



XXII MEETING OF THE INTERNATIONAL MINERALOGICAL ASSOCIATION

13-17 AUGUST 2018 | MELBOURNE

IMA2018 PROGRAM

Monday 13 August 2018

0800-0900	Registration (badge collection) Foyer 3, Melbourne Convention and Exhibition Centre					
0900-0945	Opening ceremony Room: Plenary three					
0945-1015	Morning tea Exhibition area					
1015-1115	Plenary: Atomic Structure, Defects, and Stacking of Clay Particles by Low-Dose, High Resolution (Cryo)-TEM Professor Jill Banfield Chair: Stuart Mills Room: Plenary three					
Room	Plenary three	Meeting room 216	Meeting room 217	Meeting room 218	Meeting room 219	Meeting room 220
1115-1230	Sciences behind gemstone treatments	Fluids, Melts, Element Mobility and Isotope Fractionation in Subduction Zones: Petrological and Geochemical Insight	Mineral Evolution and Mineral Ecology: the Changes in Species Diversity and Complexity in Space and Time	Unseen but Integral to the Earth's Interior: How Minerals Determine Properties and Processes	Antimony: from mineralogy to remediation	Meteorites and the Early Solar System
1115-1145	Keynote: Radiation stains in green diamonds: Temperature and spatial variations Sally Magana	Keynote: Supercritical Fluids at Subduction Zones: Evidence And Outlook Huaiwei Ni	Keynote: Recent Advances in Mineral Evolution and Ecology via Big Data Analytics and Visualization Shaunna Morrison	Keynote: Elastic properties of iron and other materials: testing the composition of the inner core and pre-melting phenomena Martha Pamato	Keynote: Secondary mineralogy of antimony in mining wastes – comparison of stibnite-pyrite and tetrahedrite weathering Juraj Majzlan <i>Mineralogical Society of Great Britain & Ireland Hallimond Lecturer</i>	
1145-1200	Inclusion Characteristics of Wax-like Amber after Hydrothermal Treatment Yan Li	The Aqueous Solubility Of Siderite In Subduction Zones Stefan Farsang	Can Lithium Minerals be Counted? Comparison with Boron and Beryllium Edward Grew (1145-1205)	In-situ neutron diffraction study of the Fe-H system: implications to hydrogen in the core Eiji Ohtani	Mineralogical investigation of Sb and Pb containing sulfosalt minerals at Meleg-hill, Velence Mts, Hungary Richard Zoltan Papp	Mineralogy of extraterrestrial materials and insights into the formation of the solar system Trevor Ireland
1200-1215	Keynote: The Corundum Conundrum Grant Hamid (1200-1240)	Effective fractionation of carbon and nitrogen during diamond crystallization Vadim Reutsky	Evolution of structural and topological complexity in uranyl sulfates and selenates Vladislav Gurzhiy (1205-1225)	Incorporation of nitrogen into stishovite under high pressure and high temperature -The possibility of forming a "Hidden" nitrogen reservoir in the lower mantle via subducting slabs- Ko Fukuyama	Release of antimony from oxidative dissolution of stibnite dependent on mineral size, pH, oxidants and DOM Xiaoqian Li	Keynote: The behavior and distribution of volatiles during planetary differentiation: Evidence from apatite in planetary materials Francis McCubbin
1215-1230		Nitrogen partitioning in subduction zone processes Michael Forster	Q&A / discussion	Synthesis of transparent nano-polycrystalline minerals under very high pressure Tetsuo Irifune	Sources, migration and transformation model of antimony in the water environment of Xikuangshan antimony mine, Hunan province, China Jianwei Zhou	
1230-1330	Lunch break (catering not provided by meeting)					



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1330-1445	Sciences behind gemstone treatments	Fluids, Melts, Element Mobility and Isotope Fractionation in Subduction Zones: Petrological and Geochemical Insight	Mineral Evolution and Mineral Ecology: the Changes in Species Diversity and Complexity in Space and Time	Unseen but Integral to the Earth's Interior: How Minerals Determine Properties and Processes	Antimony: from mineralogy to remediation	Meteorites and the Early Solar System
1330-1345	Keynote: New Blue-diffused Sapphires From Synthetic VS Natural Starting Materials Visut Pisutha-Arnond	Keynote: In-situ boron isotope geochemistry of forearc serpentinites in the California Coast Ranges Tatsuki Tsujimori	Keynote: Crystal chemistry, geochemistry and spatiotemporal inhomogeneity as drivers of mineral diversity Andrew Christy	Crystallographic-preferred orientation of MnGeO ₃ perovskite Yu Nishihara	Adsorption and co-precipitation behavior of antimony with synthetic ferrihydrite Shuang Zhou	Extremely reducing conditions for the stability of khatyrkite and cupalite I-Ming
1345-1400				Sodium Partitioning in the deep transition zone and lower mantle of the Earth upon partial melting Anastasia Tamarova	Antimony behaviour during transformation of ferrihydrite under reducing conditions Niloofar Karimian	MgAl ₂ O ₄ spinels from Allende and NWA763 meteorites: structural refinement, cooling history and trace element contents Davide Lenaz
1400-1415	Characteristics of Commercial Grade Blue Sapphire Enhanced by Heat & Pressure Thanong Leelawatanasuk	Lithium isotope geochemistry of UHP marbles from Dabie-Sulu, China: Implications for tracing Carbon-cycling in subduction zones Wanhq Wan	A revised (upwards) estimate of Earth's "missing" minerals Robert M. Hazen	Decomposition of magnesite in the presence of reduced C-H-O fluid under upper mantle conditions Hiroaki Ohfuji	Antimony and arsenic in a contaminated river catchment in Australia: Metalloid phase association and distribution in sediments Steven Doherty	Keynote: Exploring the effects of crystallographic orientation on the generation of shock deformation features in Martian Shergottites Lucy Forman
1415-1430	A Preliminary synchrotron-radiation XAS study of diffusion treatment Oregon sunstone Chengsi Wang	Recycling of deeply subducted continental crust materials to deep mantle: Lithium isotopic evidence from post-collisional mafic-ultramafic rock in Dabieshan, China Dongbo Tan	Weathering processes of iron sulfides from Pilawa quarry, EMPA and Raman characterization Mateusz Dulski	Deep electron transfer between iron and carbon Catherine McCammon	Q&A / discussion	
1430-1445	Jade and its treatment: A Review Thyesun Tay	Q&A / discussion	Miocene-Pliocene (U-Th)/He ages for Lateritic Duricrust, in the southwest Darling Range, WA Martin Wells	First natural CaSiO ₃ perovskite inclusion within a diamond from Cullinan kimberlite Fabrizio Nestola	A metamorphic facies series for equilibrated stony meteorites Andrew Tomkins	
1445-1515	Afternoon tea Exhibition Area					
1515-1615	Plenary: Chasing the elusive biogeochemical cycles of noble metals – A story covering six continents Dr Frank Reith Chair: Joel Brugger Room: Plenary three					



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1615-1745	Sciences behind gemstone treatments	Fluids, Melts, Element Mobility and Isotope Fractionation in Subduction Zones: Petrological and Geochemical Insight	Mineral Evolution and Mineral Ecology: the Changes in Species Diversity and Complexity in Space and Time	Unseen but Integral to the Earth's Interior: How Minerals Determine Properties and Processes	Antimony: from mineralogy to remediation	Meteorites and the Early Solar System
1615-1630	Keynote: Estimating defect clustering and its effects on the mechanisms and effects of heat treatment on gem material	Keynote: Evolution of the paleosubduction zone in the western margin of the Siberian craton: element mobility and 40Ar/39Ar isotopic constraints	Big data network analysis of uranium mineral occurrences and formation mechanisms Samuel Perry	The densities and phase transformations of hydrous oceanic crust by using in situ x-ray diffraction measurements up to the Earth's transition zone Anja Rosenthal	Measurement of metallic nanoparticles of antimony in plants by SP-ICP-MS Christopher Johnston	Minerals as markers of fluid alteration in Paris chondrite Isabella Pignatelli
1630-1645	Richard Taylor	Antonina Vernikovskaya	Expanding the mineralogy of the "Anthropocene Epoch" Marcus J. Origlieri	Temperature dependences of hydrous species and the effects on displacive phase transition in feldspar Wendi Liu	Differential effects in the formation of plant-based antimony nanoparticles by inorganic Sb forms Tona Sanchez-Palacios	Nanoscale characterisation of grains from the Itokawa asteroid by FIB-ToF-SIMS, APM and TEM William Rickard
1645-1700	Summary of diamond color treatments Roman Serov	Multiphase solid inclusions and trace element zoning in garnets of UHP peridotite reveal fluid-mediated element transfer from subducting continental crust into overlying mantle wedge Jana Kotková	Weathering of sulfide bearing carbonate vein and its environmental significance Juan Li	Hydrous bridgmanite: Water in the Earth's lower mantle Toru Inoue	Remediation of antimony in infiltrating water of small arms shooting ranges Richard Martel	On the origin of olivine diogenites and diogenites: compositional diversity linked to variable fo2 Jennifer Mitchell
1700-1715	Heating experiment of sapphire samples from Sri Lanka and alteration of their infrared spectra Pornsawat Wathanakul	Initiation of the North China Craton destruction: Constrains from the diamond-bearing alkaline basalts in Lan'gan Anhui Province Xiao-Xia Wang	Plotting physical properties against 2D projections of the mineralogical system Milan Rieder	Effect of water on compressibility of Al-bearing hydrous bridgmanite Sho Kakizawa	Q&A / discussion	Q&A / discussion
1715-1730	Alteration of 3309 cm-1 infrared absorption of ruby samples undergone heating Aumaparn Phlayrahan	The effect of C-O-H fluids on partial melting of eclogite and lherzolite under reducing conditions Zairong Liu		Al partitioning between phase D and bridgmanite up to 31 GPa: implications for discontinuity around 780 km and water transports into the lower mantle Chaowen Xu		
1730-1745	Photoluminescence Characteristic of Turquoise and Its Application on Turquoise Identification Bahareh Shirdam	Q&A / discussion		Q&A / discussion		
1745-1900	Welcome reception Exhibition area					



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0830-0945	Mantle xenoliths, kimberlites and related magmas: the diamond trilogy	Recent advances in our understanding of gem minerals	Unseen but Integral to the Earth's Interior: How Minerals Determine Properties and Processes	Theoretical and computational mineral physics	Mineralogical crystallography	Geosciences, Archaeology and cultural heritage
0830-0845	Fate of Hydrocarbon Fluids at the Base of Subcratonic Lithosphere Alexander Sokol	Keynote: Diversity in ruby geochemistry and its inclusions, intra- and inter comparisons from Myanmar and East Australia Lin Sutherland		Keynote: Dislocation climb in bridgmanite: implication for the rheology of the lower mantle Patrick Cordier	Crystal chemistry of "Li ₇ La ₃ Zr ₂ O ₁₂ " garnet doped with Al, Ga, and Fe: a review. Georg Amthauer	Keynote: The Lead Isotope database of copper ore deposits developed at the Padua University: a tool for the investigation of complex provenance of archaeological metal finds Ivana Angelini
0845-0900	Mineral Chemistry and Petrography of Kuusamo Kimberlites and Related Rocks, Finland Hayden Dalton				The crystal structure and structural complexity of ilmajokite Andrey Zolotarev	
0900-0915	Periodic mixing of magmas recorded by the oscillatory zoning of clinopyroxene from an ultrapotassic lamprophyre dyke Changming Xing	The dynamics of gemstone discoveries and the challenges for research Wim Verriest	Antiphase domain boundaries in magnetite: A key feature of unseen high-pressure mixed-valence iron oxides Nobuyoshi Miyajima	First principles investigation of the high-pressure behavior of the FeOOH-AlOOH-phase H (MgSiO ₄ H ₂) system Jun Tsuchiya	Structural complexities in the lavendulan family Stuart Mills	Materials and production technology of Historic clay brick masonry of XVIII century in Aveiro, Portugal Clara Magalhães
0915-0930	The origin of carbonates in the Benfontein kimberlite sills: an in situ C-O-Sr approach Montgarri Castillo-Oliver	Archeological mineralogy and the dawn of gemmology: prehistoric (7th - 5th mill. BC) gem minerals and gold from the Balkans (SE Europe) Ruslan Kostov	Paracelsian, BaAl ₂ Si ₂ O ₈ , under high pressure: three new phase transitions and three new high-pressure phases Liudmila Gorelova	Recreating the Giant Impact and the protolunar disk from ab initio simulations Razvan Caracas	Crystal-chemistry of Y-poor hainite-(Y) from Poços de Caldas alkaline complex, Minas Gerais, Brazil. Andreza Azzi	Production of bricks by P. Cl(odium) D(onatus?) at Apulum (Roman Dacia province) Corina Ionescu
0930-0945	A geothermometer for carbonatites: Sr-Mn exchange between calcite and apatite Michael Anenburg	Adding logic to luck: Recent advances in coloured gem exploration in Canada Lee Groat	Modeling the physical properties of multiphase rock assemblage Kui Han	Stimulating perovskites Pressure-induced magnetic and electronic transition in perovskite SrCoO ₃ Han Hsu	Crystal chemistry of uranium germanates: framework topology and comparison with natural analogues Fabrice Dal Bo	Methodological approach to reconstruct lost monuments from archaeological findings Simona Scrivano
0945-1015	Morning tea Exhibition area					
1015-1115	Plenary: Thermodynamic clues for acidic and neutral mine drainage Professor Juraj Majzlan <i>Mineralogical Society of Great Britain & Ireland</i> <i>Hallimond Lecturer</i> Chair: Sergey Krivovichev Room: Plenary three					



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1115-1230	Mantle xenoliths, kimberlites and related magmas: the diamond trilogy	Recent advances in our understanding of gem minerals	Clays and micro-organisms	Theoretical and computational mineral physics	Mineralogical crystallography	Geosciences, Archaeology and cultural heritage
1115-1130	The Composition of Melts In The Incipient Melt Regime Zsanett Pintér	Advances in origin determination for gemstones using laser ablation inductively coupled plasma time of flight spectroscopy Hao Wang	Keynote: Clay mineral-microbe interactions and implications for environmental remediation of heavy metals and emerging organic contaminants Hailiang Dong	Predicting mean refractive indices of minerals and synthetic compounds based on electronic polarizabilities Reinhard X. Fischer	Crystal Chemistry Of K-Rich Nepheline From Hamada, Shimane Prefecture, Japan Maki Hamada	Decoding ancient architecture through mineralogical analysis of ancient mortars: the case study of the Sarno Bath complex in Pompeii Gilberto Artioli
1130-1145	The relationship between alkaline magma generation and the stability of continental lithosphere Stephen Foley	FTIR characteristics of amber from different regions Zhiqing Zhang		How the B1-B2 phase transition changes diffusion properties of MgO in super-Earth mantles Sebastian Ritterbex	Occurrences and crystal structures of melanophlogite from Sakhalin, Far East Russia Koichi Momma	Quantitative Mineralogical Characterization of the Ailsa Craig Granites – Mineralogical Significance for the Making of Olympic Curling Stones Shaun Graham
1145-1200	Super-reducing conditions in a modern volcanic system: implications for the carbon budget of cratonic lithosphere William Griffin	Multi-technique characterisation of opals Allan Pring		First-principles investigations on the defects properties of Fe-bearing MgO Xianlong Wang	New topology of levyne B under quasi-equilibrium conditions: a temperature-dependent in situ single crystal X-ray diffraction study Georgia Cametti	
1200-1215	Processes and mechanisms of diamond crystallization in the lithospheric mantle: insights from an experimental modeling approach Yuri Palyanov	Gem spinel: advances in trace element 'fingerprinting' and new insights into the origin of cobalt-blue spinel Philippe Belley		Polygonal serpentine and chrysotile in serpentine veins from Shimodake serpentinite body, Izumi, Yatsushiro, Kumamoto Prefecture, Japan Satomi Enju	Lattice Thermal Conductivity of the Lower Mantle Minerals Taku Tsuchiya	Crystal chemistry and thermal stability of uranyl and neptunyl mixed sulfate-selenate compounds Vladislav Gurzhiy
1215-1230	Iron carbide as a source of carbon for graphite and diamond formation under lithospheric mantle P,T-parameters Yuliya Bataleva	Q&A / discussion	Coupling quinoline degradation with Fe redox reaction in clay minerals: a strategy integrating biological and physicochemical processes Liuqin Huang	Q&A / discussion	Structural evolution of spodumene (LiAlSi ₂ O ₆) single crystal polymorphs up to 850 °C – In situ high-temperature XRD and Raman spectroscopic study. Anna-Maria Welsch	Macroscopic electrostatic effects in ATR-FTIR spectra of modern and archaeological bones Julie Aafort
1230-1330	Lunch break (catering not provided by meeting)					



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1330-1345	Geochemical and Sr–Nd isotopic characteristics of clinopyroxene from Clinopyroxene-Phlogopite xenoliths from the V. Grib kimberlite (Arkhangelsk diamond province, Russia) Nataliya Lebedeva	An update on gem demantoid garnet deposits Gaston Giuliani	Microbe-mineral interaction during freezing process Jaewoo Jung	Raman-Spectroscopy as a modern tool to investigate minerals and rocks within the Mineralogical State Collection Munich, Germany Melanie Kaliwoda (1330 – 1350)	Thermodynamic Stability of Uranium Silicides at High Temperatures Hongwu Xu	Geomicrobiology Of Australian Uranium Deposits: Out And About With Bear In Arkaroola Frank Reith
1345-1400	Sulfur isotopic composition of the Sub-Continental Lithosphere Mantle Olivier Alard	Gem pegmatites of Afghanistan and Pakistan Peter Lyckberg	An experimental study on the role of clay minerals in cyanobacterial fossilization Hongchang Liu	Magnificent minerals in museum collections: The Albert Chapman collection Melissa Murray (1350 – 1410)	High-temperature iron oxidation and cation migration in lobanovite Elena Zhitova	Understanding the Importance of Aqueous Geochemistry with Bear McPhail Jay Black
1400-1415	Accretion or subcretion? – The birth and growth of the subcratonic mantle Gerhard P. Brey	Trapiche ruby from Vietnam Isabella Pignatelli	Sulfide weathering processes mediated by microfungi Pietro Maescotti	Curating NASA's Past, Present, and Future Extraterrestrial Sample Collections Ryan Zeigler (1410 – 1430)	Electron Microscopic Investigations on the Natural Mineral Lorandite (TIAs ₂) from Allchar Macedonia Hans-Joachim Kleebe	Copper transport in hydrothermal fluids: A review of experiments and molecular simulations in the last two decades Weihua Liu
1415-1430	Cr-rich phases in the model pyrolite system at 2.5 – 7.0 GPa and 1400 – 1900°C Aleksandra Kharitonova	Coupled Tectonic, Hydrodynamic, Rheological and Shear-Induced Crystallisation Processes in the Formation of Precious Opal Veins within Weathered Mainly Cretaceous Sedimentary Host Rocks of the Great Artesian Basin, Central Australia Simon Pecover	Q&A / discussion	Q&A / discussion	Bixbyite in Bixbyite – Cs-corrected HR-STEM Results Stefan Lauterbach	Distribution and timing of authigenic illite/muscovite in Mesoproterozoic sandstone, Cariewerloo Basin, Australia: implications for fluid circulation and uranium mobilization John Keeling
1430-1445	Q&A / discussion	Gem zircon and sapphire ages and origins, New England sapphire fields, New South Wales, Australia Ahmadjan Abduriyim			Al- and B-rich tourmaline endmembers, which could theoretically occur in nature Andreas Ertl	Transport of lead and zinc in hydrothermal fluids: towards a molecular-level understanding Joel Brugger
1445-1515	Afternoon tea Exhibition area					
1515-1615	Plenary: Using Mineralogy to Reveal Diverse Geochemical Environments and Climate on Mars Dr Janice Bishop Chair: Peter Burns Room: Plenary three					



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1615-1630	Petrogenesis of alkaline magmas in the Yilgarn Craton, Western Australia: Platinum-group element and mineral geochemistry Eunjo Choi	Variscite and associated phosphate minerals from the Mt. Deverell variscite deposits, Milgun Station, Gascoyne region, Western Australia Peter Downes	The influence of clay minerals' structure and surface reactivity on their phase transformation Hongping He	The Belgian calcites of the Cesàro collection Frederic Hatert (1615 – 1635) Mineral specimens preparation in museum collections part one: definition and classification Federico Pezzotta	Preferential incorporation of elements during synthesis of multiply-substituted iron oxides Talitha Santini	Rutile geochemistry in gold exploration Jennifer Porter
1630-1645	Keynote: Australian diamonds, their volcanic hosts, mantle sources and origins: a review Lynton Jaques	Tomahawk Creek - Central Queensland. Source of Sapphires: nearby Tertiary volcanic plugs and/or Upper Devonian to Lower Carboniferous conglomerates? Nick Raffan	Facile synthesis of nanostructured silicon with various morphology from clay minerals for lithium-ion battery anodes Runliang Zhu	Mineral specimens preparation in museum collections part two: historic outlines Federico Pezzotta (1635 – 1645) Mineral specimens preparation in museum collections part two: historic outlines Federico Pezzotta	Crystallographic investigations on the dehydration behavior of natural and synthetic microporous vanadosilicates Rosa Micaela Danisi	Interactions between meteoric, surface, and ground water in fractured rock: Upper Murrumbidgee Catchment – preliminary results from meteoric and surface water studies Sharon Gray
1645-1700		Geographic typing of gem corundum taken a step further via in-situ oxygen isotope and trace element analysis: the example of Paranesti, Greece Kandy Wang	The crystal structure of sodium tetra-silicic fluoromica, NaLiMg ₂ Si ₄ O ₁₀ F ₂ Ritsuro Miyawaki		Structure and Dehydration Behavior of a Hydrated Hollandite-like Phase Jeffrey Post	Detrital xenotime: Is U-Th geochemistry a vector to metalliferous ores? Neal McNaughton
1700-1715	Diamonds and other kimberlitic minerals from the Webb Kimberlite Field, Western Australia Brent McInnes	Differences of green jasper properties based on SEM, XRF and petrographic analysis in Southern Java Island, Indonesia Kemala Wijayanti	The novel Al ₃₀ pillared interlayered montmorillonite Jianxi ZHU	(1645 – 1655) A new UK facility for the storage of radioactive minerals Mike Rumsey	Minerals Of The Ivanyukite Group: Crystallochemistry, Synthesis And Use Taras Panikorovskii	The interaction between interface coupled dissolution reprecipitation reactions and solid-state diffusion reactions in ore-forming systems Allan Pring
1715-1730	Hybrid lithologies in the source of diamonds from Copeton and Bingara, NSW, Australia Antony Burnham	Unusual alluvial sapphires from Oros mayo, Argentina: a multi-analytical approach to decipher their origin. Ian Graham	Use of Infrared Spectroscopy for the Estimation of Soluble Al ₂ O ₃ in Calcined Kaolin Adriana Guatame-Garcia	(1655 – 1715) Q&A / discussion	Q&A / discussion	Hidden histories in quartz microcrystals Dominique Tanner
1730-1745	Q&A / discussion	Q&A / discussion	Q&A / discussion			Q&A / discussion
1745-1900	Poster viewing Exhibition area					



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0830-0945	Modular aspects of mineral structures	Mineralogy past, present and future: preparing for the next 100 Years of the Mineralogical Society of America	Environmental impacts of nuclear energy: the new challenges	Pegmatite Mineralogy, Geochemistry, Classification and Origins	Metamorphism at extreme conditions: the important role of UHP and UHT rocks in deciphering lithosphere evolution	Natural or engineered clays and nanoparticles with various functionalities
0830-0845	Keynote: Crystal chemistry of hydrous pyroxenoids with three-periodic single-chain of SiO ₄ tetrahedra Mariko Nagashima	Evolution Of The Manuka Mississippi Valley Type Deposit Through Its Smoky Quartz Crystals Angela Lay	Transformation of Sparingly Soluble Uranyl Mineral Phases to Highly Soluble Nanoscale Cage Clusters Haylie Lobeck	Keynote: NYF-type pegmatites in Argentina: a review Fernando Colombo IMA2018 scholarship winner	Are there any diamonds formed by regional metamorphism? Hans-Joachim Massonne	Keynote: Recent Developments in Material Design of Layered Alkali Silicates Yusuke Ide
0845-0900		Crystallization by particle attachment in melts Ai-Cheng Zhang	Migration and Transport of Plutonium in Australian Climates Megan Cook		Origin of lowest temperature microdiamond in a metapelite from Nishisonogi, western Japan Tadao Nishiyama	
0900-0915	Modular Structure Of Biopyriboles-Palysepioles Massimo Nespolo	Tourmaline Studies through Time: Contributions to Advances in the Physical Sciences Darrell Henry	Thermodynamics and structural complexity of sodium uranyl sulfate minerals with unusual structural topologies Samuel Perry	Applications of advanced analytical and mass spectrometry techniques to the characterisation of LCT pegmatites Mark Aylmore	The nanoscale mobility of trace elements in rutile during ultra-high-temperature crustal metamorphism Rick Verberne	Surface roughness effect of layered double hydroxides in their cellular uptake Hyoung-Jun Kim
0915-0930	Computationally driven determination of modular mineral structures: the case of CaCO ₃ vaterite Raffaella Demichelis	Global formation of Earth's minerals with successive fluid system. Yasunori Miura	Radiation Damage in ABO ₄ Compounds: Laboratory versus Nature Greg Lumpkin	The stability of Si-rich triphylite in granitic pegmatites : an experimental investigation of the Li(Fe,Mn)(PO ₄)-(Fe,Mn) ₂ (SiO ₄) olivine-type solid solution Frederic Hatert	The impact of cathodoluminescence (CL) microscopy: Petrological applications to UHP-metamorphic rocks Hans-Peter Schertl	Plasma protein interaction of layered double hydroxide according to their size and surface charge Hyoung-Mi Kim
0930-0945	Q&A / discussion	Data-Driven Discovery in Mineralogy: Setting the Stage for MSA's Second Century Robert M. Hazen	U speciation and mobility in soils and sediments: A spectroscopic and geochemical approach Lucie Stetten	Rare phosphate minerals in granite pegmatite dykes, northeastern Victoria, Australia William Birch	Q&A / discussion	Q&A / discussion
0945-1015	Morning tea Exhibition area					
1015-1115	Plenary: Mineralogy and dynamics of the core-mantle boundary region Professor Motohito Murakami Chair: Catherine McCammon Room: Plenary three					



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1115-1230	Modular aspects of mineral structures	Mineralogy past, present and future: preparing for the next 100 Years of the Mineralogical Society of America	Microbe mediated electron transfer in mineral-fluid systems and environmental consequences	Pegmatite Mineralogy, Geochemistry, Classification and Origins	Martian mineralogy: observations, experiments, analogues and models	Natural or engineered clays and nanoparticles with various functionalities
1115-1130	Plenary: Modular crystal chemistry of sulfosalts with large cations: Thallium Professor Emil Makovicky 2017 IMA medallist Chair: Peter Burns	Advances in deciphering mineralogical features and rates of processes in contact metamorphic aureoles: Integrating mineralogy with time-dependent 3-D numerical modeling Barbara Dutrow		New age constraints on the age of the Tørdal pegmatites, southern Norway Nanna Rosing-Schow	Keynote: In situ mineralogical observations on Mars: Discoveries by the CheMin X-ray diffraction instrument Shaunna M Morrison Robert M Hazen	Photoluminescence by Intercalation of a Fluorescent β -Diketone Dye into a Synthetic Saponite Tomohiko Okada
1130-1145			Epidote occurrence in pegmatite veins and its relation to the metamorphic host suite in the Dunje area, Republic of Macedonia Nenad Tomasic	Iron Isotope Geochemistry of Jarosite and the Implications for Iron Cycling in Sediments on Earth and Mars Anne Whitworth		Size- and surface charge dependent blue green algae flocculation of layered double hydroxide nanoparticles Tae-Hyun Kim
1145-1200		Museum Mineral Collections: Serving Science for the Next Century Jeffrey Post	Deposition characteristics of cold-water travertine and comparative investigation of hydrogeology for post-earthquake in Jiuzhai-Huanglong, Southwest China Faqin Dong		Chamber Pegmatites of Volodarsk, Ukraine new observations 2013-2018 Peter Lyckberg	Synthesis of ultra thin silver nanoplates on layered double hydroxide for surface enhanced raman scattering Gyeong-Hyeon Gwak
1200-1215		Resurrecting victims of the revolution: X-ray diffraction and the re-definition of mineralogy Peter J Heaney	Environmental significance of living coccolithophores mineralization under multi-field environmental stressor Coupling Shiyong Sun	Q&A / discussion	Tracing the evolution of hydrogen in the martian crust through laboratory studies of apatite Jessica Barnes	Q&A / discussion
1215-1230	Engaging students in mineralogy during first-year geology lectures Dominique Tanner	One-step Preparation of Highly Efficient ZnO/ZnFe ₂ O ₄ Coupled Photocatalyst by Thermal Treating Sphalerite and Its Capability of Environmental Remediation Yanzhang Li	Using μ FTIR on Martian meteorites to calibrate spacecraft-collected spectral maps of Mars. Gretchen Benedix			
1230-1330	Lunch break (catering not provided by meeting)					



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Room	Plenary three	Meeting room 216	Meeting room 217	Meeting room 218	Meeting room 219	Meeting room 220
1330-1445	Modular aspects of mineral structures	Structure and properties of silicate glasses and melts: from laboratory to volcanic activities	Microbe mediated electron transfer in mineral-fluid systems and environmental consequences	Pegmatite Mineralogy, Geochemistry, Classification and Origins	Beyond Earth and Mars, planetary materials in the outer Solar System	Natural or engineered clays and nanoparticles with various functionalities
1330-1345	Keynote: New insights into the crystal chemistry of modular structures	Keynote: Raman spectroscopy study of the iron oxidation state of mid-ocean ridge and peridotite glasses	Keynote: Microorganisms obtain photoelectron energy from natural semiconducting minerals	Genesis of the Xuebaoding W–Sn–Be coarse-grained Crystals Deposits in Southwest China Yan Liu	Keynote: Far-Infrared Studies of Planetary Ice Surfaces at the Australian Synchrotron Courtney Ennis	Liquid-crystal phase formation in Fe(OH) ₃ /palygorskite non-aqueous suspensions Tingting Xu Jing Chen Yeling Jin
1345-1400	Sergey Aksenov	Charles Le Losq	Anhuai Lu	Pegmatites on the Mount Qomolangma, Tibet Rucheng Wang		Calcium interaction at the kaolinite surface: insights on the macroscopic behaviour Dimitri Deneele
1400-1415	Graphical and geometrical stereoisomerism in edge-sharing chains of octahedra in minerals: a structure hierarchy approach Aaron Lussier	Role of Na/K mixing on the structure and physical properties of iron-bearing silicate melts Daniel Neuville	Influence of Cu on the band structure of biogenic birnessite Feifei Liu	The Havey Gem Tourmaline Pegmatite, Poland, Androscoggin County, Maine – An Example Of Highly Efficient Chemical Fractionation Jeffrey Morrison	Mineral Formation and Alteration in Frozen Brines and the Composition of Europa's Surface Robert Hodyss	Intercalation of uranyl peroxide nanoclusters into layered double hydroxides Samuel Perry
1415-1430	Q&A / discussion	Role of Alkaline and Earth alkaline elements in silicate glasses and melts Daniel Neuville	Research on the mineralogical characteristics of rock varnish from Gobi Desert: implications for photocatalysis process in its formation. Xiaoming Xu	Tantalowodginite: A New Mineral from the Emmons Pegmatite, Uncle Tom Mountain, Greenwood, Oxford Co., Maine, USA. Sarah Hanson	Q&A / discussion	Q&A / discussion
1430-1445		Q&A / discussion	Fine structural characteristics of biogenic birnessite functioning on Cu(II) coprecipitation and post-adsorption processes Yuwei Liu	Anatectic origin of the post-Penokean Li-Cs-Ta-enriched pegmatites in Florence County, Wisconsin, USA Alexander Falster		
1445-1515	Afternoon tea Exhibition area					
1515-1615	Plenary: The New Landscapes of Uranium Mineralogy Professor Peter Burns Chair: Patrick Cordier Room: Plenary three					



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Wednesday 15 August 2018 – continued

Room	Plenary three	Meeting room 216	Meeting room 217	Meeting room 218	Meeting room 219	Meeting room 220
1615-1730	Mineral materials	Microbe mediated electron transfer in mineral-fluid systems and environmental consequences	Platinum-group elements (PGE) and platinum-group minerals (PGM) in magmatic deposits	Pegmatite Mineralogy, Geochemistry, Classification and Origins	Beyond Earth and Mars, planetary materials in the outer Solar System	Applied mineralogy – from field to breakfast table / Mineralogy of human-modified environments
1615-1630	Keynote: Designed synthesis of diatomite-based composited materials for cleaning industrial waste water Jinshu Wang	Extracellular electron transfer between birnessite and electrochemically active bacteria community in red soils Manyi Sun	Keynote: Nanoscale behaviour of platinum group elements Artur Deditius	Post-Orogenic, Pre-Rifting Anatectic Origin of the Oxford Co., Maine USA Pegmatite Field William Simmons	Keynote: Titan Molecular Minerals: The Acetylene Series Morgan Cable	Low-carbon alkali-activated binders: a possible answer to the need of sustainability for the construction industry Gilberto Artioli
1630-1645				Petrogenetic Model for the Formation of the Anatectic Oxford Co., Maine, USA Pegmatite Field Karen Webber		Sustainable Processing of Nickel Laterite Ore Scarlett C Southall
1645-1700	Research on the 2D Nanoclay Based Drug Delivery System for Cancer Therapy Yi Zhang	Light mediated microbial oxidation of pyrite Xiancai Lu	Palladium selenides and their solubility of selected elements, an experimental study Anna Vymazalová	A new classification of granitic pegmatites - Part I: History and the need for a new classification Axel Muller	Dissolution geology of organic materials on Saturn's moon Titan: alien analogs of terrestrial karst Michael Malaska	Simultaneous mineral phase quantification and site occupancy refinement of carbonates by XRD and the Rietveld method of samples bearing Very High Magnesium Calcite: a methodological contribution to the dolomite problem Reiner Neumann
1700-1715	Influence of Fe doping on the structure, conductivity and supercapacitance performance of birnessite Hao Liu	Incorporation of zinc into human pathological calcification Yan Zhang	Platinum mineralisation in the Owendale Ural-Alaskan-type ultramafic complex, New South Wales, Australia: the effects of serpentinisation on Cu-PGE-Ni sulfides Reid Keys	A new classification of granitic pegmatites - Part II: Accessory mineral assemblages and their genetic implications Michael Wise	Discussion: The next frontier of planetary minerals	Using autoSEM/EDS for quantitative mineralogy of metal(loid)s-bearing particles deposited near an operating copper smelter Marek Tuhý
1715-1730	Layered Mineral-Functional Molecules Composite with Improved Fluorescent Properties and Its Application in Pollutant Detection Guocheng Lv	Q&A / discussion	Can platinum-group minerals crystallize directly from a silicate melt? Hassan Helmy	Discussion: Pegmatite classification		Nickel biogeochemistry in mangrove sediments downstream lateritic ores in New Caledonia : Field observations and laboratory experiments Farid Juillot
1730-1745	Non-metallic mineral composite for water contaminant remediation Yunfei Xi		Exotic minerals and microxenocrysts in the deepest PGE deposit of the Bushveld Complex Dominique Tanner			Q&A / discussion
1745-1900	Poster viewing Exhibition area					



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Room	Plenary three	Meeting room 216	Meeting room 217	Meeting room 218	Meeting room 219	Meeting room 220
0830-0945	Mineral materials	Iron ore mineralogy	Increasing resource efficiency through continuous monitoring from exploration to processing	Mineral-hazards: the environmental and human health problem represented by raw and man-processed mineral phases with special attention to asbestos minerals	Microbe mediated electron transfer in mineral-fluid systems and environmental consequences	Water in minerals and its effect on physical properties
0830-0845	Tetrahedral substitution to induce tunable luminescent properties in apatite structural solid-solution phosphors $\text{Ca}_9\text{La}(\text{PO}_4)_5[\text{Si},\text{Ge})\text{O}_4]\text{F}_2:\text{Ce}^{3+}$ Haikun Liu	Keynote: A mineralogy- and texture-based geomaterial approach for classifying Australian iron ores Mark Pownceby	Keynote: Seamless elemental and mineralogical sensing across the mining value chain in BHP Iron Ore to enable metallurgical scheduling Marteen Haest	Keynote: Surface reactivity of amphibole asbestos: The influence of crystal chemistry and surface area. Giovanni Battista Andreozzi	Keynote: Mechanisms of Electron Transfer Between Clay Minerals and Fe-reducing Bacteria Hailiang Dong	Water in chalcopyrite and other sulphide minerals Allan Pring
0845-0900	Synthesis and luminescence properties of Eu^{2+} -activated phosphor $\text{Ba}_3\text{LaK}(\text{PO}_4)_3\text{F}$ for n-UV white-LEDs Xiaoxue Ma					Neutron computed tomography: a new approach to measure grain-boundary proton diffusion in polycrystalline forsterite matrix Sarath Patabendigedara
0900-0915	Magnetite-based composite materials as excellent Fenton-like catalysts Keyan Li	Mineralogy of Martite Goethite iron ore in Australia Erick Ramanaidou	A New Hyperspectral Library Connected to Solsa Open Databases For On-Line-Real-Time Analyses of Ni Laterites And Bauxite Beate Orberger	The new nanoscope station at ID11: a tool to study nano fibers Carlotta Giacobbe	EPS mediated electron transfer in iron hydroxide reduction by MR-1 Lei Gao	Results of experimental test of OH preservation in mantle xenoliths: Example from Allègre volcano samples (Massif Central, France) Jannick Ingrin
0915-0930	Crystal Structure and Luminescence Properties of Novel Apatite-type Phosphor Lefu Mei	Characterisation of Goethite Types from Australian Iron Deposits James Manuel	Sensing and data fusion for raw material characterization Feven Desta	Fibrous minerals in the Banded Iron Formations of the Hamersley Group of Western Australia Laurence Glossop	Visible Light-driven Electron Transfer between Hematite and <i>Shewanella oneidensis</i> MR-1 Juan Liu	Hydrous melting of Labradorite: An electrical conductivity investigation. Anthony Lanati
0930-0945	Erythrite-köttigite extended solid solution Justyna Ciesielczuk	Fe-Mg \pm -B \pm -S \pm -F skarns and replacement deposits in Tasmanian and their diverse mineralogy Ralph Bottrill	The SOLSA project: Combined techniques and databases for mineral identification Yassine El Mendili	Q&A / discussion	Microbial reduction of Cr(VI)-substituted Schwertmannite by <i>Shewanella oneidensis</i> MR-1 Huan Liu	In situ infrared spectroscopic studies of hydrogen defects in clinopyroxenes up to 1000 oC Yan Yang
0945-1015	Morning tea Exhibition area					
1015-1115	Plenary: The Evolving Role of Mineralogy and Mineralogists in Mineral exploration Paul Agnew Chair: Dermot Henry Room: Plenary three					



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Room	Plenary three	Meeting room 216	Meeting room 217	Meeting room 218	Meeting room 219	Meeting room 220
1115-1230	Mineral materials	Iron ore mineralogy	Increasing resource efficiency through continuous monitoring from exploration to processing	Mineral-hazards: the environmental and human health problem represented by raw and man-processed mineral phases with special attention to asbestos minerals	Microbe mediated electron transfer in mineral-fluid systems and environmental consequences	Water in minerals and its effect on physical properties
1115-1130	Electrochemical Properties of Fluorinated Carbon Obtained from Acid-Treated Black Talc for Li-ion Battery Anode Peng Fan	Keynote: Iron Ore Upgrade Potential using Reflectance Spectroscopy Martin Wells	Continuous on-site automated mineralogy monitoring and operational mineralogy - the evolution of process mineralogy Shaun Graham	Keynote: Asbestos and crystalline silica: new models and molecular mechanisms in particle toxicology Francesco Turci	Keynote: Extracellular Electron Transfer Mechanisms between Microorganisms and Redox Active Minerals Liang Shi	Crystal Chemistry of Hydrogen and the Mineralogy of Earth's Deep Water Cycle Joseph Smyth
1130-1145			Infrared-Based Monitoring of the Mining and Processing of Calcined Kaolin Adriana Guatame-Garcia			High-pressure and high-temperature study of Epidote by synchrotron X-ray diffraction and Raman spectroscopy Lin Li
1145-1200	Design and construction of bioinspired mineral-based microreactors Shiyong Sun	Spectral signature of alteration zones associated with iron ore deposits in the Yilgarn Craton, Western Australia Carsten Laukamp	X-ray diffraction (XRD) and statistical data analysis - a new tool for process monitoring and exploration of ores Uwe Koenig	Weathering Influence on fiber release of asbestos type minerals under subtropical climate. Christine Laporte-Magoni		Q&A / discussion
1200-1215	Recent advances in rectorite composites for environmental application Hongyun Chen Huaming Yang	3D mineralogical mapping of the Kovdor phoscorite-carbonatite pipe Gregory Ivanyuk	Mineralogy of New Caledonian lateritic nickel deposits Erick Ramanaidou	Q&A / discussion	Organic pollutants enhance Fe(III) bio-reduction through promoting electron shuttle secretion Hui Liu	Raw materials for a hi-tech world: geology, mineralogy and geometallurgy Keynote: Critical commodities: Australia's opportunity as a global supplier David Huston
1215-1230		Phosphorus and other impurities in iron ores – characterisation by EPMA and possible P incorporation mechanisms. Mark Pownceby	Sonic Drilling In Subsurface Ore Deposits: An Efficient Sampling Tool To Increase Metal Production Beate Orberger		Q&A / discussion	
1230-1330	Lunch break (catering not provided by meeting)					
1230-1330	ZEISS Microscopy sponsored symposium - Operational mineralogy: integrating mineralogy in the mineral processing plant (catering provided for symposium attendees) Will Goodall					



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1330-1445	Mineral materials	Iron ore mineralogy	Increasing resource efficiency through continuous monitoring from exploration to processing	Mineral-hazards: the environmental and human health problem represented by raw and man-processed mineral phases with special attention to asbestos minerals	Microbe mediated electron transfer in mineral-fluid systems and environmental consequences	Raw materials for a hi-tech world: geology, mineralogy and geomaterials
1330-1345	Advances in Solid-state Nuclear Magnetic Resonance and Infrared spectroscopies for the structural characterization of phyllosilicates. Example of synthetic talc. Mathilde Poirier	Quantifying the composite microhardness and fracture toughness of iron ore particle textural types Michael Peterson	Influence of quartz grain size on the quantification of kaolinite using infrared reflectance spectroscopy Carsten Laukamp	Deterioration of asbestos-cement roofing sheets – a source of asbestos in the environment Marek Michalik	Keynote: Microbe-mineral interaction in Extreme Environment Jinwook Kim	Tellurium Tomorrow: Supply, Demand and Waste of a Rare Material Daniel Smith
1345-1400	Kaolinite modulated oxygen vacancies of Co ₃ O ₄ nanocrystals for enhancing the catalytic property Qihang Zhao Liangjie Fu Huaming Yang	Quantitative Mineralogy of Iron Ores - Recommendations from Results of an International Round Robin Mark Raven	Mineralogical and geochemical investigations of the bauxite from the central Yangtze Block Ruixue Wang	Revisiting the paradigm of the pathogenicity of silica: silanols, not crystallinity, as key determinant Gianmario Martra		New Frontiers in Micro-Analysis Workflows for Improved Characterization and Ore Deposit Knowledge Shaun Graham
1400-1415	Exploration of Emerging Nanoclay Composite for the Biomedical Application Mei Long Yi Zhang Aidong Tang Huaming Yang	Iron Ore: scanning under the tip of the iceberg! Erick Ramanaidou	Q&A / discussion	Fibrous Antigorite from New Caledonia. A mineralogical identification issue in the plan prevention of mining companies. Jasmine Rita Petriglieri	Mineral-microbe interactions on the Great Barrier Reef: understanding reef health and susceptibility to climate change Stuart Mills	New Methods for Characterising Lithium-Bearing Minerals and their Application in Exploration and Extraction Monica Legras
1415-1430		Boron Isotope And Ree Signatures And Their Sources In High Grade Manganese Ores Of The Kalahari Manganese Field, South Africa Lauren Blignaut	Gold – News from an old favourite Keynote: A biometallurgical approach to recovering gold from electronic waste Ollie Crush	Issues with the Identification, Exposure Monitoring and Assessment of Health Risks associated with Trace Levels of Elongate and Fibrous Minerals Present in Quarried Serpentine Linda Apthorpe	In situ analysis Keynote: In situ studies of Jarosite formation using synchrotron techniques Helen Brand	Q&A / discussion
1430-1445	Emerging Si@carbon fibers composites from natural halloysite for advanced lithium ion batteries Sainan Liu Huaming Yang Qiang Zhang Dawei Mu	Q&A / discussion		Q&A / discussion		
1445-1515	Afternoon tea Exhibition area					
1515-1615	Plenary: The rare earth elements: critical metals for the 21st century. Dr Kathryn Goodenough Chair: Hans-Peter Schertl Room: Plenary three					



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Room	Plenary three	Meeting room 217	Meeting room 218	Meeting room 219	Meeting room 220
1615-1730	Mineral materials	Gold – News from an old favourite	Mineral-hazards: the environmental and human health problem represented by raw and man-processed mineral phases with special attention to asbestos minerals	In situ analysis	Raw materials for a hi-tech world: geology, mineralogy and geometallurgy
1615-1630	Sepiolite Composite as a Modified Electrode For Electrocatalytic Reduction of H ₂ O ₂ Aidong Tang	Electrum from the Kongsberg silver district, Norway Kåre Kullerud	Analytical protocols to characterize talc for the absence of asbestos to evaluate suitability for use in cosmetic products Bryan Bandli	Using WOMBAT for in situ mineral analysis Helen Maynard-Casely	Determination of Lithium-concentrations in different ores determined by X-Ray diffraction and statistical methods Herbert Poellmann
1630-1645	Proton Conduction and Fuel Cell Using the CuFe-oxide Mineral Composite Based on CuFeO ₂ Structure Yan Wu	Geo-Microbiological Gold Cycling: Examples From Australia And Africa Santonu Kumar Sanyal	Road tunneling and surface excavation in asbestos-rich geological setting: new tools and analytical procedures for the evaluation of asbestos-related risk Chiara Avataneo Francesco Turci	High-temperature XRD as a tool for in-situ monitoring of advanced nanomaterial synthesis in variable thermal conditions (oxidation, inert, reducing) Jan Filip	An EPMA, LA-ICP-MS and Fluid Inclusion study on the growth of a single cassiterite crystal from Blue Tier, Tasmania Jason Bennett
1645-1700	Microstructure and mechanical behavior of clay-based porous ceramic: Effect of fruit peel addition Mossaab Mouiya	Biogeochemical Gold (Trans)Formation In Geologically Active Environments Jeremiah Shuster	Airborne particulate matter in Krakow (South Poland) – diverse composition, diverse origin and health hazard Wanda Wilczynska-Michalik	Application of in situ XRD to probe reactions at mineral – fluid interface insights from the replacement of chalcopyrite by chalcocite Alok Chaudhari	Dynamic mineral recrystallization and its effects on trace metal cycling in deep-sea ferromanganese nodules and crusts Tobias Hens
1700-1715	Q&A / discussion	The geodynamics and prospecting for 'Jiaodong type' gold deposits Lin Li		3D Mineral Mapping of Sandstone Samples using Micro-CT and SEM-EDS Jay Black	Q&A / discussion
1715-1730		Q&A / discussion	Q&A / discussion	Reworked restite enclave: Petrographic and mineralogical constraints from the Tongshanling intrusion, Nanling Range, South China Jianjun Lu	
1900-2300	Gala Dinner Members Dining Room, Melbourne Cricket Ground				



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Room	Plenary three	Meeting room 216	Meeting room 218
0900-0945	Latest developments in synchrotron-based studies in mineralogy, petrology and geochemistry	Reactions at the mineral-fluid interface	The ever-growing mineral diversity in the Earth and the Solar System: new minerals, including nano- and biominerals, and related nomenclature/classification issues
0900-0915	Uranium crystal chemistry in hydroxyapatite: Implications for accurate direct dating of fossilized teeth Ellen Moon	Keynote: Measuring and understanding adsorption-mediated hydration at silicate particle surfaces Bradley Chmelka	Growth Of The Pyrochlore Supergroup Daniel Atencio
0915-0930	Experimental investigation of the Li K-edge of Lithium Silicate glasses Grant Henderson		On The Mineral Nomenclatures: The Dominant-Valency Rule Ferdinando Bosi
0930-0945	Three-dimensional submicrometer-scale imaging of platinum-group elements in mantle peridotite with synchrotron radiation XRF and nano-CT: implications for the origin of platinum-group minerals in the mantle Tetsu Kogiso	Interactions Between Dyes And Earth Materials And Its Influence On Groundwater Tracer Study Zhaohui Li	Blue Afwillite From Ma' Ale Adummim, Judean Desert, Israel. Rafał Juroszek
0945-1015	Morning tea Exhibition area		
1015-1115	Plenary: 'It from bit' in mineralogy: how information emerges, evolve and disappear in the world of mineral structures Sergey Krivovichev Chair: Andrew Christy Room: Plenary three		
Room	Plenary three	Meeting room 216	Meeting room 218
1115-1230	Latest developments in synchrotron-based studies in mineralogy, petrology and geochemistry	Reactions at the mineral-fluid interface	The ever-growing mineral diversity in the Earth and the Solar System: new minerals, including nano- and biominerals, and related nomenclature/classification issues
1115-1130	X-ray microfocusing for high-pressure powder x-ray diffraction at BL10XU of SPring-8 Naohisa Hirao	Rare Earth Elements control porosity change during the magnetite to hematite transformation Yanlu Xing	Keynote: Mineral Diversity: Beyond 7000 Species? Ulf Hålenius
1130-1145	In-situ XANES investigations of elements in silicate liquids at the Australian Synchrotron XAS beamline Jeremy Wykes	Atomic scale transformation of bone in controlled experimental environments Julie Aufort	
1145-1200	Enhancing synchrotron TR-XRD of minerals: Monitoring mineral-fluid flow-through reactions using ex situ MC-ICP-MS and in situ XANES Peter J Heaney	Experimental investigation of reaction between pyrite and copper(I)-chloride at 100–250°C and its geological implications Yang Zhang	New Aspects In The Crystal Chemistry Of Vesuvianite-Group Minerals. Taras Panikorovskii
1200-1215	High-Energy Resolution Fluorescence Detection (HERFD) XAS spectroscopy as a powerful tool to unravell trace elements speciation in geological systems : An example on Co speciation along a lateritic regolith upon peridotites in New Caledonia Farid Juillot	The role of alkali feldspar in ice-nucleation in clouds Ian Parsons	"Uranian Cuspidine" – A Potentially New Mineral From Paralava Of Eastern Gurim, Hatrurim Complex, Israel. Arkadiusz Krz̄ała
1215-1230	Q&A / discussion	Textural and compositional complexities resulting from fluid-driven, surface-controlled reactions in ore systems Joel Brugger	Rich Structural And Chemical Variation In Secondary Tellurium Minerals, Old And New Owen Missen
1230-1330	Lunch break (catering not provided by meeting)		



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	Plenary three	Meeting room 216	Meeting room 218
1330-1430	Latest developments in synchrotron-based studies in mineralogy, petrology and geochemistry	Reactions at the mineral-fluid interface	The ever-growing mineral diversity in the Earth and the Solar System: new minerals, including nano- and biominerals, and related nomenclature/classification issues
1330-1345	The Journey from Laboratory X-ray Sources to Synchrotron Light Sources and Its Impact on Mineralogy, Mineral Physics, Geochemistry, and Molecular Environmental Science Gordon Brown	A New EPMA Technique to Characterisation Quartz and Quartz-cement Colin Macrae	
1345-1400	Determining the atomic structure of amorphous materials at high-pressure using Monte-Carlo simulations constrained by Synchrotron X-ray Absorption and Scattering data. Simon Clark	Structural properties and stability of multiply-substituted Fe-oxides Jessica Hamilton	
1400-1415	Measurements at extreme conditions using the large-volume press at ID06, ESRF. Wilson Crichton	REE silicate-phosphate minerals in the weathered Permian diamictites, Agnew Region, Western Australia. Implications for REE mobility Walid Salama	A Novel Hydrated Copper(I), Calcium, Rare Earth Sulfate From The United Kingdom With A New Structure Topology Michael Rumsey
1415-1430	Determination of the oxidation state of iron in natural peridotitic and eclogitic garnets by synchrotron Mössbauer spectroscopy Anja Rosenthal	Rate evaluation of the dissolution of secondary sulfate minerals for effective acid and metalliferous drainage mitigation Gujie Qian	Sulfur In Mayenite Group Minerals Dorota Środek
1430-1445	Acid leaching of ultramafic mine tailings to promote carbon mineralisation and enrichment of trace metals Jessica Hamilton	Complex mineral replacement reactions in copper-iron sulfides: insights from hydrothermal experiments Fang Xia	Q&A / discussion
1445-1530	Closing ceremony Room: Plenary three		