.</u> , Kahlenberg, V., Lerche, I., Stöber, S. and Pöllmann, H.
15.40	BREAK	

THURSDAY, 22ND AUGUST

Thursday, 22 nd August		
Lecture Theatre 1 – Burke		
08.25	Announcements	D. Chew, E. Tomlinson
08.30–09.20	PLENARY LECTURE Deciphering functional group controls on CaCO ₃ nucleation using sulfated glycomaterials and insights for natural systems	Dove, P.M.*, Knight, B.M., Mondal, R., Vaissier Welborn, V., Gallagher, C.M.B., Schulz, M., Edgar, K.J. and De Yoreo, J.J.
09.20-09.25	Exhibitor Announcement – ESI	
09.25-09.30	Exhibitor Announcement – Teledyne	
09.30–09.35	Exhibitor Announcement – Oxford Instruments	

Lecture Theatre 1 - Burke		
Session 11. Platinum group elements and minerals		
Session Chairs: Anna Vymazalova, Jussi Liipo		
09.40–10.20 KEYNOTE	Characterisation of PGEs in Minerals Using X-ray Absorption Spectroscopy	Filimonova, O.N., Bikondoa, O., Kutyrev, A., Vymazalova, A. and Wermeille, D.
10.20-10.40	Platinum-group minerals from Norilsk – a tribute to S.F. Sluzhenikin	Vymazalová, A., Kozlov, V.V., Laufek F., Antsiferova T. and Stanley, C.
10.40-11.20	BREAK	
11.20-11.40	Platinum-group minerals of the Freetown Intrusion, Sierra Leone	Bowles, J.F.W. and Suárez, S.
11.40-12.00	Platinum-group minerals and gold particles from the Elbe, Germany	Junge, M., Goldmann, S. and Wotruba, H.
12.00-12.20	Chemistry in 3D: Deep Learning Fusion of X-ray Datasets for Characterisation of Platinum Group Element Enriched Chromitite.	Divers M., Einsle J.F., Dobson K.J., O’Driscoll B., Butcher A.R. and Jolis E.M.
12.20-12.40	The crystal structures of Pd-Ni arsenides: majakite (PdNiAs) and menshikovite (Pd ₃ Ni ₂ As ₃)	Laufek, F., Vymazalová, A., Chareev, D.A., Grokhovskaya, T.L., Kozlov, V.V. and Plášil, J.

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Lecture Theatre 1 - Burke		
Session 7. Recent challenges and advances in theoretical and experimental mineral physics		
Session Chairs: Paola Comodi; Jun Tsuchiya		
13.40-14.20 KEYNOTE	Single crystals at high-pressures and high-temperatures: constraining planetary interiors	Boffa Ballaran, T., Criniti, G., Kurnosov, A. and Glazyrin, K.
14.20-14.40	Phase evolution and thermal behavior of hydrous Fe sulfate minerals: coquimbite $\text{AlFe}_3(\text{SO}_4)_6(\text{H}_2\text{O})_{18}$, römerite $\text{Fe}^{2+}\text{Fe}^{3+}_2(\text{SO}_4)_4(\text{H}_2\text{O})_{14}$ and aluminocopiapite $\text{Al}^{3+}_2/3\text{Fe}^{3+}_4(\text{SO}_4)_6(\text{OH})_2(\text{H}_2\text{O})_{20}$	Abdulina, V., Borisov, A., Siidra, O. and Holzheid, A.
14.40-15.00	Is newer always better? Not for quartz!	Angel, R.J., Casati, N.P.M., Morana, M., Nestola, F. and Alvaro M.
15.00-15.20	Sound velocity of metals at megabar pressures, and implications for the Earth's Inner Core	Ohtani, E., Ikuta, D., Fukui, H., Ishikawa, D., Sakamaki, T. and Baron, A.Q.R.
15.20-15.40	Quantitative mineralogical analysis of drill cuttings by calibrated SEM-EDS mapping and lithofacies classification	Fialips, C.I., Olivier, M., Turpain, M., Pedelabat Lartigau, M., Mouret, N., Bacque, M., Martinez, L. and Teinturier, S.
15.40-16.20	BREAK	
16.20-16.40	High-pressure elastic behaviour and structural re-arrangement in monazite-type minerals	Lotti, P., Pagliaro, F., Comboni, D., Battiston, T. and Gatta, G.D.
16.40-17.00	Accurate structure geometry of $P2/n$ omphacite at variable pressures	Baratelli, L., Merlini, M., Nestola, F., Joseph, B. and Cámara, F.
17.00-17.20	The phase transitions of CaSiO_3 perovskite at extreme conditions	Thomson, A.R., Crichton, W.A., Huang, R., Rosenthal, A. and Brodholt, J.P.

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Lecture Theatre 2 – Davis		
Session 10. The role of ultramafic rocks in carbon capture and storage		
Session Chairs: Nadia Malaspina, Andrea Rielli, Alicja Lacinska		
09.40–10.20 KEYNOTE	Carbon Capture and Mineral Storage: Italy as natural laboratory for its application	<u>Boschi, C.</u> , Baneschi I., Castellari, I., Dini, A., Ganci F., Marieni C., Sigfússon B., Snaebjornsdottir S., Trumpy E. and Rielli A.
10.20-10.40	Geological storage of CO ₂ in Anatolian ophiolites: Reaction experiments between fluids and ultramafic rock suites at 25-100°C and 1-125 Bar	<u>Ünal Ercan, H.</u> , Gülmez, F., Göçmengil, G., Topkafa, M, Ündül, Ö and Deveci, İ
10.40-11.00	A mineralogical and geochemical approach to evaluate the redox capacity of basaltic glass and crystals via experiments	<u>Pierozzi, A.</u> , Rateau, R., Orlando, A., Borrini, D., Tassi, F. and Rodriguez Blanco, J.D.
11.00-11.40	BREAK	
11.40-12.00	The potential of Kenyan basalts for carbon sequestration via enhanced rock weathering and geological sequestration with in-situ mineralization	<u>Santos, R.M.</u> , Khalidy, R., Basimalla, J., Roobroeck, D., Collinson, J.D., Manga, M. and Marangu, M.
12.00-12.20	Boosting of the water-mediated mineral carbonation by microwave chemistry	<u>D’Alessio, D.</u> , Corti, M., Campione, M., Capitani, G., Lucotti, A., Yivlialin, R., Tommasini, M., Bussetti, G. and Malaspina, N.
12.20-12.40	Investigation of early signs of mineral weathering through tea bag experiments	<u>Khalidy, R.</u> , Jariwala, H., Chiang, Y.W. and Santos, R.M.
12.40-13.40	LUNCH	

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Lecture Theatre 2 – Davis		
Session 4. Partial Melting in Continental Settings		
Session Chair: Owen Weller		
13.40-14.20 KEYNOTE	Partial melting in the continental crust: thermal & chemical consequences of melting reactions and melt–rock interaction	Schorn, S.
14.20-14.40	A reappraisal of granite emplacement mechanisms, temperatures and time-scales using thermal aureoles: A case study at Ballachulish and Strontian (UK)	Sudholz, Z.J. , Copley, A. and Weller O.M.
14.40-15.00	The evolution of the lower continental crust constrained through high-precision HFSE systematics	Emo, R.B. , Münker, C., Pakulla, J.J., Downes, H. and Murphy D.T.
15.00-15.20	Bimodal Miocene volcanism in the Hegau region (SW Germany) by differentiation of primitive melilititic to nephelinitic magmas towards evolved nosean phonolites	Binder, T. , Marks, M.A.W., Friedrichsen, B.-E., Walter, B.F., Wenzel, T. and Markl, G.
15.20-15.40	Nephelinites from the Northern Tanzania Divergence Zone	Schmitt, F. H. , Marks, M. A. W. and Markl, G.
15.40-16.00	Petrogenesis of mid-Neoproterozoic, ferroan to magnesian charnockites from the Madurai block, India: Constraints from U-Pb geochronology, geochemistry, and geochemical modelling	Kumar, T.A. and Sarkar, T. (REMOTE)
16.00	BREAK	

Lecture Theatre 3 – Sygne		
Session 25. One drop at a time: fluid, melt and multiphase inclusions as tools to understand geological processes		
Session Chairs: Silvio Ferrero, Jannick Ingrin, Alessia Borghini, Rosario Esposito, Marta Berkesi		
09.40–10.20 KEYNOTE	Sulphur speciation in magmatic fluids: facts and artefacts	<u>Farsang, S.</u> and Zajacz, Z.
10.20-10.40	Vibrational properties of oxidized sulfur species in hydrothermal fluids from ab initio molecular dynamics simulations and Raman spectroscopy	<u>Jahn, S.</u> and Schmidt, C.
10.40-11.00	Unraveling metasomatic agent in the upper mantle xenoliths – via 3D Raman mapping of complex inclusions: a case study from the Styrian Basin (W-Carpathian Pannonian Region)	Myovela, J.L., Aradi, L.E., Spránitz, T., Hegedús, M., Taracsák Z., Konečný, P., Kovács, J. and <u>Berkesi, M.</u>
11.00-11.40	BREAK	
11.40-12.00	Halogen impact on Raman water bands at high pressure and the implications for salinity estimations in fluid inclusions	<u>Grützner, T.</u> and Bureau, H.
12.00-12.20	The origin of deep CO ₂ -rich fluids in the Pannonian Basin: combined stable isotope study on fluid inclusions and dissolved gases in groundwaters	<u>Spránitz, T.</u> , Lange, T.P, Hencz, M., Porkoláb, K., Kóvágó, Á., Gelencsér, O., Créon, L., Palcsu, L., Tóth, Á., Eröss, E., Rouchon, V., Szabó, Cs., Kovács, I.J., Török, K. and Berkesi, M.
12.20-12.40	Pfaffenbergite and “phase 430” new minerals in crystallized melt inclusions	<u>Lorenzon, S.</u> , Ferrero, S., Borriello, R., Mugnaioli, E., Borghini, A., Fuchs, R., Wirth, R., Schreiber, A. and Grew, E.S.
12.40-13.40	LUNCH	
13.40-14.00	The evolution of large ilmenite-hosted melt inclusions: evidence of spinodal and binodal dissociation of kimberlitic carbonated silicate melt	<u>Büttner, S.H.</u> , Marima, E. and Rocholl, A.
14.00-14.20	Innovative methodology for exploration of marine hydrocarbon deposits according to geological predictive criteria and mineralogical-thermobarogeochemical prospecting signs (using the example of the Black Sea)	<u>Yanko, V.</u> , Naumko, I., Kadurin, V., Zinchuk, I., Dikol, O. and Kadurin, S.

Lecture Theatre 3 – Syngé		
Session 17. Innovation and challenges in process mineralogy, geometallurgy and supporting analytical techniques		
Session Chairs: Patrick Krolop, Marek Dosbaba, Dominique Brising		
14.20-14.40	Tailor Made High throughput Infrastructure for Synchrotron X-Ray Diffraction Measurement of Mineralogical Samples	<u>Chang, C.S.T.</u> , Stenman, J., Casati, N., Grünzweig, C. and Wagner, M.
14.40-15.00	Understanding the impact of platy morphology on the floatability of gangue minerals from X-ray diffraction patterns: A talc case study	<u>Dodoo, D.</u> , Webster, N A.S., Forbes, L., Usher, S.P., Scales, P.J. and Stickland, A.D.
15.00-15.20	Automated mineralogy as a part of complex analytical workflows	<u>Dosbaba, M.</u>
15.20-15.40	Analytical Advancements in Mining: High-Throughput Synchrotron Radiation X-Ray Powder Diffraction for Sustainable Efficiency	<u>Stenman, J.</u> , Kortelainen, L., Chang, C.S.T., Casati, N., Grünzweig C. and Wagner, M.

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Lecture Theatre 4 - Emmett		
Session 34. Exploring Solar System evolution using meteorites and returned samples		
Session Chairs: Martin Lee, Beverley Tkalcec		
09.40–10.20 KEYNOTE	Applying Correlative Microscopy in Solar System Science	<u>Daly, L.</u>
10.20-10.40	3D electron diffraction and nanotexture analysis of impactites.	<u>Gemmi, M., Parlanti, P., Mugnaioli, E., Campanale, F., Folco L. and Veron M.</u>
10.40-11.00	The functional chemistry of Ryugu organic matter investigated by high spatial resolution electron energy loss spectroscopy	<u>Vollmer, C., Lier, J., Kepaptsoglou, D., Mosberg, A. B. and Ramasse Q. M.</u>
11.00-11.40	BREAK	
11.40-12.00	Rare-earth element distribution in particles from asteroid Bennu measured by high-energy synchrotron X-ray fluorescence.	<u>Tkalcec, B., DePauw, E., Bazi, B., Vekemans, B., Tack, P., Baert, T., Herthogs, J., Vincze, L., Falkenberg, G., Garrevoet, J., Di Michiel, M., Burghammer, M., Connolly Jr., H. C., Lauretta, D. S. and Brenker, F. E.</u>
12.00-12.20	Water/rock interaction within primitive asteroids explored using the Solar System's oldest calcite, aragonite, and dolomite	<u>Lee, M.R. and Griffin, S.</u>
12.20-12.40	Expanded Insights into Martian Mineralogy: Updated Analysis of Gale Crater's Mineral Composition via CheMin Crystal Chemical Investigations	<u>Morrison, S.M., Downs, R.T., Bristow, T.F., Rampe, E.B., Blake, D.F., Vaniman, D.T. Achilles, C.N., Hazen, R.M., Eleish, A., Prabhu, A., Ming, D.W., Yen, A.S., Treiman, A.H., Morris, R.V., Chipera, S.J., Craig, P.I., Tu, V.M., Meusbürger, J.M., Castle, N., Sarrazin, P.C. and Des Marais, D.J.</u>
12.40-13.40	LUNCH	

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Lecture Theatre 4 - Emmett		
Session 26/28. Origin and composition of CO ₂ -bearing fluids and melts as transport agents between mantle and crust		
Session Chairs: Antonio Acosta-Vigil, Melanie J. Sieber, Luca Toffolo, Jesse Walters		
13.40-14.00	Recycled Carbonate-Bearing Silicate Sediments in the Sources of Circum-Mediterranean K-Rich Lavas: Evidence from Mg-Zn Isotopic Decoupling	Shu, Z.T. , Liu, S.-A., Prelević, D., Wang, Y., Foley, S.F., Cvetković, V. and Li, S.
14.00-14.20	Reaction experiments constrain the products of crust-mantle interaction during the subduction of the continental crust	Borghini, A. , Borghini, G., Ferrero, S. and Toffolo, L.
14.20-14.40	Quantification of global H ₂ O transport capacity in subduction zones by hydrous phases and nominally anhydrous minerals	Gies, N.B. , Hermann, J. and Konrad-Schmolke, M.
14.40-15.00	Investigating the diffusion of noble gases in the polymorphs of SiO ₂ : the decisive role of the structure	Figowy, S. , Mohn, C.E. and Caracas, R.
15.00-15.20	Formation of hydrocarbons favored by high pressure at subduction zone conditions	Daniel, I. , Huang, J. and Sverjensky D.A.
15.20-16.00 KEYNOTE	The migration of methane-hydrogen-rich fluids may trigger seismic failure in subduction zones at forearc depths	Giuntoli F. , Menegon L., Siron G., Cognigni F., Leroux L., Compagnoni R., Rossi M. and Vitale Brovarone A.
16.00	BREAK	

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Lecture Theatre 5 – O'Cadhain		
Session 14. Atypical critical metal ores and ore deposits		
Session Chairs: Paul Slezak, Vladimir Khomenko, Daria Chernysh, Iryna Lunova (remote)		
09.40–10.00	Maghemite, a new key player to consider in the study of Ni-Co laterite deposits.	Domínguez-Carretero, D. , Proenza, J.A., Villanova-de-Benavent, C. and Galí, S. (REMOTE)
10.00-10.20	REE potential in sedimentary apatite: Delve deeper with microanalytics	Graul, S. , Monchal, V., Rateau, R., Joosu, L., Moilanen, M., Ndiaye, M. and Hints, R.
10.20-10.40	Graphitic sedimentary marbles and Sc-V-Y-REE bearing trace element minerals in carbonatite veins, The Aird, Scotland	Heptinstall, E.A. , Parnell, J., Schito, A., Boyce, A.J. Armstrong, J.G.T., Muirhead. and Still, J.
10.40-11.00	Genthelvite from Be-polymetallic ores of Perga deposit, NW Ukraine: Crystal chemistry, zonation and evolution during metasomatic events	Khomenko, V. , Kurzbach, M. and Nissen, J.
11.00-11.40	BREAK	
11.40-12.00	Interactions of carbonatitic fluids with crustal wall rocks: A field-based study of Ondurakorume, NW Namibia	Ladisić, A. , Marks, M.A.W., Walter, B.F., Giebel, R.J., Markl, G.
12.00-12.20	Crystallochemical features of feldspars from Perga deposit (Ukraine)	Lunova, I.M. , Lunov, Ye.S., Khomenko, V.M. and Nissen, J. (REMOTE)
12.20-12.40	The distribution of lithium pegmatites in Eastern Europe and Northern Asia	Naumenko, O. and Dèzes, M.
12.40-13.00	Kaolin diapirs of the Ukrainian shield - potential resource of titanium mineral deposits	Komliev, O.O. , Remezova, O.O. , Spytsia, R.O. , Okholina, T.V. , Vasylenko, S.P. and Komlieva, M.O. (REMOTE)
13.00-14.00	LUNCH	
14.00-14.40 KEYNOTE	Crustal wall-rock assimilation and metasomatism caused by carbonatites – key processes for HFSE enrichment?	Walter, B.F. , Marks, M.A.W., Giebel, R.J. and Markl, G.
14.40-15.00	Germanium in sphalerite, but how and why? Atomistic simulations have an answer	Haghi, A. and Jahn, S.

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Lecture Theatre 6 – Swift		
Session 8. Medical mineralogy and hazardous natural materials. State of the art and future trends		
Session Chairs: Alessandro F. Gualtieri, Alessandro Pacella, Jasmine Rita Petriglieri		
09.40–10.20 KEYNOTE	Mesothelioma and asbestos-induced carcinogenesis	<u>Felley-Bosco, Emanuela</u>
10.20-10.40	Slag dust from Kabwe (Zambia) - one of the most polluted places on Earth: mineralogy and contaminant bioaccessibility	<u>Ettler, V.</u> , Mihaljevic, M., Drahota, P., Kribek B. and Nyambe, I.
10.40-11.00	Health effects of cristobalite dusts: comparison of their physico-chemical and mineralogical features in different occupational settings	<u>Di Benedetto, F.</u> , Belluso, E., Capella, S., Ardit, M., Baroni, T. and Capacci, F.
11.00-11.40	BREAK	
11.40-12.00	Simulations of temperature-driven release of arsenic from minerals and phases related to wildfires	<u>Tuhý, M.</u> , Ettler, V., Rohovec, J., Matoušková, Š. and Drahota, P.
12.00-12.20	Effects of Simulated Lung Fluids (SLFs) on zeolite fibres through real-time SC-XRD investigations	<u>Giordani, M.</u> , Cametti, G. and Mattioli, M.
12.20-12.40	Geological occurrence, morphological characterisation, and toxicological evaluation of erionite in New Zealand	<u>Patel, J.P.</u> , Brook, M.S, Scarfi, S., Mirata, S., Almonti, V., Hamilton, A., Kah, M. and Gualtieri, A.F.
12.40-13.40	LUNCH	
13.40-14.00	Surveying airborne fibrous zeolite deposition on leaf surfaces around sedimentary and volcanic zeolitic outcrops in New Zealand	<u>Fan, W.</u> , Dirks, N, K., Hamilton, A., Patel, P. J. and Salmond, A. J.
14.00-14.20	A Mobile Sampling Method for Monitoring Vehicle-Induced Dispersion of Elongate Mineral Particles from Unsealed Gravel Roads	<u>Chen, S.</u> , Dirks, K., Costello, S., Chen, G. and Salmond, J.
14.20-14.40	Correlating dissolution kinetics, surface alterations, and chemical reactivity: new insights into the mechanisms of mineral fibre toxicity	<u>Di Carlo, M.C.</u> , Ballirano, P., Bloise, A., Campopiano, A., Fantauzzi, M., Montereali, M.R., Nardi, E., Petriglieri, J.R., Rossi, A., Tomatis, M., Turci, F. and Pacella, A.

FRIDAY, 23RD AUGUST

Friday, 23 rd August		
Lecture Theatre 1 – Burke		
08.25	Announcements	D. Chew, E. Tomlinson
08.30–09.20	PLENARY LECTURE Ultramafic geosystems: a source of metallic elements to the environment	Kierczak, J.R.
09.20-09.25	Exhibitor Announcement – Tescan	
09.25-09.30	Exhibitor Announcement – Geological Survey of Ireland	
09.30–09.35	Exhibitor Announcement – Thermo Scientific	

Lecture Theatre 1 – Burke		
Session 3. Multi-mineral petrochronology of metamorphism and deformation: linking grain-scale processes to lithosphere dynamics		
Session Chairs: Stefania Corvó, Mattia Bonazzi, Hugo van Schrojenstein Lantman, Aratz Beranoaguirre		
09.40–10.20 KEYNOTE	Nanorocks in zircon from metamorphic rocks: a new frontier in the investigation of melt evolution	<u>Tedeschi, M.</u> , Ferrero, S., Wunder, B., Hermann, J., Borghini, A., Pettke, T., Lanari, P., Paiva-Silva, P., Rubatto, D., Van Schijndel, V., Tollan, P. and O’Brien, P.J.
10.20-10.40	Multi-method geochronology (Lu–Hf, Rb–Sr and U–Pb) to unravel the evolution of complex metamorphic terranes	<u>Bedoya, A.</u> , Glorie, S., Hand, M., Kirkland, C.L., Kelsey, D.E., He, X.F. and Kharkongor, M.B.
10.40-11.00	Raman spectroscopy as a tool to measure stress-induced deformation in garnet	<u>Gilio, M.</u> , Toffol, G., Pennacchioni, G., Campomenosi, N., Mihailova, B. and Alvaro M.
11.00-11.20	BREAK	
11.40-12.00	Applying U-Pb calcite direct dating by LA-ICP-MS mapping to investigate shallow crustal deformation histories in Ireland	<u>Monchal, V.</u> , Drost, K. and Chew, D.
12.00-12.20	Decoupled behaviour of ⁴⁰ Ar and ⁸⁷ Sr/ ⁸⁶ Sr during deformation of metamorphic white mica in a high-pressure marble	<u>Barnes, C.J.</u> , Zack, T., Bukata, M., Dubosq, R., Camacho, A., Gerdes, A. and Rösel, D.
12.20-12.40	Coupling apatite and zircon petrochronology to reveal (U)HP to retrograde metamorphic evolutions of eclogites from the Scandinavian Caledonides	<u>Jaranowski, M.</u> , Budzyń, B., Barnes, C., Majka, J., Sláma, J., Kozub-Budzyń G.A., Roddatis, V., Wirth, R., Schreiber, A. and Kościńska K.
12.40-13.40	LUNCH	

Lecture Theatre 1 – Burke		
Session 3. Multi-mineral petrochronology of metamorphism and deformation: linking grain-scale processes to lithosphere dynamics		
13.40-14.00	How is a polyepisodic magmatic and metamorphic history recorded in zircon (Aar and Gotthard units, central Alpine basement)	Schaltegger, U. , Noroña, E. , Ulyanov A. , Berger, A. , Abrecht, J. , Spikings R. and Wiederkehr, M.
14.00-14.20	Dating metamorphism and metasomatism in the mantle	Kotková, J. , Čopjaková, R. , Millonig, L.J. , Marschall, H. , Gerdes, A. , Kutzschbach, M.
14.20-14.40	Stabilization hiatus of the North China Craton revealed by microsampling garnet geochronology on single xenoliths	Du, K.Y. , Cheng, H. and Yang, R.Y.
14.40-15.00	Petrochronology reveals extremely slow cooling of granulites in the Dniester–Bouh Domain, Ukrainian Shield	Shumlyansky, L. , Wilde, S.A. , Johnson, T. , Alfing J. , Jourdan, F. , Lisna, I.M. , Stepanyuk, L.M.
15.00-15.20	Shear zone petrochronology	Villa, I.M. (REMOTE)
15.20	BREAK	

FRIDAY, 23RD AUGUST

Lecture Theatre 2 – Davis		
Session 29. Water in the deep (and not so deep) Earth		
Session Chairs: Sylvie Demouchy, Davide Novella, Michael Jollands		
09.40–10.20 KEYNOTE	H storage and speciation within the deep Earth	Bolfan-Casanova, N.
10.20-10.40	Latest advances in hydrogen analysis in Nominally Anhydrous Minerals and Diamonds with ERDA	Bureau, H. , Khodja, H. and Estève I.
10.40-11.00	Hydrogen defect evolution in natural diamonds and implications for the preservation of primordial hydrogen	Day, M.C., Pamato, M.G. , Jollands, M.C., Novella, D., Nestola, F. and Dovesi, R.
11.00-11.20	BREAK	
11.40-12.00	The spectroscopy of hydride in perovskites	Palfey, W.R. , Hwang, S.J., Goddard, W.A. III and Rossman, G.R.
12.00-12.20	High resolution transmission electron microscopy of a defect in hydrous forsterite	Miyajima, N. , Purevjav, N. and Withers, A.C. (REMOTE)
12.20-12.40	The coesite-stishovite transition of hydrous, Al-bearing SiO ₂ : An in situ synchrotron X-ray study	Koch-Müller, M. , Lathe, C., Wunder B., Appelt, O., Bhat, S., Farla, R., Roddatis, V., Schreiber, A. and Wirth, R.
12.40-13.00	LUNCH	
13.40-14.00	Spin transition links water and ferric iron in Earth's lower mantle	Buchen, J.B. , Pardo, O.S., Dobrosavljevic, V.V., Sturhahn, W., Ishii, T., Chariton, S. , Greenberg, E., Toellner, T.S. and Jackson, J.M.
14.00-14.20	Water partitioning between nominally anhydrous minerals and hydrous minerals, and the role of water in subducting slabs	Ohtani, E. and Ishii, I.
14.20-14.40	The importance of carbon to the formation and composition of silicates during mantle metasomatism	Rinaldi, M.R. , Mikhail, S., Sverjensky, D.A. and Kalita, J.
14.40-15.00	Phase relations in the system MgO-CO ₂ -H ₂ O: dehydration of brucite and melting of brucite and magnesite in subduction zones	Sieber, M.J. , Reichmann, H-J, Farla, R. and Koch-Müller, M.
15.00-15.20	Using quartz to constrain the formation conditions of pegmatites	Bermanec, M. , Pettke, T. and Hermann J., Nils Gies
15.20	BREAK	

Lecture Theatre 3 – Syngé		
Session 33. New Minerals, nomenclature, and classification		
09.40–10.20 KEYNOTE	Mineral species and mineral substances according to the IMA-CNMNC	<u>Bosi, F.</u>
10.20-10.40	Two new super-reduced phases from Luobusa chromitite: jianmuite, $ZrTi^{4+}Ti^{3+}5Al_3O_{16}$, and a Ti^{3+} -rich calcium amphibole, $\square Ca_2(Mg_2Ti^{3+}_3)(Si_5Al_3)O_{22}(OH)_2$	<u>Borriello, R.</u> , Xiong, F., Ma, C., Lorenzon, S., Mugnaioli, E., Yang, J., Xu, X. and Grew, E.S.
10.40-11.00	Crystal chemistry of Belgian ardennites	<u>Depret, M.</u> , Hatert, F., Blondieau, M., Puccio, S., Dal Bo, F., Erambert, M. and Bomal, F.
11.00-11.40	BREAK	
11.40-12.00	"Ferroåkermanite" - a potentially new mineral from kirschsteinite-bearing paralava from Hatrurim Complex, Israel	<u>Juroszek, R.</u> , Krüger, B., Galuskin, E. and Vapnik Ye.
12.00-12.20	Crystal chemistry and nomenclature of the triphylite group of phosphates	<u>Hatert, F.</u> , Lyalina, L.M. and Selivanova, E.A.
12.20-12.40	New data for undescribed uranyl minerals supporting the CURIÉS database	<u>Olds, Travis A.</u> , Spano, Tyler L., McDonnell, Marshall, Smith, Robert, Niedziela, Jennifer L., Miskowiec, Andrew, Kapsimalis, Roger, and Shields, Ashley E.
12.40-13.20	LUNCH	
13.20-13.40	Cr - analogue of hydrocalumite – a potentially new mineral from the Negev Desert, Hatrurim Complex, Israel	<u>Skrzyńska, K.</u> , Stachowicz, M., Juroszek, R., Pakhomova, A., Galuskina, I., Vapnik, Y., and Galuskin, E.
13.40-14.00	The puzzle of an allanite-like epidote mineral from Malmkärä, Sweden: Toward the new (OH)-analogue of dollaseite-(Ce)	<u>Taddei, A.</u> , Bindi, L., Bonazzi, P., Casey, P., Förster, H.-J., Holtstam, D. and Karlsson, A.

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Lecture Theatre 3 – Syngé		
Session 37. General		
Session Chairs: D. Chew, E. Tomlinson		
14.00-14.20	Sulphide to sulphate reactions: sulphur degassing and its effects on platinum group mineral enrichment, Rum layered intrusion, NW Scotland	Pentland, K. , Einsle, J.F. and Divers, M.
14.20-14.40	Age and evolution of the Raibl carbonate-hosted Zn-Pb deposit (NE Italy)	Velicogna M. , Beltrame M., Barago N., De Min, A., Lenaz, D., Nimis, P., Chiaradia, M., Venier, M., Chelle-Michou, C. and Tavazzani, L.
14.40-15.00	Cation and anion ordering in synthetic lepidolites and lithian muscovites: Influence of the OH/F and Li/Al ratios on the mica formation studied by NMR spectroscopy and X-ray diffraction	Fechtelkord, M. , Marler, B. and Sulcek, L.
15.00-15.20	New pathway to enhance crop and vegetable yield and quality through the infrared emissive characteristics of minerals	Du, Y.F. , Ding, H. and Lu, A.H.
15.20-15.40	Investigation of Microscale Pores in Terrestrial Mineral Coatings and Their Photoreactive Traits	Ge, X. , Ding, H.R., Wang, C.Q. and Lu, A.H.
15.40	BREAK	

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Lecture Theatre 4 – Emmett		
Session 9. Crystallisation of carbonates: Mechanisms, kinetics, methods, case studies, and novel applications		
Session Chairs: Remi Rateau, Gabrielle Stockmann, Juan Diego Rodriguez-Blanco		
09.40–10.20 KEYNOTE	Tracing Fluids in the Early Solar System Using Carbonates	King, A. J. , Schofield, P. F. and Russell, S.S.
10.20-10.40	Carbonation hardening of cements produced from recycled concrete fines	Neubauer, J. , Villmow, S. and Mielkau, A.
10.40-11.00	Utilising mining waste materials for carbon sequestration: A novel laboratory method assessing enhanced weathering potential in an arctic climate	Mouchos, E. , Pearce, S., Shiimi, R., Savage, W., Buckley, L., Lim, C., Brussee, O. and Ronne, E.
11.00-11.40	BREAK	
11.40-12.00	Crystallisation of Carbonates to Make Anthropogenic ‘Rocks’	MacDonald, J.M.
12.00-12.20	Uncovering the Mineralogy and Metal Concentrations in Metal Processing Wastes: A data-driven microstructural approach	Hilderman, R.X. , Einsel, J.F. and MacDonald, J.M.
12.20-12.40	Accelerated Carbonation from Aqueous Ca/Mg Hydroxide Systems to Hazardous Waste Incinerator Residues	Wehrung, Quentin , Pastero, Linda, Bernasconi, Davide, Cotellucci, Andrea, Bruno, Marco, Destefanis, Enrico, Caviglia, Caterina, Cavagna, Simona and Pavese, Alessandro
12.40-13.40	LUNCH	
13.40-14.00	On the growth of ikaite (CaCO ₃ ·6H ₂ O) in the presence of phosphate	Strohm, S.B. , Saldi, G.D., Mavromatis, V., Schmahl, W.W., Jordan, G.
14.00-14.20	Transformation of ikaite into less hydrated CaCO ₃ minerals – from in-situ observations of tufa columns, Ikka Fjord and IceLab-RAMAN experiments	Stockmann, G.J. , Peternell, M., Konrad-Schmolke, M. and Rasmussen M.B.
14.20-14.40	The Key Role of Sulfate in the Conversion of Aragonite into Calcite	Forjanes, P. , Astilleros, J.M. and Fernández-Díaz L.
15.20	BREAK	

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Lecture Theatre 5 – O'Cadhain		
Session 35/36. Geoscience outreach in museums and beyond		
Session Chairs: Mike Rumsey, Bastian Joachim-Mrosko, Melanie Kaliwoda		
09.40–10.20 KEYNOTE	More than cool curiosities: using social media for mineral science communication to engage on geoscience topics	<u>Anderson, E.B.</u>
10.20-10.40	Geo-education in Colombia enhanced by student chapters	<u>Cramer, T.H.</u> , Bonilla-Perez, A. and Sanchez Novoa, D.F.C.
10.40-11.00	Crystal magic – Fascinating tourmaline crystals with fantastic inner worlds 20 years of optimization of a successful traveling exhibition	<u>Rustemeyer, Paul</u>
11.00-11.40	BREAK	
11.40-12.00	Guided tours and projects for children and young people at the Museum Mineralogia Munich on the topic of "How was the moon actually formed and what can we learn from meteorites?"	<u>Kaliwoda, M.</u> , Junge, M., Hentschel, F. and Schmahl, W.W.
12.00-12.20	Roots of removal: Kenyan basalt rock and mineral sculpture art and the carbon removals odyssey – The Mutuma Marangu Sculpture and Art Collection's "TMMSAC" "RoR BRAMSA Movement" Exhibition	<u>Marangu, M.</u> , Collinson, J.D., Blackbourn, G., Roobroeck, D., Manga, M., Kimani, F., Santos, R.M., Motondi Oroo, G., Kenya Oendo, P., Okeyo Mbera, R., Tabule Ogao, J.A., Kombo, C.D., Ong'esa, E. (REMOTE)
12.20-12.40	'Finding the Smoking Gun: A cross-museum survey of pyrite	<u>Royce, K.</u>
12.40-13.40	LUNCH	
13.40-14.00	An extensive powder diffraction study of 'hydrocerussite-type' mineral specimens in museum collections from the Mendip Hills area, Somerset, UK.	<u>Rumsey, M.S.</u> and Najorka, J.
14.00-14.20	Seeking a Specific Mineral for Research? An Introduction to Mineral Specimen Data Infrastructure and MinExt for Darwin Core	<u>Walcott, R.C.</u> and Norton, B.
14.20-14.40	GeoSpecify, a Collection Management Platform for Geological Objects	Beach, J. H., Burri, T. and <u>Fitzsimons, G.</u>
14.40-15.00	Count Vargas Bedemar, J.W. v. Goethe and the Mineralogical Collection in Jena	<u>Kreher-Hartmann, B.</u>

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Lecture Theatre 6 – Swift		
Session 13. Micro- and nano-mineralogy of critical metals		
Session Chairs: José María González Jiménez, Malte Junge,		
09.40–10.00 KEYNOTE	High resolution mineralogy and petrography of Mn-oxyhydroxides from Caribbean Ni-Co laterite deposits	Villanova-de-Benavent, C. , Nieto, F., Domènech, C., Domínguez-Carretero, D., Galí, S and Proenza, J.A.
10.00-10.20	Understanding the origine and formation process of goethite framboids in Cretaceous sedimentary rocks by nanoscale analysis	Ohfuji, H. , Konishi, S. and Yamamoto, K.
10.20-10.40	Nanoscale characterization of (Ca-REE) fluorcarbonates	Conconi, R. , Capitani, G. Gentile, P. and Fumagalli, P.
10.40-11.00	A FIB-HRTEM investigation of (Co-Ni-Cu)-rich Fe sulfides in basic rocks from the internal zones of the Betic Cordillera	Ferreira, A. R. , González-Jiménez, J.M., Yesares, L., Blanco-Quintero, I. F., Piña, R., Gervilla, F.
11.00-11.40	BREAK	
11.40-12.00	Nanomaterials as agents for critical metal transfer in magmatic and hydrothermal ore systems	González-Jiménez, J.M. , Schettino, E., Cano, N., González-Pérez, I., Ferreira, A., Yesares, L., Marchesi, C., Camprubí, A., Thomas N. Kerestedjian, Gervilla, F.
12.00-12.20	Dual mineralogical sitting of the critical metals Nb-Ta-Sn-W in rutile	Bermejo-López, D. , González-Jiménez, J.M., Ortega, L., Castiñeiras, P., Crespo, E.
12.20-12.40	Microstructures of the Platinum Group Mineral nuggets in the Finnish Lapland	Soukka, T. , Tuisku, P., Moilanen, M., Jaskari M., Ranta, J-P
12.40	LUNCH	

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Lecture Theatre 6 – Swift		
Session 38. Chemical evolution of sediments and igneous rocks and their implications on Earth's ocean, crust, and mantle		
Session Chairs: Josua J. Pakulla, Jaganmoy Jodder		
13.40-14.20 KEYNOTE	Aleutian Arc Initiation: Tectonic and climatic implications	Hoernle, K. , Jicha, B., Portnyagin, M., Hauff, F., Höfig, T., Yogodzinski, G., Timm, C., Guillong, M., Berndt, C., Savelyev, D., Bezard, R., Baranov, B.
14.20-14.40	Palaeozoic continental growth: The Köli Nappe Complex, Swedish Caledonides: Iapetus Ocean arc magmatism, rifting and accretion to Baltica	Cuthbert, S.J. , Ziemniak, G. and Walczak K., Carter, I.
14.40-15.00	Constraints on Iceland mantle sources from $\mu^{182}\text{W}$, Sr-Pb isotopes and trace elements	Kallnik, N. , Armstrong, C., Pakulla, J., Halldórsson, S.A., Fischer-Gödde, M., Hasenstab-Dübeler, E., Münker, C.
15.00-15.20	Significance of W isotope anomalies in early Earth rocks	Münker, C. , Fischer-Gödde, M., Tusch, J. and Hoffmann, J.E.
15.20-15.40	Mechanisms of pyrite formation in marine sediments and implications for isotope fractionation in the presence of trace elements	Rabone, J. , Blanchard, M., Aufort, J. and Le Pape, P.
15.40	BREAK	

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POSTER SESSION A

Session 1: Apatite - an accessory mineral with a big footprint in geochemical, environmental, and biological processes		
1	Geochemistry and U-Pb isotopic characteristics of apatite from the Loch Roag xenolith suite	Badenszki, E., Buczko, D., Matusiak-Matek, M., Upton B.G.J. and Daly, J.S.
2	Potential of mineralogical characterization for improvement of calcium phosphate cements and their hydration	Goetz-Neunhoeffler, F. and Hurle, K.
3	Apatite as a provenance indicator for I-, S- and A-type granites and mafic intrusions	Kieffer, M.A. , Dare, S.A.S. and Gendron, M.
4	Controlled calcium phosphate precipitation via vapor diffusion sitting drop methodology in bacterial cellulose template	Navarro-Zabarburú, Isabel , Zavaleta, Amparo Iris, Calderón-Toledo, Susana and Alvarez-Lloret, Pedro
5	Raman spectroscopic analysis of the As-bearing apatite supergroup minerals from pyrometamorphic xenoliths of the Upper Chegem Caldera, Russia	Środek, D. , Dulski, M. , and Balin, K.
Session 2: The Petrology of Accessory Minerals: from the Ubiquitous to the Exotic		
6	Mineralogy and petrography of Fe-Mn phosphates from the Varuträsk pegmatite, Sweden	Depret, M. , Hatert, F. , Bomal, F. , Langhof, J. and Holtstam D.
7	Precipitation of Aluminum phosphate sulphates minerals: an experimental challenge for an environmental question.	Galán-Abellán, A.B. , Fernández-Barrenechea, J. and Mateo-Martí, E.
8	Titanite breakdown to rutile during the albitization of a granitoid: Natural observations and experimental results	Gumsley, A. , Harlov, D. , Juroszek, R. , Marciniak-Maliszewska, B. , Jokubauskas, P. and Gerdjikov, I.
9	Accessory zircon as an petrogenetic indicator in granitoid rocks of the Vepor pluton (Fabova hoľa, Western Carpathians, Slovakia)	Molnárová A. , Ondrejka M. , Putiš M. and Nemec O.
10	Garnet and vesuvianite – geochronological tools for U-Pb dating of skarns deposits	Stifeeva, M.V. , Salnikova, E.B. and Kotov A.B.
11	Geological-paleoceanographic models of early Oligocene (Maikop) sedimentation in the Crimean-Caucasian segment of the Paratethys.	Kokhan, O.M. , Hnidets V.P. , Hryhorchuk, K.H. , Rever, A.O. (REMOTE)
12	Accessory minerals as fingerprints of complex processes in volcanogenic massive sulphide systems	Volkman, R. , Van Schijndel, V. , Codeço, M.S. , Relvas, J.M.R.S. and Gleeson, S.A.
13	Apatite texture characteristics in the Per Geijer Iron Oxide-Apatite-REE deposit, Sweden	Zanderink, B.B.G. , Krolop, P. , Miles A-J. and Seifert T.

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14	Fluorine-enriched skarn association: an evidence for fluid/rock interaction during pegmatite emplacement	Vassileva, R.D. , Georgieva, S., Grozdev, V., Cempírek, J. and Škoda R.
15	Trace-element signatures of rare-metal accessory mineralization in Smilovene area pegmatites, Sredna Gora Mountain, Bulgaria	Georgieva S., Vassileva R.D., Grozdev V., Cempírek J., Škoda R. and Stefanova E.
16	Monazite-(Ce) as a product of experimentally induced hydrothermal transformation of chevkinite-(Ce)	Urbanik, K.M. , Bagiński, B., Macdonald, R., Harlov, D.E.
17	Hexavalent Cr removal by carbonates and iron oxyhydroxides minerals in the presence the absence of organic chelating agents	Maftei, A.M. , Lupu, A., Bulai, G., Rateau, R., Rodriguez Blanco, J.D. and Brinza L.
Session 5: Spectroscopic approaches for crystallochemical characterization of minerals and mineral behavior under ambient and non-ambient conditions: application for Earth and Planetary exploration		
18	Cation order in omphacitic clinopyroxenes: implications for Raman elastic geothermobarometry	Baratelli, L. , Cámara, F., Mihailova, B., Murri, M. and Alvaro, M.
19	Ultra-Thin Sections - Illuminating the Spectra of Highly Opaque Minerals	Funaro, E.J. , Palfey, W.R., Park, A., Schlom, D.G., and Rossman G.R.
20	Raman Spectroscopy as an important tool for the study of lunar, Martian and other meteorites and for the collection of new Raman databases for future space missions	Kaliwoda, M. , Zuncke, J. and Drozdovsky, I.
21	Basaltic glasses in the lower mantle: trace elements as markers of local structure changes	Kovalskii, G. , Rosa, A.D., Mathon, O., Morgenroth, W., Morard, G., Pennacchioni, L., Wilke, M.
22	Hydrothermal reduction of hematite to magnetite by molecular hydrogen	Ostertag-Henning, C. and Plümper, O.
23	Elasticity of dolomite-ankerite solid solutions	Pennacchioni, L. , Speziale, S. and Winkler, B.
24	Spectroscopic feature on gem quality topaz from different localities after E-beam treatment	Tempesta, G. , Elettivo G.S., Vadrucchi, M. and Agrosi, G. (REMOTE)
Session 6: Structure-properties relationships of framework, layered and related minerals		
25	Pressure-driven crystal structure and fluids interaction in erionite-group zeolites	Battiston, T., Lotti, P. , Comboni, D. and Gatta, G.D.
26	Adsorption of chlorinated ethenes in hydrophobic zeolites studied by molecular simulations	Fischer, M.
27	Atomistic modelling of the Tschermak and di-trioctahedral substitutions in chlorite	Françoise, M. , Dubacq, B., Bourdelle, F. and Verlaguet, A.
28	A multi-method, in situ temperature-dependent investigation of the taranakite-francoanellite phase transition	Galliano, Y. , Bellatreccia, F., Campomenosi, N. and Carbone, C.

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29	Evolution of Young's modulus and changes in phase composition of kaolins and CaO-Al ₂ O ₃ -SiO ₂ ceramics during heating and sintering	Gregorová, E. , Pabst, W. and Šimonová, P.
Session 12: Understanding the geology and formation of ore deposits - new constraints on the enrichment processes of metals		
30	Ore Minerals and Metal Migration within the Oceanic Crust of the Central Sudetic Ophiolite, Poland	Elsherif E.A. , Ciężela, J., Wojtulek, P., Strauß, H., Kuhn, Th., Pańczyk, M., Woźniak, W., Fitt, M., Stawikowski, W., Kukula, A. and Łuszczek, K.
31	Mineral chemistry of hydrothermal biotite from Na-Ca-K-silicate alteration associated with the Elatsite porphyry copper deposit, Bulgaria	Georgieva, H. , Nedialkov, R., Stefanova, E. and Milenkov, G.
32	Mineralogical and chemical characterization of tungstenite	Goldmann, S. , Wegorzewski, A.V. and Fuchs, S.
33	Paragenetic sequence and mineral chemistry of the scheelite skarn deposit of Monleón (Salamanca, NW Spain)	Posado-De Castro, J. , Timón-Sánchez, S.M., Fernández-Fernández, A., Llorens-González, T., Díez-Montes, A. and Sánchez-García, T.
34	Tetrahedrite group minerals and their weathering products from Chamrousse, Belledonne Range, Western Alps, France	Skrzyńska, K. and Müller, H.
35	Major and trace element composition of tourmaline in the Kaustinen Li-pegmatites: implications for melt origin and evolution	Tvauri, A.V. , Kalliomäki, H., Law, K.A., Ranta, E. and Rämö, O.T.
Session 16: Mineralogy and circular economy		
36	13X Zeolite for Rare Earth Elements separation: evaluation of the selectivity and structural characterization.	Colombo, F., Fantini, R., Di Renzo, F., Confalonieri, G., Sobczyk, M., Malavasi, G., Malferrari, D., and Arletti R.
37	Sustainable Solutions: Utilizing Extractive Waste in Ceramic Tile Production	Fantini, R. , Bernini, M., Conte, S., Zanelli, C., Dondi, M., Gualtieri, A.F. and Arletti, R.
38	Preliminary results of the effect of nano Mg-Al layered double hydroxides (LDHs) on chemical and physical properties of cement paste.	Fastelli, M. , Vivani, R., Sassi, P., Speranzini, E., Schoubben, A., Di Michele, A., Zucchini, A., Mortaro, F. and Comodi, P.
39	Quantitative mineralogy and potential recovery of metal(loid)s from copper metallurgical slag	Lichovník, M. , Ettlér, V., Aiglsperger, T., Kříbek, B. and Mapani, B.

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40	Forgotten wastes in coastal areas – tackling risks through mineralogy	Onnis, P. , Ramos, V., Riley, A.L., Gandy, C., Jennings, E., Nannoni, A., Rollinson, G.K., Burke, I., Byrne, P.A., Crane, R., Jarvis, A., Mayes, W.M. and Hudson-Edwards, K.A.
41	Wood biomass ash: a possible alternative to free lime and cement as stabilizing agent in clayey subgrade of road pavement	Pandolfi Balbi, E. , Corradini, A., Cambi, C., Fastelli, M., Cerni, G., Cotana, F., Zucchini, A. and Comodi, P.
42	Mechanisms of metallurgical slag dissolution deciphered from contact and non-contact bioleaching experiments	Potysz, A.
43	Mineral characterization of the mining residues from the Golpejas mine (Spain): Implications for processing	San Cipriano-Mata, A. , Llorens-González, T., Fernández-Fernández, A., Timón-Sánchez, S.M., Díez-Montes, A., Sánchez-García, T., López-Moro, F.J., Menéndez-Aguado, J.M. and Medina-Pierres, J. (REMOTE)
44	Resource Optimization in Ceramics: Integrating MMVF Waste for Sustainable Glaze Innovations	Sisti, M. , Andreola, F., Barbieri, L., Guidetti, D., Gualtieri, A.F., Fantini, R., Colombo, F. and Arletti, R.
45	Bottom ashes from MSWI in/and ceramics: a higher value reuse of waste	Bernasconi, A. , Mantovani, L. and Tribaudino, M.
46	Properties of low sulfur leached spodumene as supplementary cementitious material in ordinary portland cement	Woskowski, J. , Neumann, A. and Stöber, S.
Session 18/19: Characterization of gem materials and their geographical/geological origin		
47	Crystal chemistry of tourmalines from Mozambican pegmatites	Bomal, F. , Hatert, F., Philippo, S. and Guennou, M.
48	“Aquafire” beryl from Brazil: inclusions used as a tool to define a new variety of aquamarine	Costanzo, A. , Laurs, B., Campos-Venuti, M., Cipriani, M.
49	Causes of colour changes in tourmalines from different pegmatite provinces after e-beam irradiation and thermal treatments	Rizzo, F., Tempesta, G., Bosi, F., Vadrucci, M., Skogby, H. and Agrosi, G.
50	Bohemian garnet from the Dolní Olešnice deposit and its enigmatic source	Škoda, R. , Čopjaková, R., Štefanová, M., Millonig, L.J., Kotková, J. and Gerdes, A.
51	Light elements in gem quality topaz from different localities	Tempesta, G., Elettivo, G.S. and Agrosi, G.
52	Microdiamonds from the Zelenyi Yar Neogene placer (the Ukrainian Shield)	Vyshnevskiy, O.A. , Kvasnytsya, V.M., Wirth, R., Schreiber, A. and Pavlyuk, V.M. (REMOTE)

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53	Study of color mechanisms in natural and treated elbaite crystals	Luppi, R. , Pezzotta, F., Skogby, H., Hålenius, U., Altieri, A., Tempesta, G., Vadrucci, M., Sejkora, J., and Bosi F.
Session 20: Archaeometry: Geoscience-based approaches for studying the human past		
54	The study of alabaster art objects in the cultural heritage of Ukraine using isotopic analysis methods	Naumenko, U. , Dezes, M., Borniak, U., Lipinska, A. and Kloppmann, W. (REMOTE)
55	Shipshape and Bristol fashion: Characterising the corrosion of the SS Great Britain	Rothwell, K.A. , Grahamslaw, N., Grigg, A.R.C. and Byrne, J.M.
56	Archaeometric study of the stone tesserae from the “A grandi fiori” mosaic in the archaeological site of Casignana (Reggio Calabria, Italy)	Barca, D. , Zicarelli, M.A., La Russa, M.F., Musella, M., Randazzo, L., Ricca M. and Rovella, N.
57	Characterization of chert by X-ray diffraction, infrared and Raman spectroscopy to identify Moganite.	De Uribe-Zorita, M. , Álvarez-Lloret, P., and Marcos, C.
Session 21/23: Microbial biomineralization/microbes transforming metal		
58	Bi-Te-S biomineralization in the Volyn biota (Ukraine)	Franz, G. , Wirth, R., Schreiber, A. and Khomenko, V.
59	Conundrum of anhydrite formation at surface conditions	Wehmann, N. , Lenting, C. , Stawski, T.M., Agudo Jácome, L., Heim, C. and Jahn, S.
60	Nanoscale biosignatures in native copper from the Wadi Tayin dunite, Oman	Tenuta, S. , Evans, K.A., Reddy, S.R., Rickard, W.D.A. and Saxey, D.W.
61	Metabolically-versatile Hg methylators: their implications and origins	Moreau, J.W. , Lin, H., Gionfriddo, C.M., Moody, E.R.R. and Williams, T.A.
Session 22: Biominerals and environment		
62	Skeletal disorder in laying hens: a study at macro and microscale of hen bone structure and composition	Cappelli, C. , Rodríguez-Navarro, A.B., Álvarez-Lloret, P., Enrich, T., Duclos, M.J. and Gautron, J.
63	Heavy Metal Adsorption from Mining Tailings Leachate Using Shell-Based Adsorbent: Characterization and Kinetic/Isotherm Studies	Fernández-González, A. , Ayala-Espina, J. and Fernández-Pérez, B.
64	High concentrations of Mg ²⁺ decelerates the abiotic decomposition of ATP at elevated temperatures	Moeller, C. , Testemale, D., Kokh, M., Schmidt, C., Guyot, F. and Wilke, M.

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65	The fate of Arsenic in the Carletti Spring System (Viterbo, Italy): a XAS speciation study	Montegrossi, G.*, Venturi, S., Baroni, T., Casentini, B., Fazi, S., Costagliola, P., Rimondi, V., Piacentini, A., Mazzoni, C., <u>Di Benedetto, F.</u>
66	Rare Earth Elements concentration in riverbed biominerals: Potential tool for Bio-Based Extraction	<u>Sedda, L.</u> , Naitza, S., Fancello, D., Medas, D., Musu, E., Onnis, P., Podda, F. and De Giudici, G.
67	Mineralogical controls on the persistence and preservation of DNA	Singh, V.V., <u>Kimber, R.L.</u> , Kumar, N., and Kraemer, S.M.
68	Bioprospecting for Sustainable Mineral Management in Arsenic-Rich Environments	<u>Tomlinson, N.O.</u> , Schofield, P.F., Jungblut, A.D., Hodson, M.E. and Santos, A.L.
Session 24: Volatiles and metals in volcanic systems: constraining their behaviour and processes between magma, gas emissions, and primary ore deposits		
69	Petro-geochemical and environmental significance of SO ₂ emissions during a basaltic eruption in Central America: the case-study of the December 29th, 2013 eruption of the San Miguel volcano, El Salvador.	Hernández De la Cruz, A., <u>Gimeno, D.</u> , Conde Jacobo, V., Olmos Guevara, R., Barahona Escoto, F., Hernández Martínez, M. and Novembre, D.
70	Control of effusive and explosive eruptions of Ciomadul volcano: constraints by apatite composition	<u>Krisztina, H.</u> , Réka, L., Razvan-Gabriel, P., Julien Marius, A., Emese, Pánczél-Oelberg, Barbara, C., Olivier, B., Elemér, P.-M., Ioan, S., Szabolcs, H.
711	Potentially harmful elements released by volcanic ash of the 2021 Tajogaite eruption (Cumbre Vieja, La Palma Island, Spain): Implications for human health	Ruggieri, F., Forte, G., Bocca, B., Casentini, B., Petrangeli, A.B., Salatino, A. and <u>Gimeno, D.</u>
Session 26/28: Volatiles and metals in volcanic systems: constraining their behaviour and processes between magma, gas emissions, and primary ore deposits		
72	Unravelling the redox conditions during deserpentinization through sulphide mineral assemblages	<u>Cristóbal, L.S.</u> , Padrón-Navarta, J.A. and Garrido, C.J.
73	Decompression-driven crystallization of carbonate-silicate melts trapped in garnet in orogenic peridotite (NW Bohemian Massif)	<u>Haifler, J.</u> , Kotková, J. and Čopjaková, R.
74	High-pressure metasomatism and carbonation of metaserpentinites during deformation at the subduction interface	<u>López Sánchez-Vizcaíno, V.</u> , Padrón-Navarta, J.A., Menzel, M.D. and Garrido, C.J.

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Session 27: All change: subsolidus, melting, volatile and redox reactions in the upper mantle		
75	Sheared peridotites: linking deformation and hydrous metasomatism to the onset of craton destabilization	Heckel, C., Woodland, A.B. , Gibson, S.A., Linckens, J., Withers, A.C., Seitz, H.-M. and Ludwig, T.
76	Complex metasomatic history and exhumation-driven refertilization of subcontinental lithospheric mantle beneath Central Europe	Kubeš, M. , Čopjaková, R., Kotková, J., Ackerman, L., Haifler, J. and Škoda, R.
77	The thickness of the Archean Kaapvaal cratonic lithosphere at 1.6 Ga	Qashani, Z. , O'Sullivan, G.J., Janney, P.E. and Tomlinson E.L.
78	An improved thermodynamic model for the melting evolution of a peridotite up to 12 GPa	Rinaldi, M.R. , Green, E.C.R., Melai, C. and Tomlinson, E.L.
79	Compositional effects of komatiite-peridotite reaction	Tomlinson, E.L. , Rinaldi, M. and Melai, C.
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80	Rubinite from Hatrurim Complex, Israel	Galuskin, E.V. , Galuskina, I.O., Kusz, J. and Vapnik, Ye.
81	Niobium garnets	Galuskina, I.O. , Galuskin, E.V. and Vapnik, Ye.
82	Coesite and florencite hidden in garnet and revealed by micro-Raman spectroscopy	Ghignone, S., Borghini, A. , Boero, F., Prencipe, M., Bruno, M., Gilio, M., Scaramuzzo, E., Manzotti, P.
83	Garnet, not always the archetypal cubic mineral	Lorenzon, S. , Mugnaioli, E., Biagioni, C., Nestola, F. and Cesare, B.
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83	mineralML: Leveraging Machine Learning for Probabilistic Classification in Earth and Planetary Minerals	Shi, S., Wieser, P., Toth, N., Antoshechkina, P. and Lehnert, K.
84	Using average mineral properties to study trends through mineral evolution	Bermanec, M. *, Hazen, Robert M. and Ma, Xiaogang
85	Lithodynamic processes on the north-western shelf of the Black Sea of Ukraine	Granova, A.K. , Melnik, E.V. and Volynska, V.O. (REMOTE)
86	Characterizing Earth's biosignatures via mineral network analysis	Morrison, S.M. , Prabhu, A., Hazen, R.M., Wong, M.L. and Eleish, A.

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87	The German National Research Data Infrastructure for the Earth System Sciences (NFDI4Earth)	Bernard, L., Braesicke, P., Bertelmann, R., Frickenhaus, S., Göttele, H., Keßler, C., Lorenz, S., Mahecha, M., Marschall, H.R., Hezel, D.C., Nage, W.E., Reichstein, M., Sester, M., Thiemann, H., Weiland, C., Wytzisk-Arens, A., Xu, J.D.* , NFDI Consortium Earth System Sciences
88	Geochemical Modelling Beyond Mars – from Asteroid Belt to Kuiper Belt	Yoosefdoost, A., Bakhshoodeh, R. and Santos, R.M.

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1	Ultrafast geological processes on the grain scale	Angel, R.J. , Campomensoi, N., Gilio, M., Morana, M. and Alvaro M.
2	Potentiality of titanite petrochronological tool in the metacarbonate system	Bonazzi, M. , Simonetti, M., Maino, M. and Langone, A.
3	Coupled petrochronology on monazite and titanite to unravel the evolution of shear zones from mid- to low continental crust (Ivrea-Verbano Zone; Italy).	Corvò, S. , Maino M., Bonazzi, M., Simonetti M., Montemagni, C., Zanchetta, S., Piazzolo, S., Langone, A.
4	The stiffening of the elastic tensor of quartz and its effect on strain-stress relationship. Implications for elastic geobarometry	Gilio, M. , Angel, R.J.* and Alvaro, M.
5	Hybrid veins and heterogeneous deformation in the Saih Hatat window, Oman belt: a possible record of fossil episodic tremors and slow slip events	Petroccia, A., Giuntoli, E. , Callegari, I. and Viola, G.
6	Typical spinifex structures of Archean komatiite metabasalts of the Sur greenstone structure, Middle Dnieper, Ukrainian shield	Reshetnyk, M. , Sukach, V. and Starokadomsky, D. (REMOTE)
7	Early Paleozoic Andean-type evolution recorded in the Dunhuang block (NW China): insights from petro-structural, geochronological and metamorphic P-T constraints	Soldner, J. , Jiang, Y.D., Štípská, P., Schulmann, K., Yuan, C. and Anczkiewicz, R.
8	Multi-method approach for deciphering the growth mechanisms of non-typical textures in Archaean garnet	van Schijndel, V. , Cutts, K., Stevens, G., Hoffmann, G., Ohl, M., Ji, Y. and Plümper, O.
9	Residual stress mapping in diopside as tool to reconstruct seismogenic faulting in the lower crust	Van Schroyen stein Lantman, H.W. and Menegon, L.
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10	High- to Ultrahigh-Temperature Evolution and partial melting of the Central Adirondack Highlands Gneiss Complex (New York State, US)	Ferrero, S. , Nicoli, Gautier, Darling, R., Yakymchuk, C., Wannhoff, I. and Gresky, K.
11	Early Paleoproterozoic high-K granites of the Bastar craton formed by reworking of TTGs: Insights from phase equilibria and trace element modeling	Padmaja, J. *, Sarkar, T., Dasgupta, S.
12	Mantle lithology of Cenozoic continental basalts in Central Asia: Constraints from olivine chemistry and whole-rock Mo-B isotopes	Zhang, Y.Y. , Sun, M. and Yuan, C. (REMOTE)

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14	First-principles investigations of antigorite polysomatism under pressure	Tsuchiya, J. , Mizoguchi, T., Inoue, S. and Thompson, E.C.
15	Cation disorder and Fe-content in ankerite: their effect on its mineral physics	Zucchini, A. *, Boffa Ballaran, T., Masotta, M., Pennacchioni, L., McCammon, C., Fastelli, M., Comboni, D., Hanfland, M., Frondini, F., Comodi, P.
16	HP-HT behaviour of Jamesonite: A combined Single-Crystal Synchrotron X-ray Diffraction and Raman spectroscopy study	Comodi, P. , Fastelli, M., Pennacchioni, L., Balic-Zunic, T., Hanfland, M. and Zucchini, A.
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17	Transforming waste into resource: Synthesis of tobermorite from crystalline silica	Bernini, M., Galamini, G., Fantini, R., Malferrari, D. and Gualtieri, A.F.
18	Understanding Asbestos in Calabria: Assessing Mineralogy and Geochemistry with Insights into Groundwater Quality and Secondary Airborne Exposure Risks	Bloise, A.*, Fuoco, I., Vespasiano, G., Pacella, A. , Vilella, S., Piersante, C.1, Malvasi, G., Campopiano, A., Ballirano, P., Bruno, M.R., Bruni, B.M., Sinopoli, F., Di Carlo, M.C. and Apollaro, C.
19	Geo-inspired nanotubes for Alzheimer's Disease treatment by low dose radiotherapy: preliminary results	D'Alessio, D. , Secchi, V., Campione, M., Malaspina, N. and Monguzzi, A.
20	Arsenic bioaccessibility in environmentally significant arsenic mineral(oid)s	Drahota, P. , Ettler, V. and Košek, F.
21	Study of the mineral fibres associated to the clay from Gomsiqe-Puka (Albania)	Gualtieri, A.F. and Mugnaioli, E.
22	A new approach to quantitatively assess the asbestos-like morphology of mineral fibres	Petriglieri, J.R. , Barale, L., De Giuli, C., Tomatis, M., Belluso, E., Campopiano, A., Piana, F., Pacella, A. and Turci, F.
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23	Pseudomorphism and Porosity Formation during the Conversion of Gypsum Single Crystals into Strontianite via intermediate Celestine.	Forjanes, P. and Benning, L.G.
24	CO ₂ -hardening of slag-based bricks – a novel approach of direct carbon usage	Gronen, L. , Schieferstein, E., Prokein, M., Hoffmanns, D., Feldrappe, V. and Fusswinkel, T.
25	Heterogeneous lithification across a legacy coastal slag bank: the creation of new sedimentary rock from anthropogenic material	Hilderman, R.X. , MacDonald, J.M., Griffin, S., Slaymark, C., Einsel, J.F., and Monaghan, A.

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26	The effect of organic chelating agents on the kinetic of amorphous calcium carbonates formation and transformation: a facile in situ and real-time monitoring and off-line particles characterization	Ignat, M., Rodriguez Blanco, J.D. and Brinza, L.
27	Immobilisation of chromium in magnesium carbonate minerals	Lacinska, A.M. , Bateman, K., Chenery, S., Kemp, S.J., Liddy, T., Rushton, J.C., Saha, D. and Schroeder, S.L.M.
28	Alteration of siderite (FeCO ₃) in the presence of multi-component rare earth element (REE) aqueous solution at hydrothermal conditions (50-205°C)	Maddin, M. , Rateau, R., Szucs, A.M., Terribili, L., and Rodriguez-Blanco, J.D.
29	Key insights into CDR standards requirements supporting MRV methods	Savage, W., Mouchos, E. , Shiimi, R., Pearce, S., Buckley, L., Štyriaková, D., Šuba, J., Kraljić, D., Prekopova, M., Pike, D. and Kurt, Z.
30	Calcimetry as a reliable method for monitoring soil inorganic carbon stocks: a parametric assessment of its reliability and interferences	Silva, J.M.P., Khalidy, R. and Santos, R.M.
31	Transient epitaxial overgrowths in the CaCO ₃ -REECO ₃ OH system formed during pseudomorphic mineral replacement processes	Szucs, A.M., and Rodriguez-Blanco, J.D.
32	Novel kinetic and mechanistic findings into the fluorite-fluocerite-bastnasite transformation reaction	Terribili, L. and Rodriguez-Blanco, J.D.
33	Crystallisation of CaCO ₃ polymorphs in the presence of microplastic glitter particles	Zubovic, K.P. , Horvath, A., Brien, M.D., Rateau, R., Guyett, P., and Rodriguez-Blanco, J.D.
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34	The fate of nickel during ex-situ mineral carbonation of serpentinized peridotites	Ciešlik, B. , Kierczak, J., Lacinska, M.A., Bateman, K., and Pietranik, A.
35	Insights into incipient carbonation phases of synthetic Mg- and Ni-serpentine end members	Corti, M. , D'Alessio, D., Campione, M., Capitani, G., Murri, M. and Malaspina, N.
36	Effect of carbon on thermoelastic properties of (Fe, Mg) ₂ SiO ₄ -olivine under upper mantle <i>P-T</i> conditions	Gholamimahmoodabadi, Z. , Mondal, R. and Chatterjee, S.
37	CO ₂ -negative Mg-binders based on olivine for carbon capture and storage	Neubauer, J. , Goetz-Neunhoeffer, F., Franke, S., Rafalski, F. and Bellmann, F.
38	Understanding and replicating natural basalt carbonation: the case study of Sverrefjellet Volcano (Svalbard, Norway)	Pierozzi, A. , Faulkner, N., and Rodriguez Blanco, J.D.
39	Assessing carbon dioxide storage potential in Swedish and Finnish mine waste	Rees, E. , Warlo, M., Crafoord, E. and Bark, G.
40	Metal mobility during serpentinite carbonation: evaluating recovery potential and environmental impact	Rielli, A. , Dini, A., Baneschi, I., Ricci, L., Brugger, J., Etschmann, B. and Chiara, B.

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42	Nanomineralogy of Fe-rich sphalerite from the Santa Lucía Zn-Pb deposit (northwest Cuba)	Gervilla, F. , Pérez-Vizcaíno, P., González-Jiménez, J.M. and González-Pérez, I.
43	Mineralogy of Sn, W, Sc and Ga in ores of Ozernovskoe epithermal Au-Te-Se deposit, Kamchatka, Russia	Kozlov, V.V., Vymazalova, A. , Skilskaya, E.D. and Kudaeva, Sh.S.
44	The replacement of pyrrhotite into pyrite-marcasite seen at the nanoscale	Yesares, L. , González-Jiménez, J.M., Blanco-Quintero, I.F., Ferreira, A.R., González-Pérez, I., Gervilla, F.
45	Critical metals in laterites, bauxites and red muds: concentration and distribution	Laita, E. , Yuste, A., and Bauluz, B.
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46	Copper, Uranium and REE Mineralisation in an Exhumed Oil Reservoir, Southwest Orkney, Scotland	Heptinstall, E.A. , Parnell, J., Armstrong, J.G.T., Schito, A. and Akinsanpe, T.O
47	Rare Earth Element Distribution in Tošići-Dujići Bauxite Deposit: Insights from BCR Sequential Extraction	Topalović, E. , Čobić, A., Fiket, Ž. and Tomašić, N.
48	Preliminary Results of an Antimony Geochemical Study, Longford-Down terrane	Cooper, M.R. , Patton, M.A.G., McNulty, K., Murrells, A., Hollis, S. and Torvela, T.
49	Typical features of the chemical composition of columbites from Perha metasomatites, North-West of Ukrainian Shield	Chernysh, D.S., Khomenko, V.M. , and Nissen, J.
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51	Immiscible fluids and melts trapped in garnet from pyroxenite-veined garnet peridotites related to metasomatism by basaltic melts	Čopjaková, R. , Kubeš, M., Talacko, J. and Kotková, J.
52	A protocol to interpret magmatic processes recorded by melt inclusions	Esposito, R.
53	TEM study of a lower mantle mineral inclusion suite in a super-deep diamond	Ogunjobi, C. , Singerling, S., Schreiber, A., Bulanova, G. and Brenker, F.E.
54	Confocal μ -XANES as a tool to analyse Fe oxidation state in heterogeneous samples: The case of melt inclusions in olivine from Hekla volcano	Wilke, M. , Botcharnikov, R., Garrovoet, J., Portnyagin, M., Klimm, K., Krasheninnikov, S., Almeev, R., Mouné, S. and Falkenberg, G.

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56	Hydrogen concentrations and petrophysical properties of an exceptionally fresh tectonically exhumed oceanic mantle lithosphere sliver	Demouchy, S. , Barou, F., Ishikawa, A., Gardés E., and Tommasi, A.
57	SpecXY – an open-source tool for working with spatial spectroscopic data	Gies, Nils B. , Hermann, Jörg and Lanari, Pierre
58	Three dimensional distribution of hydrogen distribution in corundum resolved using photoluminescence lifetime imaging	Jollands, M.C. , Jones, D.J. and Jin, S.
50	Water in the continental lithosphere: insights from inclusions in diamonds	Curtolo, A. *, Novella, D. , Bolfan-Casanova, N., Day, M.C., Pamato, M.G., Nestola, F. and Harris, J.W.
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60	Zoning in cassiterite: Sectors or twins?	Drivenes, K. , Sørensen, B.E., Antao, S., Brownscombe, W., Debuhr, S.R., Spratt, J. and Thomas, R.
61	End-member Hunter: A computer algorithm for assigning proper end-member formulae to minerals from their empirical formulae	Haifler, J.
62	Allanite-(Y) from the Åskagen, Sweden	Skřápková, L. , Cempírek, J. and Škoda, R.
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63	Micro-mineralogical characterization of two Ryugu particles by advanced FIB-SEM, TEM and electron diffraction	Borriello, R. , Ferrari, M., Folco, L., Mugnaioli, E. and Masotta, M.
64	Relict of an unknown process in the pre planetary nebula? Petrological & geochemical analysis of Inver-zoned Chondrules	Joseph, F. , Drozdovsky, I., Junge, M., Brau, J., Kaliwoda, M.
65	The microstructure of dolomite from asteroid Ryugu characterised by transmission electron microscopy and transmission Kikuchi diffraction	Lee, M.R. , Griffin, S., Daly, L. and Fujiya, W.
66	Transmission electron microscopy of the fine-grained matrix in the observed meteorite fall Winchcombe	Lier, J. , Vollmer, C., Risthaus, L., Kepaptsoglou, D., Ramasse, Q.M., Mosberg, A.B., El Hajraoui, K., Bays, C.L., Schofield, P.F., King, A.J.
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67	The historical Ungemach mineral collection at the University of Liège	Hatert, F. , Bouvy, A. and Warin, R.
68	The role of natural history museums for the public awareness of the need of raw materials	Junge, M. , Kaliwoda, M., Hentschel, F. and Schmahl, W.W.
69	An Investigation of Material Changes Occurring within Mineral Collections	Royce, K.
70	Early 19th Century mineral collection: Robert Jameson's last stand	Walcott, R.C.
71	Alexearlite (Hg ²⁺ ₃ (MoO ₄) ₂): A new mineral with a novel chemistry and structure	Emproto, C. , Olds, T.A., Kampf, A.R. and Ma, C.

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72	The role of volatile elements in cancrinites from the Larvik Complex, Norway	Dehousse, C. *, Hatert, F., Friis, H. and Dal Bo, F.
73	STRUPLO-24, a new version of the crystal-structure drawing program	Fischer, R.X. and Messner, T.
74	Chemical composition of calcite of veinlets-impregnation mineralization of rock complexes of the Silesian cover of the northwestern part of the Ukrainian Carpathians	Zankovuch, H.O. , Naumko, I.M., Kokhan, O.M., Matviishyn, Z.H. (REMOTE)
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75	Geochemistry of the pre-Variscan Pedrógão Grande S-type granitic pluton, central Portugal	Andrade, L., Carvalho, P.C.S. and Santos, J.F. (REMOTE)
76	Missing late veneer constrained by short-lived isotopes in the earliest rock record of South America	Leitzke, F.P., Pakulla, J.J. , Tusch, J., Ravindran, A., Barbosa, R.G., Zincone, S.A., Hellers, M., Martins, A.A., Spreafico, R.R., Yang, R., Wombacher, F., Barbosa, J.S.F., Münker, C.
77	Sulfur concentration and isotope composition in the (ultra)mafic rocks of the Central Sudetic Ophiolite, Poland	Woźniak W. , Elsherriff E., Ciężela J. and Strauß, H.