

Goldschmidt 2011

Mon

Oral and Poster Presentations

Monday August 15th 2011

Summary & Highlights

08:30	Welcome Address <i>Floor 2 / Congress Hall</i> Bernard Bourdon President of the European Association of Geochemistry
08:45	Plenary Sam Mukasa Geochemical Society President <i>'Volatiles in the Mantle'</i>
09:25	
09:30	Oral Sessions
12:30	Lunch <i>Floor 3 / Forum Hall Foyer (Boxed lunches)</i> <i>Floor 1 / Restaurant Zoom (Buffet lunches)</i>
14:00	Oral Sessions
17:00	Poster Session <i>Floors 1, 2, 3, 4 / Congress Hall Foyer</i>
19:00	
20:00	Conference Classical Concerts
21:00	

	Chamber Hall	Club A	Club B/C	Club D	Club E	Club H	Conference Hall	Forum Hall	Meeting Hall I
09:30	10f	02i	01a	03g / 03f	04a	05d	21a	17e	16f
	Bickle	Pope	Stojic	Polyakov	Hart	Kodaira	Konikow	Emeis	Kersting
09:45		Barley	Steele	Moynier		Chin			
10:00	Kirste	Roerdink	Schulz	Elliott	Carlson	Jagoutz	Norris	Silvennoinen	Kimber
10:15	Heinemann	Li	Derenne	Hibbert	Cabral	Lenz	Blondes	Wong	Thorpe
10:30	Zhou	Konhauser			Debaille	Li	Rezvani Khalilabad		Wenk
10:45	Gilfillan		Visser	Williams	Sohn	Price	Firat Ersoy	Proemse	Hennig
11:00	Stute	Lalonde	Aleon	Kempl	Konter	Wernick	Juricka	Nishizawa	Alessi
11:15	Battani	Lemarchand	Hashizume	Shahar	Nobre Silva	Xu	Gomez	Romaniello	Boyannov
11:30	Cole	Scott	Lyons	Hirose	Davies	Montes	Lee	Horita	Wallace
11:45	Navarre -Sitchler	Szilas	Shi		Davis	Lackey		Möller	Kuypers
12:00	Chopping	van Hinsberg	Le Guillou	Pilet		Kelemen	Michelini	Schmidt	Fredrickson
12:15	Wigley	Mloszewska	Ebel	Weis			Seibert	Galy	Eagling

	Meeting Hall IV	Meeting Hall V	North Hall	Panorama Hall	Small Hall	Small Theatre	South Hall	Terrace 1	Terrace 2
09:30	Maurice	King	12a	15a	18a	19f	11d	14f	07c
09:45	von der Heyden	Ruiz -Agudo	Ganopolski	Beck	Hirata	Tournassat	Hazen	Riebe	Thomas
10:00	Warren	Hu	Jacobson	Luz	Vermeesch	Bogatko	Hollings	Yang	Mills
10:15	Nakamura	Rebiscoul	Yeung	de Souza	Gerdes	Swadling	Jamieson	Bourlès	Kasemann
10:30	Fortin	Debure	Hilton	Christl	Pearson	Hedström	Toyoda	von Blanckenburg	Rooney
10:45	Johnson	Thien	Pagani	Geibert	Meffre	Duvail	Yuan	Granger	Bonnand
11:00	Wendt -Potthoff	Frugier	van de Fliertd	Frank	Dorta	Churakov	Schneider	Dosseto	Bosak
11:15	Keene	Icenhower	Hren	Pettke	Galindez	Janots	Meunier	Sahoo	
11:30	Åström	Luttge	Foster	Hayes	Broglioli	Muhling	Andersen	Butterfield	
11:45	Lindgren	Arvidson	Badger	Singh	Lloyd	Rolle	Decrée	Rihs	
12:00	Daughney	Kurganskaya	Breecker	Powell	Whitehouse	Steeffel	Walther	Rad	Wood
12:15		Colombani	Schaller	Zhao	King	Li	Maas	Bui	

01a: The Disc Epoch: Sources and Compositions of Early Solar System Materials

Session chaired by Jérôme Aléon & Ko Hashizume

- 09:30 Combined NanoSIMS and TEM *in situ* Analysis of Pristine Matrix Material of ALHA 77307 and Acfer 094
Stojic AN, Brenker FE & Hoppe P
-
- 09:45 Nickel Isotope Anomalies: Neutron-Rich or Neutron-Poor?
Steele R, Elliott T, Coath C & Regelous M
-
- 10:00 Timing of Early Solar System Homogenization from P-Process ^{180}W Heterogeneities
Schulz T & Münker C
-
- 10:15 **Keynote:** The Insoluble Organic Matter in Carbonaceous Meteorites
Derenne S & Robert F
-
- 10:45 **Invited:** The Delivery of Organic Material to the Early Solar System
Visser R, van Dishoeck EF, Doty SD & Bergin EA
-
- 11:00 Origin of N Isotopic Anomalies in Meteoritic and Cometary Organic Matter
Aléon J
-
- 11:15 Meteoritic Organics as a Carrier of the Oxygen Isotope Anomaly in the Solar System
Hashizume K, Takahata N, Naraoka H & Sano Y
-
- 11:30 Photochemistry and the Observed Enrichment of O, C, N, and H Isotopes in Meteorite IOM
Lyons J
-
- 11:45 Experimental Test of the CO Self-Shielding Model for the Early Solar System's Oxygen Isotope Evolution
Shi X, Yin Q-Z, Luo Z, Huang H & Ng C-Y
-
- 12:00 Aqueous Alteration of Organic Matter and Amorphous Silicate in Pristine Chondrites: A Multiscale Study
Le Guillou C, Brearley A, Remusat L & Bernard S
-
- 12:15 Mercury and Enstatite Chondrite Origins by Equilibrium Condensation from chondritic-IDP Enriched Vapor
Ebel DS & Alexander C
-

(Session 01a continues on Monday 15th Posters on page 56)

02i: The Evolving Early Earth Hydrosphere as a Geodynamic Tracer and Facilitator for Life: Constraints from the Supracrustal Rock Record

Session chaired by Vincent van Hinsberg & Emilie Thomassot

- 09:30 **Invited:** Stable Isotope Composition and Volume of Early Archaean Oceans
Pope E, Rosing M & Bird D
-
- 09:45 The First Multiple Sulfur Isotope Evidence for a 2.9 Ga Mesoarchean Sulfate Reservoir
Barley M, Golding S, Heggie G & Fiorentini M
-
- 10:00 Paleoproterozoic Barites Record Microbial Reduction of a Well-Mixed Marine Sulfate Reservoir
Roerdink DL, Mason PRD, Farquhar J & Reimer T
-
- 10:15 Archean Sulfur May Power Modern Microbial Life in the Deep Subsurface in the Canadian Shield
Li L, Wing B, Bui T, Slater G, Lacrampe-Couloume G & Sherwood Lollar B
-
- 10:30 **Keynote:** Chromium Enrichment in Iron Formations Record Earth's First Acid Rock Drainage during the Great Oxidation Event
Konhauser K, Lalonde S, Planavsky N, Pecoits E, Lyons T, Mojzsis S, Rouxel O, Barley M, Rosiere C, Fralick P, Kump L & Bekker A
-
- 11:00 Molybdenum and Vanadium Abundances in Banded Iron Formation and the Onset of Oxidative Continental Weathering
Lalonde S, Planavsky N, Rouxel O, Pecoits E & Konhauser K
-
- 11:15 Near Neutral Seawater pH 3.45 Billion Years Ago
Lemarchand D, Van Bergen M, Jeambrun M, Karpoff A-M & Van Cappellen P
-
- 11:30 **Invited:** Tracking Archean Seawater Trace Metal Inventories through Multi-Proxy Analysis of Euxinic Black Shales
Scott C, Planavsky N, Kendall B, Wind B, Bekker A, Anbar A & Lyons T
-
- 11:45 **Invited:** Mesoarchean Suprasubduction Zone Ophiolite in the Tartoq Group, SW Greenland
Szilas K, van Hinsberg V & Kisters A
-
- 12:00 Towards a Quantitative Record of Archaean Ocean Water Chemistry: An Element Partitioning Approach
van Hinsberg V, Szilas K & Wood B
-
- 12:15 The Composition of Earth's Oldest Iron Formations: The Nuvvuagittuq Supracrustal Belt (Québec, Canada)
Mloszewska A, Pecoits E, Cates N, Mojzsis S, O'Neil J & Konhauser K

(Session 02i continues on Monday 15th Posters on page 57)

03f: Physics and Chemistry of the Deep Earth

Session chaired by Tetsuya Komabayashi & James Van Orman

- 11:30 **Medal:** The High Conductivity of Iron and Thermal Evolution of the Earth's Core
Hirose K, Gomi H, Ohta K, Labrosse S & Hernlund J
-
- 12:15 Heat Flow in the Laser-Heated Diamond Anvil Cell and the Thermal Conductivity of the Lower Mantle
Rainey E, Kavner A & Hernlund J
-

(Session 03f continues on Monday 15th PM on page 29)

03g: Stable Isotope Fractionation at High Pressures and Temperatures

Session chaired by Wim van Westrenen & Helen Williams

- 09:30 Isotope Fractionation between Metallic Fe and Fe(III) and Fe(IV) Bearing Compounds
Polyakov V & Soultanov D
-
- 09:45 **Invited:** Isotopic Fractionation of Zinc in Planetary Basalts
Moynier F, Paniello R & Day J
-
- 10:00 **Keynote:** Fractionation of Li and Mg Isotopes in Mantle Derived Materials- Promise, Perils and Progress
Elliott T, Pogge von Strandmann P, Lai YJ, Kasemann S, Ionov D, Takazawa E, Marschall H, Gallagher K & Dohmen R
-
- 10:30 Iron Isotopes and Komatiites: Implications for Mantle Oxygen Fugacity
Hibbert K, Williams H, Kerr A & Puchtel I
-
- 10:45 Isotopic Evidence for Internal Oxidation of the Earth's Mantle during Accretion
Williams H, Wood B, Wade J, Frost D & Tuff J
-
- 11:00 Si Isotope Fractionation in High-Temperature Metal-Silicate Systems: Implications for Core Formation
Kempl J, Vroon PZ, Westrenen WV, Small J & Jak HG
-
- 11:15 High Pressure and Temperature Silicon Isotope Fractionation between Metal and Silicate
Shahar A, Hillgren V, Young E, Deng L, Fei Y, Macris C & Georg RB
-

(Session 03g continues on Monday 15th Posters on page 59)

Session 03f follows this session in this room. For details see page 6.

04a: Chemical Geodynamics: 25 Years of Mantle Components

Session chaired by **Al Hofmann, Francis Albarède,
Matthew Jackson & Thorsten Becker**

- 09:30 **Keynote:** The Mantle Zoo: New Species, Endangered Species, Extinct Species
Hart S
-
- 10:00 **Invited:** Implications of a Non-Chondritic Primitive Mantle for Chemical Geodynamics
Carlson R & Jackson M
-
- 10:15 Volatile and Trace Element Abundances in HIMU Melt Inclusions
Cabral R, Jackson M, Rose-Koga E, Day J & Shimizu N
-
- 10:30 Metasomatism beneath the Kerguelen Plateau Associated with Heterogeneous Mantle Plume
Debaille V, Hublet G, Mattielli N & Weis D
-
- 10:45 A New Statistical Method for Modeling Mixing of Mantle End-Members for Global MORB and OIB Isotopic Data
Sohn R & Sims K
-
- 11:00 Evidence for a Hawaii-Emperor Bend in the Rurutu Hotspot Track
Konter J, Jackson M & Koppers A
-
- 11:15 Pb-Sr-Nd Systematics of the Early Mauna Kea Shield Phase and Insight into the Pacific Deep Mantle
Nobre Silva J, Weis D & Scoates J
-
- 11:30 Dynamical Geochemistry
Davies G
-
- 11:45 Partitioning of First-Row Transition Elements between Peridotite and Melt
Davis E, Humayun M, Hirschmann M & Cooper R
-
- 12:00 Evidence for Metasomatic Enrichment in the Oceanic Lithosphere and Implication for the Generation of Enriched Reservoirs
Pilet S, Buchs D, Cosca M, Flores K, Bandini A & Baumgartner P
-
- 12:15 ULVZ as Repository for the Enriched Component in the Hawaiian Source
Weis D, Garcia MO, Rhodes JM, Jellinek M & Scoates J
-

(Session 04a continues on Monday 15th PM on page 30)

05d: The Role of Island and Continental Arcs in Continent Formation

Session chaired by Jaime Barnes, Esteban Gazel & Jade Star Lackey

- 09:30 **Invited:** Seismological Constraints on an Evolution of the Izu-Bonin Intra-Oceanic Arc
Kodaira S, Takahashi N & Sato T
-
- 09:45 Emplacement of Passive Margin Sediments into Deep Crustal Hot Zones of Continental Arcs: Interplay of Tectonic and Magmatic Thickening in the Formation of Continental Crust
Chin E, Lee C-T, Tollstrup D, Xie L, Wimpenny J & Yin Q
-
- 10:00 The Magnitude and Composition of the Delamination Flux in Arcs during Continental Crust Formation
Jagoutz O & Schmidt MW
-
- 10:15 Tectonic Evolution of a ~800-767 Ma Continental Arc-Back-Arc System in South Brazil
Lenz C, Porcher C, Fernandes L, Conceição R, Edinei K & Masquelin H
-
- 10:30 A Type of High Sr/Yb Granite in North Qinling: The Melting Product of a Pre-Exiting Source of Arc Environment
Li P, Chen J-L, Xu X-Y & Li T
-
- 10:45 The Longwood Igneous Complex of Southern New Zealand: An Intra-Oceanic, Subduction-Related Batholith
Price R, Spandler C & Arculus R
-
- 11:00 The Santa Quitéria Batholith, NE Brazil: A Mantle - Crust Interaction
Wernick E, Zincone S & Santos T
-
- 11:15 Geochemistry and Petrogenesis of the Carboniferous-Permian Granitic Magmatism in Tianshan, Northwestern China
Xu X-Y, Wang H-L, Li P, Chen J-L & Wang N
-
- 11:30 Style and Chronology of Growth by Oblique Accretion and Oroclinal Bending: The Panama Isthmus
Montes C, Cardona A, Bayona GA, Rory M, Moron SE, Silva CA, Restrepo-Moreno S & Ramirez DA
-
- 11:45 Recycling of Juvenile Supracrustal Rocks in Mesozoic Batholiths: Implications for Crustal Growth
Lackey JS
-
- 12:00 **Keynote:** Underplating of Felsic Rocks in Arcs
Kelemen P, Hacker B & Behn M

(Session 05d continues on Monday 15th Posters on page 61)

07c: Coevolution of Life and the Environment in the Late Neoproterozoic to Early Phanerozoic

Session chaired by David Fike, Matthew Hurtgen & Gordon Love

- 09:30 Pre-Sturtian Euxinia and Ocean Chemistry: Evidence from the Coppercap Formation in the Northwest Territories, Canada
Thomas K, Hallmann C, Macdonald F, Summons R & Ono S
-
- 09:45 Long Period Oscillations in the Neoproterozoic Carbon Cycle
Mills B, Watson A, Goldblatt C, Boyle R & Lenton T
-
- 10:00 Neoproterozoic Ice Ages, Boron Isotopes, and Ocean Acidification
Kasemann S, Prave A, Fallick A, Hawkesworth C & Hoffmann KH
-
- 10:15 Re-Os Geochronology of the Neoproterozoic Coppercap and Twitya Formations: Implications for the Rapitan-Sturtian Glaciation
Rooney A, Macdonald F & Selby D
-
- 10:30 Re-Os Geochronology of Black Shales from the Neoproterozoic Doushantuo Formation, Yangtze Platform, South China
Zhu B, Becker H, Jiang S-Y, Pi D & Fischer-Gödde M
-
- 10:45 Chromium Isotopes as an Indicator of Redox Conditions in the Cryogenian Shallow Oceans
Bonnand P, Parkinson I, James R & Fairchild I
-
- 11:00 Putative Cryogenian Ciliates from Mongolia
Bosak T, Macdonald F, Lahr D & Matys E
-
- 11:15 An Oxygen Window for Early Ediacaran Animal Life
Sahoo SK, Jiang G, Kendall B, Planavsky N, Wang X, Shi X, Anbar A & Lyons T
-
- 11:30 **Keynote:** Coevolution of Early Animals and Environment
Butterfield N
-
- 12:00 Controls on Early Biomineralisation: Oxygen and Competition
Wood R, Prave A, Hoffman C, Lyne J, Clarkson M & Kasemann S
-

(Session 07c continues on Monday 15th PM on page 32)

08h: Geochemical Processes at Mineral-Water Interfaces – Insight from Macroscopic, Spectroscopic, and Computational Methods: Surface Alteration and Dissolution

Session chaired by Jeffrey Catalano, Udo Becker & Jean-François Boily

- 09:30 Interfacial Reactions during Olivine Replacement
King H, Satoh H, Geisler T, Tsukamoto K & Putnis A
-
- 09:45 Dissolution/Precipitation Processes during Low-Temperature Mineral Weathering
Ruiz-Agudo E, Urosevic M, Putnis CV, Cardell C, Rodríguez-Navarro C & Putnis A
-
- 10:00 Study on Mineral Surface Reacted with Water at High Temperatures Above 300°C
Hu S, Zhang R & Zhang X
-
- 10:15 Glass Composition Impact on Water Reactivity at the Glass Surface
Rebiscoul D, Bruguier F, Magnin V & Gin S
-
- 10:30 Borosilicate Glass Alteration Driven by Magnesium Carbonates
Debure M, Frugier P, De Windt L & Gin S
-
- 10:45 The Double Effect of Mg on the Long-Term Alteration Rate of a Nuclear Waste Glass
Thien B, Godon N & Ayrat A
-
- 11:00 Modeling Glass Alteration Layers
Frugier P, Gin S, Rajmohan N & Debure M
-
- 11:15 Reliance of the Rate of Dissolution of the SON68 Glass on SiO₂(aq): New Quantification Using Interferometry
Icenhower J, Steefel C, Luttge A, Ryan J & Pierce E
-
- 11:30 **Invited:** How Crystalline Matter Dissolves: Contours of a Comprehensive Stochastic Model
Luttge A, Arvidson RS, Kurganskaya I & Fischer C
-
- 11:45 Modeling the Dissolution and Growth of Whole Mineral Grains
Arvidson RS & Luttge A
-
- 12:00 Phyllosilicate Dissolution Kinetics: Experimental Observations and Kinetic Monte Carlo Modeling
Kurganskaya I, Arvidson RS & Luttge A
-
- 12:15 Holographic Interferometry Study of the Inhibition of Gypsum Dissolution
Pachon-Rodriguez EA & Colombani J
-

(Session 08h continues on Monday 15th PM on page 34)

10f: Carbon Sequestration Analogues

Session chaired by Chris Ballentine & Dave Cole

- 09:30 **Keynote:** Geological Carbon Storage: Geochemical Processes
Bickle M
-
- 10:00 Monitoring CO₂-H₂O Interactions Using δ¹³C and δ¹⁸O at the CO₂CRC Otway Project CO₂ Storage Pilot
Kirste D, Boreham C, Stalker L & Underschultz J
-
- 10:15 Stepwise C & O Stable Isotope Shows No Detectable CO₂-sequestration by Cements in Analogue for Engineered Storage
Heinemann N, Wilkinson M, Fallick A & Haszeldine S
-
- 10:30 Predicting CO₂ EOR and Geological Sequestration Processes with Artificial Noble Gas Tracers
Zhou Z, Bickle M, Galy A, Chapman H, Kampman N, Dubacq B, Wigley M, Warr O, Sirikitputtisak T, Hannah P & Ballentine C
-
- 10:45 Natural and Artificial Noble Gases as Tracers of Injected CO₂ Migration within a Deep Reservoir
Gilfillan S, Haszeldine RS, Poreda R & Hovorka S
-
- 11:00 Laboratory Experiments and Modeling of CO₂ Dissolution in Water for Carbon Sequestration
Stute M, Fernandez de la Reguera D & Matter J
-
- 11:15 Geophysical and Geochemical Data Used to Infer Origin and Evolution of Natural CO₂ in Italy
Battani A, Brosse E & Loiselet C
-
- 11:30 Nanometer to Centimeter Scale Analysis and Modeling of Pore Structures in Geologic CO₂ Storage Formations and Caprocks
Anovitz L, Vlcek L, Rother G & Cole D
-
- 11:45 Changes to Porosity and Pore Structure of Mudstones Resulting from Reaction with CO₂
Navarre-Sitchler A, Mouzakis K, Heath J, Dewers T, Rother G, Wang X, Kaszuba J & McCray J
-
- 12:00 Geologic Carbon-Sulfur Co-sequestration: Experimental Investigation of a Natural Analogue, Madison Limestone, SW Wyoming USA
Chopping C & Kaszuba J
-
- 12:15 Trace Element Mobilisation in a Natural Analogue CO₂ Storage Site
Wigley M, Bickle M, Kampman N, Dubacq B & Champan H

(Session 10f continues on Monday 15th PM on page 36)

11d: Dating of Mineral Deposits and Fluid Flow in the Lithosphere

Session chaired by Robert Creaser & Keiko Hattori

- 09:30 Mineral Evolution: What's New?
Hazen R, Downs R, Golden J, Grew E, McMillan M, Ralph J & Sverjensky D
-
- 09:45 Causes and Consequences of Zn, Fe and S Isotope Fractionation in a Large Hydrothermal System: The Navan Orebody, Ireland
Gagnevin D, Boyce A, Barrie C, Menuge J & Blakeman R
-
- 10:00 Nitrogen Isotopes and Geochronology of the Musselwhite Au Mine, Canada
Hollings P, Isaac C, Biczok J, Maas R & Friedman R
-
- 10:15 Venting History and Accumulation Rates of Hydrothermal Sulfide from the Endeavour Segment, Juan de Fuca Ridge
Jamieson J, Hannington M, Kelley D, Clague D & Holden J
-
- 10:30 Dating of Submarine Hydrothermal Deposits by ESR and U-Series Methods
Toyoda S, Sato F, Nakai S, Takamasa A & Ishibashi J
-
- 10:45 The Zircon Fission Track Constraint on the Mineralizing Ages of the Jiapigou Gold Deposits, Northeastern China
Yuan W, Deng J & Huang Z
-
- 11:00 **Invited:** Zircon Rim Response to Metamorphic and Hydrothermal Regime-Change
Schneider D & Schmitt A
-
- 11:15 Geochronological, Geochemical and Growth Constrains of Alpine Clefts from U-Th-Pb in Monazite
Ianots E, Berger A, Gnos E, Whitehouse M & Lewin E
-
- 11:30 Monazite Dating of Base-Metal Mineralization, Earraheedy Basin, Western Australia
Muhling J, Fletcher I & Rasmussen B
-
- 11:45 SIMS U-Pb Ages for Heterogenite from Katanga (DRC): Implications for the Genesis of Co-U Deposits in Shinkolobwe
Decrée S, Deloule E, De Putter T, Dewaele S, Mees F & Maignac C
-
- 12:00 Palaeomag-Dating of Kupferschiefer Ore at Sangerhausen, Germany – An Epigenetic, Late Jurassic Age for Stratabound Cu-Mineralization
Borg G, Walther S, Kawasaki K & Symons D
-
- 12:15 Olympic Dam U-Cu-Au Deposit, Australia: New Age Constraints
Maas R, Kamenetsky V, Ehrig K, Meffre S, McPhie J & Diemar G

(Session 11d continues on Monday 15th PM on page 37)

12a: Links between CO₂ and Climate: Carbon Cycle Feedbacks over Time

Session chaired by **Ralph Keeling & Hagit Affek**

- 09:30 Climate-Carbon Cycle Feedback during Glacial Cycles
Ganopolski A, Brovkin V, Calov R, Archer D & Manhoven G
-
- 09:45 Enhanced Shelf Sediment Weathering during Glacial Periods
Damps pCO₂ Reduction: A Negative Feedback
Ushie H & Matsumoto K
-
- 10:00 CO₂ Evasion from the Greenland Ice Sheet: A New Carbon-
Climate Feedback
Jacobson A & Ryu J-S
-
- 10:15 Oxygen Triple-Isotope Evidence for Enhancement of CO₂
Sequestration Efficiency by Diatom-Diazotroph Assemblages
in a Giant River Plume
*Yeung LY, Berelson WM, Young ED, Prokopenko MG,
Carpenter EJ & Yager PL*
-
- 10:30 Erosion in the Arctic: Enhanced Carbon Sequestration
Associated with High Latitude Warmth?
*Hilton RG, Galy V, Gaillardet J, Calmels D, Grocke DR
& Bryant C*
-
- 10:45 **Keynote:** Methane and the PETM: All Good Things Must
Come to An End?
Pagani M, DeConto R, Galeotti S & Beerling D
-
- 11:15 Mid-Latitude (~50°N) Continental Response to Falling
Atmospheric P_{CO2} during the Eocene-Oligocene Transition
*Hren MT, Sheldon ND, Grimes ST, Collinson ME, Hooker JJ,
Bugler M & Lohmann K*
-
- 11:30 The Relationship between Ice Volume, CO₂ and Climate in
the Middle Miocene
Foster G, Lear C & Rae J
-
- 11:45 Orbital Scale Alkenone Based CO₂ Records Across the
Pliocene Intensification of Northern Hemisphere Glaciation
*Badger M, Bowler G, Davis C, Hull A, Potts M, Schmidt D
& Pancost R*
-
- 12:00 Toward Calibrating the Paleosol Carbonate CO₂ Barometer
for paleoVertisols
Breecker D, Michel L, Yoon J, Mintz J, Driese S & Nordt L
-
- 12:15 Are Large Igneous Provinces Net-Sinks for CO₂?
Schaller M, Wright J & Kent D
-

(Session 12a continues on Monday 15th Posters on page 76)

14f: Quantifying Erosion and Weathering Rates and Critical Zone Processes Across Spatial and Temporal Scales

Session chaired by Francois Chabaux, Anthony Dosseto, Arjun Heimsath & Rolf Aalto

- 09:30 **Keynote:** Inferring Process from Provenance Using Apatite (U-Th)/He Ages of Coarse Sediment in Mountain Streams
Riebe CS, Lukens CE, Sklar L, Beyeler JD & Shuster DL
-
- 09:45 Geochemical Constraints on the Sediment Source-To-Sink Process of the Changjiang (Yangtze) River
Yang S, Li C, Wang Q & Shao J
-
- 10:00 Deciphering the Offshore Biogeochemical Record of Holocene Erosion in the Waipaoa Watershed, New Zealand
Leithold E, Blair N & Childress L
-
- 10:15 **Invited:** Quantifying Weathering and Erosion Rates Using Cosmogenic Nuclides
Bouglès D, Braucher R & Siame L
-
- 10:30 The ^{10}Be (meteoric)/ ^9Be Ratio as a Tracer of Weathering and Erosion
von Blanckenburg F, Wittmann H & Dannhaus N
-
- 10:45 A 4 Million Year Record of Paleo-Erosion Rates from the Qilian Shan, China
Zhao Z & Granger D
-
- 11:00 Inception! Timescale of Chemical Weathering during the Early Stages of Water-Rock Interaction
Dosseto A & Riebe C
-
- 11:15 Uranium-Series Mobility during Spheroidal Weathering of 300 kyrs Old Basalt (La Réunion Island)
Claude C, Meunier J-D, Traoré D, Chabaux F, Hamelin B & Colin F
-
- 11:30 U-Series Disequilibria during Soil Weathering
Andersen MB, Vance D, Keech AR, Rickli J & Hudson G
-
- 11:45 **Invited:** Short-Lived Nuclides of the U and Th-Series Probing Recent Pedogenic Processes in Soils
Rihs S, Prunier J, Thien B, Lemarchand D, Pierret M-C & Chabaux F
-
- 12:00 Chemical Weathering and Erosion Rates in Lesser Antilles: An Overview in Guadeloupe, Martinique and Dominica
Rad S, Rivé K, Cerdan O, Vittecoq B & Allègre C
-
- 12:15 Net Redistribution of ^{137}Cs over Australia
Bui E & Chappell A
-

(Session 14f continues on Monday 15th PM on page 41)

15a: The GEOTRACES Program

Session chaired by Ed Boyle

- 09:30 Fe Kinetics of Marine Particle Uptake and Desorption Determined from Laboratory Experiments
Beck AR & Adkins JF
-
- 09:45 Noble Gas Isotope Fractionation during Air-Sea Exchange: A Tracer for Mechanisms that Determine N_2/Ar Ratios in the Ocean
Emerson S, Tempest K & Hamme R
-
- 10:00 ^{17}O Anomaly of Dissolved O_2 in the Deep Atlantic Ocean
Luz B, Barkan E, Henderson G & Smethie W
-
- 10:15 Silicon Stable Isotope Constraints on the Global Oceanic Si Cycle
de Souza G, Reynolds B & Bourdon B
-
- 10:30 Vertical Distribution of ^{236}U in the Western Equatorial Atlantic Ocean
Christl M, Lachner J, Vockenhuber C, Rutgers v. d. Loeff M, Lechtenfeld O & Stimac I
-
- 10:45 ^{227}Ac in the Atlantic Sector of the Southern Ocean: New Results from Bonus-Goodhope and UK GEOTRACES
Geibert W, Hsieh A, Hanfland C, Verdeny E, Masque P & Henderson G
-
- 11:00 GEOTRACES Intercalibration Results for Nd Isotopes and REE on Seawater and Particulate Samples
van de Flierdt T, Pahnke K & Geotraces Intercalibration Participants
-
- 11:15 Distribution of Neodymium Isotopes in Eastern Equatorial Pacific Seawater
Frank M, Grasse P, Stichel T & Stramma L
-
- 11:30 The Influence of Boundary Scavenging and Particle Composition on Dissolved and Buried ^{230}Th and ^{231}Pa in the Subarctic North Pacific
Hayes C, Anderson R & Gersonde R
-
- 11:45 Dissolved ^{230}Th - ^{232}Th Dynamics in the Eastern Tropical Pacific Ocean
Singh A, Marcantonio F & Lyle M
-
- 12:00 Cadmium Isotopes in the Western North Atlantic – GEOTRACES Cruise PE319
Powell C, Abouchami W, Galer S, Andreae M, de Jong J, Gerringa L & de Baar H
-
- 12:15 Zinc Isotopes in the Southern Ocean – A Tracer of Biogeochemical Cycling?
Zhao Y, Vance D & Abouchami W

(Session 15a continues on Monday 15th PM on page 42)

16f: Biogeochemical Processes in Management and Forensics of Legacy Radioactive Materials

Session chaired by Katherine Morris,
Maxim Boyanov & Albert J Fahey

- 09:30 **Keynote:** Plutonium Transport: Identifying the Biogeochemical Mechanisms Controlling its Behavior
Kersting A
-
- 10:00 Biogeochemical Behaviour of Pu in a Contaminated Soil from Aldermaston, UK
Kimber R, Purdie P, Boothman C, Livens F & Lloyd J
-
- 10:15 Strontium Behaviour during Bioreduction in Nitrate Impacted Sediments
Thorpe CL, Lloyd JR, Morris K, Burke IT, Shaw S & Law GTW
-
- 10:30 Incorporation of ^{90}Sr into Alkaline Altered Sediments
Wallace S, Shaw S, Morris K, Small J & Burke I
-
- 10:45 **Invited:** The Special Case of Actinide(IV) Complexation by the Carboxylic Function of Small and Large Organic Ligands
Hennig C, Takao K, Takao S, Meyer M, Jeanson A, Dahou S & Den Auwer C
-
- 11:00 Spectroscopic Characterization of U(IV)-Biomass Complexes
Alessi D, Lezama-Pacheco J, Stubbs J, Janousch M, Persson P, Bargar J & Bernier-Latmani R
-
- 11:15 **Invited:** Uranium Dynamics in Biostimulated Field-Site Sediments: Spatial Distribution and Formation of Non-Uraninite U(IV) Phases
Boyanov M, O'Loughlin E, Skinner K, Mishra B, Kelly S, Wu W-M, Criddle C, Mueller M, Melhorn T, Watson D, Brooks S & Kemner K
-
- 11:30 Nuclear Forensic Analysis of Trinitite at High Spatial Resolution
Wallace C, Simonetti A & Burns P
-
- 11:45 Detection of Airborne Radionuclides Released during the Nuclear Accident at Fukushima Daiichi over Europe
Steinmann P, Masson O, Gurriaran R & Wershofen H
-
- 12:00 **Invited:** Biogeochemical Redox Transformations of Pertechnetate ($^{99}\text{TcO}_4^-$)
Fredrickson J, Lee J-H, Plymale A, Dohnalkova A, Heald S, Peretyazhko T, McKinley J & Zachara J
-
- 12:15 Effect of Climate Change-Driven Sea Water Intrusion on the Mobilisation of Tc(VI) from Reduced Sub-Surface Sediments
Eagling J, Worsfold P, O'Sullivan G & Keith-Roach M
-

(Session 16f continues on Monday 15th PM on page 45)

17e: Nitrogen Isotopes and Nitrogen Cycling in Terrestrial and Aquatic Systems

Session chaired by **Carsten Schubert & Moritz Lehmann**

- 09:30** **Keynote:** Cycling of Nitrogen in the Namibian Coastal Upwelling System – The Stable Isotope View
Emeis K-C, Nagel B & Lahajnar N
-
- 10:00** Novel Denitrifier Method for Measuring ^{15}N and ^{18}O of Nitrate
Silvennoinen H, Zhu J, Mørkved PT, Bakken L, Mulder J & Dörsch P
-
- 10:15** Stable Isotopes Ratio in Nitrate: A Tool to Unravel the Biogeochemistry of Nitrate in an Estuarine Environment
Wong WW, Cook P, Grace M & Cartwright I
-
- 10:30** Tracing N_2O Transformation Pathways in a Lake Ecosystem by N_2O Isotopomer Analysis
Wenk CB, Blee HJR, Koba K, Casciotti KL, Schubert CJ, Veronesi M, Freymond CV, Niemann H, Zopfi J & Lehmann MF
-
- 10:45** Tracing Anthropogenic Nitrogen in the Vicinity of Industrial Emitters in the Athabasca Oilsands Region, Alberta, Canada
Proemse B, Mayer B & Fenn M
-
- 11:00** Linking Nitrogen Isotope Systematics and Microbiology in a Subsurface Geothermal Water Stream, Hishikari Gold Mine, Japan
Nishizawa M, Koba K, Makabe A, Yoshida N, Hirai M, Miyazaki J, Nunoura T & Takai K
-
- 11:15** Nitrogen Limitation in Extremophilic Hydrothermal Ecosystems of Yellowstone National Park
Romaniello S, Hartnett H, Anbar A, Elser J & Shock E
-
- 11:30** Extensive Denitrification in the Subsurface of the Oak Ridge Site, Tennessee
Horita J, Conrad M, Yoshida N, Bill M, Kostka J, Watson D, Brooks S & Jardine P
-
- 11:45** Extensive N-Loss from Permeable Wadden Sea Sediments due to Aerobic Denitrification
Gao H, Khalili A, Lavik G, de Beer D & Kuypers M
-
- 12:00** Role of Fluid Flow Conditions on Denitrification Rates in Sediments during Managed Groundwater Recharge
Schmidt C, Fisher A, Racz A, Lockwood B & Los Huertos M
-
- 12:15** Looking for PON in Fluvial and Marine Sediments: Insights from Nitrogen Isotopic Compositions
Galy A, Hilton R, Hovius N, Smith J & Sparkes R
-

(Session 17e continues on Monday 15th PM on page 46)

17h: Biogeochemical Cycling of Iron

Session chaired by Kristina Straub, Thilo Behrends,
Ed Burton, Stefan Peiffer & Cara Santelli

- 09:30 Acquisition of Fe by Aerobic Microorganisms: Effects of Fe Oxide Nanoparticle Size
Maurice P, Dehner C, Dubois J & Barton L
-
- 09:45 Chemical Speciation of Fe-Rich Colloids and Nanoparticles in the Southern Ocean
von der Heyden B, Roychoudhury A & Myneni S
-
- 10:00 Suspended Flocculation: Links between Microbial Ecology, FeOOH and Trace Element Dynamics
Warren L, Elliott A & Plach J
-
- 10:15 Electron Transport Across a Black Smoker Chimney
Nakamura R, Takashima T, Kato S, Takai K, Yamamoto M & Hashimoto K
-
- 10:30 **Keynote:** The Fate of Sorbed Contaminants during the Biogeochemical Cycling of Iron in Natural Environments
Fortin D
-
- 11:00 Redox Transformations of Iron in Extremely Low pH Environments: Environmental and Industrial Implications
Johnson B, Kanao T & Hedrich S
-
- 11:15 Biogeochemical Cycling of Iron, Sulfur and Carbon in the Nutrient-Rich Meromictic Acid Pit Lake Cueva de la Mora (Spain)
Wendt-Potthoff K, Koschorreck M, Diez-Ercilla M & Sánchez-España J
-
- 11:30 As, Fe and S Cycling during Reductive Biomineralisation of Pedogenic Jarosite
Keene A, Johnston S, Burton E & Bush R
-
- 11:45 Fast Iron Sulfide Oxidation in a Region of Land Uplift and Artificial Drainage
Åström M, Boman A & Fröjdö S
-
- 12:00 Phase Transformation in Simulated Acid Mine Drainage Precipitates
Lindegren M & Lövgren L
-
- 12:15 Mechanisms of Copper Immobilization by Bacteria during Precipitation of Iron Oxides
Daughney C, Swedlund P & Moreau-Fournier M
-

(Session 17h continues on Monday 15th PM on page 48)

18a: Advances in Resolution and Accuracy of *in situ* Determination of Isotope Ratios

Session chaired by Anders Meibom & Jan Kosler

- 09:30 **Keynote:** Advances in Resolution and Accuracy of *in situ* Determination of Isotope Ratios
Hirata T, Yokoyama T, Okabayashi S, Maki K, Suzuki T & Kon Y
-
- 10:00 A Simple Method for *in situ* Zircon U-Th-He Dating
Vermeesch P & Carter A
-
- 10:15 Advances in Analyses of Radiogenic Isotope by LA-MC-ICPMS: The Importance of Mass Bias and Interference Corrections
Gerdes A
-
- 10:30 Matrix Effects and Hf Isotope Analysis of Zircon by Laser Ablation MC-ICP-MS
Pearson N, Payne J & Grant K
-
- 10:45 Maximising Precision and Accuracy in Laser Quadrupole ICPMS U-Pb Geochronology
Meffre S, Danyushevsky L, Guillong M & Gilbert S
-
- 11:00 Investigation of the Precision and Accuracy of Isotope Ratio Measurements for Atmospheric Sampling for Laser Ablation Multi collector-ICPMS
Dorta L, Kovacs R, Koch J & Günther D
-
- 11:15 LA-ICP-MS Sr Isotope Ratio Analysis of Individual Fluid Inclusions
Pettke T, Oberli F & Hanley JJ
-
- 11:30 Sr Isotope Ratios Determination by LA-MC-ICPMS in Rb Rich Samples: Online Separation of Rb by Electrothermal Aerosol Heating
Broglioli R, Dorta L, Hattendorf B & Günther D
-
- 11:45 Laser Ablation with the NEPTUNE Plus MC-ICP-MS
Lloyd N, Shuttleworth S, Schwieters J & Bouman C
-
- 12:00 Quadruple Sulfur Isotope Determination by SIMS: Limitations, Progress and Prospects
Whitehouse M
-
- 12:15 Sulfur Isotope Studies in Organic Matter via SIMS Using a Statistical Approach with Heterogeneous Standards
King H, Zimmer M, Horn W & Lamberti W
-

(Session 18a continues on Monday 15th PM on page 50)

19f: Bridging the Gap between Atomic, Pore, and Continuum Scales

Session chaired by **Virginie Marry & Carl Steefel**

- 09:30 Keynote:** Anions in Clay Materials: A Case Study for Multi-Scale Modeling Approaches
Tournassat C
-
- 10:00** Modelling the Aqueous Al^{3+} System Using Density Functional Theory
Bogatko S, Cauët E & Geerlings P
-
- 10:15** Computer Simulation of Clay Mineral – Biomolecule Interactions
Swadling J, Coveney P & Greenwell C
-
- 10:30 Invited:** Donnan Equilibrium in Na-Montmorillonite from a Molecular Dynamics Perspective – Consequences for Diffusional Transport
Hedström M, Birgersson M & Karnland O
-
- 10:45 Invited:** Multiscale Modeling of Ionic Transport in Charged Clays
Duvail M, Coelho D, Békri S & Rotenberg B
-
- 11:00 Invited:** Two Step Up-Scaling of Molecular Diffusion Coefficients in Clays
Churakov S, Gimmi T & Tyagi M
-
- 11:15 Invited:** Continuum Model for Diffusive Transport in the Electrical Double Layer and Clay Interlamellæ
Galindez JM, Steefel C & Maeder U
-
- 11:30 Invited:** Direct Pore-Scale Numerical Simulation of Precipitation and Dissolution
Molins S, Silin D, Trebotich D & Steefel C
-
- 11:45** Compound-Specific Transverse Dispersion in Porous Media: Darcy-Scale Experiments and Pore-Scale Modeling Interpretation
Rolle M, Hochstetler D, Chiogna G, Kitanidis PK & Grathwohl P
-
- 12:00** Upscaling Pore Scale Carbonate Precipitation Rates to the Continuum Scale
Steefel CI, Noiriel C, Yang L & Ajo-Franklin J
-
- 12:15 Invited:** Magnesite Dissolution Rates at the Column Scale: The Control of Mineral Spatial Distribution
Li L, Salehikhoo F & Brantley S
-

(Session 19f continues on Monday 15th Posters on page 90)

21a: Global Water Sustainability

Session chaired by Chen Zhu

- 09:30 **Keynote:** Groundwater Depletion: A U.S. National Assessment and Global Perspective
Konikow L
-
- 10:00 Enhancing Heavy Metal Immobilization in SuDS
Norris M, Phoenix V, Pulford I, Haynes H & Dorea C
-
- 10:15 What Defines a Saline Aquifer for CO₂ Injection?
Blondes M & Corum M
-
- 10:30 Assessment of Water/Rock Interaction to Safeguarding Drinking Water Quality
Rezvani Khalilabad M
-
- 10:45 GIS Based Spatial Distribution Mapping for Surface Waters in Solaklı Basin (Trabzon, Turkey)
Firat Ersoy A, Gultekin F, Hatipoglu E & Celep S
-
- 11:00 Wadi as Collectors of Drinking Water in the South Mongolia
Juříčka D, Yondon M, Novotná J & Kynický J
-
- 11:15 Hydrochemical Characteristics of Bigadiç (Balıkesir) Geothermal Area, Turkey
Gocmez G & Ölmez E
-
- 11:30 Geochemical Significance of ¹⁴C, ³H, δ¹⁸O, δ²H and ⁸⁷Sr/⁸⁶Sr Isotopic Data in the Hot Spring Waters of South Korea
Lee S-G, Nakamura T, Yoon YY, Kim T-K, Ohta T & Lee T
-
- 11:45 REE in Groundwater as Indicators of Catchment Lithology in Semi-Arid Regions
Möller P, Siebert C & Geyer S
-
- 12:00 Oxygen and Hydrogen Stable Isotope Composition of Precipitation in Friuli-Venezia Giulia (Northeastern Italy)
Michelini M, Cucchi F, Flora O, Stenni B, Treu F & Zini L
-
- 12:15 Tracing Sedimentary Pyrite Oxidation during Managed Aquifer Recharge
Seibert S, Skrzypek G, Descourvieres C, Hinz C & Prommer H
-

(Session 21a continues on Monday 15th PM on page 54)



	Chamber Hall	Club A	Club B/C	Club D	Club E	Club H	Conference Hall	Forum Hall	Meeting Hall I
14:00	10f / 10a	02k / 02b	01c	03f	04a	05g	21a / 21e	17e / 17f	16f / 16c
	Rillard	Wierzchos	McKibbin	Buffett	Mukhopadhyay	Annen	Slade	Maya	Lloyd
14:15	Matter	Dawson	Jourdan	Asimow	Hanyu	Huber	Tiwari Rabindra	Carstens	
14:30	Peuble	Oren	Dale	Shim	Moreira	Coleman	Zheng	Mooshammer	Keith -Roach
14:45	Bernard		Bourdon	Hummer	Le Roux	Müntener	Bokuniewicz	Ménez	Merroun
15:00	Yao	Vitek	Stevenson	Caracas	Rudge	Leuthold			Foerstendorf
15:15	Kara Gülbay	Jehlicka	Rushmer	Komabayashi	Hofmann	Broderick	Stieglitz	Santelli	Baxter
15:30	Fall	Velasco	Yin	Helfrich	Hall	Turnbull	Rapaglia	Bower	Blum
15:45	Arkadaskiy	Knowles	Münker	Sanloup	Saal	Corfu	Baskaran	Vega -Arroyo	
16:00	Wang	Flynn	Schönbächler	Dobson	Shim	Scoates	Poh	Williams	Leinweber
16:15	Pujol	Cates	Paul	Armstrong	Walzer	White	Michael	Kapitulcinova	de Ruiter
16:30	Qiu	O'Neil	Roszar	Kennett	Stracke	Tichomirowa	Rocha	Stylo	Stamati
16:45		Roth					Weinstein	Clarke	Yigini

	Meeting Hall IV	Meeting Hall V	North Hall	Panorama Hall	Small Hall	Small Theatre	South Hall	Terrace 1	Terrace 2
14:00	Picard	Evins	Scholz	Rijkenberg	18a / 18d	19a / 19b	11d	14f / 14b	07c / 07e
14:15	Kwon	Sternitzke	Lazar	Fitzsimmons	Yuan	Martin	Stein	Goldhaber	Li
14:30	Toner	Nielsen	Affek	Boyle		Kerisit	Hnatyshin	Chabaux	Hammarlund
14:45	Makita	Fernández -González	Rangarajan	Lee		Huang	Nozaki	Emmanuel	Wotte
15:00	Chan	Villegas - Jimenez	Rach	Henderson	Meibom	Yang	Kirk	Egli	Bowen
15:15	Dittrich	Jordan	Mahesh	Croot	Remusat	Dixon	Scherstén	Wongfun	Evans
15:30	Picardal	Britz	Bradtmiller	Balzer	Müller	Parker	Hu	Kwaśniak -Kominek	Snell
15:45	Melton	Fenter	Barrott	Ohnemus	Lehmann		Hu	Riebe	Dickson
16:00	Lu		Schmidt	Sherrell	Dobosz	Goddard	Hua	Goodfellow	Pancost
16:15	Ziegler	Hofmann	Fleitmann	Robinson	Burruss	Rosso	Raith	Dixon	Kennedy
16:30	Kozubal	Bowers	Keppens	Martinez -Botí	Davis	Stack	Salmikova	Douglas	Gibbs
16:45	Beam	Goncalves	Day	Ehlert	Thiel	Demichelis	Melleton		Olsen

01c: From Planetesimals to Planets

Session chaired by Ghylaine Quitté & Frederic Moynier

- 14:00 Complex Al and P Zoning in Pallasite Olivine: Constraints on High-T History
McKibbin S, O'Neill H, Mallmann G & Halfpenny A
-
- 14:15 A ~3.63 Ga Major Impact Recorded by the Bunburra Rockhole Anomalous Basaltic Achondrite
Jourdan E, Bland PA, Bouvier A & Benedix G
-
- 14:30 Widespread Evidence for Heterogeneous Accretion of the Terrestrial Planets and Planetesimals
Dale CW, Burton KW, Pearson GD & Greenwood R
-
- 14:45 Conditions of Metal-Silicate Segregation in the Parent Bodies of Iron Meteorites
Bourdon B
-
- 15:00 **Keynote:** Early Differentiation of Terrestrial Planets: The Relative Importance of Big Impactors and Small Impactors
Stevenson D
-
- 15:30 A Complex Network Analysis of Growth and Mixing Dynamics in Natural Metal-Silicate Systems
Rushmer T, Tordesillas A & Walker D
-
- 15:45 **Invited:** Critical Review of Hf-W and U-Pb Clocks for Terrestrial Core Formation
Yin Q-Z, Lee C-T, Blichert-Toft J & Albarède F
-
- 16:00 Indistinguishable Hf/W in the Silicate Earth and the Silicate Moon
Münker C, König S & Schulz T
-
- 16:15 **Invited:** Experimental Constraints on Ag Isotope Fractionation during Planetary Core Formation
Schönbächler M, Theis KJ & Wood BJ
-
- 16:30 Geocosmochronometer ^{146}Sm : A Revised Half-Life Value
Kinoshita N, Paul M, Kashiv Y, Alcorta M, Collon P, Deibel C, DiGiovine B, Greene J, Henderson D, Jiang C, Marley S, Nakanishi T, Pardo R, Rehm KE, Robertson D, Scott R, Schmitt C, Tang X, Ugalde C & Vondrasek RC
-
- 16:45 Halogen Composition of the Early Solar System Inferred from Meteoritic Apatites
Roszar J, John T, Whitehouse M, Layne G & Bischoff A
-

(Session 01c continues on Monday 15th Posters on page 56)

02b: Geology, Age and Origin of the Oldest Terrestrial Rocks and Minerals**Session chaired by Nicholas Arndt, Stephen Mojzsis & Janne Blichert-Toft**

- 16:15 Reworked Hadean Crust in the ca. 3780 Ma Nuvvuagittuq Supracrustal Belt
Cates N, Mojzsis S, Ziegler K & Schmitt A
-
- 16:30 Age and Origin of the Nuvvuagittuq Greenstone Belt
O'Neil J, Carlson R, Moser D, Heaman L & Francis D
-
- 16:45 Inherited ^{142}Nd Anomalies in the Nuvvuagittuq Supracrustal Belt
Roth A, Bourdon B, Kleine T, Mojzsis S & Touboul M
-

(Session 02b continues on Monday 15th Posters on page 56)

02k: Astrobiology and Extreme Terrestrial Environments

Session chaired by Jan Jehlicka & Howell G M Edwards

- 14:00 Life at the Dry Limit: Microbial Colonization of Evaporites in the Atacama Desert
Wierzchos J, de los Ríos A, Dávila AF, Valea S, Cámara B, Artieda O & Ascaso C
-
- 14:15 Molecular Characterization of Archaeal Lipids Across a Hypersaline Gradient
Dawson KS, Freeman KH & Macalady JL
-
- 14:30 **Keynote:** Halophilic Microorganisms: Modern and Ancient, on Earth and in Space
Oren A
-
- 15:00 Raman Spectroscopy of Endoevaporitic Microbial Communities from the Atacama Desert
Vítek P, Edwards HGM, Jehlicka J, Carter E, Ascaso C & Wierzchos J
-
- 15:15 Raman Spectroscopic Identification of Evaporitic Minerals and Biomarkers Using Miniaturised Portable Devices
Jehlicka J, Vítek P, Oren A & Edwards HGM
-
- 15:30 Microbial Sulphur Isotope Fractionation in a Mars Analogue Environment at Rio Tinto, SW Spain
Velasco E, Mason P, Vroon P, Roling W, Amils R & Davies G
-
- 15:45 Geochemical Characterization of Biosignatures in Subseafloor Basalts
Knowles E, Staudigel H, McLoughlin N & Templeton A
-
- 16:00 Pre-Biotic Organic Matter from Comets and Asteroids
Flynn G & Wirick S
-

(Session 02k continues on Monday 15th Posters on page 57)

Session 02b follows this session in this room. For details see page 27.

03f: Physics and Chemistry of the Deep Earth

Session chaired by Tetsuya Komabayashi & James Van Orman

- 14:00 **Invited:** Dynamics and Evolution of the Earth's Core and Lowermost Mantle
Buffett B
-
- 14:15 The Melting Curve of MgO from Shock Temperature Experiments
Asimow PD & Fat'yanov OV
-
- 14:30 **Keynote:** Nature of Mantle Heterogeneities
Shim S-H, van der Hilst R, Grocholski B, Catalli K, Cao Q & Shang X
-
- 15:00 Crystal Chemistry of Fe³⁺ in (Mg,Fe)SiO₃ Perovskite and Implications for Lower Mantle Properties
Hummer D & Fei Y
-
- 15:15 Spin Transition in Fe-Bearing Perovskite: Implications for the Lower Mantle
Caracas R
-
- 15:30 Phase Relations of an Fe-Ni Alloy Determined in an Internally-Heated Diamond Anvil Cell
Komabayashi T, Hirose K & Ohishi Y
-
- 15:45 Causes and Consequences of Outer Core Compositional Stratification
Helfrich G & Kaneshima S
-
- 16:00 Compressibility Change in Fe-Rich Melt and Implications for Core Formation Models
Sanloup C, van Westrenen W, Dasgupta R, Maynard-Casely H & Perrillat J-P
-
- 16:15 **Invited:** Kinetics of the Reaction Perovskite + Ferropericlaase = Ringwoodite
Dobson D, Badro J, Meibom A & Mariani E
-
- 16:30 TAPP: Retrograde Mg-Perovskite from Subducted Lithosphere?
Armstrong L & Walter M
-
- 16:45 Characterising the Earth: Exploiting Seismology and Mineral Physics
Kennett B
-

(Session 03f continues on Monday 15th Posters on page 58)

04a: Chemical Geodynamics: 25 Years of Mantle Components

Session chaired by **Al Hofmann, Francis Albarède,
Matthew Jackson & Thorsten Becker**

- 14:00 I-Pu-Xe in OIBs and the Early Separation of the Plume Source from the MORB Source Mantle
Mukhopadhyay S
-
- 14:15 A Possible Mantle Plume Source in the Lower Mantle; Evidence from Polynesian HIMU
Hanyu T, Tatsumi Y, Senda R, Miyazaki T, Chang Q, Hirahara Y, Takahashi T, Kawabata H, Suzuki K, Kimura J-I & Nakai S
-
- 14:30 He-Pb Lead Evidence for Marble Cake Under the Pacific-Antarctic Ridge
Moreira M, Hamelin C & Dosso L
-
- 14:45 Mineralogical Heterogeneities in the Earth's Mantle: Constraints from Mn, Co, Ni and Zn Partitioning during Partial Melting
Le Roux V, Dasgupta R & Lee C-T
-
- 15:00 **Invited:** Statistical Sampling of Mantle Heterogeneity
Rudge J, Maclennan J & Stracke A
-
- 15:15 Displaced Helium in Tilted Mantle Plumes
Hofmann AW, Farnetani C, Spiegelman M & Class C
-
- 15:30 En Echelon Volcanic Chains at Hotspots as Probes of the Deep Mantle
Hall P, Huang S & Jackson M
-
- 15:45 Intra-Transform Magmatism; Melt Migration and Two-Component Mantle
Saal A, Nagle A, Pickle R & Forsyth D
-
- 16:00 Structure and Petrology of the Mantle beneath Hawaii Constrained by Seismic Discontinuity Imaging and Mineral Phase Relations
Shim S-H, Cao Q, van der Hilst R & de Hoop M
-
- 16:15 The Evolution Dynamics of Chemical Mantle Reservoirs – 3D Numerical Results
Walzer U & Hendel R
-
- 16:30 **Invited:** Sampling the Earth's Mantle
Stracke A
-

(Session 04a continues on Monday 15th Posters on page 59)

05g: Duration, Tempo and Rates of Magmatic Processes in the Crust

Session chaired by Urs Schaltegger & Othmar Müntener

- 14:00 **Keynote:** Magma Emplacement Durations and Rates and the Dynamics of Magmatism and Volcanism
Annen C, Blundy J, Caricchi L, Menand T, de Saint-Blanquat M, Schöpa A & Sparks S
-
- 14:30 Crystal-Poor vs. Crystal-Rich Ignimbrites: A Competition between Stirring and Reactivation
Huber C, Bachmann O & Dufek J
-
- 14:45 Missed Connection: Ignimbrite Seeking Plutonic Relationship
Coleman D, Mills R & Tappa M
-
- 15:00 Petrography and Chemistry of Zircons from the Chaltén Plutonic Complex and Implication on the Interpretation of U-Pb Zircon Ages
Ramírez C, Putlitz B, Müntener O & Ovtcharova M
-
- 15:15 Time Scales of Magma Differentiation and Implications for the Growth Rate of the Torres del Paine Laccolith
Leuthold J, Müntener O, Baumgartner L, Putlitz B, Ovtcharova M & Schaltegger U
-
- 15:30 The Rapid Emplacement of the Val Fredda Complex, Adamello Batholith, N. Italy
Broderick C, Schaltegger U, Günther D & Brack P
-
- 15:45 Rapid Assembly of an "S-Type" Batholith in New Zealand: The Plutonic Equivalent of a Supereruption?
Turnbull R, Tulloch A & Ramezani J
-
- 16:00 U-Pb Geochronology of the Southern Scandinavian Caledonides: The Mesoproterozoic Espedalen Anorthosite-Gabbro-Norite Massif and Associated Rocks
Corfu F & Heim M
-
- 16:15 Revisiting the Age of the Merensky Reef, Bushveld Complex
Scoates J, Wall C, Friedman R & Chamberlain K
-
- 16:30 Correlated Uranium Concentration, Radiation Damage, and Increased SHRIMP U/Pb Ages of Zircon
White L & Ireland T
-
- 16:45 Dating Granites from the Erzgebirge by Different Methods – A Comparison
Tichomirowa M & Pfänder J
-

(Session 05g continues on Monday 15th Posters on page 62)

07c: Coevolution of Life and the Environment in the Late Neoproterozoic to Early Phanerozoic**Session chaired by David Fike, Matthew Hurtgen & Gordon Love**

14:00 Transient Oxidic Conditions Amid Ferruginous Deep Waters after the Cryogenian Sturtian Glaciation Evidenced from Fe-C-S Proxies

Li D, Ling H, Shields G, Och L & Poulton S

14:15 A Sulfidic Driver for the Late Ordovician Extinction
Hammarlund E, Dahl T, Harper D, Bond D, Bjerrum C & Canfield D

14:30 Carbonate-Associated Sulfate: A Seawater Proxy with Potential and Weaknesses

Wotte T, Strauss H & Shields G

(Session 07c continues on Monday 15th Posters on page 64)

Session 07e follows this session in this room. For details see page 33.

07e: Mesozoic and Early Cenozoic Greenhouse Episodes: Insights into the Anthropocene

Session chaired by **Stuart Robinson, Tom Dunkley Jones & Jim Zachos**

- 14:45 **Keynote:** Impacts and Feedbacks: Are the PETM and Eocene Hyperthermals Relevant to Future Global Change?
Bowen G
-
- 15:15 An Eocene Analogue for the Future Oceanic Response to Increased CO₂ – Existence of a Tropical Thermostat?
Evans D, Müller W, Todd J & Renema W
-
- 15:30 Hot Summers in the Western United States during the Late Cretaceous and Early Cenozoic
Snell K, Thompson J, Foreman B, Wernicke B, Chamberlain CP, Eiler J & Koch P
-
- 15:45 Ocean Oxygenation during the PETM: Mo Isotope Data from the Arctic and Tethyan Oceans
Dickson A, Cohen A, Coe A, Gavrilov Y & Shcherbinina E
-
- 16:00 Response of Continental Biogeochemical Processes to Short- and Long-Term Global Warming
Pancost R, Taylor K, Hollis C, Handley L, Rees-Owen R, Crouch E & Schouten S
-
- 16:15 A Continental Amplifier for Marine Carbon Sequestration in a Greenhouse Ocean
Kennedy M & Wagner T
-
- 16:30 Quantifying Biotic Responses to Past Abrupt Climate Change: Thresholds and Sensitivities
Gibbs S, Edgar K, Bown P, O’Dea S, Sluijs A, Murphy B & Zachos J
-
- 16:45 Low Biodiversity Tropics in a High CO₂ Median Mesozoic World
Olsen P, Whiteside J & Schaller M
-

(Session 07e continues on Monday 15th Posters on page 65)

08h: Geochemical Processes at Mineral-Water Interfaces – Insight from Macroscopic, Spectroscopic, and Computational Methods: Mineral Growth and Ion Adsorption

Session chaired by Jeffrey Catalano, Udo Becker & Jean-François Boily

- 14:00 Coffinitization of Uraninite – A Review and Discussion of Observations on Different Scales
Evins LZ & Jensen KA
-
- 14:15 Evidence for the Formation of a Fluorapatite Surface Layer on Nano-Sized Hydroxyapatite after the Exposure to an Aqueous Solution
Sternitzke V, Kaegi R, Hering JG & Johnson CA
-
- 14:30 Molecular Model of Kinetic Isotope Fractionation during Surface-Controlled Growth of CaCO_3 from Aqueous Solution
Nielsen L, DePaolo D & De Yoreo J
-
- 14:45 An Experimental Study on the Role of the Tetrahedral SO_4^{2-} , CrO_4^{2-} and SeO_4^{2-} Anions in the CaCO_3 Polymorphism
Fernández-González Á, Fernández-Díaz L, Sánchez-Pastor N & Prieto-Rubio M
-
- 15:00 Novel Insights into the Ion Sorption Properties of Calcite in Aqueous Solutions Using Cavity Ring-Down Spectroscopy
Villegas-Jimenez A, Hazen R & Sverjensky D
-
- 15:15 Speciation of Trivalent Metal Ions at the Silica/Water Interface Studied by Second Harmonic Generation
Jordan D, Saslow S & Geiger F
-
- 15:30 Evaluation of Surface Complexation Parameters for Eu^{3+} on Muscovite and Orthoclase
Britz S, Noseck U, Brendler V & Stockmann M
-
- 15:45 **Keynote:** Cation Adsorption at the Muscovite-Electrolyte Solution Interface
Fenter P, Lee SS, Schmidt M, Soderholm L, Wilson R, Park C, Nagy K & Sturchio N
-
- 16:15 Ion Desolvation as a Mechanism for Kinetic Isotope Fractionation
Hofmann AE, Bourg IC & DePaolo DJ
-
- 16:30 Alkali Metal and H_2O Dynamics at Clay-Water Interfaces: Lessons from NMR
Bowers G, Kirkpatrick RJ & Singer J
-
- 16:45 Stability of Cu Adsorbed onto Clay Surfaces: An Experimental and Computational Study
Goncalves M, Martins D & Parker S
-

(Session 08h continues on Tuesday 16th AM on page 112)

10a: Geochemistry, Biogeochemistry, Mineralogy and Physics of Shale Gas, Coal Gas and Tight Gas Systems

Session chaired by Robert Burruss

- 14:45 Nanoscale Study of the Mineralogical and Geochemical Evolution of Black Shales with Increasing Maturity
Bernard S, Horsfield B, Schulz H-M, Schreiber A, Wirth R & Sherwood N
-
- 15:00 Quantitative Research on Nanopores of Coal Using Atomic Force Microscope
Yao S, Jiao K & Li M
-
- 15:15 Source Rock-Oil Correlation in the Sinop Basin (Northern Turkey)
Kara Gülbay R & Korkmaz S
-
- 15:30 Assessment of Pore Fluid Pressure History in Basin-Centered Gas Accumulations Using Fluid Inclusions
Fall A, Eichhubl P, Bodnar RJ & Laubach SP
-
- 15:45 *In situ* Secondary Hydrocarbon Cracking in a Carbonate Reservoir
Arkadaskiy S, Rostron B, Wierzbicki R & Zral V
-
- 16:00 Modeling Hydrogen and Carbon Isotopes of Thermogenic Gases from Different Kerogens in Closed System
Wang Y, Zhao C, Wang H & Liu J
-
- 16:15 Noble Gas in Basin Centred Gas: Sampling Techniques and Preliminary Results
Pujol M, Van den Boorn S, Bourdon B, Kipfer R, Wieler R & Brennwald M
-
- 16:30 Precise $^{40}\text{Ar}/^{39}\text{Ar}$ Geochronology of Gas Migration and Accumulation
Qiu H & Yun J
-

(Session 10a continues on Monday 15th Posters on page 69)

10f: Carbon Sequestration Analogues**Session chaired by Chris Ballentine & Dave Cole**

14:00 Contribution of the Reactive Mineral Surface Area on CO₂ Mineralization Under Natural Conditions

Rillard J & Zuddas P

14:15 Tracking Permanent CO₂ Storage in Basaltic Rocks Using Conservative and Reactive Tracers at the CarbFix Injection Site, Iceland

Matter J, Stute M & Broecker W

14:30 CO₂ Sequestration in Olivine Rich Basaltic Aquifers: A Reactive Percolation Experimental Study

Peuble S, Godard M, Gouze P & Luquot L

(Session 10f continues on Monday 15th Posters on page 70)

Session 10a follows this session in this room. For details see page 35.

11d: Dating of Mineral Deposits and Fluid Flow in the Lithosphere

Session chaired by Robert Creaser & Keiko Hattori

- 14:00 **Keynote:** Fluids on the Loose – Capturing Meaningful Geochronology in Sulfides
Stein HJ
-
- 14:30 Re-Os Dating and Trace Element Characteristics of Pyrite from The Lisheen Pb-Zn Deposit, Ireland
Hnatyshin D, Creaser R & Wilkinson J
-
- 14:45 Re-Os Ages of Besshi-Type Massive Sulfide Deposits Associated with *in situ* Basalt as a New Age Constraint for Ridge Subduction
Nozaki T, Kato Y, Suzuki K, Takaya Y & Nakayama K
-
- 15:00 Age of the Pueblo Viejo Epithermal Deposit, Dominican Republic: Re-Os Isotope Data for Sulfides from the Moore and Monte Negro Deposits
Kirk J, Kesler S & Ruiz J
-
- 15:15 Re-Os Constraints on Gold Mineralisation Events in the Neo-Archaean Storø Supracrustal Belt, Southern West Greenland
Scherstén A, Szilas K, Creaser R, Næraa T, van Gool J & Østergaard C
-
- 15:30 A Discussion on Ore-Forming Fluid Sources by Gas Composition of Inclusion and Stable Isotope in Qinglong Antimony Deposit, Guizhou China
Hu Y-Z, Wang X-L & Wang J-J
-
- 15:45 Noble Gas Isotopes of Tungsten-Tin Polymetallic Deposits in South China: Constraints on Origins of Ores and Related Granites
Hu R-Z, Bi X-W & Jiang G-H
-
- 16:00 Single-Grain Muscovite Rb-Sr Age of Xushan W Deposit, Central Jiangxi, China, and its Geological Implication
Hua R, Li G, Wei X, Wang X & Huang X
-
- 16:15 *In situ* U-Pb Dating of Scheelite: Constraints on the Age and Genesis of the Felbertal Tungsten Deposit
Raith J, Gerdes A & Cornell D
-
- 16:30 TIMS U-Pb Dating of Bastnäsite, Calzirtite and Tantalite as a Powerful Tool for Timing of Rare-Metal Granites and Carbonatites (Eastern Siberia)
Salnikova E, Yakovleva S, Kotov A & Plotkina J
-
- 16:45 U-Pb Dating of Columbite-Tantalite from Variscan Rare-Elements Granites and Pegmatites
Melleton J, Gloaguen E, Frei D & Lima A

(Session 11d continues on Monday 15th Posters on page 72)

12b: Patterns of Past Changes in Major Precipitation Systems

Session chaired by Dominik Fleitmann & Julia Cole

- 14:00 Decoupled Evolution of Temperature and Precipitation in Western Germany during the Last Interglacial Reconstructed from a Precisely Dated Speleothem
Scholz D, Hoffmann D, Spötl C, Hopcroft P, Mangini A & Richter D
-
- 14:15 Open System U-Th Ages of Red Sea Corals Indicate the Activity of Freshwater Aquifers at the Last Interglacial
Lazar B & Stein M
-
- 14:30 Kinetic Isotopes Effects in Speleothems: Insight from Clumped Isotopes and Fluid Inclusions
Affek H, Zaarur S, Kluge T, Matthews A, Burstein Y, Ayalon A & Bar-Matthews M
-
- 14:45 Variation in Contribution of Bay of Bengal Moisture Source Derived from Stable Isotopic Composition of Cave Carbonates in Meghalaya, India
Rangarajan R, Routh J, Ghosh P, Mangini A, Fohlmeister J, Baskar S, Baskar R & Holzkamper S
-
- 15:00 A High-Resolution Paleohydrological Record of the Younger Dryas Episode from Western Europe – Using Lipid Biomarker D/H Ratios
Rach O, Brauer A, Wilkes H & Sachse D
-
- 15:15 Latitudinal Changes in Sea Surface Temperature and Salinity over the Eastern Arabian Sea during the Last Glacial Maximum through Holocene
Mahesh B & Banakar V
-
- 15:30 Using Opal and Organic Carbon as Proxies for Migration of the North African Monsoon
Bradtmiller L, Awalt M, McGee D & DeMenocal P
-
- 15:45 Stalagmite Reconstruction of Moroccan Climate from Geographically Spaced Records
Barrott JJ, Day CC, Barton RNE, Bouzouggar A & Henderson GM
-
- 16:00 Centennial-Scale Sea Surface Temperature and Salinity Change in the Florida Straits during the Early Holocene
Schmidt M, Weinlein W, Marcantonio F & Lynch-Stieglitz J
-
- 16:15 Megadroughts at the Dawn of Islam Recorded in a Stalagmite from Northern Oman
Fleitmann D, Bradley RS, Burns SJ, Mudelsee M, Cheng H, Edwards LR, Mangini A & Matter A
-

- 16:30 Indian Ocean Monsoon Dynamics Recorded in a Speleothem from Socotra, Yemen
De Vleeschouwer D, Van Rampelbergh M, Claeys P, Cheng H, Verheyden S & Keppens E
-
- 16:45 O and Ca Isotopes in Calcite Grown Under Cave-Analogue Conditions
Day CC, Reynard LM, Pointing MD, Blättler CL & Henderson GM
-

(Session 12b continues on Monday 15th Posters on page 76)

14b: The Geochemistry of Landscape Evolution: Linkages between Regolith Formation, Erosion, and Chemical Fluxes

Session chaired by George Hilley & Christian Mavris

- 14:45 **Keynote:** From Seconds to Millennia: Weathering and Erosion of the Highly Dynamic Soils of Alpine Areas
Egli M & Alewell C
-
- 15:15 Influence of Cyanide on Granite Weathering
Wongfun N, Plötze M, Brandl H & Furrer G
-
- 15:30 Weathering and Pore Water Evolution in the Foreland of Retreating Glacier, SW Spitsbergen
Kwaśniak-Kominek M, Manecki M, Rzepa G & Czerny J
-
- 15:45 **Invited:** Supply-Limited and Kinetic-Limited Chemical Erosion
Riebe CS, Ferrier KL, Hahm WJ & Kirchner JW
-
- 16:00 Vadose Zone Controls on Weathering Intensity and Depth: Observations from Granitic and Basaltic Saprolites
Goodfellow B, Hilley G, Chadwick O, Schulz M & Shelef E
-
- 16:15 Speed Limits to Soil Weathering and CO₂ Withdrawal
Dixon J & von Blanckenburg F
-
- 16:30 Permafrost Active Layer Dynamics Inferred from Major Element Geochemical Signatures in Six Arctic Alaskan Rivers
Douglas T, Jacobson A, McClelland J, Barker A, Khosh M & Lehn G
-

(Session 14b continues on Monday 15th Posters on page 77)

14f: Quantifying Erosion and Weathering Rates and Critical Zone Processes Across Spatial and Temporal Scales

Session chaired by Francois Chabaux, Anthony Dosseto, Arjun Heimsath & Rolf Aalto

14:00 Scaling of Critical Zone Processes in the Prairie Pothole Region, USA

Goldhaber M, Mills C, Morrison J & Stricker C

14:15 Geochemical Tracing of Water-Rock Interactions in the Ringelbach Granitic Research Catchment (Vosges, France)

Chabaux F, Schaffhauser T, Fritz B, Ambroise B & Stille P

14:30 Impact of Interfacial Free Energy on Weathering Rates

Emmanuel S & Ague J

(Session 14f continues on Monday 15th Posters on page 78)

Session 14b follows this session in this room. For details see page 40.

15a: The GEOTRACES Program

Session chaired by Ed Boyle

- 14:00** Dissolved Fe in the Western Atlantic Ocean: Distribution, Sources, Sinks and Cycling
Rijkenberg M, Gerringa L, Laan P, Schoemann V, Middag R, van Heuven S, Salt L, van Aken H, de Jong J & de Baar H
-
- 14:15** Dissolved Iron Partitioning between Soluble and Colloidal Fractions in the Tropical North Atlantic Ocean
Fitzsimmons J & Boyle E
-
- 14:30** Lead and Lead Isotopes in the Atlantic and Indian Ocean: GEOTRACES Data
Boyle E, Echegoyen-Sanz Y, Fornace K, Lee J-M, Gamo T, Obata H & Norisuye K
-
- 14:45** Pb in a Deep Sea Coral: Transfer of Anthropogenic Pb to the Deep North Atlantic Ocean over the Last 500 Years
Lee J-M, Eltgroth S, Boyle E & Adkins J
-
- 15:00** Quantifying Fluxes of Metals to Surface Waters of the South-East Atlantic
Henderson GM, Achterberg E, Baker A, Chance R, Geibert W, Homoky W, Hwieh Y-T, Klunder M, Lohan M, Martin P, Mills R, Milne A, Palmer M, Sanders R, Thomas A, Wake B & Woodward M
-
- 15:15** Sinking Titanic [Ti(IV)] – Insights into the Speciation and Distribution of Titanium in the Atlantic Ocean
Croot P, Dammschäuser A & Heller M
-
- 15:30** Particulate Trace Metals and Dust Particles in the Subtropical Atlantic
Balzer W, Barkmann W & Dierssen H
-
- 15:45** Trace Element Composition of Size-Fractionated Particulates in the Mauritanian Upwelling Zone of the Eastern North Atlantic U.S. GEOTRACES Section
Ohnemus D & Lam PJ
-
- 16:00** Collection and Determination of Suspended Particulate Trace Metals: The US GEOTRACES Intercalibration Cruises
Sherrell R, Planquette H, Field MP, Bishop J, Lam P, Twining B & Morton P
-

(Session 15a continues on Monday 15th Posters on page 79)

Session 15g follows this session in this room. For details see page 43.

15g: Connectivity of Ocean Circulation and Chemistry at Glacial-Interglacial Transitions

Session chaired by Katharine Hendry & Marcus Gutjahr

- 16:15 **Invited:** Southern Ocean Nitrogen and Silicon Dynamics during the Last Deglaciation
Robinson R, Horn M, Beucher C & Brzezinski M
-
- 16:30 Surface $\delta^{11}\text{B}$ -pH Reconstructions and Insights into the Dynamics of the Oceanic Carbonate System during the Last Deglaciation
Martínez-Botí MA, Foster GL & Vance D
-
- 16:45 Changes in Silicate Utilization and Upwelling Intensity off Peru Since the LGM – Insights from Silicon and Neodymium Isotopes
Ehlert C, Grasse P & Frank M
-

(Session 15g continues on Monday 15th Posters on page 80)

16c: Soil Carbon Dynamics in Managed Environments

Session chaired by Nikolaos Nikolaidis & Donald Sparks

- 15:30 **Keynote:** Soil-Carbon Buildup during Soil Formation, Influenced by Different Forms of Land Use
Lair G & Blum W
-
- 16:00 **Invited:** Long-Term Dynamics of Differently Stable Soil Organic Matter Fractions as Function of Soil Management
Leinweber P & Thiele-Bruhn S
-
- 16:15 **Invited:** Spatial Vegetation Patterns, Catastrophic Shifts and Desertification in Arid Ecosystems Under Land Use and Climate Regimes
de Ruiter P & Kefi S
-
- 16:30 Assessment of Carbon Needs to Renew Soil Fertility
Stamati FE, Nikolaidis NP & Schnoor JP
-
- 16:45 Spatial Prediction of Soil Organic Carbon Using Digital Soil Mapping Techniques in Slovakia
Yigini Y, Panagos P & Montanarella L
-

(Session 16c continues on Monday 15th Posters on page 80)

16f: Biogeochemical Processes in Management and Forensics of Legacy Radioactive Materials

Session chaired by Katherine Morris,
Maxim Boyanov & Albert J Fahey

- 14:00 **Keynote:** Impact of Microbial Metabolism on Radionuclide Solubility in Natural and Engineered Environments
Lloyd J, Geissler A, Law G, Thorpe C, Evans V, Brown A, Kimber R, Brookshaw D, Boothman C, Livens F & Morris K
-
- 14:30 **Invited:** The Influence of Co-contaminant Complexing Agents on Radionuclide Environmental Behaviour
Keith-Roach M, Reinoso-Maset E, May C, Young L & Worsfold P
-
- 14:45 Microbial Populations of Clay Formations and their Interactions with Uranium
López Fernández M, Fernández Sanfrancisco O, Martínez García M, Ranea Robles P, Galera Monge T, Moreno García A & Merroun M
-
- 15:00 Exploring the Mobility of Actinyl Ions in the Biogeosphere: A Spectroscopic and Theoretical Study of U(VI) Complexes with Organic Phosphate Groups
Foerstendorf H, Tsushima S, Brüning S & Li B
-
- 15:15 Microbially Induced Corrosion of Depleted Uranium Metal in Oxidic Soil
Baxter A, Shaw S, Gardner M & Thompson I
-

(Session 16f continues on Monday 15th Posters on page 81)

Session 16c follows this session in this room. For details see page 44.

17e: Nitrogen Isotopes and Nitrogen Cycling in Terrestrial and Aquatic Systems

Session chaired by **Carsten Schubert & Moritz Lehmann**

- 14:00** Variability of Nitrogen Stable Isotope in Suspended Organic Matter in Waters of the Western Continental Shelf of India and the Mandovi Estuary
Maya MV, Karapurkar SG, Soares MA, Agnihotri R, Roy R, Naik H & Naqvi SWA
-
- 14:15** Amino Sugar and Amino Acid Degradation and Transformation in Two Lakes with Different Redox State
Carstens D, Köllner KE, Bürgmann H & Schubert CJ
-
- 14:30** Organic Nitrogen Cycling during Organic Matter Decomposition
Mooshammer M, Wanek W, Frank AH, Hofhansl F, Keiblinger KM, Zechmeister-Boltenstern S & Richter A
-

(Session 17e continues on Monday 15th Posters on page 82)

Session 17f follows this session in this room. For details see page 47.

17f: Microbial Catalysis of Mineral Dissolution and Precipitation

Session chaired by **Liane Benning, Renata van der Weijden, Steeve Bonneville & Carsten Mueller**

- 14:45 **Keynote:** Unraveling Microbes-Minerals Interactions in the Deep Biosphere
Ménez B, Gérard E, Brunelli D, Pasini V, Le Campion P, Dupraz S, Marinozzi M-C, Amor M & Guyot F
-
- 15:15 Biomineralization of Mn Oxides by Mn(II)-Oxidizing Fungi
Santelli CM, Webb S, Dohnalkova A & Hansel C
-
- 15:30 Tracking the Evolution of Phase Changes in Ilmenites in Microbial Fossilization Experiments: Understanding the Role of Microbes in Diagenesis
Bower D, Kyono A & Steele A
-
- 15:45 Exploration of Interactions Involving Human Tooth Enamel and Dental Composites Using Vertical Scanning Interferometry
Vega-Arroyo M, Taylor SR, Arvidson RS, Kaplan HB, Tribble GD & Luttge A
-
- 16:00 Characterization of Elemental Sulfur Reducing Bacteria Using Transmission Electron Microscopy and their Impact on Sulfur Isotope Fractionation
Williams K, Wilkins M, Dohnalkova A, Druhan J & Conrad M
-
- 16:15 Ectomycorrhizal Fungi and Silicate Mineral Weathering: Characterising Nanoscale Interactions Using AFM
Kapitulcinova D, Howe RCT, Jackson S, Gazze SA & McMaster T
-
- 16:30 Geochemical and Biological Controls on the Product of Microbial U(VI) Reduction
Stylo M, Alessi D, Uster B, Lezama-Pacheco J, Bargar J & Bernier-Latmani R
-
- 16:45 The Structure and Topology of Cytochromes Involved in Outer Membrane Electron Transport
Clarke T, Edwards M, Hemmings A, Hall A, White G, Gates A, Butt J, Shi L, Fredrickson J, Zachara J & Richardson D
-

(Session 17f continues on Monday 15th Posters on page 83)

17h: Biogeochemical Cycling of Iron

Session chaired by Kristina Straub, Thilo Behrends,
Ed Burton, Stefan Peiffer & Cara Santelli

- 14:00 Microbial Iron Reduction Under Deep Subsurface Pressure Conditions
Picard A, Testemale D, Hazemann J-L & Daniel I
-
- 14:15 Roles of Sulfate and Fe^{III} Reduction on Microbial Community Development
Kwon MJ, Boyanov MI, Antonopoulos D, Brulc J, Kemner K & O'Loughlin EJ
-
- 14:30 **Invited:** Iron Microbial Mat Formation from Deep Continental Brines
Toner B, Briscoe L, Michel FM, Alexander S, Alexander C & Gralnick J
-
- 14:45 Microbiological Investigation of the Iron-Containing Floculent Mats in Various Deep Sea Environments
Makita H, Kikuchi S, Mitsunobu S, Nakamura K, Toki T, Kawagucci S, Noguchi T, Abe M, Miyazaki J, Yamanaka T, Tsuchida S, Nomaki H, Takahashi Y & Takai K
-
- 15:00 A New *Gallionellales* Isolate: A Model System for Comparative Studies of Fe-Oxidizer Physiology and Biomineralization
Chan C, Krepski S & Saini G
-
- 15:15 Origin of Iron Layer in Sediment of Lake Superior: Abiotic vs. Biotic
Dittrich M, Gordon J, Raouf B, Chesnyuk A, Quazi S, Fulthorpe R, Bollmann J & Katsev S
-
- 15:30 Enhanced Growth of *Acidovorax delafieldii* 2AN during Nitrate-Dependent Fe(II) Oxidation in Continuous-Flow Systems
Chakraborty A, Schieber J, Roden E & Picardal F
-
- 15:45 Microbial Iron(II) Oxidation in Littoral Freshwater Lake Sediments; Competition between Phototrophic Versus Nitrate-Reducing Iron(II)-oxidizers
Melton ED, Schmidt C & Kappler A
-
- 16:00 Elucidating the Functions of the Active Microbial Community of Iron Snow in an Acidic Lake
Lu S, Chourey K, Reiche M, Ciobotă V, Nietzsche S, Hettich R & Küsel K
-
- 16:15 On the Multitude of Niches for Bacteria and Archaea in an Acidic Biofilm
Ziegler S, Dolch K, Majzlan J & Gescher J
-

- 16:30 Comparative Genome Analysis of *Metallosphaera yellowstonensis* and a Novel Iron-Oxidizing Sulfolobales from Yellowstone National Park
Kozubal M & Inskeep W
-
- 16:45 Distribution and Activity of Iron-Oxidizing Microorganisms in Acidic Geothermal Environments
Beam J, Berstein H, Kozubal M, Carlson R & Inskeep W
-

(Session 17h continues on Monday 15th Posters on page 84)

18a: Advances in Resolution and Accuracy of *in situ* Determination of Isotope Ratios

Session chaired by Anders Meibom & Jan Kosler

14:00 **Medal:** K-Feldspar Glasses Syntheses for External Calibration of *in situ* Pb Isotope Analysis Using LA-MC-ICPMS

Yuan H, Song J, Chen K, Dai M, Bao Z & He G

(Session 18a continues on Monday 15th Posters on page 85)

Session 18d follows this session in this room. For details see page 87.

18d: Advanced Microanalytical, Spectroscopic and (Spectro-)microscopic Surface Methods: STXM, NEXAFS, AFM, NANOSIMS,..

Session chaired by Kai Totsche & Karim Benzerara

- 14:45 **Keynote:** NanoSIMS: New Results of Relevance to Biomineralization and Biology
Meibom A
-
- 15:15 Combining NanoSIMS with STXM/TEM Imaging to Shed New Light on Organic Matter Contained in Micron-Sized Particles
Remusat L, Derrien D, Hatton P-J, Nico P & Rouzaud J-N
-
- 15:30 Architecture of Submicron Organo-Mineral Domains in Soil Aggregates – Evaluation by NanoSIMS
Müller CW, Hoeschen C & Kögel-Knabner I
-
- 15:45 Functional Group Chemistry at the Mineral-Organic Interface in Soils
Lehmann J, Solomon D, Muller D, Chia C, Xin H, Joseph S & Munroe P
-
- 16:00 VESPERs XRF and Laue Diffraction Mapping of Carlin-Type Auriferous Arsenian Pyrite
Dobosz A, Olivo GR & Pratt AR
-
- 16:15 GEO-Cars: 3-D, Chemically Selective Imaging of Fluid Inclusions with Multimodal Nonlinear Optical Microscopy
Burruss R, Slepko A, Pegoraro A & Stolow A
-
- 16:30 Approaching the Final Frontier in Lateral Resolution for Isotopic and Chemical Analysis with CHILI
Davis A, Stephan T, Savina M, Pellin M, Vervovkin I, Yokochi R, Trappitsch R, Liu N & King A
-
- 16:45 Using TOF-SIMS to Study Biomarkers
Thiel V, Blumenberg M, Heim C, Lausmaa J, Leefmann T, Siljeström S, Reitner J & Sjövall P

(Session 18d continues on Monday 15th Posters on page 87)

19a: Radioactivity in the Environment: Damage, Solution, and Relativistic Effects

Session chaired by David Dixon & Martin Dove

- 14:00 **Keynote:** Which is More Ionic? UO_2 or PuO_2
Martin RL
-
- 14:30 **Invited:** Atomistic Simulations of Uranium in the Environment: Diffusion, Adsorption, and Incorporation
Kerisit S, Liu C, Felmy A & Ilton E
-
- 14:45 *Ab Initio* Electronic Structure of $\text{Pu}(\text{OH})_4$: Comparison between Density Functional and Multi-Reference Theories
Huang P, Zavarin M & Kersting A
-
- 15:00 **Invited:** Computational Studies of Structural, Magnetic, and Spectroscopic Properties of Actinide Species
Yang P
-
- 15:15 **Invited:** Computational Studies of Actinide Clusters and Hydrolysis Reactions
Dixon D, Jackson V, Vasiliu M, Walker S, Duke J, Flamerich R, Knope K & Soderholm L
-

(Session 19a continues on Monday 15th Posters on page 88)

Session 19b follows this session in this room. For details see page 53.

19b: Large and Complex Atomistic Systems: Physics, Algorithms, and Hardware

Session chaired by **Adri van Duin & Paolo Raiteri**

- 15:30 **Invited:** Structure and Stability of Mineral Interfaces
Parker S, Molinari M, Zhu R, Smith W & Noguera C
-
- 15:45 **Keynote:** Recent Advances in First Principles Based Modeling and Simulations of the Physics and Chemistry of Large, Complex Atomistic Systems
Goddard W
-
- 16:15 **Invited:** Large-Scale Simulation of Molecular Structure and Electron Transfer in Microbial Cytochromes
Rosso K, Zarzycki P, Breuer M, Blumberger J, Shi L, Richardson D, Clarke T, Edwards M, Butt J, Zachara J & Fredrickson J
-
- 16:30 **Invited:** Mineral Growth and Dissolution from Rare Event Methods
Stack A
-
- 16:45 Structure and Relative Stability of Hydrated and Anhydrous Ca-Mg Carbonates from First-Principle Calculations
Demichelis R, Raiteri P & Gale JD
-

(Session 19b continues on Monday 15th Posters on page 89)

21a: Global Water Sustainability

Session chaired by Chen Zhu

- 14:00 Testing a Geochemical Tracer Tool in New Zealand Water
Slade A, Warner N, Vengosh A & Whitehead B
-
- 14:15 Hydrogeochemistry Groundwater Quality and Pollution
Potential Studies of Satna City, Madhya Pradesh, India
Tiwari Rabindra RN
-
- 14:30 Influence of Major Hydraulic Projects on Saltwater Intrusion
in the Yangtze River Estuary
Zheng M, Liu S & Jiang S
-

(Session 21a continues on Monday 15th Posters on page 91)

Session 21e follows this session in this room. For details see page 55.

21e: Fluid and Solute Fluxes Across the Land, River, Lake and Ocean Interfaces

Session chaired by **Henrieta Dulaiova, Thomas Riedel, Natasha Dimova & Hannelore Waska**

- 14:45 **Keynote:** Submarine Groundwater Discharge, the Subterranean Estuary and Climate Change: *Quo vadis?*
Bokuniewicz H
-
- 15:15 Rapid Seawater Circulation through Animal Burrows in Mangrove Forests – A Significant Source of Saline Groundwater to the Tropical Coastal Ocean
Stieglitz T, Clark J & Hancock G
-
- 15:30 The Impact of Sea Level Rise on Salt Water Intrusion into Coastal Aquifers
Rapaglia J, Bokuniewicz H, Vafeidis A & Pick T
-
- 15:45 Seepage of Subsurface Brines into a Major Lake System Using Ra and Stable Isotopes of Oxygen and Hydrogen: A Case Study from Lake Huron
Baskaran M, Novell T, Ruberg S, Biddanda B, Johengen T, Hawley N & Klump V
-
- 16:00 Rare Earth Elements: Indicators of Redox Conditions and Surface Water-Groundwater Mixing in an Estuarine Wetland
Poh SC & Gasparon M
-
- 16:15 Geologic and Hydrologic Control of Porewater Chemistry and Submarine Groundwater Discharge into Indian River Bay, Delaware
Michael H, Fernandez C, Russoniello C, Andres AS, Kroeger K, Krantz D, Banaszak J, Musetto A, Myers K, Konikow L & Bratton J
-
- 16:30 Ecosystem-Level Impact Signals of Groundwater Borne Continental Nitrate Transfer to the Ria Formosa Lagoon by Submarine Groundwater Discharge (SGD) Traced along the Mixing Gradient by a Multi-Indicator Approach
Rocha C, Cristina V-P, Wilson J, Monteiro JP & Scholten J
-
- 16:45 Sea Water Circulation in Coastal Aquifers as Inferred from Radium Isotopes: The Dead Sea Case
Kiro Y, Weinstein Y, Yechieli Y & Starinsky A
-

(Session 21e continues on Monday 15th Posters on page 94)

01a: The Disc Epoch: Sources and Compositions of Early Solar System Materials

Floor 1

- 1001 Search for Nucleosynthetic Tellurium Isotopic Anomalies in Meteorites by N-TIMS
Fukami Y & Yokoyama T
-
- 1002 T and fO_2 Guided, Gas Phase Mediated Na and K Exchange between Silicate Melt Drops
Gellissen M, Holzheid A, Kegler P & Palme H
-
- 1003 Magnesium Isotope Composition of Presolar Silicate Grains
Kodolányi J & Hoppe P
-
- 1004 The Formation of Organic Molecules in Solar System Environments: The Miller-Urey Experiment in Space Preflight Overview
Kotler JM, Ehrenfreund P, Martins Z, Ricco AJ, Blum J, Schraepler R, van Dongen J, Palmans A, Sephton MA & Cleaves HJ
-

01c: From Planetesimals to Planets

Floor 1

- 1005 EBSD Study of Lattice Preferred Orientation (LPO) of the Harzburgite NWA 5480
Tkalcec B & Brenker FE
-
- 1006 Early Thermal Events of the HED Parent Body (4 Vesta) from Eucrite Zircon U-Th-Pb-Ti Depth Profiles
Hopkins M, Mojzsis S & Bottke W
-
- 1007 Internal Structure of Icy Satellites of Jupiter and Saturn and Subsurface Oceans
Kuskov O, Kronrod V & Zhidikova A
-

02b: Geology, Age and Origin of the Oldest Terrestrial Rocks and Minerals

Floor 1

- 1008 Potential Source Variation in Munro Komatiites: Fred's and Theo's Flows, Ontario, Canada
Duchemin C, Chauvel C, Arndt N, Debaille V & Mattielli N
-
- 1009 $^{146,147}\text{Sm}$ - $^{142,143}\text{Nd}$ Studies of Komatiites from Western Dharwar Craton, India: Implications for Depleted Mantle Evolution in Early Archean
Maya JM, Bhutani R & Balakrishnan S
-
- 1010 Geochemical and Synchrotron Study of Barberton Greenstone Belt Cherts (3.5-3.2 By), South Africa
Ledevin M, Simionovici A, Arndt N & Westall F
-

- 1011 Mesoarchean Gabbroanorthosite Magmatism of the Kola Region (Russia)
Kudryashov N & Mokrushin A
-
- 1012 Secondary Origin for "Primary" Mineral Inclusions in Detrital Zircons from Jack Hills, Western Australia
Rasmussen B, Fletcher I, Muhling J, Gregory C & Wilde S
-
- 1013 2575 Ma Age of Nuvvuagittuq Metamorphic Garnet
Sullivan N, Baxter E & Mojzsis S
-
- 1014 Cathodoluminescence of Quartz as a Reflection of the Evolution of the Teplice Caldera
Švecová K, Breiter K & Leichmann J
-

(Session 02b continues on Tuesday 16th AM on page 102)

02i: The Evolving Early Earth Hydrosphere as a Geodynamic Tracer and Facilitator for Life: Constraints from the Supracrustal Rock Record

Floor 1

- 1015 Preliminary High-Resolution Ge/Si Data in Early Archaean BIFs
Luais B, Lach P, Thomassot E, Chaussidon M & Boiron M-C
-
- 1016 Mercury Stratigraphy: A Proxy for Volcanogenic CO₂ Buildup in Neoproterozoic Snowball Earth and Volcanism in the K-T Transition
Sial A, Lacerda L, Gaucher C, Ferreira V, Chiglino L, Campos M, Nascimento-Silva V & Cezario W
-
- 1017 C, Sr Isotopes in Cap Carbonate and Ce Anomaly in BIFs of Jucurutu Formation, Seridó Belt, NE, Brazil
Campos M, Sial A, Gaucher C, Ferreira V, Frei R, Nascimento R & Pimentel M
-
- 1018 Carbon-Isotope and Mercury Stratigraphies of the Frecheirinha Formation Cap Carbonate, Northeastern Brazil
Chiglino L, Sial A & Gaucher C
-

02k: Astrobiology and Extreme Terrestrial Environments

Floor 1

- 1019 Probable Mars Atmospheric Changes by the Proposed Terraforming Process with Silicon Utilizing Organisms
Das S
-
- 1020 Microbial Community Diversity in Oylat Cave and their Roles on Biogeochemical Cycling
Gulecal Y & Temel M
-

03a: Experimental Constraints on the Origin and Evolution of Earth's Early Mantle and Core

Floor 1

- 1021 Differential Changes in Divalent Ni, Co and Fe Coordination in Silicate Melt with Pressure
Jones J, O'Neill H & Berry A
-
- 1022 Granularity and Geochemistry of Olivine in Jinchuan Ni-Cu-PGE Magmatic Sulfide Deposit
Jiao J-G, Liu M-W, Duan J & Lu H
-

(Session 03a continues on Tuesday 16th AM on page 103)

03f: Physics and Chemistry of the Deep Earth

Floor 1

- 1023 Al and Fe Substitution in MgSiO_3 Perovskite: An ^{27}Al and ^{29}Si NMR Study
Palke A, Stebbins J, Frost D & McCammon C
-
- 1024 An Empirical Approach to Estimate Melting Temperature and Its Pressure Dependence of Some Rocks of Oman Ophiolite Suite
Arafin S, Singh R & George A
-
- 1025 An Experimental Study of Minettes and Associated Mica-Clinopyroxenite Xenoliths from the Milk River Area, Southern Alberta, Canada
Funk SP & Luth RW
-
- 1026 First-Principles Simulations of Alkali Aluminosilicate Liquids
Ni H & de Koker N
-
- 1027 Volume and Ionic Conductivity Measurements of H_2O Ice at High Pressure and Temperature
Sugimura E, Komabayashi T, Ohta K, Hirose K, Sata N, Ohishi Y & Dubrovinsky LS
-
- 1028 Crustal Contribution to the Geo-Neutrino Flux at the Sudbury Neutrino Observatory (SNOLAB)
Phaneuf C, Mareschal J-C, Perry C & Jaupart C
-
- 1029 Geoneutrino Observations and the Earth Energy Budget
Mareschal J-C, Phaneuf C, Perry C & Jaupart C
-
- 1030 Real Composition of the Earth's Lower Mantle
Kaminsky F
-
- 1031 Pressure Dependence of Electrical Resistivity of Cummingtonite from the World's Deepest Kola Super Deep-Borehole (KSDB-3), Russia
Parthasarathy G & Gorbatshevich F
-

03g: Stable Isotope Fractionation at High Pressures and Temperatures

Floor 1

- 1032 On the Mass Independent Fractionations of O, Hg, Si, Mg and Cd during Open-System Evaporation or Thermal Decomposition
Cartigny P, Eiler J, Agrinier P & Assayag N
-
- 1033 Computation of Li Equilibrium Isotope Fractionation between Minerals and Aqueous Solution
Kowalski P & Jahn S
-
- 1034 Strontium Stable Isotope Variations in Lunar Basalts
Sutcliffe N, Burton K, Parkinson I, Cook D, Charlier B, Mokadem F & Halliday A
-

04a: Chemical Geodynamics: 25 Years of Mantle Components

Floor 1

- 1035 Isotope Geochemistry of São Tomé Island (Cameroon Volcanic Line): Implications for Mantle Source Components
Lopes JM, Caldeira R, Cordani U & Munhá JM
-
- 1036 Evolution of Variscan Orogenic Popiel Peridotite (SW Poland)
Kukuła A, Puziewicz J, Matusiak-Malek M & Ntaflos T
-
- 1037 Fe-metasomatism in Upper Mantle beneath SW Poland
Matusiak-Malek M, Puziewicz J, Grégoire M & Ntaflos T
-
- 1038 OIB's from South Eastern Pacific: Notes from Key Geochemical Features
Montecinos P & Pinto K
-
- 1039 Mantle Metasomatic Events Related to Alkaline Volcanism during Incipient Rifting: NE Eger Rift (Central Europe) Example
Puziewicz J, Matusiak-Malek M, Ntaflos T & Gregoire M
-
- 1040 Li-O-Pb-Nd-Hf Isotope and Trace Element Systematics and S in Residual Peridotites: Evidences for Ancient Hydrothermal Fluid-Rock Interactions at Mid-Ocean Ridges
Ranaweera L, Moriguti T, Tanaka R, Makishima A & Nakamura E
-
- 1041 Li Isotope Compositions of Hawaiian Post-Shield Lavas
Barnes E, Weis D & Hanano D
-
- 1042 A New Depleted Mantle End-Member Revealed by High Resolution Sampling along the Mid-Atlantic Ridge
Hamelin C, Bezos A, Dosso L, Escartin J, Cannat M & Mevel C
-

04b: New Insights into Mantle and Crustal Processes from High Temperature Stable Isotope Techniques

Floor 1

- 1043 C, O and H Isotope Compositions of the Wilmott and Yungul 'Carbonatites' and the Associated Fluorites in the Speewah Dome, Kimberley Region, Australia
Czuppon G, Demény A, Gwalani L, Ramsay R, Rogers K, Eves A & Szabó C
-
- 1044 Partitioning of S(-Cl) and S-Isotopes between Fluid and Andesitic Melt
Fiege A, Behrens H, Mandeville C & Shimizu N
-
- 1045 Heavy Isotope Fractionation in Magmatic Systems: The Example Tl
Hettmann K, Kreissig K, Schauble E, Rehkämper M, Marks M & Markl G
-
- 1046 Origin of Ultramafic Rocks from Hero Fracture Zone, Antarctic
Kil Y & Park C-S
-
- 1047 $\delta^{18}\text{O}$ and Cl/Nb Evidence for Fractional Crystallization Origin of Silicic Island Arc Magmas
Krumm S, Haase K, Regelous M & Joachimski M
-
- 1048 Molybdenum Isotopic Studies of Mantle Reservoirs
Liang Y-H, Siebert C, Yang J & Halliday A
-
- 1049 The Stable Vanadium Isotope Composition of the Bulk Silicate Earth
Prytulak J, Nielsen S & Halliday A
-
- 1050 *In situ* Fe-Mg Isotopic Analysis of Zoned Olivines
Sio CK, Dauphas N, Teng F-Z, Helz R & Chaussidon M
-
- 1051 Oxygen Isotope Geochemistry beneath Paleofumaroles
Tanner D, Mavrogenes J & Henley R
-
- 1052 Gabbroic Xenoliths in Pleisto-Holocene Alkali Basalts from Jeju Island, South Korea
Yang K
-
- 1053 Fe Isotope Evidence for Mantle Metasomatism in the Lithospheric Mantle of the Eastern China
Zhao X, Zhang H & Zhu X
-

(Session 04b continues on Tuesday 16th AM on page 105)

05d: The Role of Island and Continental Arcs in Continent Formation

Floor 1

- 1054 A New Recognition of Grenvillian Volcanic Suite in the South China Block and its Connection with Rodinia Assembly
Qiu XF, Ling W-L & Liu X
-
- 1055 Early Paleozoic Granites in the Jiamusi Terrane of the Central Asian Fold Belt
Sorokin A, Kotov A, Sal`nikova Y & Kudryashov N
-
- 1056 Polyphase Deformation in Golpaygan Metamorphic Complex, Sanandaj – Sirjan Zone, Iran
Ahmadi GA
-
- 1057 Magmatic Evolution of Azna-Aligoudarz Granitoidic Plutons, SW of Iran: A Typical Example of S Type Granitization
Sadeghian M, Baghbani S & Sheibi M
-
- 1058 Early Neoproterozoic Arc Magmatism along the Northwestern Margin of the Yangtze Craton and its Connection with the South China Block Evolution during the Rodinia Assembly
Berkana W, Ling W, Lu SS & Qiu XF
-
- 1059 Tracing the Late Paleozoic to Early Mesozoic Crustal Evolution of Coastal Southern Peru
Boekhout F, Spikings R, Chiaradia M, Sempere T, Ulianov A, Gerdes A & Schaltegger U
-
- 1060 The Pan-African Reconstruction of NW Angola: Petro-Structural and Temporal Constraints
Monie P, Bosch D, Bruguier O, Vauchez A, N'Sungani P & Rolland Y
-
- 1061 Zircon U-Pb Chronology and Geochemistry of Late Paleozoic-Early Mesozoic Intrusive Rocks in Eastern Segment of the Northern Margin of the North China Craton, NE China and its Tectonic Implications
Cao H, Xu W, Pei F & Wang F
-
- 1062 Tectonic Controls for High Magmatic Fluxes within Continental Arcs: The Jurassic and Paleogene Magmatic Record of the Sierra Nevada de Santa Marta, Northern Colombia
Cardona A, Valencia V, Bayona G, Montes C, Ducea M, Duque JF & Vervoort J
-
- 1063 SHRIMP U-Pb Geochronology of Neoproterozoic Rio Una Sequence, NE Brazil, and the Rodinia Break-Up
Da Silva Filho A, Guimaraes I & Armstrong R
-

- 1064 U-Pb Zircon Geochronological, Geochemical and Sr-Nd-Hf Isotopic Studies of Granitoids in Muzhaerte River, Southwest Tianshan UHP Belt (NW China), and their Tectonic Implications
Gou L & Zhang L
-
- 1065 The Late Jurassic Andean Back-Arc Volcanism, Northern Chile (26-31°S)
Rossel P, Oliveros V, Ducea M, Labbe M & Charrier R
-
- 1066 Geochemical and Age of Collision-Related Volcanism Following the Closure of the Neotethys Ocean (Lesser Caucasus, Armenia)
Sahakyan L, Bosch D, Sosson M, Bruguier O, Rolland Y, Galoyan G & Avagyan A
-
- 1067 Microstructural and AMS Investigation of Darre Bagh Granitoidic Pluton (SW Iran)
Sadeghian M, Shekari S & Sheibi M
-

05g: Duration, Tempo and Rates of Magmatic Processes in the Crust

Floor 1

- 1068 Geothermobarometric Results at the Northern tip of Antarctic Batholith: Tectonic Implications
Bobadilla H, Calderón M & Hervé F
-
- 1069 Zircon U-Pb and Hf Isotopic Constraints on the Magmatic and Tectonic Evolution in Iran
Chiu H-Y, Chung S-L, Zarrinkoub MH, Lin I-J, Yang H-M, Lo C-H, Lee H-Y, Pang K-N, Mohammadi SS & Khatib MM
-
- 1070 Bimodal Volcanism of the Northern Frames of the Eastern Link of the Mongolian-Okhotsk Orogenic Belt (Russia)
Derbeko I
-
- 1071 U-Pb SHRIMP and Geochemical Data of Granitoids Characterizing the Evolution of Shear Zones in NE Brazil
Guimarães I, Silva Filho A, Silva F & Armstrong R
-
- 1072 Zircon U-Pb and FT Dating on Clastic Dykes in the Matsukawa Geothermal Field, Japan, with Reference to the Quaternary Kakkonda Granite
Ito H, Tamura A, Morishita T & Arai S
-
- 1073 The Origin of Naxos Migmatites: SIMS U-Pb and O Isotope Analysis of Zircon
Katzir Y, Be'eri-Shlevin Y, Wooden J, Valley J, Kitajima K & Grimes C
-
- 1074 Sr and Nd Isotope Disequilibrium in Migmatites and Leucogranites, the Higo Metamorphic Terrane, Japan
Maki K, Shellnutt JG, Wu T-W, Mori Y, Miyazaki K, Yui T-F & Jahn B-M
-

- 1075 Apatite Composition of Southern Germany Volcanoes: Clues to Origin and Magmatic Evolution
von der Handt A & Rahn M
-
- 1076 ID-TIMS as a Tool for Terrane Provenance Studies in Polyorogenic Complexes: A Case from the SW-Norwegian Caledonides
Roffeis C, Corfu F & Gabrielsen RH
-
- 1077 Tracing Episodic Magma Accretion by Zircon $^{18}\text{O}/^{16}\text{O}$ Isotopes and U-Pb Dating in the Adamello Batholith, Italy
Skopelitis A, Bindeman I, Ulianov A, Brack P & Schaltegger U
-
- 1078 Protracted History of Continental Subduction at the Southern Edge of the Maya Block, Central Guatemala: Petrological and Geochronological Evidences
Solari L, García Casco A, Lee JK & Ortega Rivera A
-
- 1079 Intracratonic Carboniferous Granites in the Paleoproterozoic Crust of Lithuania: New SHRIMP U-Pb Zircon Ages
Vejelyte I, Yi K, Cho M, Kim N & Lee T-H
-
- 1080 Petrologic Significance of High-Precision Zircon U-Pb Dates from the Skaergaard Intrusive Complex
Wotzlaw J-E, Bindeman IN, Schaltegger U, Brooks CK & Naslund HR
-
- 1081 Two Episodes of the Early Cretaceous Magmatic Activity in the Gan-Hang Rift, South China: *In situ* Zircon U-Pb Dating
Yang S-Y, Jiang S-Y, Jiang Y-H & Zhao K-D
-

07b: Trace Elements at the Intersection of Biological and Geochemical Evolution

Floor 2

- 2001 Silicon Isotope Composition of Chert in Carbonate Rocks, as an Indicator of Paleo-Environmental Variation in Ocean
Ding T, Gao J & Tian S
-
- 2002 Concentration of Ge in Thermophilic Cyano-Bacterial Community
Lazareva E, Bryanskaya A, Taran O, Melgunov M, Peltek E & Zhmodik S
-
- 2003 Origins of Chromite found in Chemical and Clastic Sedimentary Rocks of the 3.2 Ga Moodies Group, South Africa
Otake T, Sakamoto Y & Kakegawa T
-
- 2004 Mn(IV) Reduction: A Driving Mechanism for Mg^{2+} -enrichment in Shallow Marine Carbonates?
Petrash D, Lalonde S, Gingras M & Konhauser K
-

- 2005 The Evolution of the Marine Zn Reservoir: Comparing the Proteomic and Sedimentary Records
Robbins L, Lalonde S & Konhauser K
-
- 2006 Colonization of Contaminated Sediments: Implications in Recovery of Mass Extinctions Events
Rodriguez-Tovar FJ & Martín-Peinado FJ
-

(Session 07b continues on Tuesday 16th AM on page 108)

07c: Coevolution of Life and the Environment in the Late Neoproterozoic to Early Phanerozoic

Floor 2

- 2007 Records of Sulfur Isotopic Composition and their Significance from the Permian Strata at Shangsi Section of Guangyuan, Sichuan
Huang J, Li P, Zhao L, Zhou L & Cao J
-
- 2008 Large Sulfur Isotope Fractionation Does not Require Disproportionation
Sim MS, Ono S & Bosak T
-
- 2009 Constraining the Fidelity of Sulfate-Oxygen in the Geological Record
Rennie V & Turchyn A
-
- 2010 The Role of Sulfur in Triggering Early Neoproterozoic Oxygenation
Hurtgen M, Swanson-Hysell N, Halverson G & Maloof A
-
- 2011 The Geographic and Stratigraphic Record of Ordovician $\delta^{13}\text{C}_{\text{carb}}$ in Outcrops and the Subsurface of Anticosti Island, Canada
Fike D, Jones D & Fischer W
-
- 2012 Coupled High-resolution $\delta^{13}\text{C}_{\text{carb}}$ and $^{87}\text{Sr}/^{86}\text{Sr}$ Chemostratigraphy on the North American Craton: Identifying the Source of the Late Ordovician Guttenberg Isotopic Carbon Excursion
Metzger JG & Fike D
-
- 2013 Late Ordovician to Lower Silurian Transition in Valongo Anticline (Northern Portugal): Evidences of an Erosional Unconformity Previous to the Silurian Sea Level Rise
Couto H & Lourenço A
-
- 2014 Montalto Formation: A Middle Cambrian to Basal Ordovician Sequence in Dúrico-Beirã Area (Northern Portugal)
Couto H
-
- 2015 An Attempt to Trace the Redox State of the Post Marinoan Glaciation ($\approx 635\text{Ma}$) Ocean at the Araras Platform (Brazil)
Sansjofre P, Ader M, Trindade R, Reuschel M & Nogueira A
-

- 2016 What Role did Methane Seeps Play in the Formation of the Doushantuo Cap Carbonate?
Chu X, Huang J & Lyons T
-
- 2017 Controls on Isotope and Trace Element Systematics of Slope Facies Ediacaran carbonates, Yangtze Platform (South China)
Baero W, Becker H & Wiechert U
-
- 2018 Rare Earth Elements of Precambrian-Cambrian Phosphorites from the Yangtze Platform (S. China)
Hipler D & Franz G
-
- 2019 Re-Os Isotopes and Redox-Sensitive Elements of the Himalayan Black Shales: Implications to Marine Anoxia Near the Pc-C Boundary
Tripathy GR & Singh SK
-
- 2020 Paleoredox Changes of the Yangtze Sea during the Ordovician-Silurian Transition and its Deposition of Black Shales, South China
Liqin Z
-

07d: Trace Metal Stable Isotopes and Organic Biomarkers: Evidence for Early Life on Earth and Beyond

Floor 2

- 2021 Isotopic Fractionation of Cu in Plants
Weinstein C, Moynier F, Wang K, Paniello R, Foriel J & Pichat S
-
- 2022 Isotope Fractionation of Transition Metals by Higher Plants
Zhu X & Li S
-

(Session 07d continues on Tuesday 16th AM on page 109)

07e: Mesozoic and Early Cenozoic Greenhouse Episodes: Insights into the Anthropocene

Floor 2

- 2023 Geochemical Heterogeneity of the Clinoform Sequence by the Example of Neocomian Sediments of the West Siberian Plate
Afonin I, Tatyannin G & Tishin P
-
- 2024 First High-resolution $\delta^{13}\text{C}$ -records of the Early Aptian OAE 1a within the Mid-latitudes of NW-Europe (Germany, Lower Saxony Basin)
Heldt M, Luppold FW, Weiss W, Mutterlose J, Berner U & Erbacher J
-

- 2025 Stable Carbon Isotope Chemostratigraphy and Implications for Global Carbon Cycling, Cretaceous Western Interior Basin
Loo YJ, Hurtgen M & Sageman B
-
- 2026 Early and Middle Jurassic $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ Trends: A High Resolution Dataset from the UK
Korte C, Hesselbo SP & Ullmann CV
-
- 2027 C, O, Sr Isotope Compositions of Sediments of the Mesozoic Kutch Basin, NW India
Patil D, Sreenivas B, Srikarni C, Ramamurthy PB, Babu EVSSK, Vijaya Gopal B & Dayal AM
-
- 2028 A Synthesis of Cretaceous SST Estimates
Robinson S, Littler K, Bown P & Lees J
-
- 2029 Recognition of Mucilage and Microbial Events on the Early–Late Pliensbachian (Lusitanian Basin, Portugal)
Silva RL, Duarte LV, Mendonça Filho JG, da Silva FS, Silva TF & Comas-Rengifo MJ
-
- 2030 Late Paleocene Sea Surface Cooling in Southeast New Zealand
Taylor K, Hollis C, Handley L, Morgans H, Crouch E, Schouten S & Pancost R
-
- 2031 Mo Isotope Signature of OAE 1a: New Insights from the Western Tethys
Westermann S, Vance D, Archer C & Robinson S
-
- 2032 Nd-Isotope Evolution in the Cretaceous Gault and Chalk Seas (Albian–Maastrichtian)
Zheng X, Jenkyns H, Henderson G, Ward D & Gale A
-

08d: Biotic/abiotic Nucleation and Early Life

Floor 1

- 1082 Formation of Anhydrous Amorphous Calcium Carbonate and Implication for Biomineralization
Zhou G-T, Guan Y-B & Yao Q-Z
-
- 1083 Chiral Interactions of Amino Acids in a Hydrated Vermiculite Clay
Fraser D, Skipper N, Smalley M & Greenwell C
-
- 1084 On the Origins of Prebiotic Carbon Containing Rocks in the Early Earth
Vecht A
-

(Session 08d continues on Tuesday 16th AM on page 110)

08g: Gas Storage and Transfer in Geological Media

Floor 1

- 1085 Effect of CO₂-Enriched Fluid on Three Argillite Type Caprocks
Berthe G, Savoye S, Wittebroodt C & Michelot J-L
-
- 1086 Influence of Sedimentary Gas Bubble Ebullition on Interfacial Transport in Permeable Marine Sands
Cheng C & Huettel M
-
- 1087 Physicochemical Controls on Adsorbed Water Film Thicknesses in Unsaturated Porous Media
Tokunaga T
-
- 1088 Insight and Analysis on the Interior Surface Characteristic of a Single Fracture in Granite Sample
Luo S, Goto T & Kodama J-I
-

(Session 08g continues on Tuesday 16th AM on page 111)

09d: Petrological and Geochemical Indicators of Magmatic Processes and Eruption Trigger Mechanisms

Floor 1

- 1089 Magmatic Variety through Tectonic Modulation of the 27 ka Oruanui Eruption, Taupo, New Zealand
Allan A, Wilson C, Millet M-A & Wysoczanski R
-
- 1090 Preliminary Estimates on Magma Storage Conditions of the Heise Volcanic Field, Snake River Plain
Bolte T, Erdmann M, Nash B, Cathey H, Almeev R & Holtz F
-
- 1091 Magma Recharge and Eruption Processes at Volcán Llaima (Andean Southern Volcanic Zone, 38.7°S)
Bouvet de Maisonneuve C, Dungan M, Bachmann O & Costa F
-
- 1092 Systematic Tapping of Independent Magma Chambers during the 1 Ma Kidnappers Supereruption
Cooper G, Wilson C & Baker J
-
- 1093 Magmatic Processes Leading to Explosive Mafic Eruptions of Volcán de Colima, Mexico
Crummy J, Savov I, Morgan D, Navarro-Ochoa C, Wilson M & Loughlin S
-
- 1094 Magmatic Processes during the Formation of Monte dei Porri Volcano, Island of Salina, Aeolian Islands, Italy
Doherty A, De Vivo B, Bodnar R, Belkin H & Messina A
-
- 1095 Phase Equilibria Constraints on the Magma Evolution of Basanite-Phonolite Series of the Cumbre Vieja Volcano (La Palma, Canary Islands)
Fuchs P, Almeev R & Klügel A
-

- 1096 Experimental Investigation of the Differentiation of Iron-Rich Peralkaline Magma
Giehl C, Babel R, Reiche S, Marks M & Nowak M
-
- 1097 Duofuton Mafic Volcanic Suite at Northeastern Margin of the Qing-Tibet Plateau: Its Age, Geochemistry and Tectonic Implications
Guo A, Hu X, Guo Y, Zhang C & Zhang L
-
- 1098 Experimental Quantification of Plagioclase CSD during Decompression of Hydrous Rhyodacite
Brugger-Schorr C & Hammer J
-
- 1099 Origin of the Nodules in the 18.6 ka Sarno Plinian Eruption of Mt. Somma-Vesuvius (Italy) and their Significance
Klebesz R, Bodnar RJ & De Vivo B
-
- 1100 Petrogenesis of Zoozan Pluton, NE of Lut, Eastern Iran
Mazhari SA & Safari M
-
- 1101 Juvenile Glass Fragments in Phreatic Explosion Debris from Turrialba Volcano, Costa Rica
Reagan M, Rowe M, Duarte E & Hernandez E
-
- 1102 Rapid Dyke Emplacement as an Eruption Trigger: Dabbahu Volcano, Ethiopia
Field L, Saunders K & Blundy J
-
- 1103 Tracing Magma Chambers in the Lab: A Case Study on Lascar Volcano
Stechern A, Banaszak M, Botcharnikov RE, Holtz F & Wörner G
-
- 1104 New Geochemical and Geochronological Constraints for the Origin of Orhaneli-Dursunbey Volcanic Rocks, NW Anatolia (Turkey)
Yarar OS, Kamaci O & Altunkaynak S
-
- 1105 Geochronology and Sr-Nd-Pb-Hf Isotopic Compositions of Gabbroic Intrusions Adjacent to Southern Shang-Dan Suture Zone in the Qinling Orogen, Central China
Zhang C, Liu L & Li L
-
- 1106 Hydration Crystallization Process in Mafic-Felsic Mixing Magmatic System: A Case Study from the Dabie Orogen (East-Central China)
Zhang C, Holtz F & Ma C
-
- 1107 The Characteristic of Lithology and Facies and Reservoir of Volcanic Rock in Songliao Basin, China
Zhuo S, Wang X & Yang G
-

(Session 09d continues on Tuesday 16th AM on page 113)

10a: Geochemistry, Biogeochemistry, Mineralogy and Physics of Shale Gas, Coal Gas and Tight Gas Systems

Floor 2

- 2033 The Genetic Feature and Reservoir Forming Model of Cracked Gas in China
Li ZW, Li J & Lin SG
-
- 2034 Rock-Eval Pyrolysis of the Água de Madeiros Formation (Lower Jurassic) from the Lusitanian Basin, Portugal
Duarte LV, Mendonça Filho JG, Silva RL & Oliveira LC
-
- 2035 An Atomic Force Microscope Study of the Microstructure of “Barkinite” Liptobiolith
Jiao K, Yao S & Zhang K
-
- 2036 Geochemical Characteristics and Genetic Types of Natural Gas in the Yinggehai Basin, China
Liao F
-
- 2037 Organic Geochemistry Characteristics for Mudstones in the Permian Zhesi Formation, Eastern Inner Mongolia, China: A New Instance Showing Good Hydrocarbon Potential in the Marine Strata
Zeng X, Peng X, Liu N & Chen C
-
- 2038 Organic Geochemistry of Mudstones in the Upper Permian Linxi Formation, NE China: Implications for Hydrocarbon-Forming Potential in the Late Paleozoic Strata
Peng X, Liu L, Liu N & Zeng X
-
- 2039 Funginite and Secretinite in Coals Southern Pechora Basin
Protsko O
-
- 2040 General Depositional Features of the Carbonate Platform Gas Reservoir of the Lower Triassic Jialingjiang Formation in the Sichuan Basin of Southwest China: Moxi Gas Field of the Central Basin
Tan X, Li L, Liu H, Luo B, Zhou Y, Wu J & Ding X
-
- 2041 Shale Gas Potential of the Upper Jurassic Strata in the Central Part of the Polish Lowlands
Więclaw D & Kosakowski P
-
- 2042 Characteristics and Prediction of High Quality Coal Measure Source Rocks in Oligocene Yacheng Formation of Qiongdongnan Basin, Northwestern South China Sea
Xiao J, Wang H & Zhu B
-
- 2043 Gas Accumulation Rules of Volcanic Rocks of Deep Formations in Songliao Basin, Northeast China
Zhao Z, Jiao G, Sun P, Xu S, Xiao J, Jiang X & Bai H
-

- 2044 Carbon Isotope of Residual Gas in the Source and Reservoir Rocks in the Northeastern Sichuan Basin
Zhou S, Li J, Wang B, Liu S & Zhang H
-

10b: Biogenic Gas and Biogeochemical Routes to Cleaner Energy

Floor 2

- 2045 Active Methanogenesis in the Subsurface during Development Process
Shuai Y, Zhang S, Mi J & Liu M
-
- 2046 Methane Formation in Abandoned Coal Mines: Role of Acetogens and Acetoclastic Methanosarcinales
Beckmann S, Lüders T, Krüger M, Von Netzer F, Engelen B & Cypionka H
-
- 2047 A Study of the Column Bioremediation of Xianshan Uranium Ore
Chen G, Liu J & Sun Z
-
- 2048 Comparison of Biomass Used in Polish Power-Plants with Other Types of Biomass
Gasek R, Wilczynska-Michalik W & Michalik M
-
- 2049 Geochemical Characteristics of Natural Gas Reservoirs in Lower Triassic Jialingjiang Formation in Naxi-Hejiang Area, Southern Sichuan Basin, China
Huang S & Tao X
-
- 2050 Chemical Composition of Low-Temperature Biomass Ash
Michalik M, Gasek R & Wilczynska-Michalik W
-
- 2051 Chemical Composition of Biomass Used in Co-combustion with Coal in Polish Power-Plants
Wilczynska-Michalik W, Gasek R & Michalik M
-
- 2052 Origins and Sources of CO₂ in Natural Gas in Eastern Sichuan Basin, China
Wu X
-

(Session 10b continues on Tuesday 16th AM on page 114)

10f: Carbon Sequestration Analogues

Floor 2

- 2053 On Carbonatization Fronts in Serpentinite: Implications for *in situ* CO₂ Storage
Beinlich A, Plümper O, Hövelmann J, Austrheim H & Jamtveit B
-
- 2054 Natural Analogue of CO₂ Mineral Sequestration: The Tuscan Magnesite Deposits
Boschi C, Dallai L, Dini A & Ruggieri G
-

- 2055 Mineralogy and Geochemistry of a Potential CO₂ Sequestration Reservoir and Seal System, Illinois Basin, USA
Bowen B, Lovell T, Neufelder R, Rupp J, Brophy J & Lahann R
-
- 2056 CO₂ Sequestration in Deep Aquifers: Insights into Future Hazards from a Natural Analog (Campi Flegrei, Italy)
Capobianco R, Esposito R, Bodnar R, Chiodini G & Rimstidt JD
-
- 2057 Acid Gases Speciation in H₂S-CO₂-Portland Cement-H₂O System
Centeno J
-
- 2058 CO₂ Degassing and Groundwater Mixing in the Navajo Aquifer, Green River, Utah
Dubacq B, Kampman N, Assayag N, Wigley M & Bickle M
-
- 2059 High CO₂ Concentrations Negatively Affect Methanogenesis and Sulphate Reduction in Gas Fields of the North German Plain
Frerichs J, Gniese C, Schulz A, Richnow H-H, Kock D & Krüger M
-
- 2060 Hydrogeochemical Survey of CO₂ Geological Leakage Using Noble Gases: Application to the Furnas Caldera (Azores, Portugal)
Gréau C, Moreira M, Agrinier P, Lagneau V, Schneider H, Madureira P & Ruzié L
-
- 2061 The Variability in Formation Water Composition and the Implications for CO₂ Storage Conditions
Haese R & Preda M
-
- 2062 Short-Term CO₂-Fluid-Mineral Interactions in a CO₂ Injection Experiment, Wyoming
Kampman N, Bickle M, Galy A, Chapman H, Zhou Z, Dubacq B, Wigley M, Warr O, Sirikitputtisak T & Ballentine C
-
- 2063 Carbonate Dissolution at Oceanic Atolls: A CO₂ Sequestration Option
Ohsumi T
-
- 2064 Surface and Subsurface Geochemical Monitoring of an EOR-CO₂ Field: Buracica, Brazil
Magnier C, Rouchon V, Bandeira C, Goncalves R, Miller D & Dino R
-
- 2065 Volcanic Ashes as the Source of Dissolved Calcium in Seawater
Savenko A & Savenko V
-
- 2066 Kinetic Study of Brucite Carbonation
Zhu C, Zhao L, Gao X, Ji J, Chen J & Teng HH
-

11a: Black Shales and Ocean-Atmosphere Evolution: Implications for Metal Accumulation – Sponsored by SGA

Floor 2

- 2067 Difference of Organic Matter in the Early Cambrian Ni-Mo-Bearing Black Rock Series in the Zunyi City of South China: Implications for the Origin of the Deposits
Cao J
-
- 2068 Spectral Gamma-Ray Applications to Marine Organic-Rich Sediments of the Lower Jurassic of Portugal
Correia GG, Duarte LV, Pereira AC, Silva RL & Mendonça Filho JG
-
- 2069 Features of the Pyrites in Black Shale Series in Southern Anhui Province
Guan Y, Zhan Y, You H, Shi G & Ma M
-
- 2070 Geochemical Characteristics of Black Slate-Hosted Uranium Deposits in the Okcheon Metamorphic Belt, Korea
Shin D, Kim S & Choi M
-
- 2071 Origin of Dissolved Metals in Produced Water from the Devonian Marcellus Shale, USA: Sr Isotope Systematics
Stewart B, Chapman E, Capo R, Hammack R, Schroeder K & Edenborn H
-
- 2072 Platinum-Group Element Mineralization in Black Shales in Xinjiang, China
Yang Y, Zhao Y & Pirajno F
-
- 2073 Geological Characteristics of Black Shale Series in Southern Anhui Province
You H, Zhan Y & Guan Y
-
- 2074 Whether has Platinum Group Elements (PGE) Enriched in Sulfide-Rich Black Shale Series in Southern Anhui Province?
Zhan Y, You H, Guan Y, Shi G & Ma M
-
- 2075 Mineralization Features and Metallogeny of Polymetallic Deposit in Black Shale Series in Southwest China
Zhang C, Xu Z & Ni J
-

(Session 11a continues on Tuesday 16th AM on page 115)

11d: Dating of Mineral Deposits and Fluid Flow in the Lithosphere

Floor 2

- 2076 Basin Evolution, Lithofacies Palaeogeography and Manganese Mineralization in Heqing Basin, Yunnan Province, Southwest of China
Wen X-P, Han R-S & Yang X-F
-

- 2077 Re-Os Geochemistry and Geochronology of the Ransko Gabbro-Peridotite Massif, Czech Republic
Pašava J, Ackerman L & Erban V
-
- 2078 Geochemical and Genetic Features of Polymetallic Pb-Zn-Cu-Au-Ag Deposits of Gümüşhane, Turkey
Akçay M & Yaşar R
-
- 2079 Detrital Monazite Dating and Trace-Element Compositions Analysis by XRF-Milliprobe: Implication to Provenance Study within Ukrainian Terrain
Andreiev O, Andreiev A & Zinchenko O
-
- 2080 U-Pb Cassiterite Dating by LA-ICPMS and a Precise Mineralization Age for the Superlarge Furong Tin Deposit, Hunan Province, Southern China
Bi X, Hu R, Li H, Dong S, Chen Y & Peng J
-
- 2081 U-Pb and Th-Pb Dating of Apatite by LA-ICPMS
Chew D, Sylvester P & Tubrett M
-
- 2082 The Ag, Fe, and Zn Isotopic Compositions of Ag-Au Ore Deposits in Japan
Fukuyama M, Lee D-C & Yang S-C
-
- 2083 Minor Elements in Layered Sphalerite Record Fluid Origin in the Giant Navan Zn-Pb Orebody, Ireland
Gagnevin D, Menuge JF, Kronz A, Barrie CD & Boyce AJ
-
- 2084 LA-ICP-MS Zircon U-Pb Geochronology of Granites and its Geological Implication in the Baiganhu W-Sn Deposit, NW China
Gao Y, Li W & Zhang Z
-
- 2085 Dating Crocidolite Deposits Using the Argon-Argon-Method
Häring M, Pfänder J & Gutzmer J
-
- 2086 Molybdenite Re-Os and Zircon U-Pb Dating of the Mesozoic Xingjiashan Mo-W Deposit in the Jiaodong Peninsular, Eastern China
Hu F-E, Fan H-R, Lan T-G & Yang K-F
-
- 2087 Lead Isotopic Compositions for Pb-Zn Deposits in the Eastern South Korea
Jeong Y-J, Cheong C-S, Jo H-J, Choi J-Y, Shin D, Han M-S & Hwang J-J
-
- 2088 Rhodochrosite Gemstones: Contrasting Origin and Evolution of Related Fluids
Lecumberri-Sanchez P, Romer RL, Lüders V & Bodnar RJ
-
- 2089 Geology and Fluid Origin of Mohailaheng Pb-Zn Deposit in Tibet
Liu YC, Hou ZQ, Yang ZS & Tian SH
-
- 2090 Re-Os Age of Molybdenite from the Tatra Mountains, Poland
Mikulski S, Gawęda A & Stein H
-

- 2091 The Fluid Inclusion Characteristics and Metallogenic Mechanism of Dashui Gold Deposit in Gansu Province, China
Peng XH, Zhang J, Deng H, Hu Y, Qing C & Zhang L
-
- 2092 Sulfur Isotope Data from Beaver Brook Antimony Deposit, Central Newfoundland, Canada: A Hint for the Source of Mineralization?
Sandmann D, Seifert T & Gutzmer J
-
- 2093 Geochronology of Continental Volcanic-Type Gold Mineralization in East Tianshan, Western China: Constraints from Ar-Ar Isotope of Shiyingtang Gold Deposit
Sun J, Chen W, Li H, Ji H & Li J
-
- 2094 New Characterization of Uranium Mineralogy in Ukrainian Ores
Valter A & Knight K
-
- 2095 Re-Os in Pyrite as a Constraint on the Timing of HP Metamorphism during the Tianshan Orogeny (NW China)
van Acken D, Creaser RA, Su W & Gao J
-
- 2096 The Geochemistry of Fluid Inclusions in Yimen Sanjiachang Copper Deposits
Wang L, Han R-S, Tang G, Hu Y-D & Huang J-G
-
- 2097 Fluid Inclusion Study of Haojiahe Sandstone-Type Copper Deposit, Yunnan Province, China
Wu H-Z, Han R-S & Wu P
-
- 2098 Granitic Porphyry Dykes in the Qitianling Batholith, Hunan Province, South China: Evidence for the Multistage Mineralization
Xie L, Wang R, Zhu J & Zhang W
-
- 2099 Direct (U-Th)/He Dating of Native Metals
Yakubovich O, Yakovleva S, Salnikova E, Kotov A & Shukolyokov Y
-
- 2100 Constraining Timing of Brittle Deformation – A Case Study from Fault Zones in Toki Granite, Japan
Yamasaki S, Zwingmann H, Todd A, Yamada K, Umeda K & Tagami T
-
- 2101 Rb-Sr Dating of the Wangpingxigou Pb-Zn Deposit, China
Yao J-M, Chen Y-J, Zhao T-P & Li X-H
-
- 2102 Rb-Sr and Sm-Nd Isotopic Ages of Sulphide Deposits in the Guangdong Region, China
Wang Y, Li H, Wang Y, Hu X, Liu D, Tao X & Wang H
-
- 2103 ID-TIMS Zircon U-Pb Age of Yulonggou Intrusive Rocks and its Geological Significance in South Qilian Mountains, NW China
Zhang Z, Li W, Gao Y & Guo Z
-

- 2104 Geochronology, Geochemistry and Ore-Forming Fluid Characteristics of the Shijinpou Gold Deposit in Beishan Belt, NW China
Zhu J, Lv X, Chen C & Mo Y
-
- 2105 Geochemistry and Metallogenesis of Fluid in Liuju Sandstone-Bound Copper Deposit, Dayao, Yunnan, China
Zou H, Han R, Yao Z & Liu M
-

11e: Biogeochemistry and Geomicrobiology of Ore Deposits – Sponsored by SGA

Floor 2

- 2106 The Molybdenum Isotopic Indication of Low-Medium Temperature Hydrothermal Ore-Forming Systems: A Case Study on the Dajiangping Pyrite Deposit, Western of Guangdong Province, China
Song S, Hu K, Wen H & Zhang Y
-
- 2107 Geochemistry of the Artic Loki's Castle Hydrothermal Vent Products
Cruz MI, Dias Á, Relvas J, Carvalho C, Fonseca R, Pedersen R & Barriga F
-
- 2108 Microbial Induced Mineralization in Co-rich Ferromanganese Crusts from the Scotia Sea
González FJ, Somoza L, Maldonado A, Torres T & Ortiz JE
-
- 2109 River Red Gum Biogeochemical Expression of Buried Broken Hill Type Mineralisation
Mitchell C & Hill S
-
- 2110 Microbial Communities as Palaeoenvironmental Indicators during Black Shale-Hosted Manganese Ore Formation
Polgári M, Hein JR, Németh T, Gutzmer J, Hahn T, Müller A, Vigh T & Bíró L
-
- 2111 The Effect of Iron-Oxidizing Bacteria on the Stability of the Gold-Thiosulfate Complex
Shuster J, Smith A, Bolin T & Southam G
-
- 2112 Biogeochemical Footprint of the Ta-, and Nb-Bearing Carbonatite, Blue River Area, British Columbia, Canada
Simandl G, Fajber R & Dunn C
-
- 2113 The Weathering of Platinum from Nuggets and Platinum Immobilisation by *Cupriavidus metallidurans*
Campbell G, Reith F, MacLean L & Southam G
-
- 2114 Mineralogy of the Sodic-Calcic Hydrothermal Alteration Host Rocks of the Esfordi, Choghart and Chadormalu Magnetite-Flourapatite Deposits, Bafq Area, Central Iran
Taghipour S, Kananian A & Donovan J
-

- 2115 Biogenic Supergene Galena-Rich Ore in the Las Cruces Deposit, Spain

Tornos F, Miguelez NG, Velasco F & Videira JC

(Session 11e continues on Tuesday 16th AM on page 116)

12a: Links between CO₂ and Climate: Carbon Cycle Feedbacks over Time

Floor 2

- 2116 Subcrustal CO₂ Flux Measurement in the Hranice Hydrothermal Karst

Geršl M, Geršlová E, Hypr D & Kolejka V

- 2117 Abnormal Positive $\delta^{13}\text{C}$ Values of Carbonate in Lake Caohai, Southwest China and their Possible Paleoenvironmental Significances

Zhu Z

12b: Patterns of Past Changes in Major Precipitation Systems

Floor 2

- 2118 Study on Main Sources of the Sulfur in Acid Rain in Jiangxi Province, China

Xia F, Pan J-Y, Xia F, Chen S-H, Peng H-M & Liu P

- 2119 A Warming-Cooling Cycle between 3.8 and 3.2 ky BP: Correlations of Speleothem and Bivalve Compositions with Ice Core Records

Demény A, Schöll-Barna G, Siklósy Z, Serlegi G, Sümegi P & Bondár M

- 2120 Quantifying the $[\text{Ba}^{2+}]$: $\delta^{18}\text{O}_{\text{seawater}}$ Surface Salinity Relationship in the Eastern Equatorial Pacific

Hertzberg J & Schmidt M

- 2121 Geochemical Study and U/Th Dating of the Akköy Fissure Ridge Travertine (SW-Turkey): Paleoclimatic and Paleoseismic Interpretations

Kele S, Özkul M, Gökgez A, Shen C-C, Fórizs I, Baykara MO & Alcicek MC

- 2122 The 4.2ka BP Climate Event and its Influence on Neolithic Cultures Around the Middle Reaches of Yangtze River, China

Liu Y, Hu C, Sun X, Ruan J & Xie S

- 2123 Grain Size Analysis of Sediments of Thar Dessert, India to Infer Sedimentary Environment

Singh CK, Kumari R & Mukherjee S

- 2124 Tropical Hydrologic Cycle Variability in the Florida Straits during Marine Isotope Stages 2 and 3
Them T, Schmidt M & Lynch-Stieglitz J
-

14b: The Geochemistry of Landscape Evolution: Linkages between Regolith Formation, Erosion, and Chemical Fluxes

Floor 3

- 3001 Geochemistry and Mineralogy of the Arid Region, Hormozgan Province (Southern Iran), in Relation with Geo-Pedological Factors of Soil Evolution
Abbaslou H, Martin F, Abtahi A & Javad Poorghardi I M
-
- 3002 The Landscape Change of Salt and Alkaline Land in Semi-Arid District Before and after Flooding
Bao C, Xu L, Wu Y & Zhang S
-
- 3003 Different Paths of Chemical Alteration during Grusification of Granites from S Poland
Kajdas B & Michalik M
-
- 3004 Proxies for Chemical Weathering: Plio/Pleistocene Red Clay Deposits from Hungary
Kovács J, Raucsik B, Újvári G, Varga A & Varga G
-
- 3005 Exploring Fracture Dominated Flow and Spatially Variable Chemical Weathering in the Boulder Creek Critical Zone Observatory, Colorado, USA
Langston A, Tucker G, Anderson RS & Anderson S
-
- 3006 Sr and Nd Isotope Studies on Sediment Core Samples from Cauvery Delta, South India: Evidence for Monsoon Induced Changes in Provenance
Malik ZA, Srinivasan B & Singh P
-
- 3007 Relationship between Water Saturation and Mineral-Water Contact Area of a Sandstone
Nishiyama N & Yokoyama T
-
- 3008 A 4-Dimensional Landscape Geochemical Framework for the Remote Arid Landscapes of Australia's Musgrave Province
McLennan SM & Hill S
-
- 3009 The Lower Regolith Boundary Revisited in Unmatched Detail with a New Global Lithological Map
Moosdorf N, Hartmann J & Lauerwald R
-
- 3010 Trace Element Mobility during Spheroidal Weathering of Dolerite Dykes from Central Portugal
Trindade M, Rocha F, Prudêncio M & Dias M
-

- 3011 Geochemistry and Mineralogy of Tertiary Sedimentary Rocks from Kerala, South India – Implications to REE Behaviour Under Intense Chemical Weathering
Singh P & Lakshmidevi CG
-
- 3012 Reactive Transport Analysis on Chemical Weathering of a Porous Rhyolite
Yokoyama T
-

14f: Quantifying Erosion and Weathering Rates and Critical Zone Processes Across Spatial and Temporal Scales

Floor 3

- 3013 Application of the Field Seismic Data in Superficial Structure Study for Wenshui Area
Ding L, He SG & Gao EG
-
- 3014 A Missing Process in the Eastern Margin of Tibetan Plateau from Multi-System Thermochronology and its Implication for Late Cretaceous Tectonic Change from the PaleoTethyan to NeoTethyan Regime
Deng B & Liu S
-
- 3015 Spatial Distribution of Erosion Rates in Small Tahitian Catchment (10km²), from Cosmogenic ³He in Olivine
Gayer E, Ye F & Mukhopadhyay S
-
- 3016 Chronology of Fluvial Incision in the Upper Ganges Inferred from *in situ* Cosmogenic Isotopes
Swander Z, Dosseto A, Fink D & Mifsud C
-
- 3017 Timing of Denudation, Erosion and Surface Uplift of the Hunza Karakoram – A Case Study of Combined Thermochronological and Geomorphological Approaches
Kořínková D, Svojtka M & Kalvoda J
-
- 3018 Himalayan Erosion Rates and ¹⁰Be Systematics in the Ganga Basin
Lavé J, Lupker M, Blard P-H, France-Lanord C, Bourlès D, Charreau J, Leanni L, Pik R & Puchol N
-
- 3019 Influence of Dust Deposits to the Budget of U-Series Nuclides in Mount Cameroon Basaltic Soils
Pelt E, Chabaux F, Innocent C, Ghaleb B & Stille P
-
- 3020 Modeling of Alteration Processes in the Ringelbach Granitic Research Catchment (Vosges, France)
Schaffhauser T, Fritz B, Chabaux F, Ambroise B, Clément A & Lucas Y
-

- 3021 Numerical Study of Weathering Fluxes at the Catchment Scale in a Boreal Watershed: A Coupled Thermo-Hydro-Geochemical Mechanistic Approach
Orgogozo L, Godd eris Y, Pokrovsky O, Viers J, Labat D, Prokushkin A & Dupr e B
-
- 3022 Sedimentary and Chemical Weathering Fluxes at the Outlet of the Granitic Strengbach Catchment (Vosges Massif, Eastern France)
Viville D, Chabaux F, Stille P, Pierret M-C, Gangloff S & Benarioumlil S
-
- 3023 Factors Affecting Detrital Zircon Age Distribution – Natural Samples and Experimental Approach
Slama J & Kosler J
-
- 3024 Erosion Rate Estimated from Surface and Profile of Cosmogenic ^{36}Cl in Carbonates in China
Liu C-Q, Xu S, Freeman S, Lang Y-C, Phillips R, Tu C-L & Wilcken K
-

15a: The GEOTRACES Program

Floor 3

- 3025 Carcass Island: A New Site for the Observation of Southern South American Dust in the Western Falkland Islands
Chance R & Baker A
-
- 3026 Online Preconcentration ICP-MS Analysis of Rare Earth Elements in Seawater
Hathorne E, Schichel T, Grasse P & Frank M
-
- 3027 Ba, Sr and $^{87}\text{Sr}/^{86}\text{Sr}$ in Indian Estuaries: Impact of Submarine Groundwater Discharge
Rahaman WR & Singh SKS
-
- 3028 Separating the Sources of ^{228}Ra to the Open Ocean with $^{223,224,226,228}\text{Ra}$ Measurements in Loch Etive and the South-East Atlantic
Hsieh Y-T, Geibert W, van Beek P & Henderson G
-
- 3029 Nd Isotopic Compositions in the Central Indian Ocean
Tazoe H, Obata H, Nagai H & Gamo T
-
- 3030 The Hafnium and Neodymium Isotopic Composition of Seawater in the Tropical Atlantic Ocean
Zieringer M, Stichel T & Frank M
-
- 3031 Testing Boundary Exchange of Nd Isotopes in the Eastern Tropical Pacific Ocean
Woodard S, Marcantonio F, Thomas D & Lyle M
-
- 3032 Efficient Analysis of Seawater Thorium and Protactinium
Auro M, Robinson L, Anderson R, Fleisher M & Saito M
-

- 3033 Sea-Water ^{231}Pa and ^{230}Th Measurements, Understanding the Proxy in the S.E. Atlantic?
Thomas AL & Henderson GM

15g: Connectivity of Ocean Circulation and Chemistry at Glacial-Interglacial Transitions

Floor 3

- 3034 Rapid Climate Change during Marine Isotope Stage 5-4 Glacial Inception in the Subpolar North Atlantic
Farmer E & Chapman M
- 3035 Paleoproductivity Controls on Microbial Abundance in Marine Subsurface Sediments
Kallmeyer J, Liebrand D, Lyle MW & Westerhold T
- 3036 Influence of Different Cleaning Methods on Seawater ϵ_{Nd} Extracted from Planktonic Foraminifera
Kraft S, Hathorne E, Frank M & Weldeab S
- 3037 Lack of a Late Deglacial Carbonate Compensation Signal in the Intermediate Depth Amundsen Sea
Gutjahr M, Vance D, Rae JWB, Foster GL, Hillenbrand C-D & Kuhn G

(Session 15g continues on Tuesday 16th AM on page 120)

16c: Soil Carbon Dynamics in Managed Environments

Floor 3

- 3038 Effect of Soil Sand on ^{13}C CP-MAS NMR Spectra Quality
Yanardag IH, Faz Cano A, Munoz Garcia MA & Gallardo R
- 3039 Evidence of Lime- CO_2 Evolution and Priming Effect of Agricultural Liming
Dumale, Jr. W, Miyazaki T, Hirai K, Nishimura T & Imoto H
- 3040 Dissolved Organic Carbon and Soil Respiration Release in Undisturbed Columns from SE Spain
Buyukkilic-Yanardag A, Gómez-Garrido M, Estévez Rodríguez MD, Yanardag IH & Faz Cano A
- 3041 Water Pollution Treatment of Chinese Highway Tunnel Construction
Cui G, Wang M, Lu J-F, Zhang W & Wang W

(Session 16c continues on Tuesday 16th AM on page 121)

16d: Assessing Micropollutant Transformation Dynamics in the Earth's Critical Zone

Floor 3

- 3042 Mobilization of Pb from Weathered Shots at a Firing Range in Athens, Greece
Argyraki A, Godelitsas A, Petrakaki N, Astilleros JM & Karageorgis A
-
- 3043 Investigating the Effects of Hydrologic Fluctuations on Organic Sulfur Speciation in Boreal Peatlands
Coleman Wasik JK, Toner BM, Engstrom DR, Drevnick PE & Marcus MA
-
- 3044 Reduction of Carbon Tetrachloride by Organo-Green Rust
Ayala-Luis K, Hansen HC, Koch C & Cooper N
-
- 3045 Characterisation of the Transfer and Biodegradation of Chloroacetamide Herbicides in Lab-Scale Wetlands
Elsayed OE, Maillard E, Vuilleumier S & Imfeld G
-
- 3046 Use of Pyrolysis-GC/MS Combined with Petrographic Analysis to Monitor Changes of Organic Matter in Coal and Biomass Derived Materials
Havelcová M, Sýkorová I & Trejtnarová H
-
- 3047 Interaction of Synthetic Manganite with Antimony(III)
He M & Wang X
-
- 3048 Trace Elements in Sediments of Lakes in the Warta River Basin
Bojakowska I, Gliwicz T & Kucharzyk J
-
- 3049 Magnetic Parameters of Soils Developed on Different Geologic Backgrounds, Central Portugal
Lourenço A, Sant'Ovaia H & Gomes C
-
- 3050 Transport of Endocrine Disruptive Compounds in Hawaiian Soils
D'Alessio M, Lichwa J, Snehota M & Ray C
-

(Session 16d continues on Tuesday 16th AM on page 122)

16f: Biogeochemical Processes in Management and Forensics of Legacy Radioactive Materials

Floor 3

- 3051 Uranium Interactions with Bacterial Communities from Contaminated Soils in Chernobyl
Sergeant C, Theodorakopoulos N, Piette L, Vesvres M-H, Le Marrec C, Christen R, Coppin F, Fevrier L, Martin-Garin A, Berthomieu C & Chapon V
-

- 3052 Radiochemical Analysis of Environmental Radioactivity for Surveillance and Characterization
Dang H, Zhang H & Yi X
-
- 3053 Biogeochemical Sustainability of Semi-Natural Ecosystem
Dolin V
-
- 3054 Forensic Analysis of Surface Fallout from Low Yield Surface Nuclear Tests
Gostic R, Knight K, Spriggs G & Hutcheon I
-
- 3055 Natural Cementitious Analogues of Jordan
Khoury HN
-
- 3056 Investigating the Transport of Strontium through Biogenic Hydroxyapatite Barriers
Renshaw J, Handley-Sidhu S, Sinclair Smith F, Grail Q, Cuthbert M, Riley M & Macaskie L
-
- 3057 Plugging of Porous Media and Rock Fractures Using Ureolysis-Driven Calcite Precipitation
Tobler D & Phoenix V
-

17e: Nitrogen Isotopes and Nitrogen Cycling in Terrestrial and Aquatic Systems

Floor 3

- 3058 Alteration of Nitrogen Isotopic Signatures during Phytoplankton Degradation
Deek A, Lehmann MF & Schubert CJ
-
- 3059 Stable Isotope Approach for Feeding Structure of Mudskipper *Periophthalmus argentilineatus* at Different Habitats in Okinawa Islands, Japan
Kawamura R, Fujimura H, Uemura R, Higuchi T, Casareto BE & Suzuki Y
-
- 3060 Monitoring Emissions from the Athabasca Oil Sands Using Stable Isotopes from Black Spruce (*Picea mariana*)
Mosher H & Wolfe A
-
- 3061 Sources and Cycling of Nitrogen in the Gulf of Trieste (N. Adriatic Sea)
Tamše S, Mozetič P & Ogrinc N
-
- 3062 Lessons to Learn from Amino Acid Distribution in POM of Lake Baikal
Schubert C, Niggemann J, Sturm M, Lomstein B & McCarthy M
-
- 3063 The Temporal and Spatial Variations of N₂O Saturations in a Eutrophic Lake
Wang S
-

- 3064 Uncoupled Enrichment of ^{15}N and ^{18}O in Nitrate – Constraints on Nitrate Regeneration in Various Aquatic Environments
Lehmann ME, Wenk CB & Bourbonnais A

17f: Microbial Catalysis of Mineral Dissolution and Precipitation

Floor 3

- 3065 Fungi Accelerate Mineral Weathering via a Synergy of Mechanical and Chemical Attacks
Bonneville S, Morgan DJ, Bray AW, Brown A, Schmalenberger A, Banwart S & Benning LG
- 3066 The Role of Siderophores and Biofilm Formation in Phosphate Acquisition and Pb Release from Pyromorphite by *Pseudomonas mendocina* Bacterium
Flis J, Dehner C, Dubois J, Manecki M & Maurice P
- 3067 Effect of Process Conditions on the Biological Selenate Reduction and Selenium Particle Production
Hageman S, Van Der Weijden R, Weijma J & Buisman C
- 3068 Biological Precipitation of Calcite in Stalagmites
Kumar A, Routh J, Mangini A, Baskar S & Patnaik JK
- 3069 Characterization of Biomineralized Selenium Solid Phases by XAFS Spectroscopy
Lenz M, Van Hullebusch E, Farges F & Corvini P
- 3070 Cr^{6+} Reduction by Sulfate-Reducing Bacteria in Salt Marsh Sediments
Liu C, Yao S & Xue Y
- 3071 Impact of Biotic and Abiotic Factors on the Mobilization of Heavy Metals in Al-Ghadi River Sediments (Lebanon)
Mcheik A, Fakh M, Bousserhine N, Toufaily J, Alphonse V, Noureddine H & Garnier-Zarli E
- 3072 Nutrient Uptake at the Fungi-Mineral Interface
Mankasingh U, Gazze SA, Saccone L, Duran AL, Leake JR & Ragnarsdottir KV
- 3073 Characterization of the Microbe-Biotite Interface on Field Samples from a Mine Site, Derome, Sweden
Negrich K, Balogh-Brunstad Z, Hassenkam T & Stipp SLS
- 3074 Bioremediation Strategies to Inhibit Salt-Enhanced Stone Weathering
Schiro M, Ruiz-Agudo E, Jroundi F, Gonzalez-Muñoz MT & Rodriguez-Navarro C

- 3075 Biochemical Characterization of Single Weathering Hyphae of *Paxillus involutus* Using CLSM and Synchrotron Based μ FTIR
Schmalenberger A, Bray A, Duran A, Leake J, Banwart S, Cinque G, Frogley M, Filik J, Pijanka J, Bonneville S, Benning L & Romero-Gonzalez M
-
- 3076 Calorimetry in Soil Sciences; An Unique Approach
Ullah H, Simoni JA & Airoidi C
-
- 3077 Particle Size Effects in Bioleaching of Uranium Waste Ore
Wang XG, Sun Z & Liu J
-
- 3078 Selenite Reduction by *Bacillus L*
Yuan Y, Zhu J, Lei L, Liu C-Q & Qin H
-
- 3079 The Bioleaching Effect of Agitation Speed on Low-Grade Chalcopyrite Ore Under the Combined Catalysis
Zhang W
-

(Session 17f continues on Tuesday 16th AM on page 123)

17h: Biogeochemical Cycling of Iron

Floor 3

- 3080 Diffusion and Microbial Consumption of Oxygen in an Acidic Geothermal Iron-Oxide Mat
Bernstein HC, Beam JP, Carlson RP & Inskip WP
-
- 3081 Vertical Distribution of Fe and S Species in Anoxic Water Column of Pavin Lake (France); Electrochemical Evidence for Nanoparticulate FeS
Bura-Nakić E, Ciglencečki I & Viollier E
-
- 3082 Electrical Resistivity Imaging of a Deep Coal Mine Discharge
Burgos W, Fitzgerald M, Larson L, Herwehe L, Singha K & Gooseff M
-
- 3083 Re-partitioning of Fe and Cu during the Oxidation and Acidification of Acid Sulfate Soil Materials
Claff SR, Burton ED, Sullivan LA & Bush RT
-
- 3084 Formation of Layered Fe(II)-Al(III) Hydroxides during Reaction of Fe(II) with γ - Al_2O_3 and Montmorillonite
Elzinga E
-
- 3085 Liesegang Banding and Biochemically Mediated Geochemical Self-Organization
Kettler R, Loope D & Weber K
-
- 3086 Speciation of Iron in Natural and Synthesized Bacteriogenic Iron Oxides (BIOS) Using XAFS and μ -XRF-XAFS
Kikuchi S, Makita H, Mitsunobu S, Takai K & Takahashi Y
-

- 3087 The Impact of Fe(III) Oxide Structure on Shaping Metal Respiring Microbial Communities and Carbon Oxidation
Lentini C & Hansel C
-
- 3088 Spatial and Seasonal Variations of Iron Species in the Changjiang (Yangtze River) Sediment
Li C & Yang S
-
- 3089 Microbially Mediated Iron Reduction in the Methanic Zone of Sediments from the Western Argentine Basin
Riedinger N, Formolo MJ, Henkel S, Reese BK, Mills HJ, Vofsmeyer A, Arnold GL, Sawicka J, Tomasini J, Love GD, Lyons TW & Kasten S
-
- 3090 Fe(II) and Organic Exudates Interaction in Seawater
Santana-Casiano JM, González AG, Pérez N & González-Dávila M
-
- 3091 Biotic Dissolution of Tl(I)jarosite by *Shewanella putrefaciens* CN32
Smeaton CM, Fryer BJ & Weisener CG
-
- 3092 Microbial Fe(III)-Reduction in Highly Calcareous Agricultural Soils
Sánchez-Alcala I, Straub KL, Del Campillo MC, Kraemer SM & Torrent J
-
- 3093 Quantifying Electron Flow in the Sulfidation of Lepidocrocite
Wan M, Schröder C & Peiffer S
-
- 3094 Aeolian Iron Flux in the South-Western Ross Sea, Antarctica
Winton VH, Millet M-A, Bertler N, Dunbar G, Delmonte B & Andersson P
-
- 3095 Stimulation of the Anaerobic Oxidation of Pyrite by Activators at Neutral pH in the Presence of Nitrate
Yan R, Kappler A, Richnow H-H & Peiffer S
-
- 3096 Release of Silica from Micas by Alkaliphilic Anaerobes
Zavarzina D, Savenko A, Chistyakova N, Shapkin A, Zhilina T & Zavarzin G
-

18a: Advances in Resolution and Accuracy of *in situ* Determination of Isotope Ratios

Floor 4

- 4001 Optimization of a Low-Background Liquid Scintillation Counter for the Determination of ²²²Rn and Uranium Isotopes in Ground Water
Cho S, Lee K, Yoon Y & Ko K
-

- 4002 Composition of Error in LA-ICP-MS U/Pb Geochronology: Lessons from the Processing of Standard Measurement Series Performed in 10 Laboratories
Dunkl I, Tolosana-Delgado R & von Eynatten H
-
- 4003 LA-ICPMS U-Pb Ages of Paleo- and Mesoproterozoic Granites in Bolivia
Vargas-Matos G, Geraldés MC, Matos R & Teixeira W
-
- 4004 Measurement of Four-Isotope Sulfur Ratios on SHRIMP-SI
Holden P, Armstrong R, Foster J, Lanc P, Schram N & Ireland T
-
- 4005 NIST SRM 610-614 Matrix Induced Unique Element Fractionation in Laser Ablation ICP-MS at High Spatial Resolution Analysis
Hu Z, Zhou L, Liu Y, Zhao L & Gao S
-
- 4006 Stacked SIMS Spectra: Unravelling Ion Production in Geological Materials
Ireland T, Holden P & Lanc P
-
- 4007 *In situ* Pb and U Isotope Analysis of Single Ostracod Shells from Nam Co, Tibet
Jochum KP, Scholz D, Frenzel P, Gleixner G, Guenther F, Schwalb A, Stoll B, Weis U & Andreae M
-
- 4008 *In situ* Analysis of U-Th Disequilibria in Titanite by fs-LA-MC-ICPMS
Koornneef J, Bourdon B, Fontaine G, Dorta L, Hattendorf B, Guenther D, Ulmer P & Stracke A
-
- 4009 A Synthetic Silica Glass Reference Material for Determination of Ti in Zircon by LA-ICP-MS
Liu X, Gao S & Ayers JC
-
- 4010 $^{87}\text{Sr}/^{86}\text{Sr}$ Isotope Ratios in Single Benthic Foraminifera by LA-MC-ICPMS
Mikes T, Gerdes A, Hudácková N & Mulch A
-
- 4011 Evaluation of Matrix Effects during Laser Ablation MC ICP-MS Analysis of Boron Isotopes in Tourmaline
Miková J, Košler J & Wiedenbeck M
-
- 4012 Boron Isotopes by Laser Ablation MC-ICPMS
Milton A, Demuth F, Foster G & Palmer M
-
- 4013 Iron Isotopic Signature for Weathered Ordinary Chondrites: Application of the LAL sampling-ICP-MS Technique for Cosmochemical Sample
Okabayashi S, Yokoyama T, Yokoyama T & Hirata T
-
- 4014 IMS 1280-HR: A Versatile SIMS Instrument for Geosciences
Peres P, Fernandes F, Schuhmacher M & Saliot P
-

- 4015 U-Th-Pb Analyses by Eximer Laser Ablation/ICP-MS on MG Brazilian Xenotime
Sato K, Basei M, Ferreira C, Sproesser W, Vlach S, Iwanuch W & Onoi A
-
- 4016 Exploring Micro-Scale Stable Isotope Variations Using Femtosecond Laser Ablation MC-ICP-MS
Schuessler JA & von Blanckenburg F
-
- 4017 Study of Candidate Matrix-Matched Calibration Standards for Geological Applications by Nuclear and Laser Ablation Based Methods
Strunga V, Havránek V, Kučera J, Kanický V, Vaculovič T, Hrdlička A, Moravec Z, Všianský D, Pinkas J, Klíma M & Kynický J
-
- 4018 Influence of Glass Composition on Si and Ca Isotope Measurements by SIMS
Tissandier L, Rollion-Bard C & Caro G
-
- 4019 Estimation of Mass Discrimination in MC-ICP-MS Nd Isotope Analysis Using Generalized Power Law
Vijaya Gopal B, Bulusu S & Bhaskar Rao YJ
-
- 4020 Are the Silicate Reference Glasses BAM-S005 A and B Suitable for *in situ* Microanalysis?
Yang Q, Jochum KP, Stoll B, Weis U & Wiedenbeck M
-
- 4021 Evaluation of In-House Metallic Standard for Siderophile Elements Using fs-La-ICPMS
Yokoyama TD, Imai T, Uchiyama Y, Suzuki T, Yokoyama T, Takeyama M, Takahashi E & Hirata T
-

18d: Advanced Microanalytical, Spectroscopic and (Spectro-)microscopic Surface Methods: STXM, NEXAFS, AFM, NANOSIMS,..

Floor 4

- 4022 ICP-MS Determination of Trace Elements in Marine Biological Samples: Comparison of Sample Preparation Procedures and Selected Digestion Methods
Epova E, Castro Georgi J & Donard O
-
- 4023 Employment of the Nanoscaled-SIMS in Soil Science
Höschel C, Heister K, Müller CW & Kögel-Knabner I
-
- 4024 Cathodoluminescence Characterization of He⁺ Ion Implanted Plagioclase
Kayama M, Nishido H, Toyoda S, Komuro K & Ninagawa K
-
- 4025 Raman Spectroscopy for Geological Applications
Lewandowska R
-

- 4026 Using Atomic Force Microscopy to Probe Pore Surfaces of Oil-Bearing Sandstone
Matthiesen J, Hassenkam T, Bovet N & Stipp S
-
- 4027 Development of Steady-State Surface Topography and the Determination of Dolomite Dissolution Rates
Saldi GD, Daval D, Xu M, Higgins SR & Knauss KG
-
- 4028 Characterization and Identification of Minerals in Rocks by TOF-SIMS and Principal Component Analysis
Rinnen S, Stroth C, Risse A, Ostertag-Henning C & Arlinghaus H
-
- 4029 Laser-Induced Photo-Luminescence Spectroscopies: Probes for Sulfide Crystal-Chemistry
Bénard A, Olivier T, Moine BN, Ionov DA, Doucet L-S & Boyet M
-
- 4030 Structural Study of Copper Chemical Status Adsorbed onto and Incorporated by Benthic Algae and Periphytic Biofilm
Pokrovsky OS, Coutaud A, Pokrovski GS & Rols J-L
-
- 4031 Towards Past Climate Reconstruction of Speleothems by Atmospheric Sampling LA-ICPMS
Tabersky D, De Maddalena I, Fricker MB, Dietiker R, Fleitmann D & Günther D
-
- 4032 XPS Analysis of Corrosion Products Formed on Mild Steel Surface
Samide A, Tutunaru B & Negrila C
-
- 4033 Primary Shape and Nanomechanical Properties of Natural Fe-Colloids Studied by AFM and SEM
Wieczorek AK, Fritzsche A & Totsche KU
-
- 4034 A Comparison of mm Scale Resolution Techniques for Sediment Core Analysis
Wilhelms-Dick D, Hanebuth T, Röhl U, Westerhold T, Kriews M, Römmermann H & Kasten S
-
- 4035 Luminescent Properties of Natural Copper and Silver Iodide
Zyryanova L, Boroznovskaya N & Tolochko K

(Session 18d continues on Tuesday 16th AM on page 125)

19a: Radioactivity in the Environment: Damage, Solution, and Relativistic Effects

Floor 3

- 3097 A New Methodology for an Improved Description of Radionuclide Retardation in Safety Assessments
Stockmann M, Brendler V, Schikora J, Noseck U & Flügge J
-
- 3098 Atomistic Simulation of Oxygen Transport in Actinide Oxides and at their Interfaces
Williams N, Parker S, Devey A & Read M

- 3099 Instantaneous Release Nuclide Diffusion and Migration Simulation in Fracture Medium
Zhou N, Zhao S & Tang Y
-
- 3100 High Pressure and High Temperature Effect on the Structural Stability of Smectites Doped with Rare Earth Elements
Stefani VE, Conceição RV & Naira MB
-

19b: Large and Complex Atomistic Systems: Physics, Algorithms, and Hardware

Floor 3

- 3101 DIE Model and Compensation Method Applied in through-Casing Resistivity Measurement
Chen Q
-
- 3102 Modelling Phase Behaviour in the Geological Storage of Carbon Dioxide
Warr O, Ballentine C & Masters A
-

19d: Dynamics of Earth Materials: From Isotope Fractionation to Spectroscopy

Floor 3

- 3103 Geochemistry of the Xuanwei Group in Guizhou, Southwestern China
Jiang F, Zhang ZW & Chi BM
-
- 3104 Drillcore Imaging Spectroscopy for Exploration and Mining
Laukamp C, Sonntag I, Cudahy T, Haest M & Rodger A
-
- 3105 The Structural Determinants of Silicon Fractionation Properties in Silicate Minerals: A First-Principles Density Functional Study
Méheut M & Schauble E
-
- 3106 Dynamical Properties of CaIrO_3 Under High Pressure from *ab Initio* Calculations
Muñoz Gonzalez A & Rodriguez-Hernandez P
-
- 3107 Petrogenesis of Oligo-Miocene Granitoid Intrusive in West Natanz, Central Part of Uroma-Dokhtar Magmatic Belt, NE Isfahan, Iran
Nasr Esfahani AK & Shojaei B
-
- 3108 High-Pressure Phases and Dynamical Properties of ZnAl_2O_4 and ZnGa_2O_4
Rodriguez-Hernandez P, Munoz A, Lopez-Moreno S & Romero A
-

- 3109 Analysis on Environmental and Economic Sustainable Development
Su H & Xu WL
-
- 3110 Re-evaluation of the B Isotopic Fractionation between $B(OH)_3$ and $B(OH)_4^-$ Using Methods Beyond Harmonic Level
Tang M, Liu Q & Liu Y
-

(Session 19d continues on Tuesday 16th AM on page 127)

19f: Bridging the Gap between Atomic, Pore, and Continuum Scales

Floor 3

- 3111 Hydraulic-Hydrochemical Modelling of a Geothermal Reservoir in Indonesia
Brehme M, Regenspurg S & Zimmermann G
-
- 3112 Interfacial Area Measurements for Robust Models of Multiphase Flow in Porous Media
Brown K, Wildenschild D, Gray W & Miller C
-
- 3113 Redox Reactions of Fe^{II} -III Oxyhydroxycarbonate Minerals in Gleysols, Fougèrite, Trébeurdenite and Mössbauerite, and Water Denitrification
Génin J-M, Guérin O, Kuzmann E & Ruby C
-
- 3114 Simulating Foam Transport in the Vadose Zone at the Continuum Scale
Zhang F, White M & Foote M
-
- 3115 Modelling of a Bentonite Column Experiment with CrunchFlow Including New Clay-Specific Transport Features
Fernández R, Mäder U & Steefel C
-

20c: Interplay between Plastic Rock Deformation and Mineral Reactions

Floor 3

- 3116 Simultaneous Reaction and Creep in the KCl-KBr- H_2O System
Brouwer J & Putnis A
-
- 3117 Plastic Deformations in Zircon and their Influence on its Chemical Composition
Zinger T, Bortnikov N & Sharkov E
-

(Session 20c continues on Tuesday 16th AM on page 128)

21a: Global Water Sustainability

Floor 4

- 4036 Integrated GIS Approach for Characterisation of Hydrogeochemical Processes Governing the Groundwater Quality in Sabarmati Basin, Gujarat, India
Kumari R, Singh CK & Mukherjee S
-
- 4037 Sustainable Water Resource Management in Eastern Punjab Using Remote Sensing and GIS to Demarcate Water Potential Zones
Singh RP, Singh CK & Mukherjee S
-
- 4038 Major Ion Chemistry of Subsurface Water Samples Around Waste Disposal Sites of Hyderabad City, India
Parth V, Murthy NN & Saxena PR
-
- 4039 Flour Content in the Groundwater Samples of Chahar-Farsakh Area, South Khorasan, Iran
Khazaii M, Abedi A & Jalayeri H
-
- 4040 Contaminant Transport Modeling in the Candidate VLLW Disposal Site
Cai X, Wang Y & Duo T
-
- 4041 Geochemistry of Groundwater from Graciosa Island (Azores): A Contribution to the Hydrothermal System Conceptual Model
Carvalho MR, Carreira P, Marques JM, Capasso G, Grassa F & Munes JC
-
- 4042 Adsorption of a Textile Dye (Acid Red 88) by Montmorillonitic Clay: Estimation of Equilibrium, Kinetic and Thermodynamic Parameters
Dikmen S, Ersoy B & Günay A
-
- 4043 Geoenvironmental Factors Evaluate the Underground Waters in the Eastern Desert of Egypt
El Gammal ES
-
- 4044 The Biodegradation of [omim][PF₆] with Activated Sludge in Anoxic Conditions
Dai N
-
- 4045 Treatment of Rural Effluents by Infiltration Percolation Process Using Sand-Clay Fortified by Pebbles
Eturki S, Jedidi N & Ben Dhia H
-
- 4046 Land Use Control of Groundwater Chemistry in the Pyosun Watershed, Jeju Island, Korea
Go Y-H, Yun S-T, Kang K-G, Mayer B, Kim K-H & Hyun H-N
-
- 4047 ³H-³He Isotopic Tracer for Age Estimating of the Ground Waters (Aquifers of the Khibiny Slopes, Kola Peninsula)
Gudkov A, Igor T & Ivanov S
-

- 4048 Sorption Mechanism of Dilute Fluorine in Wastewater Using Aluminum Hydroxide Coprecipitation Method
Haraguchi D, Tokoro C & Owada S
-
- 4049 Integrating Multivariate Statistical Analysis for Geochemical Assessment of Groundwater Quality in Gümüşhacıköy Plain (Amasya, Turkey)
Firat Ersoy A, Hatipoglu E & Gultekin F
-
- 4050 Contamination by Polycyclic Aromatic Hydrocarbons (PAHs) in Tianjin Rivers, China
Hu J, Liu D, Zhang Y & Zhang G
-
- 4051 Isotope Evidence for Regional Precipitation Characteristics in the Poyang Lake Basin
Hu C-H, Zhou W-B, Jiang J-H, Guo C-J & Zhang P
-
- 4052 The Uraniferous Groundwaters and Minerals in the Two-Mica Granite of the Daejeon Area, South Korea
Hwang J & Moon SH
-
- 4053 Trace Element Geochemistry of Soils in Fluoride-Rich Shallow Groundwater Sites in Sri Lanka
Jayawardana DT, Pitawala A & Hiroaki I
-
- 4054 Hydrogeochemistry and Origin of Cold High pCO₂ Waters of Gonjinskoe Spa (Priamurye, Russia)
Kharitonova N, Tarasenko I & Chelnokov G
-
- 4055 Groundwater Recharge in the Santo Tomás Valley, Baja California, México
Kretzschmar T & Thomas W
-
- 4056 Geochemical Characteristics of the Nakdong River, Korea
Lee G, Kim J & Kim Y
-
- 4057 Hydrochemical and Isotope Study of Groundwater Contamination by Fecal Microbes
Lee J-H, Yun S-T, Jeong YS, Mayer B, Jheong W-W & Yoo C-H
-
- 4058 Sources and Fate of Nitrate in a Dam-Controlled Subtropical River, Southwest China
Li X-D, Liu C-Q, Yin Z-Y, Liu X-Y & Bao L-R
-
- 4059 Application of Remote Sensing Method for Detecting and Monitoring Water Contamination
Liu Y & Zhang J
-
- 4060 Geochemical and Geophysical Coupling Study of the Karstic Aquifer between Saïs Basin and the Causses of the Middle Atlas (Morocco). Fez-Meknès Area
Miche H, Mayer A, Rouai M, Saracco G, Dekayir A, Chalikakis K & Emblanch C
-
- 4061 Evaluation of Anthropogenic Contamination of Bedrock Groundwater Using Hydrochemical Data: An Example from Suburban Areas in Korea
Park S-S, Yun S-T, Kim K-H, Kim HM & Jang E-S
-

- 4062 Isothermal, Kinetic and Mechanism Studies of Uranium Biosorption by *Aspergillus niger* from Aqueous Solutions
Dhankhar R & Hooda A
-
- 4063 Phosphorus Mobility in Lake Sediments
Ribeiro D, Martins G, Brito A & Nogueira R
-
- 4064 Solid – Liquid Equilibria in the Quaternary $K_2B_4O_7$ - K_2SO_4 - KCl - H_2O System at 323 K
Sang S-H
-
- 4065 Deep Ground Water Migration in Brazilian Federal District Based on Isotope Geochemistry
Santos R, Pacheco W & Mancini L
-
- 4066 Composition Modeling of Pollution of Groundwater by Usage of Geoelectrical & Hydrogeochemical Studies
Shabankareh M, Ghasemi A & Afshari S
-
- 4067 Evolution Mechanism of Groundwater Environmental Factors Under Artificial Recharge
Shi X & Zhang W
-
- 4068 How to Safely Store Water Samples Prior to Stable Hydrogen and Oxygen Isotope Analyses?
Spangenberg JE
-
- 4069 Assessment of Heavy Metal Contamination in Surface Water of Ranipet Industrial Area, Tamil Nadu, India
Srinivasa Gowd S & Ramakrishna Reddy M
-
- 4070 Biodegradation of Petroleum Hydrocarbon in Shallow Groundwater from Carbon and Sulfur Isotope Evidence
Su X-S, Lv H & Zhang W-J
-
- 4071 Extraction Time for Soil Water of Desert Sand Used in Stable Isotope Analysis
Sun X
-
- 4072 Soil Water Movement Traced by Oxygen Isotope in the Mu Us Sandy Land, North China
Sun J
-
- 4073 Boron Contamination in the Groundwater of Chahar-Farsakh Area, South Khorasan, Iran
Khazaii M, Abedi A & Tabasi S
-
- 4074 Study of Naryn River (Central Asia) Runoff Formation by Stable Isotope
Samsonova A & Tokarev I
-
- 4075 Hydrogeochemical Analysis of the Sahl-Abad Playa Brines (East of Iran)
Torshizian HA, Javanbakht M, Mollaei H & Ketabdari MR
-
- 4076 Transboundary Problems of Water Resources Quality in the Selenga River Basin
Ulzetueva I, Zhamyaynov D, Gomboev B & Khakhinov V
-

- 4077 The First Data About the Concentrations REEs in Waters from Weathering Zone of Berezitovoe Gold Deposit (Priamurye, Russia)
Vakh E, Vakh A & Kharitonova N
-
- 4078 Isotopic Tracing of Lithium Sources in the Seine River, Paris (France)
Vigier N, Gaillardet J, Louvat P & Chen J
-
- 4079 Integrated Development and Management of Water Resources: A Typical Area in China
Wang D, Wu J, Wang L & Shi Y
-
- 4080 Water Hydrogen and Oxygen Isotope Composition Characterization in the Tea Ditch of Anxian, China
Wang Y, Ni S & Zhang C
-
- 4081 Advances and Challenges in the Study of Mechanisms on Salinization and Contamination of Deep Groundwater in the North China Plain
Wu J, Yang Y, Zhang Y & Zhu X
-
- 4082 Impact of Water-Level Fluctuations on Concentration Trends of Petroleum Contaminants in Pipeline Leakage Area
Xiaosi S, Wei W & Zhaoxian Z
-
- 4083 Water Resources Issues in the Basin of Transboundary Selenga River
Zhamyanov D, Ulzetueva I, Batomunkuev V & Sanzheev E
-
- 4084 Variation of Hydro-Chemistry in Lower Reaches of the Chinese Golmud-River and its Effects on the Groundwater
Zhang WJ & Tan H
-
- 4085 Analysis of Poyang Lake Water Body Dissolved Inorganic Carbon Isotopic Tracing and its Carbon Source Contribution
Zhou W-B, Hu C-H, Jiang J-H, Guo C-J & Lou Q
-

21e: Fluid and Solute Fluxes Across the Land, River, Lake and Ocean Interfaces

Floor 4

- 4086 Geochemical Mapping of Phosphorus in Drainage Sediments of Pernambuco State, Brazil
Franzen M, Lima E & Cavalcante R
-
- 4087 Environmental Geochemistry of Nickel in Stream Sediments in Pernambuco State, Brazil
Cavalcante R, Lima E, Franzen M & Santos S
-
- 4088 Environmental Geochemistry and Magnetic Susceptibility in the Estuarine Clastics Sediments of Jaboatao River, Pernambuco, Brazil
Lima M, Lima E, Moraes A, Taboada Castro T, Neumann V, Lima E & Correia P
-

- 4089 Brackish Marine Water Intrusion in Deep Fractured Granitic Bedrock
Mathurin F, Kalinowski B, Åström M & Laaksoharju M
-
- 4090 Hydrogeological and Geochemical Characterisation of a Mantled Evaporite Karst Based on Hydrogeochemical Data
Acero P, Francisco G, Jorge Pedro G, Maria Jose G, Luis Francisco A & Pedro L
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- 4091 Sampling Technology of Deep Groundwater with Diffusive Gradient in Thin Film (DGT)
Alakangas L, Åström M & Kalinowski B
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- 4092 Fluoride Patterns in a Boreal Stream Influenced by Bedrock and Hydrology
Berger T, Peltola P, Drake H & Åström M
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- 4093 Colloidal Control on the Distribution of Major and Trace Elements in a Small Mountain Stream (Malaval Catchment, Massif Central, France)
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-
- 4094 Oxygen Optodes as Fast Sensors for Eddy Correlation Measurements in Aquatic Systems
Chipman L, Huettel M, Berg P, Meyer V, Klimant I, Glud R & Wenzhöfer F
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Hokr M & Balvin A
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- 4097 Study on Distribution of Technetium Species and Influence Factors in Groundwater
Huang Z & Yongli W
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Kaneshiro A, Fujimura H, Oomori T, Gima S, Higuchi H, Casareto BE, Suzuki Y & Sagawa T
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- 4099 Fate of Nutrients in the Fresh-Saline Water Interface in Coastal Aquifers
Russak A, Sivan O, Yechieli Y, Lazar B & Herut B
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- 4100 The Behavior of Vanadium between Water and Basalt
Terada M & Shikazono N
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- 4101 The Gully Nitrogen Migration and Flux at Northern China City
Song Y & Liu H
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- 4102 Evaluation of Contaminant Transport Parameters at Leningrad Atomic Power Plant Drain Area
Vereschagina E
-
- 4103 Using Rare Earth Elements (REE) for Tracing Watermasses
Verheul M & Klaver G
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- 4104 Variation of Silica and Diatoms in Wagner and Consag Basins in the North Part of California Gulf, Mexico
Villanueva-Estrada RE, Estradas-Romero A, Proledesma RM, Zamudio-Resendiz ME, Rodríguez D, Tobón E & Rentería J
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- 4105 Pathways of Dissolved Organic Matter in the Subterranean Estuary: Evaluation of Organic Geochemical Tracers
Waska H, Seidel M, Dittmar T & Kim G
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- 4106 Study of Evolution Model of Triassic K-Rich Brine in Sichuan Basin
You Z & Hang Z
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- 4107 Modeling of Column Experiments – Influence of Glass Micro Balls
Žabka V, Bruský I & Šembera J
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- 4108 Modeling of Hyporheic Zone of Surface Water – Groundwater with 3S Technology
Zhang J
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