



Goldschmidt 2008

Oral and Poster Presentations

Friday July 18th, 2008



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Friday 18th July AM

Room H2

01e: Early Solar System Materials

Session chaired by Sara Russell & Michael Zolensky

10:00 Processing of the Smallest Wild 2 Particles in Hot Silica Aerogel
A797 Rietmeijer F

10:15 Mineralogical Origins of Wild 2 Comet Particles Collected by the
Stardust Spacecraft

A441 Joswiak D

10:30 Mineralogy and Chemistry of Stardust Samples

A459 Keller LP, Nakamura-Messenger K & Messenger S

10:45 Concerted TOF-SIMS and TEM Analysis of Cometary Matter
Captured by Stardust

A896 Stephan T & van der Bogert CH

11:00 Study of the C-Rich Phases of Two Cometary Particles with
Electron Microscopy and NanoSIMS

A603 Matrajt G, Messenger S, Ito M, Joswiak D & Brownlee D

11:30 Stardust Comet Samples and the Relationship to Chondrites

A1012 Weisberg M & Connolly H

11:45 **Keynote:** Presolar Organic Globules in Astromaterials

A671 Nakamura-Messenger K, Messenger S, Keller LP, Clemett S
& Zolensky M

12:15 **Invited:** The Tagish Lake Meteorite: Opportunities in Cold
Curation and Analysis

A370 Herd C & Hiltz R



Friday 18th July AM

Room H1

04b: Continents and their Lithospheric Keels

Session chaired by Roberta Rudnick & Steve Shirey

- 10:00 **Keynote:** Cratons and Continents: A View from Below
A134 *Canil D*
-
- 10:30 **Invited:** Aluminochrons and Re-Os Model Ages of Peridotites Revisited
A65 *Becker H & van Acken D*
-
- 10:45 Eclogitic Sulfide and Silicate Inclusions in Diamonds and Sub-Continental Geological Processes
A862 *Shirey S, Richardson S, Pearson G, Carlson R & Harris J*
-
- 11:00 Polycrystalline Diamond Inclusions in Jack Hills Zircon: Carbonado?
A489 *Konishi H, Xu H, Spicuzza M & Valley J*
-
- 11:15 **Invited:** Lithospheric Thinning in the North China Craton: Constraints from Felsic Magmatism
A1037 *Wu F-Y & Yang J-H*
-
- 11:30 Recycling of Lower Continental Crust in the Trans-North China Orogen: Evidence from Zircon Dating of Mantle Composite Xenoliths
A563 *Liu Y, Gao S, Gao C & Zong K*
-
- 11:45 Formation of New Continental Crust in Western British Columbia during Transpression and Transtension
A387 *Hollister L & Andronicos C*
-
- 12:00 Precambrian Metaigneous Xenoliths of Vestfjella: Implications for Lithospheric Architecture in Western Dronning Maud Land, Antarctica
A804 *Romu I, Kurhila M & Luttinen A*
-
- 12:15 Petrogenetic Characterization of Palaeoproterozoic Basement Rocks from Bangladesh: A Remnant of Magmatism Associated with the Columbia Supercontinent Amalgamation
A394 *Hossain I, Tsunogae T & Rajesh H*
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Friday 18th July AM

Room H3

06a: Ridges and Geochemical Mapping of the Mantle

Session chaired by David Graham & Emily Klein

- 10:00 **Keynote:** Geochemical Maps of the Oceanic Mantle – What do They Mean?
A1018 *White W*
-
- 10:30 The Ridge Filter: How Melt Supply and Magma Chambers Modulate Mantle Compositions in MORB
A810 *Rubin K & Sinton J*
-
- 10:45 Focused Melt Flow in the Shallow Mantle: Evidence for Transient Instabilities in the Partially Molten Mantle beneath an Ocean Ridge?
A216 *Dick H, Tucholke B & Tivey M*
-
- 11:00 **Invited:** Local and Global Scale Systematics in the MORB Source Chemistry
A820 *Salters V, Mallick S, Bizimis M & Langmuir C*
-
- 11:15 **Invited:** The Gakkel Ridge – A Microcosm of Global MORB Variability, a Smoking Gun for an Origin of DUPAL Mantle
A316 *Goldstein SL, Soffer G, Langmuir CH, Cai Y, Lehnert KA, Graham DW & Michael PJ*
-
- 11:30 Helium and Trace Element Geochemical Signals in the Southwest Indian Ocean
A300 *Gautheron C, Bézous A, Moreira M & Humler E*
-
- 11:45 Melting of an Enriched Lithology on the SE Indian Ridge and Possibly Other Ridges from Pb-Th-U Isotopes
A814 *Russo C, Rubin K & Graham D*
-
- 12:00 Hf and Pb Isotope Constraints on the Source Origin of Northern Lau Basin Back-Arc Basin Basalts
A347 *Hanan B, Rooney T, Pietruszka A, Tian L, Hahm D, Castillo P, Hilton D & Hawkins J*
-
- 12:15 Controls on the Volatile Systematics of the Lau Basin
A341 *Hahm D, Hilton D, Castillo P, Hawkins J, Hanan B, Pietruszka A & Hauri E*

(Session 06a continues on Friday 18th July PM on page 236)



Friday 18th July AM

Room H6

07d: Experimental Petrology Related to Ore Deposits

Session chaired by Phil Candela & Robert Linnen

- 10:00 Origin of “Quartz Eyes” and Fluid Inclusions in Mineralized Porphyries
A978 *Vasyukova O, Kamenetsky D & Goemann K*
-
- 10:15 Impact of Sulfide Separation on Ag and Mo Budgets in Arc Magmas
A620 *Mengason M, Piccoli P & Candela P*
-
- 10:30 Reconstructing Fluid Chemistry from Mineral-Fluid Partitioning using the Lattice-Strain Model
A974 *van Hinsberg V & Williams-Jones A*
-
- 10:45 Verification Attempts of Experimental Data on Behaviour of Rare Elements by Studying of Melt Inclusions
A42 *Badanina E, Trumbull R, Thomas R & Svyritso L*
-
- 11:00 **Keynote:** The Vapour Transport of Metals: A View from the Ivory Tower of Experimental Geochemistry
A1024 *Williams-Jones A, Migdisov A, Rempel K & Zevin D*
-



Friday 18th July AM

Room H4

09b: New Views on Fractionation Depths in Arc Magmas

Session chaired by Richard Arculus & Simon Turner

- 10:00 Water Storage and Amphibole Control in Arc Magma Differentiation
A201 *Davidson J, Macpherson C & Turner S*
-
- 10:15 Amphibole and Mid-Crustal Differentiation: Evidence from a Jurassic Arc Section, Vancouver Island, BC
A517 *Larocque J & Canil D*
-
- 10:30 Evolution of Arc-Magmas during their Transfer Through the Lower Crust
A104 *Bouilhol P, Burg J-P, Schmidt MW, Bodinier J-L, Dawood H & Hussain S*
-
- 10:45 The Origin of a Diverse Suite of Late Pleistocene Andesitic to Dacitic Lavas from the Northern Cascade Arc at Mt. Baker, Washington
A43 *Baggerman T & DeBari S*
-
- 11:00 Structural Controls on Changing Differentiation Depths at Mt. Ruapehu Volcano
A529 *Lee T, Macpherson C, Davidson J, Price R, Gamble J & Smith I*
-
- 11:15 Thermal and Uranium-Series Isotope Constraints on the Rate and Depth of Silicic Magma Genesis
A822 *Sandiford M, Dosseto A, Turner S & Davidson J*
-
- 11:30 A "Distillation" Mechanism for Intracrustal Differentiation in Arcs
A515 *Lange R*
-
- 11:45 Calc-Alkalic vs. Tholeiitic Revisited: A Radical View of Andesite Genesis
A937 *Tatsumi Y, Takahashi T, Hirahara Y, Miyazaki T, Chang Q, Kimura J-I, Ban M & Sakayori A*
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Friday 18th July AM

Room H5

10a: Crystal Records of Magmatic Processes

Session chaired by Adam Kent & Erik Klemetti

- 10:00 **Invited:** Syn-Eruptive Magma Crystallization
A345 *Hammer J & Brugger C*
-
- 10:15 Dislocation Microstructures in Naturally Deformed Olivine Crystals from Hawaiian Lavas
A819 *Sakyi PA, Tanaka R & Nakamura E*
-
- 10:30 P, Cr, and Al Zonation in Komatiitic Olivine
A385 *Hofmann AE, Beckett JR, Baker MB & Stolper EM*
-
- 10:45 Lead Isotope Systematics of Olivine-Hosted Melt Inclusions from Hawaiian Lavas
A930 *Tanaka R, Sakyi PA, Kobayashi K & Nakamura E*
-
- 11:00 The Secret Magmatic History of Archean Anorthosites Told by Lead Isotopes in Plagioclase
A885 *Souders K, Sylvester P & Myers J*
-
- 11:15 **Invited:** Zircon Recycling in Felsic Magmas
A630 *Miller JS, Miller CF, Matzel J, Claiborne L, Wooden J, Poli G, Nebel O, Vroon P, Davies G & Leslie S*
-
- 11:30 Trace Element Variation in Young Igneous Zircon on the Micron Scale Suggests Shared Histories
A481 *Klemetti EW & Cooper KM*
-
- 11:45 Diffusion-Modified Volatile Contents in Melt Inclusions: Evidence for Open System Behavior
A669 *Nagle AN, Koleszar AM, Saal AE, Liang Y, Hauri EH & Kurz MD*
-
- 12:00 Post-Entrapment Li Isotope Fractionation in Melt Inclusions from Volcán Jorullo, Mexico
A261 *Feineman M, Johnson E, Wallace P, Kobayashi K, Moriguti T & Nakamura E*
-
- 12:15 Experimental Determination of Ra Partition Coefficients for Leucite, Phlogopite, and Feldspars, and a Re-examination of ^{226}Ra - ^{230}Th Disequilibria
A249 *Fabrizio A, Schmidt MW, Günther D & Eikenberg J*
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Friday 18th July AM

Room W1

11b: High-Temperature Thermochronology, Tectonics and P-T-T Paths: A Session in Honor of Derek York

Session chaired by Mike Cosca & Simon P Kelley

- 10:00 **Keynote:** The Early Years of Thermochronology: The Remarkable Contributions of Derek York
A342 Hall C
-
- 10:30 **Invited:** Thermochronology of the Bushveld Complex: Rapid Cooling Confirmed
A787 Renne P, Mundil R, Cassata W, Feinberg J & Merkle R
-
- 10:45 The Thermal History and Uplift of the Alaska Range from $^{40}\text{Ar}/^{39}\text{Ar}$ Thermochronology
A74 Benowitz J & Layer P
-
- 11:00 ^{37}Ar and ^{39}Ar Diffusion in Plagioclase
A142 Cassata W, Renne P & Shuster D
-
- 11:15 **Invited:** $^{40}\text{Ar}/^{39}\text{Ar}$ UV Laser Dating, EBSD & EMP Analysis of 1040-940 Ma Metamorphic/deformation/cooling Events Recorded in Sibao Orogen White Micas, South China
A1006 Wartho J-A, Li Z-X, Occhipinti S & Reddy S
-
- 11:30 Double Dating of Zircon via SHRIMP U/Pb and (U-Th)/He Methods
A614 McInnes B, Evans N, McDonald B & Jakimowicz J
-
- 11:45 Sapphirine Granulites of the Gruf Complex (Central Alps, N-Italy): *In situ* Monazite Dating by SHRIMP and Confocal Synchrotron μ -XRF
A643 Möller A, Schmitz S, Wilke M, Nelson DR, Malzer W, Kanngießer B, Schefer S & Bousquet R
-
- 12:00 *In situ* U-Pb Geochronology and Hf Isotope Analyses of the Ultra-High Temperature Metapelite from Mather Peninsula, East Antarctica
A1002 Wang Y
-
- 12:15 Comparative Chemical Versus Isotopic Dating of Monazites
A954 Tracy R, Loehn C, Dahl P, Mazdab F, Wooden J, Miller B, Aleinikoff J & Hamilton M
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Friday 18th July AM

Room W6

14c: Minerals in Contact with Water, Organics, and Biomolecules: Advances in Interfacial Chemical Analysis, Modeling, and Imaging

Session chaired by Treavor Kendall, Andreas Lutgge & Henry Teng

- 10:00 Computer Simulation of the Interaction of Water & Carbonate with Oxide Minerals
A16 *Allen J, Parker S & Price D*
-
- 10:15 Simulation of the Nucleation and Growth of Solid Solutions in Aqueous Solutions
A687 *Noguera C, Fritz B, Amal Y & Clement A*
-
- 10:30 Proton/Calcium Ion Exchange Behaviour of Calcite: Implications for Aqueous Speciation and CO₂(g) Sequestration
A984 *Villegas-Jimenez A, Mucci A & Paquette J*
-
- 10:45 The Surface Chemistry of Multi-Oxide Silicates
A698 *Oelkers E, Golubev S, Chairat C, Pokrovsky O & Schott J*
-
- 11:00 Geochemistry of Coordination Space on the Surface of Manganese Dioxide Covered with Hydroxyl Groups
A1062 *Yokoyama T & Okaue Y*
-
- 11:15 Direct vs. Indirect Quantification of Pyrite Oxidation Rates
A38 *Avery E & Benning LG*
-
- 11:30 Insights into the Kinetics of Acid Corrosion Reactions from Direct Analysis of Surface Morphology
A580 *Machnikova E, Arvidson R, Fischer C, Lutgge A & Whitmire K*
-
- 11:45 Mineral Surface Reactions and the Role of Solvent Structure Dynamics and Ion Hydration in Solution
A494 *Kowacz M & Putnis A*
-
- 12:00 Influence of Variable Phanerozoic Seawater Chemistry on the Form and Rate of CaCO₃ Nucleation
A524 *Lee J & Morse J*
-
- 12:15 Calcite Nucleation and Epitaxial Growth from High Ionic Strength NaCl Solutions
A653 *Morse J, Finneran D, Walton K & Arvidson R*
-



Friday 18th July AM

Room W5

16a: Isotopic and Geochemical Insights into the Rates and Mechanisms of Erosion and Weathering

Session chaired by Anthony Dosseto, Gavin Foster, Kate Maher & Joerg Schaefer

- 10:00 **Keynote:** U-Isotope Fractionation during Chemical Weathering
A105 *Bourdon B, Andersen M, Erel Y & Pili E*
-
- 10:30 Calibrating U-Series Tools for Weathering Rate and Duration on a Soil Sequence of Known Ages
A457 *Keech A, Pett-Ridge J, West J & Henderson G*
-
- 10:45 **Invited:** U-Series Comminution Ages from a Pleistocene Alluvial Fan
A529 *Lee V, DePaolo D & Christensen J*
-
- 11:00 Quaternary Weathering Rates and Marine Geochemical Budgets
A972 *Vance D, Teagle D & Foster G*
-
- 11:15 **Invited:** Chemical Weathering Trends and North American Freshwater Discharge Recorded in the Western North Atlantic during Termination 1
A338 *Gutjahr M, Frank M, Halliday AN & Keigwin LD*
-
- 11:30 The Marine Pb Isotope Response to Ice Sheet Growth and Decay
A190 *Crockett KC, Foster GL, Richards DA, Vance D, Tranter M & Wadham JL*
-
- 11:45 Strontium Isotopes, Basalt Weathering and Phanerozoic CO₂
A79 *Berner RA*
-
- 12:00 Strontium Stable Isotope Variations Accompanying Continental Weathering with Implications for the Marine Radiogenic Strontium Record
A123 *Burton K, Parkinson I & Mokadem F*
-
- 12:15 Ca Isotopes and the Rainfall Limit of Silicate Weathering on Earth
A249 *Ewing S, Amundson R, Stewart BW, Thiemens M & DePaolo D*
-

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Friday 18th July AM

Room W2

17e: Atmospheric Inputs to Ice: Water, Dust and Gas

Session chaired by Sarah Aciego & Gisela Winckler

- 10:00 **Keynote:** New High-Resolution Records of Dustiness over Recent Centuries from Greenland and Antarctic Ice Cores
- A611 McConnell J, *Aristarain A, Curran M, Thomas E, Banta R & Edwards R*
-
- 10:15 A Snowpit Record of Atmospheric Fe Deposition in West Antarctica at the WAIS Divide Site
- A487 Koffman B, *Kreutz K, Handley M, Wells M, Kurbatov A & Mayewski P*
-
- 10:30 Precise Measurements of Atmospheric CO₂ Trapped in Polar Ice Cores and its Application to the West Antarctic Ice Sheet Divide (WAIS Divide) Ice Core
- A9 Ahn J & *Brook E*
-
- 10:45 **Invited:** Developing an Ice Core Reconstruction of Regional Sea Ice Changes Around Antarctica
- A1 Abram N, *McConnell J, Thomas ER, Curran M & Mulvaney R*
-
- 11:00 Our Current Knowledge of the Isotopic Composition of Andean Ice Cores: New Observations and Modelling Studies
- A985 Vimeux F
-



Friday 18th July AM

Room W2

17f: Geochemical Tracers of Past Ocean Circulation

Session chaired by Allison Franzese & Alexander Piotrowski

11:15 **Keynote:** Tracing Past Ocean Circulation with Radiogenic and Radioactive Isotopes

A281 *Frank M*

11:45 Application of an Inverse Method to Interpret $^{231}\text{Pa}/^{230}\text{Th}$ Observations from Marine Sediments

A120 *Burke A, Marchal O & McManus J*

12:00 Glacial-Interglacial Circulation Changes Inferred from Sediment $^{231}\text{Pa}/^{230}\text{Th}$ in the North Atlantic

A306 *Gherardi J, Francois R, Labeyrie L, Nave S, McManus J, Cortijo E & Jaccard S*

12:15 Precise Calibration of Oxygen Isotope Paleotemperature Equations for Several Taxa of Benthic Foraminifera

A592 *Marchitto T, Bryan S, Curry W, Lynch-Stieglitz J & Lund D*

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Friday 18th July AM

Room L1

18b: Environmental Geochemistry: Isotopes and Organic Contaminant

Session chaired by Penny Morrill & Hans Richnow

10:00 **Invited:** Molecular-Level ^{14}C Analysis: A Review and Forecast
A781 Reddy C

10:30 **Keynote:** Assessing Redox Reactions and Light-Induced Transformations of Organic Water Contaminants Using Multi-Element Kinetic Isotope Effects
A386 Hofstetter T, Hartenbach A & Schwarzenbach R

11:00 Two-Dimensional Isotope Fractionation Approach (TDIFA) for Elucidating Benzene and Toluene Biodegradation Pathways
A271 Fischer A, Vogt C & Richnow H-H

11:15 Carbon and Hydrogen Isotope Effects in Contaminant Volatilization and Phase Partitioning – Implications for Contaminant Attenuation Studies
A501 Kuder T & Philp P

11:30 Fate of Chlorinated Compounds in a Sedimentary Fracture Rock Aquifer in South Central Wisconsin
A623 Miao Z, Aravena R & Parker B

11:45 Assessing Natural Attenuation of a PCE-Contaminated Aquifer Using a Combined CSIA and Groundwater Dating Approach
A5 Aeppli C, Amaral H, Berg M, Kipfer R, Hofstetter TB & Schwarzenbach RP

12:00 Carbon and Chlorine Isotope Fractionation during Degradation of Trichloroethene by Metals
A1087 Zhang M, Shouakar-Stash O, Gillham R, Frappe S & Drimmie R

12:15 Modeling Carbon and Chlorine Stable Isotope Fractionation to Assess and Quantify Degradation of Chlorinated Ethenes in Groundwater
A971 van Breukelen BM

18e: Mineralogy and Geochemistry of Metalliferous Mine Wastes: A Symposium in Honor of John Jambor

Session chaired by Anne J.B. Thompson & David J. Vaughan

- 10:00 **Invited:** Mineral Transformations in Tailings from Active Mines: Implications for Acid Neutralization Potential and Carbon Dioxide Sequestration
A1025 *Wilson SA, Dipple GM, Raudsepp M, Oliver SL, Gabites JE, Power IM & Southam G*
-
- 10:15 Tailings Deposition in Hyper-Arid Climate: Stable Isotopes as Tracer of Geochemical and Mixing Processes
A879 *Smuda JG, Spangenberg JE & Dold B*
-
- 10:30 Authigenic Cyanide Phases in Mine-Impacted Lake Sediments
A423 *Jambor J & Martin A*
-
- 10:45 Occurrence of $(\text{Na,K})_2\text{Zn}_3[\text{Fe}(\text{CN})_6]_2 \times n\text{H}_2\text{O}$ in Gold Heap Leach Mine Waste
A866 *Sidenko N, Cooper MA, Sherriff B & Jamieson H*
-
- 11:00 Mineralogical Controls of Acid Generation and Metal Leaching at Contrasting Sedimentary Exhalative Sulphide Deposits in the Yukon Territory, Canada
A508 *Kwong J*
-
- 11:15 Vadose Zone Geochemistry and Mineralogy of Sulfide-Rich Tailings at the Greens Creek Mine, Alaska, USA
A553 *Lindsay M, Condon P, Lear K, Blowes D & Ptacek C*
-
- 11:30 The Rate of AMD and Environmental Affects of Heavy Metals (Cu, Pb, Zn, As, Hg, Cd and Fe) at Taknar Polymetal Mine, Bardaskan, Iran
A608 *Mazaheri SA & Niloofar A*
-
- 11:45 An Empirical Method for Estimating Instream Pre-Mining pH and Dissolved Cu Concentration in Catchments with Acidic Drainage and Ferricrete
A683 *Nimick D, Gurrieri J & Furniss G*
-
- 12:00 Assessment of the Long Term Stability of Paper Sludge Covers over Mine Tailings Using Solid State NMR
A185 *Cousins C & Spiers G*
-
- 12:15 Performance and Key Biogeochemical Reactions in Full-Scale Passive Mine Water Treatment Systems
A30 *Aplin A, Fabian D, Morrison M, Younger P, Hallberg K & Johnson B*
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Friday 18th July AM

Room L2

**18f: Rates of Geochemical Processes and their
Application to Natural Systems: A Symposium in Honor
of James I. (Tim) Drever**

Session chaired by Simon Poulson & Lisa Stillings

- 10:00 **Keynote:** Approaches to Estimating Chemical Weathering Rates
in Soils
A1017 *White A & Brantley S*
-
- 10:30 Developing Models to Predict Silicate Mineral Dissolution
A705 *Olsen A, Brantley S & Kubicki J*
-
- 10:45 Modeling Mineral Weathering as Documented in Modern Soils
Developed Upon Peoria Loess
A1023 *Williams J, Bandstra J, Pollard D & Brantley S*
-
- 11:00 Are we Getting Close to a Mechanistic Description of Weathering
in the Field?
A839 *Schott J, Godd ris Y, Roelandt C, Williams J, Brantley S,
Pollard D & Fran ois L*
-
- 11:15 Investigating the Dissolution Behavior of Serpentine
A364 *Hellmann R, Daval D, Tisserand D, Martinez I & Guyot F*
-
- 11:30 Modeling the Chemical Evolution of the Atmosphere and Oceans
A700 *Ohmoto H & Lasaga A*
-
- 11:45 Towards a Comprehensive Theory of Crystal Dissolution
A576 *Luttge A, Arvidson R & Fischer C*
-
- 12:00 Near-Equilibrium Albite Dissolution Kinetics
A699 *Offner A, Arvidson R & Luttge A*
-
- 12:15 Resolution of Crystal Dissolution and Growth Processes at
Multiple Scales
A34 *Arvidson R, Fischer C & Luttge A*
-

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19b: The Effect of Microbes on Metal Speciation in the Environment. A Tribute to Terry Beveridge

Session chaired by Jeremy Fein & Bryne Ngwenya

- 10:00 Parameters Controlling Metal Adsorption at the Biofilm/Mineral Interface: Evidence for a Diffusion Limited Process and Comparison with Thermodynamic Modeling
A301 *Gelabert A, Wang Y, Ha J, Ona-Nguema G, Spormann AM, Bargar JR, Rogers J, Eng P, Ghose S & Brown GE*
-
- 10:15 The Role of Extracellular Polysaccharides in the Adsorption of Metals onto Biofilms
A464 *Kenney J, Ginn B & Fein J*
-
- 10:30 **Keynote:** Synchrotron X-Ray Studies of Bacteria-Mineral-Metal Ion Interactions
A116 *Brown, Jr. GE, Gelabert A, Wang Y, Cismasu C, Ha J, Ona-Nguema G, Benzerara K, Morin G & Wang Y*
-
- 11:00 Study of Proton, Pb^{2+} and Zn^{2+} Adsorption on to *Shewanella Oneidensis* MR-1 Strain and a Mutant Strain (Δ EPS): Spectroscopic Observation and Modeling Approach
A339 *Ha J, Gelabert A, Wang Y, Spormann A & Brown G*
-
- 11:15 Experimental Tests of Universal Metal Adsorption Behavior for Bacteria
A261 *Fein J*
-
- 11:30 Molecular Investigation of Electron Transfer Mechanisms Involved in Microbial Selenate Reduction
A578 *Ma J, Kobayashi D & Yee N*
-
- 11:45 Sorption of Iron from Siderophore Complexes by Mn Oxides
A230 *Duckworth O, Bargar J & Sposito G*
-
- 12:00 Kinetics of Microbial Arsenate Reduction in the Presence of Different Iron and Aluminium Hydroxides
A399 *Huang J-H, Voegelin A & Kretzschmar R*
-
- 12:15 Immobilisation of Arsenic in Paddy Soil by Iron(II)-Oxidizing Bacteria
A449 *Kappler A, Hohmann C, Muehe M, Richter S & Winkler E*
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Friday 18th July AM

Room W3

20f: Multiple Isotopes of an Element, Multiple Isotopologues of a Molecule, and Multi-Elemental Isotopes of a Compound (M3)

Session chaired by Huiming Bao & Boswell Wing

10:00 A Multi-Proxy Perspective on Isotope Evolution of Phanerozoic Seawater

A256 *Farkaš J, Jacobsen S & Veizer J*

10:15 Fractionation of Sulfur and Oxygen Isotopes in Sulfate Produced by Anaerobic Photosynthetic Sulfur Bacterium

A108 *Brabec M, Lyons T & Mandernack K*

10:30 Interpreting $\Delta^{17}\text{O}$ of Nitrate in Ice Cores at High Accumulation Sites

A502 *Kunasek S, Alexander B, Steig E, Hastings M, Gleason D & Jarvis J*

10:45 **Keynote:** Some Innovative Measurements and Analyses of Isotopically Substituted Molecules of Geochemical Interest

A1064 *Yoshida N*

11:00 ^{13}C - ^{18}O Bonds in Dissolved Inorganic Carbon: Implications for Carbonate Clumped Isotope Thermometry

A336 *Guo W, Daeron M, Niles P, Genty D, Kim S-T, Vonhof H, Affek H, Blamart D, Wainer K & Eiler J*

11:15 'Clumped Isotopes' in Speleothem Carbonate and Atmospheric CO_2 – Is There a Kinetic Isotope Effect?

A6 *Affek H, Guo W, Daëron M & Eiler JM*

11:30 Utilization of Mass-Dependent and -Independent Fractionation of Mercury Isotopes to Understand Mercury Cycling and Bioaccumulation in Aquatic Systems

A77 *Bergquist B, Blum J & Jude D*

11:45 Fractionated Mercury Isotope in Sediments: A Quest for Processes

A199 *Das R & Odom L*

12:00 Anomalous S Isotope Fractionations during Reactions with an Organic Surface: I. Theoretical Investigations

A712 *Otake T, Lasaga A, Watanabe Y & Ohmoto H*

12:15 Fractionation of Sulfur and Oxygen Isotopes during SO_2 Photolysis

A577 *Lyons J*



Friday 18th July PM

Room H2

01f: Lunar Geochemistry and Chronology

Session chaired by Vera Fernandes & Randy Korotev

- 14:00 Formation of the Lunar Magma Ocean Constrained from High Field Strength Element Systematics in Lunar Rocks
A664 Munker C
-
- 14:15 Early Lunar Magnetic Fields Recorded Before the Late Heavy Bombardment
A297 Garrick-Bethell I, Weiss B, Shuster D, Fernandes V & Becker T
-
- 14:30 **Invited:** Compositional and Geochronological Constraints on the Lunar Cataclysm
A172 Cohen B
-
- 14:45 **Keynote:** What we are Learning About the Moon from Lunar Meteorites
A287 Gaffney A & Borg L
-
- 15:15 Preliminary Ar-Ar Studies of Lunar Basaltic Meteorite Dhofar 287-A
A264 Fernandes V, Becker T, Renne P & Burgess R
-
- 15:30 Age and Origin of Apollo 16 Feldspathic Fragmental Breccias
A689 Norman M & Duncan R
-
- 15:45 Evidence for an Earth-Moon Impact Event 800 Ma ago
A1074 Zellner N, Delano J & Swindle T
-
- 16:00 Impactor Metal in Gabbroic Lunar Meteorite Northwest Africa 5000
A402 Humayun M & Irving A
-
- 16:15 **Invited:** Determination of Sr Concentrations in Lunar Plagioclase by Electron Microprobe Analysis
A1072 Zeigler R, Jolliff B, Korotev R & Carpenter P
-



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Friday 18th July PM

Room H1

**04d: Subduction, Sagduction and Delamination
Processes in the Generation of Continental Crust**

Session chaired by Jean Bédard & Cin-Ty Lee

- 14:00 The Armstrong Unit ($AU=km^3/yr$) and Processes of Crust-Mantle Mass Flux
A455 Kay R & Mahlburg Kay S
-
- 14:15 Constraining Rates of Crustal Recycling Using Geophysical and Geochemical Methods
A975 Vannucchi P, Clift P & Phipps-Morgan J
-
- 14:30 Amphibole Controlled Nb/Ta Fractionation during Subduction
A550 Liang J, Sun W & Sun X
-
- 14:45 Consequences of Mixing Delaminated Crustal Restites with Mantle: Insights from Trace Element Melting Models
A65 Bédard J
-
- 15:00 **Medal:** Crustal and Mantle Cycles
A24 Anderson D
-
- 15:30 Moissanite-Bearing Carbonatite Xenoliths from Cenozoic Basalt, North China: Products of Ancient Oceanic Crust Subduction?
A292 Gao C & Liu Y
-
- 15:45 The Effect of Pressure, Temperature and Composition on Physical Rock Properties
A847 Semprich J, Simon N & Podladtchikov Y
-
- 16:00 Multiple Crustal Thickening Events by Tectonic Wedging in the Assembly of the Northern Appalachians
A1028 Wintsch R, Aleinikoff J, Dorais M, Walsh G & Kunk M
-
- 16:15 Garnet Amphibolite found in Baikouquan Ophiolitic Mélange: A Clue to a HP Metamorphic Belt in Junggar, Xinjiang
A1104 Zhu Y & Chen B
-



Friday 18th July PM

Room H3

06a: Ridges and Geochemical Mapping of the Mantle

Session chaired by David Graham & Emily Klein

14:00 Assessing a Plume Contribution to the Galapagos Spreading Center
by Neon Isotopes

A173 Colin A., Burnard P., Marty B. & Graham D.

14:15 The Mode of Plume-Ridge Interaction: Constraints from He, Ne,
Ar Isotope and Abundance Systematics

A907 Stroncik NA., Niedermann S., Haase K., Hoernle K., Hauff F.
& Werner R.

14:30 Plume-Ridge Interaction: Dying from the Feet up

A215 Devey C. & Stroncik N.



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Friday 18th July PM

Room H3

06e: Continental Extension-Related Basalts: Mantle Sources and Magma Generation Processes

Session chaired by Stefan Jung & Jörg Pfänder

14:45 **Keynote:** Lithospheric Mantle Sources within the East African Rift, Tanzania

A37 Aulbach S, Rudnick R & McDonough W

15:00 Ultra-Depleted Domains in the Oceanic Mantle Lithosphere

A677 Neumann E-R & Simon NSC

15:15 Early Cretaceous Comei Large Igneous Province in SE Tibet: Whole-Rock Sr-Nd and Zircon Hf Isotopic Constraints on Mantle Source Characteristics

A1101 Zhu D-C, Mo X-X, Zhao Z-D, Niu Y & Chung S-L

15:30 Alkaline and Carbonatite Intrusives Help to Unravel the Temporal Evolution of a Cratonic Rift in the North Atlantic Region

A935 Tappe S

15:45 Evolution of the Southern Ethiopian Rift System: Constrained from Geochronological and Geochemical Data of Mafic Lavas of Amaro and Yabello Areas

A942 Tesfaye DB, Tanaka R & Nakamura E

16:00 Central Iranian Volcanic Belt: Implication of the Transtensional Basin System

A645 Monsef R, Emami MH, Rashidnejad Omran NA, Pirouz M & Tajbakhsh GR

16:15 Uranium-Series Studies of Holocene Basalts from the Hainan Island, South China

A1107 Zou H, McKeegan K & Fan Q

07h: Crystallography of Petrologically Significant Minerals: Symposium in Honor of Thomas Armbruster

Session chaired by Edward Grew & Lee Groat

- 14:00 **Invited:** Complete Chemical Characterization of Metapelitic Minerals from W. Maine, USA: Petrologic Implications
A369 Henry D, Dyar MD & Guidotti C
-
- 14:15 Mushroom Garnet from the Mt. Mucrone, Italian Alps
A197 Darbellay B, Robyr M & Baumgartner L
-
- 14:30 Chopinite-Sarcopsidite in Meteorite GRA95209
A328 Grew E, Yates M, Beane R, Floss C & Gerbi C
-
- 14:45 **Medal:** The Triplite-Wagnerite Group: A Modulated Series
A32 Armbruster T, Chopin C, Grew ES & Baronnet A
-
- 15:15 Crystal Chemistry of Natural and Synthetic Fallowite-Type Phosphates
A357 Hatert F, Keller P, Grew E, Rondeux M & Fransolet A-M
-
- 15:30 Be-Silicates: New Minerals, Structure Topologies, Classification, Uses
A329 Grice J
-
- 15:45 Bond Strength and the Compression of Framework Minerals
A806 Ross N, Angel R, Zhao J & Wang D
-
- 16:00 Synthesis and Characterization of the High-Pressure Phases NH₄-hollandite, NH₄-wadeite, NH₄-cymrite and NH₄-phengite
A1008 Watenphul A, Wunder B & Heinrich W
-
- 16:15 Crystal Structure of B-Gehlenite from an *in situ* XRPD Study of Datolite Transformation Upon Heating
A191 Cruciani G & Martucci A
-



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Friday 18th July PM

Room H4

**09e: Secular Changes in Arc Magma Compositions
Through Time**

Session chaired by Jun-ichi Kimura & Herve Martin

- 14:00 **Keynote:** Timescales and Causes of Secular Change in the Izu Bonin-Mariana Volcanic Arcs
A905 *Straub SM*
-
- 14:30 Chemical Stratigraphy of Lavas from The Casitas Shield, Descabezado Grande-Cerro Azul Volcanic Complex, Chilean Andes
A1040 *Wulff A*
-
- 14:45 Magma Evolution in Time and Space at Volcán Llaima (38.7° S, Andean Southern Volcanic Zone – SVZ, Chile)
A232 *Dungan M, Bouvet de Maisonneuve C, Naranjo JA, Selles D, Escrig S & Langmuir C*
-
- 15:00 Abnormally Enriched Arc Lavas at Arc-Continent Collision Zone: An Example from Lutao Volcanics, Offshore SE Taiwan
A1057 *Yang TF, Chen C-H, Lee T, Chen C-H & Kurz MD*
-
- 15:15 Slab Dehydration and Melting of the Philippine Sea Plate by Progressive Subduction beneath the SW Japan Arc over the Past 15 Million Years
A474 *Kimura J-I, Kunikiyo T, Osaka I, Shimoshioiri Y, Katakuse M, Kakubuchi S, Nagao T, Furuyama K & Tsuchiya N*
-
- 15:30 Sanukitoids: Transition from Felsic Melt- to Fluid-Dominated Mantle Metasomatism in Subduction Zones
A596 *Martin H, Moyen J-F & Rapp R*
-
- 15:45 Crustal Recycling vs. Arc Maturity, Mesozoic Quesnel Terrane Intrusive Rocks, Canadian Cordillera
A113 *Breitsprecher K, Weis D & Scoates J*
-
- 16:00 Simultaneous Back-Arc Spreading and Arc Magmatism Since Upper Triassic in Iranian Continental Block
A644 *Monsef I, Rahgoshay M, Shafaii Moghadam H & Whitechurch H*
-
- 16:15 Geochemistry and SHRIMP U-Pb Zircon Geochronology of the Neoproterozoic Mamianshan Group in the Cathaysia Block-China: Implications for Tectonic Significance
A1037 *Wu G, Zhang D, Di Y, Yu X, Zhang X, Wang Q & Huang H*
-

10c: Temporal Geochemical Evolution of Active Magmatic Systems

Session chaired by Julie Bryce, Andrew Calvert & Karen Harpp

- 14:00 **Keynote:** Some First-Order Observations on Magma Transfer at Volcanic Arcs
A1073 *Zellmer GF*
-
- 14:15 **Invited:** The ~400 ky Geochemical and Tectonic History of North Sister, a Seemingly Monotonous Mafic Volcano in the Central OR Cascade Arc
A835 *Schmidt ME & Grunder AL*
-
- 14:30 **Invited:** Deciphering Crust vs. Mantle Inputs and Timescales of Magma Genesis at Mount Adams Using ^{238}U - ^{230}Th Disequilibria and Os Isotopes
A432 *Jicha B, Johnson C, Hildreth W, Beard B, Hart G, Shirey S & Singer B*
-
- 14:45 The Growth of Plutons: How Precisely and Accurately can we Date Incremental Melt Emplacement with U-Pb Zircon (Adamello Intrusion, Northern Italy)?
A828 *Schaltegger U, Brack P, Ovtcharova M, Peytcheva I, Schoene B, Stracke A & Bargossi G*
-
- 15:00 Interpreting High-Precision U-Pb Zircon Dates: New Insights from Volcanic and Plutonic Rocks
A837 *Schoene B & Schaltegger U*
-
- 15:15 Growth of an Intrusive Complex beneath Mt. Veniaminof, Alaska
A130 *Calvert A, Bacon C, Sisson T & Nye C*
-
- 15:30 Magmatic Evolution and Distribution in the Taupo Volcanic Zone, New Zealand
A207 *Deering C, Cole J & Vogel T*
-
- 15:45 Recent Bimodal Magmatic Processes and their Rates in the Torfajökull-Veidivötn Area, SE Iceland
A1073 *Zellmer GF, Rubin KH, Grönvold K & Jurado-Chichay Z*
-
- 16:00 Two Isotopic Mixing Lines in Martinique Island: The Effect of Ridge Subduction
A509 *Labanieh S, Chauvel C, Germa A & Quidelleur X*
-
- 16:15 Isotopic Characterisation of Magmatic Volatiles as New Tool for Tracing of Hidden Active Magmatic Processes
A109 *Braeuer K, Kaempff H & Strauch G*
-



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Friday 18th July PM

Room W1

11c: Sedimentary Basin Development and Evolution

Session chaired by Barbara Carrapa & Richard Ketcham

- 14:00 **Keynote:** Constraining Hinterland Tectonics and Basin Evolution from the Detrital Record; A Multi-Technique Approach Applied to Sediments in the Bengal Basin, Bangladesh
A669 *Najman Y & Surma Basin Team I*
-
- 14:30 **Invited:** Thermal Histories in Sedimentary Basins from Integrated Low-Temperature Thermochronometry: An Example from the High Plains of New Mexico and Western Texas
A275 *Flowers R & Kelley S*
-
- 14:45 Exhumation and Basin Evolution of the Puna Plateau of NW Argentina Revealed by a Multi Geo-Thermochronological Approach
A139 *Carrapa B, DeCelles PG, Reiners PW, Geherels G & Biswas A*
-
- 15:00 Temperature and Timing of Diagenesis from Carbonate Clumped Isotope Thermometry and Thermochronology
A403 *Huntington KW, Wernicke BP, Eiler JM & Flowers RM*
-
- 15:15 Diagenesis Evaluation in Sedimentary Basins for Hydrocarbon Exploration
A1109 *Zwingmann H, Gaupp R, Higgs K & Zhang Y*
-
- 15:30 **Invited:** Integrated Thermal History Analysis of the Beaufort-Mackenzie Basin Using Multi-Kinetic Apatite Fission Track Thermochronology
A413 *Issler D & Grist A*
-
- 15:45 Detrital Zircon Fission Track Thermochronometry with Implications for the Topographic and Exhumational History of Taiwan
A1021 *Willett SD, Fellin MG & Chen Y-G*
-
- 16:00 Characteristics of Two Opposing Continental Margin Successions in Northeast Laurentia
A1030 *Wodicka N, St-Onge MR & Whalen JB*
-
- 16:15 Low-T Thermochronology Provides New Insights in the Mesozoic to Present Tectonic Evolution of NW Africa
A306 *Ghorbal B, Bertotti G, Foeken J, Stuart F & Andriessen P*
-



Friday 18th July PM

Room W6

14a: Chemical and Isotopic Tracers of Sediment-Porefluid Interactions

Session chaired by Michael E. Böttcher & Kate Maher

- 14:00 **Invited:** Aqueous Geochemistry of Rhenium in Sulfidic Environments
A222 *Dolor M & Helz G*
-
- 14:15 Numerical Modeling of Ca-Enrichment on Authigenic Carbonate Formation at Mud Volcanoes: A Case Study off Costa Rica
A450 *Karaca D, Hensen C & Wallmann K*
-
- 14:30 **Keynote:** Rapid Recrystallization of Carbonates and Implications for Geochemical Proxies
A255 *Fantle M*
-
- 15:00 The Effect of Induced Sediment-Surface Redox Conditions on Fluxes of Organic Carbon, Phosphate, Iron, and Manganese over the Sediment-Water Interface of Coastal Sediments
A874 *Skoog A & Arias-Esquivel VA*
-



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Friday 18th July PM

Room W6

**14g: Advances in the Aqueous and Isotope Geochemistry
of Groundwater Recharge**

Session chaired by Dirk Kirste & Bernhard Mayer

- 15:15 Arsenic Mobilization Associated with Applied Recharge of low-TDS Water in Central Valley, California
A247 *Esser BK, McNab WW, Moran JE & Singleton MJ*
-
- 15:30 Chemical Evolution of Groundwater in the Unsaturated Zone
A534 *Lenahan M, Kirste D, Cresswell R, McPhail B & Welch S*
-
- 15:45 Localisation of Groundwater Sources by Combining $\delta^{18}\text{O}$, δD and Rare Earths Studies
A643 *Möller P, Geyer S, Siebert C, Guttman J & Rosenthal E*
-
- 16:00 Investigating the Source and Timing of Freshwater Recharge into Saline Aquifers in the Glaciated Illinois Basin
A832 *Schlegel M, McIntosh J, Person M, Ballentine C & Zheng Z*
-
- 16:15 Geochemical Significance of $^{87}\text{Sr}/^{86}\text{Sr}$ Ratio of High-Temperature Deep Groundwater in a Fractured Granite Aquifer at Dongrae Area, Korea
A527 *Lee S-G, Kim T-K, Lee J-S, Lee T, Cho B & Koh H*
-

16a: Isotopic and Geochemical Insights into the Rates and Mechanisms of Erosion and Weathering

Session chaired by Anthony Dosseto, Gavin Foster, Kate Maher & Joerg Schaefer

- 14:00 Ca Isotope Ratios in the Largest Rivers in the World: Implications for the Global Ca Budget and Weathering Processes
A947 *Tipper E, Gaillardet J, Galy A, Louvat P & Bickle M*
-
- 14:15 Geochemical Signatures are Driven by Seasonal Flow Regimes in the Chena River Near Fairbanks, Alaska
A225 *Douglas T, Blum J, Keller K, Guo L & Cai Y*
-
- 14:30 Isotopic Tracing of Carbon Weathering in the Amazon River
A103 *Bouchez J, Gaillardet J, France-Lanord C & Galy V*
-
- 14:45 Origin of Riverine Dissolved Inorganic Carbon: Comparison between West Indies, Reunion and Iceland
A799 *Rive K, Agrinier P & Gaillardet J*
-
- 15:00 Transition Metal Isotopes in Rivers and the Weathering Environment
A31 *Archer C & Vance D*
-
- 15:15 Molybdenum Isotope Fractionation Accompanying Weathering, Riverine Transport and Estuarine Mixing
A730 *Pearce CR, Burton K, Pogge von Strandmann P, James R & Cohen A*
-
- 15:30 Molybdenum Isotopes as Proxy for Redox Conditions during Weathering
A741 *Pett-Ridge J, Siebert C & Halliday A*
-
- 15:45 Lithium Isotope Fractionation along a Weathering Chronosequence
A533 *Lemarchand E, Reynolds BC, Wiederhold JG, Bourdon B & Kretzschmar R*
-
- 16:00 Silicon Cycle in Weathering Sequences of Volcanic Soils in Cameroon Using $\delta^{30}\text{Si}$ and Ge/Si
A707 *Opfergelt S, Delvaux B, Cardinal D, Delvigne C & André L*
-



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Friday 18th July PM

Room W2

17f: Geochemical Tracers of Past Ocean Circulation

Session chaired by Allison Franzese & Alexander Piotrowski

- 14:00 A Search for the Glacial Age ^{14}C Depleted Ocean Reservoir
A55 *Barker S, Broecker W & Clark E*
-
- 14:15 Evolution of Deglacial North Pacific Abyssal Circulation Based on $\Delta^{14}\text{C}$, $\delta^{13}\text{C}_{\text{benthic}}$ and $^{231}\text{Pa}/^{230}\text{Th}$
A417 *Jaccard S, Galbraith E, Francois R, Brunelle B, Sigman D & Haug G*
-
- 14:30 Reconstructing Intermediate Watermass Variability in the Southeast Pacific during the Past ~30ka: A Multi-Proxy Study
A666 *Muratli J, Chase Z, Mix A & McManus J*
-
- 14:45 Antarctic Circumpolar Current Nd Isotope Variability Recorded in Amundsen Sea Deep Sea Corals
A383 *Hoffmann DL, Gutjahr M, Vance D & Hillenbrand C-D*
-
- 15:00 Quantifying Late Quaternary Changes in MOC Intensity from Circum-Antarctic Nd Isotopes
A316 *Goldstein SL, Zylberberg D, Pahnke K, Hemming SR & van de Flierdt T*
-
- 15:15 Indian Ocean Circulation and Productivity during the Last Glacial Cycle
A752 *Piotrowski A, Banakar V, Scrivner A & Elderfield H*
-
- 15:30 **Invited:** Multi-Proxy Reconstruction of Surface Water pCO_2 in the Northern Arabian Sea Since 29 ka
A720 *Palmer M, Brummer G-J, Cooper MJ, Elderfield H, Greaves M, Reichert G-J, Schouten S & Yu J-M*
-
- 15:45 Stable Isotopic Tracers for Variations in Surface and Deep Water Circulation in the North Atlantic Since ~ 13 ka
A242 *Elmore A, Wright J & Henderson S*
-
- 16:00 **Invited:** Ice Sheet Regulation of Weathering Fluxes during the Eocene Oligocene Transition
A829 *Scher H & Delaney M*
-
- 16:15 Ventilation of the Arctic Ocean Since the Miocene: Osmium Evidence
A755 *Poirier A & Hillaire-Marcel C*
-

18f: Rates of Geochemical Processes and their Application to Natural Systems: A Symposium in Honor of James I. (Tim) Drever

Session chaired by Simon Poulson & Lisa Stillings

- 14:00 Black Crust on the Dolomite in Polluted Urban Atmosphere: Differences in Dry and Wet Deposition Dominated Environments
A1020 *Wilczynska-Michalik W, Michalik M, Niezgoda H & Halas S*
-
- 14:15 Chemical Weathering of Mafic Rocks in Boreal Environment (NW Russia)
A977 *Vasyukova E, Oliva P, Pokrovsky O, Viers J, Martin F, Dupre B & Bychkov A*
-
- 14:30 **Invited:** Sensitivity of Mineral Weathering Rates to Annual Variations in Climate
A169 *Clow D*
-
- 14:45 Modelling Nucleation and Growth of Nano- to Micro-Size Secondary Clay Particles in Weathering Processes
A285 *Fritz B, Clément A, Amal Y & Noguera C*
-
- 15:00 **Invited:** Biogeochemical Processes in Flooded Underground Mine Workings of Butte, Montana, USA
A291 *Gammons CH, Poulson S & Snyder D*
-
- 15:15 Kinetics of Se Release in Mine Waste from the Meade Peak Phosphatic Shale, Phosphoria Formation, Wooley Valley, ID, USA
A901 *Stillings L & Amacher M*
-
- 15:30 Determination of Species-Specific Selenium Exchange Fluxes Across the Sediment-Water Interface
A993 *Wallschläger D, London J, Chen Y-W, Belzile N & Martin A*
-
- 15:45 Impact of Mineral Surface Modification on As(III) Oxidation by Hydrous Manganese(IV)
A311 *Ginder-Vogel M & Sparks DL*
-
- 16:00 Hydrogeochemical Controls on Arsenic Enrichment in Waters and Sediments of the Humboldt River, North-Central Nevada
A640 *Mohammad S & Tempel R*
-
- 16:15 Biochemical Oxygen Demand in the Keno Reach of the Klamath River, Oregon, USA
A913 *Sullivan A & Snyder D*
-



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Friday 18th July PM

Room L1

18i: Mineralogy and Health

Session chaired by Laurent Charlet & Javiera Silva

- 14:00 Clay-Prion Protein Interactions
A150 *Charlet L, Hureau C & Chapron Y*
-
- 14:15 Thiobarbituric-Acid Reactive Substances (TBARS) Response
Curves in the Presence of 1:1 and 2:1 Phyllosilicates
A468 *Kibanova D, Nieto-Camacho A, Lemus J & Cervini-Silva J*
-
- 14:30 Influence of Metal Cations on Iron Oxide Formation
A551 *Liese A, Singh B, Grafe M & Lang F*
-
- 14:45 Nanosized Aluminosilicates (Allophane): Formation Mechanisms
and Sorption Capacities
A601 *Masion A, Levard C, Ziarelli F, Doelsch E, Rose J & Bottero JY*
-
- 15:00 The Influence of Anthropogenic Salinization on the Clay
Mineralogy of Serioogovo Soils
A869 *Simakova Y*
-
- 15:15 Reductive Dissolution of PbO_2 (plattnerite) and MnO_2 (pyrolusite)
by Biofluid Constituents
A903 *Stone A & Shi Z*
-
- 15:30 Release of Hexavalent Chromium by Ash and Soils in Wildfire
Impacted Areas
A1031 *Wolf R, Morman S, Plumlee G, Hageman P & Adams M*
-
- 15:45 Mineral Chemistry of Carp Otoliths Reflecting Water Quality
Change
A1055 *Yang LF, Li SR, Luo JY & Cao Y*
-

19c: Advances in *in situ* Detection and Analyses of Carbon Associated with Microbial Biosignatures

Session chaired by Sherry L. Cady & Lesley Warren

- 14:00 **Invited:** Organic Decontamination of Sampling Devices for Life-Detection Studies
- A73 *Benning LG, Eigenbrode J, Maule J, Wainwright N, Steele A, Amundsen HEF & Amase 2005 and 2006*
-
- 14:15 Toward the *in situ* Quantification of Organic Molecules in Solid Samples: Development of Sample Handling and Processing Hardware
- A66 *Beegle L, Johnson P, Hoydoss R, Mielke R, Orzechowska G, Sollitt L & Kanik I*
-
- 14:30 Deep UV Native Fluorescence and Resonance Raman Spectroscopy for Life-Detection
- A80 *Bhartia R, Hug W, Reid R, Salas E, Neilson K & Lane A*
-
- 14:45 Detecting Biosignatures Associated with Minerals by Geomatrix-Assisted Laser Desorption/Ionization Fourier Transform Mass Spectrometry (GALDI-FTMS)
- A793 *Richardson CD, Kotler JM, Hinman NW, McJunkin TR & Scott JR*
-
- 15:00 Scanning Transmission X-Ray Microscopy Analysis of Metamorphic Biogenic Carbon
- A78 *Bernard S, Benzerara K, Beyssac O & Brown, Jr. GE*
-
- 15:15 Pelagosite Climate Record and the Role of Cyanobacterial Biomineralization
- A579 *Macalady J, Montanari A, Bice D, Schaperdoth I, MacLean L & Mariani S*
-
- 15:30 Microbial Catalysis of Jarosite Formation Under Environmentally Relevant AMD Conditions
- A688 *Norlund K & Warren L*
-
- 15:45 Analytical HRSEM, HRTEM and FIB Characterization of Carbonaceous Remains Associated with Hydrothermal Deposits
- A127 *Cady SL, Hugo RC, Smythe WF, Parenteau MN, Goin JC, Oakes-Miller H, Hode T, Pogula S, Huster J & Cavalazzi B*
-
- 16:00 **Keynote:** Bona Fide Biosignatures: Insights from Combined NanoSIMS-SIMS
- A698 *Oehler D, Robert F, Chaussidon M & Gibson E*
-



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Friday 18th July PM

Room W3

20j: Synchrotron-Based Micron and Sub-Micron Probes Applied to Bio-, Geo-, and Cosmochemical Questions

Session chaired by George Cody & Martin Obst

- 14:00 **Keynote:** Geomicrobiology with Soft X-Ray Scanning Transmission Microscopy
A381 *Hitchcock A, Dynes J, Obst M, Lawrence J & Leppard G*
-
- 14:30 **Invited:** Pre- and Post-Accretionary Carbonates in the Renazzo CR Chondrite
A208 *De Gregorio B, Stroud R & Ebel D*
-
- 14:45 Hard X-Ray Microprobes Using Mirrors: Capabilities, Applications and Future Developments
A919 *Sutton S, Newville M, Eng P, Rivers M & Lanzirotti A*
-
- 15:00 **Invited:** STXM-Based Study of Microbial Fossils in Recent and Ancient Rocks
A75 *Benzerara K, Bernard S, Lepot K, Miot J & Brown, Jr GE*
-
- 15:15 Sub-Micron XANES Analysis of the Organic Structure of Comet Wild 2/81P Particles
A171 *Cody G, Yabuta H, Alexander C & Kilcoyne D*
-
- 15:30 Synchrotron-Based X-Ray Scattering Studies of Mineral Reactions in Complex Geochemical Systems
A853 *Shaw S, Ahmed IAM, Benning LG, Kakonyi G & Behrends T*
-
- 15:45 Microscale Characterization of the Organic Matter in Extraterrestrial Samples
A276 *Flynn G, Wirick S, Keller LP, Messenger S & Jacobsen C*
-
- 16:00 Aragonite as a Precursor Phase of Cyanobacterial Calcite Precipitation and the Influence of EPS on the Nucleation Process – A STXM Study
A696 *Obst M, Hitchcock AP, Dynes JJ, Lawrence JR, Swerhone GDW & Benzerara K*
-
- 16:15 Chemical and Valence State Imaging of Mineral Intergrowths Using X-Ray Photo-Emission Electron Microscopy
A838 *Schofield P, Smith A & Scholl A*
-

21b: General Geochemistry: Low Temperature Geochemistry

- 14:00 Supramolecular Aggregation of Natural Organic Matter Promoted by Complexation with Ca^{2+} , Mg^{2+} , and Na^+ Ions in Aqueous Solutions
A10 *Ahn W-Y, Kalinichev A & Clark M*
-
- 14:15 Effects of Inundation and Dessication on Salt Cycling in a Saline Disposal Basin, Loveday Lagoon, South Australia
A63 *Beavis S, Welch S & Higgins A*
-
- 14:30 Geochemistry of Nitric Thermal Springs of the Far East Russia
A162 *Chudaev O, Chudaeva V & Bragin I*
-
- 14:45 The Effect of Molybdenum on the Transformation Kinetics of Ferrihydrite to Hematite: An *in situ* ED-XRD Approach
A115 *Brinza L, Shaw S & Benning LG*
-
- 15:00 Similar Fossil Ferns Having Dissimilar Organic Geochemical Preservation
A193 *Czaja A, Kudryavtsev A, Cody G & Schopf JW*
-
- 15:15 $\delta^{44/40}\text{Ca}$ of Fossil Bones and Teeth – Ontogenetic Versus Diagenetic Origin
A374 *Heuser A, Tütken T, Gussone N & Galer S*
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- 15:30 Contrasting Mineral Authigenesis and Methane Activities in Deep-Sea Sediments Offshore SW Taiwan
A396 *Hsu T-W & Jiang W-T*
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- 15:45 Authigenesis of Ferric Smectite Pellets and Methane Seepage in Deep-Sea Sediments Offshore SW Taiwan
A430 *Jiang W-T & Hsu T-W*
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- 16:00 Apatite Fission Track Constrains on the Mineralization of Dashui Gold Deposits, Northern Qinghai-Tibet Plateau
A1067 *Yuan W, Bao Z, Dong J & Deng J*
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- 16:15 Combustion Gases of Coal Fires – Composition and Interpretation
A833 *Schloemer S & Teschner M*
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