Oral and Poster Presentations

Thursday August 18th 2011

Summary & Highlights

08:30	**Plenary** *Floor 2 / Congress Hall* Franck Selsis Laboratoire d'Astrophysique de Bordeaux *'Exoplanet Atmospheres'*
09:10	**Awards** **Goldschmidt Medal (GS):** Frank J. Millero **Patterson Medal (GS):** Jeff Severinghaus **Clarke Medal (GS):** Rajdeep Dasgupta *Full details page xxvii*
09:25	
09:30	**Oral Sessions**
12:30	**Lunch** *Floor 3 / Forum Hall Foyer (Boxed lunches)* *Floor 1 / Restaurant Zoom (Buffet lunches)*
14:00	**Oral Sessions**
17:00	**Poster Session** *Floors 1, 2, 3, 4 / Congress Hall Foyer*
19:00	
19:30	**Conference Banquet**
23:00	

Oral Presentations Overview — Thu — AM

	Chamber Hall	Club A	Club B/C	Club D	Club E	Club H	Conference Hall	Forum Hall	Meeting Hall I
	10i	02f / 22b	06c	03b	04d	05c	21c	17k	16a
09:30	Vuataz	Solomatov	Sobolev	Yu	Fiorentini	Gehrels	Aeschbach-Hertig	Kuepper	Wilmes
09:45		Blichert-Toft		Karato	Worgard	Morag	Petersen		Balci
10:00	Fritz	Puchtel	Lupton	Iwamori	Labidi	Petersson	Lippmann-Pipke	Bluhm	Jones
10:15	Degering	Touboul	Barry		Klein-BenDavid	Weber	Holland	Amachi	Fabisch
10:30	Vieth-Hillebrand	Willbold	Chavrit	Sumino	Weston	Zincone	Kulongoski	Smith	Akob
10:45	Gautason	Davies	Kendrick	Reynard	Wanless	Zheng	Moriarty	Cabral	Peiffer
11:00	Schepers	White	Abbott	Sang	Keppler	Diwu	Vogel	Reich	Larson
11:15	Sonney	Bell	Vils	Chollet		Chen	Freundt	Fehn	Lafortune
11:30	Banks	Souders	Freymuth	Ghosh	Bolfan	Dhuime	Huxol	Snyder	Hammond
11:45	Zhang	Eroglu	Lai	Smyth	Kovacs	Garcon	Schubert	Hou	Kretzschmar
12:00	Moller	Telsiz	Savov	Bass	Withers	Hoffmann		Jabbar	Wang
12:15	Hingerl	Wang	Simon		Begaudeau	Sylvester		Matsuzaki	Anawar

	Meeting Hall IV	Meeting Hall V	North Hall	Panorama Hall	Small Hall	Small Theatre	South Hall	Terrace 1	Terrace 2
	08b	08c	13g	15h	18c	20i / 20k	11b	12e / 12f	14e
09:30	Catalano	Michael	Ito	Charlou	Dutton	Liebermann	Griffin	Cusack	Gaillardet
09:45	Pearce		Johnson	Konn	Thompson	Sinogeikin		Meibom	Moon
10:00	Gilbert	Weinman	Kaneko	Reeves	Ghaleb	Marquardt	Arndt	Erez	Voss
10:15	Pentcheva	Planer -Friedrich	Fomba	Eickmann	Richards	Katsura	Kerrich	Henehan	Chapman
10:30	Butt	Neumann	Teutsch	Moeller	Hiess	Wang	Gorczyk	Hendy	France-Lanord
10:45	Gescher	Berg	Godelitsas	Rausch	Renne		Saunders	Trotter	Jones
11:00	Bond	Kocar	Engelbrecht	Koepke	Mark	Agee	Maier	Gagnon	Hovius
11:15	Gralnick	Fulda	Jayanty	Barnes	Morgan	Yamanaka	Sarangi	Finch	Sparkes
11:30	Bernier-Latmani	Johnston	Kikawada	Elkins	Smith	Kooijman	Mondal	Gabitov	Feng
11:45	Luan	Burton	Jeambrun	Schwarzenbach	Farmer	Ewing	Westner	Schaefer	Hovius
12:00	Templeton	Charlet	Jablonska	Monnin	Hannah	Rösel	Ishimaru		
12:15	Zachara	Hofacker	Gieré	Plümper	Zimmerman	Zheng		Synal	Martin

02f: Primordial Differentiation and Destruction of Hadean Silicate Reservoirs

Session chaired by Guillaume Caro & Vickie Bennett

09:30 **Invited:** Evolution of Magma Oceans
Solomatov V

09:45 **Invited:** Hf Isotope Evidence for Depleted and Enriched Reservoirs in the Hadean
Blichert-Toft J & Albarède F

10:00 Evolution of Deep Mantle Sources as Inferred from Os-Nd Isotope Systematics of Archean Komatiites
Puchtel I & Walker R

10:15 Tungsten Isotopic Anomalies in Archean Komatiites
Touboul M, Puchtel IS & Walker RJ

10:30 The W Isotopic Composition of the Hadean Mantle: Evidence for the Late Heavy Bombardment
Willbold M, Elliott T & Moorbath S

10:45 **Keynote:** Dynamical Constraints on Mantle Reservoirs through Time
Davies G

11:00 Implications of a Non-Chondritic Earth for Terrestrial Heat Production and Geodynamics
White W & Phipps-Morgan J

11:15 **Invited:** Jack Hills Zircon Lu-Hf Revisited
Harrison TM & Bell E

11:30 Searching for Ancient Crusts: Integrating Pb Isotopes in Plagioclase with Hf Isotopes in Zircon
Souders K, Sylvester P & Myers J

Session 22b follows this session in this room. For details see page 324.

03b: Estimating the Deep Mantle Water Budget from Geochemistry, Geophysics, and Geodynamical Modelling

Session chaired by Bruno Reynard

09:30 Water Contents in the Cenozoic Subcontinental Lithospheric Mantle beneath the Cathaysia Block, SE China
Yu Y, Xu X, Griffin W & O'Reilly S

09:45 A New Model of the Asthenosphere
Karato S-I

10:00 **Keynote:** Fluid Processes in Subduction Zones and Global Water Circulation
Iwamori H

10:30 Slab-Derived Halogens and Noble Gases with a Marine Pore-Fluid Signature
Sumino H, Ballentine C, Burgess R, Endo S, Yoshida K, Mizukami T, Holland G, Wallis S & Hirajima T

10:45 Electrical Conductivity of the Serpentinised Mantle and Fluid Flow in Subduction Zones
Reynard B, Mibe K & Van de Moortèle B

11:00 **Invited:** Equation of State of Water and Melting Curve of Ice VII Based on Simultaneous Measurements of Sound Velocity and X-Ray Diffraction of Ice VII to 19 GPa and 873 K
Sang L, Farber D, Aracne C, Zhang J, Prakapenka V, Kantor I, Tkachev S, Zhuravlev K & Bass J

11:15 Kinetics and Mechanism of Antigorite Dehydration: Implications for Subduction Zone Seismicity
Chollet M, Daniel I, Koga KT, Morard G & van de Moortèle B

11:30 Stability of Phase D at High Pressure and Temperature: Implications for the Role of Fluids in the Deep Mantle
Ghosh S & Schmidt M

11:45 Hydrous Phases in the Lower Mantle
Smyth JR & Brown DA

12:00 **Invited:** Elastic Properties of Hydrous and Anhydrous Mantle Minerals at High Pressure
Wang J & Bass J

04d: Influence of Volatiles on Mantle and Magma Processes

Session chaired by Rajdeep Dasgupta, Alison Shaw & Dan Frost

09:30 Evidence of Water Degassing in Archean Komatiites
Fiorentini ML, Beresford S, Stone W & Deloule E

09:45 F, Cl and S Contents of Olivine-Hosted Melt Inclusions from Picritic Dike Rocks, Etendeka, NW Namibia
Worgard L, Trumbull R, Keiding J, Veksler I, Wiedenbeck M, Wenzel T & Markl G

10:00 **Invited:** Multiple Sulfur Isotopes in Basalts: Chemical Geodynamics in the South Atlantic Mantle
Labidi J, Cartigny P, Bourrand J-J & Assayag N

10:15 Chromium Mobility in Hydrous Fluids at Upper Mantle Conditions
Klein-BenDavid O, Pettke T & Kessel R

10:30 Noble Gases and Halogens in Icelandic Basalts
Weston B, Burgess R & Ballentine CJ

10:45 Crustal Accretion on Mid-Ocean Ridges Revealed through Volatile Concentrations in Olivine-Hosted Melt Inclusions
Wanless VD, Shaw A & Behn M

11:00 **Keynote:** Water in the Mantle, Melting, and the Evolution of Earth's Atmosphere
Keppler H

11:30 Ferric Iron and Water Incorporation in Wadsleyite Under Hydrous and Oxidizing Conditions
Bolfan N, Munoz M, McCammon C, Deloule E, Ferot A, Demouchy S, France L, Andrault D & Pascarelli S

11:45 A New Methodology to Experimentally Determine Water Incorporation into Upper Mantle Olivine and Pyroxene
Kovacs I, Green D, Rosenthal A, Hermann J, O'Neill H, Hibberson W & Udvardi B

12:00 Quantification of H in Olivine: Direct Calibration of FTIR and SIMS by ERDA
Withers A, Hirschmann M, Bureau H & Raepsaet C

12:15 Water Content and OH Speciation in Natural Fe-Bearing Pyroxenes
Begaudeau K, Morizet Y & Mercier JC

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05c: Continent Formation through Time

Session chaired by Steve Parman, Peter Clift, Steven Shirey & Martin Van Kranendonk

09:30 U-Pb Ages and Hf Isotopes of Detrital Zircons from Miogeoclinal Strata of Western North America
Gehrels G & Pecha M

09:45 Long-Distance Transport of North Gondwana Cambro-Ordovician Sandstones: Evidence from Detrital Zircon Hf Isotopic Composition
Morag N, Avigad D, Gerdes A, Belousova E & Harlavan Y

10:00 Zircon U-Pb, Hf and O Isotope Constraints on Growth Versus Recycling of Continental Crust in the Grenville Orogen, Ohio, USA
Petersson A, Scherstén A, Andersson J, Whitehouse M, Hanchar J & Fisher C

10:15 Evolution of the Lower Crust from S Mexico: Constraints from Lu-Hf Isotopes and U-Pb Ages in Zircon
Weber B, Scherer E, Mezger K & Ruiz J

10:30 From Archean to Cambrian: Isotopic Crustal Evolution of the Borborema Province, NE Brazil
Zincone S, Wernick E & Santos T

10:45 The Evolution of the Tarim Craton in Archean and Proterozoic: Zircon U–Pb and Hf Isotopic Evidence from the Kuruktag Area, NW China
Zheng B, Zhu W, Shu L, Wu H & He J

11:00 Crustal Growth in the North China Craton at ~2.5 Ga: Evidence from *in situ* Zircon U-Pb Dating, Hf Isotopes and Whole-Rock Geochemistry of the Dengfeng Complex
Diwu C, Sun Y, Guo A, Wang H & Liu X

11:15 Provenance of Early Sedimentary Sequences in the Tethyan Yunnan, SW China: Age and Hf Isotope of Early Archean Zircons
Chen F, Liu B-X, Li S-Q & Siebel W

11:30 Growth and Reworking of Gondwana through Time
Dhuime B, Hawkesworth C, Cawood P, Storey C & Sircombe K

11:45 Beach Placer, a Proxy for the Average Nd-Hf Isotopic Composition of a Continental Area
Garcon M, Chauvel C & Bureau S

12:00 Eoarchean TTG Formation by Melting of Thickened Mafic Arc Crust
Hoffmann JE, Nagel TJ & Münker C

Session 05c continues overleaf...

12:15 The Archean Anorthosite-Monzogranite Magmatic Association of the Narryer Gneiss Terrane, Western Australia
Sylvester P, Souders K, Crowley J & Myers J

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06c: Geochemical Tracing of Recycled Subducted Materials

Session chaired by Julian Pearce & David Peate

09:30	**Keynote:** Crustal Recycling: New Findings and Challenges *Sobolev A*
10:00	Distinguishing Arc, Backarc, and Hotspot Affinities Using Helium Isotope and C/^{3}He Ratios *Lupton J, Resing J, Lilley M, Butterfield D, Keller N, Arculus R, Baker E & Embley R*
10:15	Stable Isotope (C-N) and Noble Gas (Ne-Ar) Evidence for Recycled Plume Components at the CIR *Barry P, Hilton D, Fueri E, Murton B, Hemond C & Dyment J*
10:30	The Noble Gas and Halogen Composition of the Hydrated Oceanic Crust *Chavrit D, Burgess R, Ballentine C, Weston B & Teagle D*
10:45	Halogens (Cl, Br, I) in Basalt Glasses *Kendrick M, Kamenetsky V, Woodhead J, Phillips D & Honda M*
11:00	Recycled Halogen Signature Preserved in the Tristan Hotspot *Abbott L, Burgess R, Murphy D & Ballentine C*
11:15	Molybdenum Isotopes in the Altered Oceanic Crust, a Novel Proxy for Recycling? *Vils F, Elliott T, Willbold M, Harris M, Smith-Duque C, Coggon R & Teagle D*
11:30	Molybdenum Isotopes as a Novel Tracer for Subduction Components in the Mariana Arc *Freymuth H, Elliott T & Willbold M*
11:45	Tracing Crustal Recycling in the Mantle Sources of the Cape Verde and Azores Plumes Using Stable Mo Isotope Measurements *Lai Y-J, Elliott T & Willbold M*
12:00	Tracing Deep Slab Recycling via Study of Boron Isotopes of Volcanic Rocks from Hotspot (OIB) Settings *Savov IP, Shirey S, Tonarini S, Ryan J & Hauri E*
12:15	Ca Isotopes of Central American Arc Basalts Lack Carbonate Component *Simon J, Brown S & DePaolo D*

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08b: Chemical and Microbial Electron Transfer Processes at Mineral Surfaces

Session chaired by Kevin Rosso & Andreas Kappler

09:30 Surface Transformations and Element Cycling Resulting from Interfacial Fe(II)-Fe(III) Self Exchange
Catalano J, Frierdich A, Luo Y, Fenter P, Park C & Rosso K

09:45 Fe(II) Exchange at Titanomagnetite-Water Interfaces
Pearce C, Liu J, Qafoku O, Arenholz E, Heald S & Rosso K

10:00 Origin of the Differences in Redox Reactivity of Iron (Oxyhydr)oxides Revealed by Time-Resolved Spectroscopy
Gilbert B, Katz J, Zhang X, Attenkofer K, Frandsen C, Zarzycki P, Rosso K & Waychunas G

10:15 Control of Charge and Orbital Order at the Fe_3O_4(001)-Surface via Adsorbates: Insights from Density Functional Theory Calculations
Pentcheva R, Mulakaluri N & Scheffler M

10:30 Defining a Landscape for Microbial Electron Transfer to Extracellular Minerals
Butt J, Gates A, Marritt S, Edwards M, Shi L, Fredrickson J, Zachara J, Richardson D & Clarke T

10:45 Cytochromes and Iron Reduction
Richter K & Gescher J

11:00 Spectral and Electrochemical Evidence for Kinetically Separate Cytochrome Compartments in *Geobacter* Biofilms
Liu Y, Franklin R & Bond D

11:15 Electron Shuttle Production by *Shewanella* oneidensis
Gralnick J & Kotloski N

11:30 Does the Electron Transfer Process Determine the Product of U(VI) Reduction?
Bernier-Latmani R, Alessi D, Veeramani H, Sharp J, Dalla Vecchia E, Suvorova E, Stubbs J, Lezama-Pacheco J & Bargar J

11:45 Uranium Valence Cycling with Iron-Rich Phyllosilicates
Burgos W, Luan F, Boyanov M, Kemner K & Dong H

12:00 Olivine and Pyroxene Surface Reactivity during H_2-generation
Templeton A, Mayhew L, Trainor T, Eng P & McCollom T

12:15 Challenges in the Identification of Redox Reactive Fe(II) Mineral Phases in Suboxic Aquifer Sediments
Zachara J, Peretyazhko T, McKinley J, Liu C & Felmy A

08c: Biogeochemical Processes within Floodplain and Deltaic Sediments

Session chaired by Scott Fendorf, Shawn Benner & Ruben Kretzschmar

09:30	**Keynote:** Transport of Solutes through Hydraulically and Chemically Heterogeneous Sediments of the Bengal Basin *Michael H*
10:00	Deltaic Landforms and Stratigraphic Controls on Groundwater Arsenic *Weinman B, Goodbred S, van Geen A & Singhvi A*
10:15	**Invited:** Does Monsoon Rainfall Drive Arsenic Mobilization and Organic Carbon Release in Bangladesh Aquifers? *Planer-Friedrich B, Haertig C, Lissner H, Steinborn J, Suess E, Hassan MQ, Zahid A, Alam M & Merkel B*
10:30	**Invited:** The Hydrogeochemistry of Pond and Rice Field Recharge: Implications for the Arsenic Contaminated Aquifers in Bangladesh *Neumann RB, Ashfaque KN, Polizzotto ML, Badruzzaman ABM, Ali MA & Harvey CF*
10:45	**Invited:** Arsenic Contamination of Groundwater in Vietnam: Delta-Wide Survey and 3D Geospatial Modeling *Berg M, Winkel LHE, Trang PTK, Lan VM, Stengel C, Amini M, Ha NT & Viet PH*
11:00	**Invited:** Predicting Spatial and Temporal Concentrations of Arsenic within the Mekong Delta *Kocar B, Benner S & Fendorf S*
11:15	Redox Transformations of Cu in Periodically Flooded Soils *Fulda B, Voegelin A & Kretzschmar R*
11:30	Episodic Estuarine Hypoxic Events: Integrating the Biogeochemistry, Hydrology and Climate on a Sub-Tropical Floodplain, Eastern Australia *Wong V, Johnston S, Walsh S, Morris S, Burton E, Bush R, Sullivan L & Slavich P*
11:45	**Invited:** The Role of Microbial Sulfidogenesis in Shaping Iron-Sulfur-Arsenic Interactions within Floodplain Soils *Burton E, Johnston S & Bush R*
12:00	The Effect of Flood-Induced Redox Oscillations on Arsenic Mobility in a Calcareous Fluvisol *Parsons C, Couture R-M, Omoregie E, Roman-Ross G & Charlet L*
12:15	Mercury Colloid Formation in a Floodplain Soil *Hofacker A, Voegelin A & Kretzschmar R*

10i: Geochemistry in Geothermal Energy: Field Observations, Experiments and Modeling

Session chaired by Simona Regenspurg & Ferdinand Hingerl

09:30	**Keynote:** Review of Geochemical Problems and Mitigation during the Production of Geothermal Reservoirs *Vuataz F-D & Giroud N*
10:00	Potential Products of Fluid-Rock Interactions in the Soultz-Sous-Forêts Enhanced Geothermal System *Fritz B, Baldeyrou-Bailly A & Vidal O*
10:15	Origin and Isotope Composition of the Radium Content in Highly Saline Fluids *Degering D & Köhler M*
10:30	Biogeochemical Characterization of Geothermal Fluids *Vieth-Hillebrand A, Vetter A, Sachse A, Henne S, Regenspurg S & Mangelsdorf K*
10:45	Water-Rock Interaction at the Theistareykir Geothermal Field in NE-Iceland *Gautason B & Muehlenbachs K*
11:00	Hydrothermally Induced Changes of Electrical Rock Conductivity and Permeability in Porous Feldspar-Rich Materials *Schepers A & Milsch H*
11:15	Experimental Fluid-Rock Interaction Simulating Brine Reinjection in Greywacke-Hosted Reservoirs of the Taupo Volcanic Zone, New Zealand *Sonney R & Mountain BW*
11:30	Sulfate Mineral Solubilities in Na-Ca-Cl Brines *Banks J & Regenspurg S*
11:45	Chemical Sensors Based on Zr/ZrO_2 Electrode for Measurement of pH in a Subcritical to Supercritical Aqueous Water *Zhang X, Zhang R & Hu S*
12:00	**Invited:** Thermodynamic Models of Aqueous Systems To High Temperature and Concentration *Moller N & Weare JH*
12:15	Development of an Aqueous Activity Model for Geothermal Conditions *Hingerl F, Wagner T, Kulik D, Kosakowski G & Driesner T*

11b: Ore Deposits and the Role of the Lithospheric Mantle – Sponsored by SGA

Session chaired by Wolfgang Dereck Maier, Sisir K. Mondal, Thomas Oberthür & Marco Fiorentini

09:30 **Keynote:** Ore Deposits and the SCLM
Griffin W, Begg G, O'Reilly S & Pearson N

10:00 **Invited:** Ore Metals from the Subcontinental Lithospheric Mantle?
Arndt N

10:15 **Invited:** Metallogenic Provinces: Products of Asthenosphere-Thermal Boundary Layer-Lithosphere Interactions
Kerrich R

10:30 Intra-Cratonic Lithospheric Deformations – Heterogeneities, Faulting and Rayleigh-Tylor Instabilities
Gorczyk W, Hobbs B, Zhu G, Ord A & Gessner K

10:45 Gold Mobility in the Mantle: Constraints from Sulfides in Pyroxenites and Lherzolites
Saunders J, Pearson N & O'Reilly S

11:00 Gold Contents of the Cratonic Sub-Continental Lithospheric Mantle: Implications for Orogenic Gold Deposits
Maier W, Kontinen A & McDonald I

11:15 Low Oxygen Fugacity Mantle Derived Auriferous Fluids for Archaean Orogenic Gold Deposit of Ajjanahalli, Chitradurga Schist Belt, Dharwar Craton, India
Sarangi S, Sarkar A, Balaram V & Srinivasan R

11:30 Sulfide Mineralogy of West Greenland Kimberlitic Mantle Xenoliths
Mondal SK, Bernstein S & Rosing MT

11:45 Melting and Melt/Rock Reaction of Sulphides in Middle Atlas Spinel Peridotite Xenoliths
Westner K, Wittig N, Klemd R, Brätz H & Osbahr I

12:00 Possible High-PGE-Au Silicate Melt/Aqueous Fluid in Mantle Wedge: Inferred from Ni Metasomatism in Avacha Peridotite Xenolith
Ishimaru S, Arai S, Borisova AY & Tamura A

(Session 11b continues on Thursday 18th PM on page 341)

12e: Biomineralization of Marine Organisms: Toward a Better Understanding of Proxy Records

Session chaired by Claire Rollion-Bard, Dominique Blamart & Jess Adkins

09:30 **Keynote:** Understanding Biological Control and Environmental Influence – Unlocking the Secrets of Biomineralisation
Cusack M

09:45 Quantification of Environmental Proxy Precision
Meibom A & Kopp C

10:00 Biomineralization and Seawater Dynamics in Foraminifera Studied with the Fluorescent Dye Calcein
Erez J, Levenson Y & Almogi-Labin A

10:15 Calibrating the Boron Isotope pH-Proxy in *Globigerinoides ruber* by MC-ICPMS
Henehan M, Foster G, Rae J, Erez J, Wilson P & Kucera M

10:30 Boron Isotopes ($\delta^{11}B$) in Coral: Energy Budgets and pH Control at the Site of Calcification
Hendy E, Mass T, Brickner I & Genin A

10:45 Boron Isotope Systematics of pH Regulation in Cold-Water Corals and Resilience to Ocean Acidification
Trotter J, McCulloch M, Montagna P, Lopez Correa M, Taviani M & Forsterra G

11:00 Calcium Isotopes during Coral Biomineralization
Gagnon A, DePaolo D, Adkins J & De Yoreo J

11:15 High Temporal Resolution $\delta^{18}O$ and $\delta^{13}C$ Heterogeneity in a *Porites* lobata Coral Skeleton
Allison N & Finch A

11:30 Growth Rate Effect on Oxygen Isotope Fractionation between Calcite and Fluid: *In situ* Data
Gabitov R, Schmitt A, Watson B, Mckeegan K & Harrison TM

Session 12f follows this session in this room. For details see page 313.

12f: Frontiers in Cosmogenic Dating of Glacial Landscapes: Last Analytical Developments, New Production Rates Calibration, Sampling Strategies and Paleoclimatic Significance of New Glacial Chronologies

Session chaired by Pierre-Henri Blard, Didier Bourles & Finkel Bob

11:45 **Keynote:** High-Precision ^{10}Be Dating of Moraines and the Exploration of Pro-Glacial Bedrock as Climate Archive Using the New *in situ* ^{14}C/^{10}Be Tool
Schaefer JM, Schimmelpfennig I, Goehring B, Finkel RC & Rood D

12:15 Most Recent Developments in AMS Technologies
Synal H-A, Schulze-König T, Seiler M, Suter M, Vockenhuber C & Wacker L

(Session 12f continues on Thursday 18th PM on page 343)

13g: Atmospheric Dust

Session chaired by Reto Gieré & Bernard Grobéty

09:30 Role of Acid Mobilization in Association of Smaller Particle Size with Higher Iron Solubility
Ito A

09:45 Updated Dust-Iron Dissolution Mechanism: Effects of Organic Acids, Photolysis, and Dust Mineralogy
Johnson M & Meskhidze N

10:00 Physical and Chemical State of Fe-Phases in Chinese Aeolian Dust
Kaneko M, Nakamatsu Y, Xie Z & Utsunomiya S

10:15 Chemical Analysis of Saharan Dust in Marine Aerosols
Fomba KW, Müller K, Gnauk T & Herrmann H

10:30 Atmospheric Dust Input to the Northern Gulf of Aqaba
Teutsch N, Tirosh O, Tzipori A, Dayan U & Erel Y

10:45 Characterization of Saharan Dust from Red Rain Precipitated over Athens, Greece
Godelitsas A, Nastos P, Mertzimekis T, Toli K, Douvalis A & Simon R

11:00 **Invited:** Characterizing Sources of Airborne Mineral Dust, in Iraq
Engelbrecht J & Jayanty RKM

11:15 **Invited:** Chemical Speciation of Airborne Mineral Dust in the Middle East
Jayanty R, Flanagan JB & Engelbrecht JP

11:30 Seasonal and Temporal Variations of Uranium Isotope Ratio in Atmospheric Deposits in Japan
Kikawada Y, Yamauchi R, Nomura M, Oi T & Hirose K

11:45 Transfer of Uranium Isotopes, Thorium and their Decay Products to Edible Plants
Jeambrun M, Pourcelot L, Mercat C, Gauthier-Lafaye F & Boulet B

12:00 Mineral Composition of Particulate Matter in Human Lung Samples from Upper Silesia (Poland) – Preliminary Results
Jablonska M

12:15 Dust Particles in Brochoalveolar Lavage Fluids from Coal Miners in Quang Ninh Province, Viet Nam
Gieré R, Hoàng-Hòa TB & Sedlazeck P

14e: Silicate Weathering and Organic Carbon Sequestration during Continental Erosion: Processes Controlling Dissolved and Particulate Fluxes Exported by Rivers to the Ocean

Session chaired by Valier Galy & Herdis Schopka

09:30 The Subduction Weathering Factory
Gaillardet J, Louvat P, Dessert C & Lajeunesse E

09:45 Uncertainty Assessment in Quantification of Silicate Weathering Rates in Global Rivers
Moon S, Chamberlain CP & Hilley G

10:00 Constraining Subannual Variability in River Chemistry and Hydrology with $^{87}Sr/^{86}Sr$: A Case Study in the Fraser River Basin, Canada
Voss B, Peucker-Ehrenbrink B, Eglinton T, Gillies S, Marsh S, Janmaat A, Downey B, Fanslau J, Fraser H & Macklam-Harron G

10:15 Weathering Fluxes from Time Series Sampling of the Irrawaddy and Salween Rivers
Chapman H, Bickle M, Thaw SH & Thiam HN

10:30 Ca Fluxes Linked to Particles Exchange with Seawater during Himalayan Erosion
France-Lanord C, Lupker M, Lartiges B & Gaillardet J

10:45 Incongruent Dissolution of Volcanic Riverine Particulate Material in Seawater: Consequences for Global Element Cycling
Jones M, Pearce C, Jeandel C & Oelkers E

11:00 Carbon Export by Erosion of Biomass from a Mountain Belt: Controls on Rates of Transfer
Hilton RG, Hovius N, Galy A, Horng MJ & Chen H

11:15 Particulate Organic Carbon Deposition Offshore Taiwan Following Typhoon Morakot
Sparkes R, Hovius N, Galy A, Kumar RV & Liu JT

11:30 Comparing the Fate of Lignin in Dissolved and Particulate Organic Matter of Ganges–Brahmaputra River System
Feng X, Galy V, Montlucon D & Eglinton T

11:45 **Keynote:** Efficient Cycling of Particulate Organic Carbon through Orogenic Systems
Hovius N, Galy A, Hilton R, Sparkes R, Kao S-J & Liu J

12:15 Contribution of Groundwater to Chemical Weathering Fluxes in the Pingtung Plain, Taiwan
Martin C, Galy A, Hovius N, Bickle M, Lin I-T, Horng M-J, Calmels D, Chapman H & Chen H

15h: Submarine Hydrothermal Processes and Alteration of the Oceanic Lithosphere

Session chaired by Frieder Klein, Marguerite Godard, Gretchen L. Früh-Green & Niels Jöns

09:30 H_2-rich Fluids Issued from the Kulo Lasi Volcano: A New Active Hydrothermal Field Recently Discovered in the South-West Pacific
Charlou JL, Donval JP, Konn C, Guyader V & Fouquet Y

09:45 Discovery of New Hydrothermal Active Fields in the South-West Pacific. Organic Geochemistry of the Fluids
Konn C, Charlou J-L, Donval J-P, Birot D, Guyader V, Perez F, Jean-Baptiste P, Fourre E & Fouquet Y

10:00 Phase Separation, Degassing and Anomalous Methane at the Menez Gwen Hydrothermal Field
Reeves E, Prieto X, Hentscher M, Rosner M, Seewald J, Hinrichs K-U & Bach W

10:15 Formation of Barite Chimneys in Hydrothermal Systems
Eickmann B, Peters M, Strauss H, Thorseth IH & Pedersen RB

10:30 Cu, Zn and Fe Isotope Systematics of Low-T Hydrothermal Fe-Si Deposits
Moeller K, Schoenberg R, Thorseth IH & Pedersen R-B

10:45 Calcium Carbonate Veins in Ocean Crust Record a Threefold Increase of Seawater Mg/Ca and Sr/Ca in the Past 30 Million Years
Rausch S, Böhm F, Eisenhauer A, Klügel A & Bach W

11:00 Oceanic Plagiogranites as Products of Hydrothermal Activity at Slow-Spreading Ridges
Koepke J, Wolff E & Feig S

11:15 Chlorine Chemistry of Altered Oceanic Crust
Barnes J

11:30 Secondary Crustal Effects on MORB Composition at the Kolbeinsey Ridge
Elkins L, Sims K, Prytulak J, Mattielli N, Elliott T, Dunbar N, Blichert-Toft J, Devey C, Mertz D, Schilling J-G & Murrell M

11:45 The Ligurian Ophiolite: An Analogue to Marine Serpentinite-Hosted Hydrothermal Systems
Schwarzenbach E, Früh-Green G & Bernasconi S

12:00 Characterization of Hyperalkaline Fluids Produced by Serpentinization of Mantle Peridotites in Oman and in Liguria (Northern Italy)
Monnin C, Chavagnac V, Ceuleneer G, Boulart C & Hoareau G

12:15 The Evolution of a Serpentinizing Environment Inferred from Andradite Vein Networks
Plümper O, Beinlich A, Janots E & Austrheim H

16a: Geochemical Processes in Mining Environments: Biological Interactions, Coupled Processes, and Bioremediation

Session chaired by Kate Campbell, Colleen Hansel & Kai-Uwe Ulrich

09:30 **Invited:** High-Resolution Metabolomics Reveals Unusual N-Methyl Lyso Phosphatidylethanolamines as Abundant and Strain-Specific Lipids in Acid Mine Drainage Biofilms
Wilmes P, Fischer C, Bowen B, Thomas B, Mueller R, Denef V, VerBerkmoes N, Hettich R, Northen T & Banfield J

09:45 Biogeochemistry and Stable Isotope Investigation of Acid Mine Drainage Associated with Abandoned Pb-Zn Mine in Balya, Turkey
Balci N, Gul Karaguler N, Sonmez MS & Sari E

10:00 Ecological Niches of Fe-Oxidizing Acidophiles in a Coal Mine Discharge
Jones D, Brown J, Larson L, Mills D, Burgos W & Macalady J

10:15 New *Thiomonas* and *Bordetella* Strains Involved in Iron Oxidation at a Slightly Acidic, Heavy Metal Contaminated Creek
Fabisch M, Beulig F, Akob DM & Küsel K

10:30 Biogenic Mn Oxide Formation at pH 5.5 and 7 by New Mn-Oxidizing Bacteria from a Former U Mining Site
Akob D, Beyer A, Schäffner F, Händel M, Merten D, Büchel G, Totsche KU & Küsel K

10:45 **Invited:** Hydrological Constraints for Biogeochemical Processes in Acidic Mining Lakes
Peiffer S

11:00 Schwertmannite and Fe Oxides Formed by Biological Low-Ph Fe(II) Oxidation Versus Abiotic Neutralization
Larson L, Luan F, Troyer L, Borch T & Burgos W

11:15 Understanding O_2-Deficient and CO_2-enriched Gas Production and Migration in the Subsurface Above a Coal Post-Mining Area through *in situ* Gas Monitoring and Modelling
Lafortune S, Charmoille A & Pokryszka Z

11:30 Bench Scale Experiments Modeling the Effects of a Phytostabilization Strategy for Arsenic and Lead Containing Mine Tailings in the Semi-Arid Southwestern United States
Hammond C, Root R, White S, Maier R & Chorover J

11:45 Speciation and Micro-Scale Spatial Distribution of As in a Mining-Affected River Floodplain
Kretzschmar R, Mandaliev P, Mikutta C, Barmettler K & Kotsev T

Session 16a continues overleaf...

12:00 Mechanism of Uranium Accumulation in a Mining-Impacted Acidic Peatbog
Wang Y, Frutschi M, Phrommavanh V, Descostes M & Bernier-Latmani R

12:15 Linking Geochemistry and Texture of Mine Tailings and Soils to the Evolution of Plant Community in a Contaminated Copper-Sulphide Mining Area
Anawar HM & Freitas MC

(Session 16a continues on Thursday 18th PM on page 346)

17k: Significance of Iodine in Biogeochemistry and the Environmental Sciences: Special Session Commemorating the Bicentennial of the Discovery of Iodine

Session chaired by Yasuyuki Muramatsu & Glen Snyder

09:30 **Keynote:** Iodide in Kelp: An Inorganic Antioxidant in Life Impacting Atmospheric Chemistry
Kuepper FC

10:00 Cell Permeability/Senescence Controls the Reduction Rate of Iodate to Iodide in Marine Phytoplankton
Bluhm K, Croot P, Wuttig K & Lochte K

10:15 **Invited:** The Correlation between Iodide Sorption Capacity and Microbial Enzyme Activity in Soils
Amachi S & Muramatsu Y

10:30 Understanding Bioavailability of Iodine in Soils of Northern Ireland
Smith H, Ander L, Bailey E, Crout N, Watts M & Young S

10:45 Iodine Fingerprints Biogenic Fixation of Platinum and Palladium
Cabral AR, Radtke M, Munnik F, Lehmann B, Reinholz U, Riesemeier H, Tupinambá M & Kwitko-Ribeiro R

11:00 **Invited:** The ^{129}I Isotopic Composition of Supergene Iodine Minerals in Chile and Australia
Reich M, Alvarez F, Perez A, Snyder G, Palacios C, Vargas G, Muramatsu Y, Cameron E & Fehn U

11:15 Fluids at Continental Margins: What We can Learn from ^{129}I Results
Fehn U

11:30 Anthropogenic Contributions of ^{129}I and ^{85}Kr to Global Reservoirs: Current Distribution Patterns and Projected Increases
Snyder GT, Moran JE & Aldahan AA

11:45 Tracer Application of Chemical Speciation of ^{129}I in Arctic Seawater
Hou X, Luo M, Fan Y, Gwynn JP, Karcher M, Aldahan A & Possnert G

12:00 ^{129}I as Atmospheric Tracer
Jabbar T, Steier P, Wallner G, Kandler N & Katzlberger C

12:15 Depth Profile of $^{129}I/^{127}I$ Ratio in Andisol Collected in Preserved Field of NIAES, Tsukuba, Japan
Matsuzaki H, Maejima Y, Ohkura T, Tsuchiya Y, Abe K, Miyairi Y & Muramatsu Y

(Session 17k continues on Thursday 18th PM on page 349)

18c: Accurate and Consistent Time-Keeping in Geological History

Session chaired by Dan Condon, Fin Stuart & Claudine Stirling

09:30 The Evolving Landscape of U-Series Sea Level Chronologies
Dutton A

09:45 Best Practices for Ensuring Consistent Coral Geochronology
Thompson WG

10:00 Time Constraint on Brunhes-Matuyama Inversion Infered by U-Series Disequilibrium
Ghaleb B, Falguères C, Pozzi J-P, Rousseau L, Carlut J & Boudad L

10:15 Taking Advantage of Both U-Th and U-Pb Disequilibrium Methods for Speleothem Geochronology
Richards D, Smith C, Smart P, Farrant A, Parrish R & Ford D

10:30 Evaluating $^{238}U/^{235}U$ in U-Bearing Accessory Minerals: Implications for U-Pb Geochronology
Hiess J, Condon D, Noble S, Horstwood M, McLean N & Mattinson J

10:45 Further Progress Towards Synchronizing Geochronometers
Renne P

11:00 The Manicouagan Impact Crater: A Site for Testing the Accuracy of Revisions to the K-Ar System
Mark D & Morgan L

11:15 Improving the Accuracy of the $^{40}Ar/^{39}Ar$ Geochronometer
Morgan L, Mark D, Kuiper K, Postma O, Villa I & Wijbrans J

11:30 Toward Establishing Precise Chronologies for the Integration of Late Pleistocene Palaeoclimate Archives: An Example from Suigetsu SG06, Japan
Smith V, Mark D, Staff R, Blockley S, Bronk Ramsey C, Bryant C, Nakagawa T, Kim KH, Weh A, Takemura K & Danhara T

11:45 Development of a Micro-Interdigitated Electrode Array for Use in High Precision TIMS-Based Isotope Ratio Determinations
Farmer GL & Verplanck E

12:00 Pairing Re-Os Geochronology and Biostratigraphy – Dating Fossils
Hannah JL, Stein HJ, Yang G & Maletz J

12:15 Possible Rhenium Fractionation during Standard Re-Os Dissolution and Chemical Separation Procedures
Zimmerman A, Georgiev S, Yang G, Stein H & Hannah J

20i: Advanced Study of the Physical Properties of the Mantle Materials, and Applications to the Earth's Structure, Composition and Dynamics

Session chaired by Tomoo Katsura & Stanislav Sinogeikin

09:30 Indoor Seismology
Liebermann R, Li B, Kung J, Jackson I, Gwanmesia G, Antao S & Parise J

09:45 Toward a Self-Consistent Pressure Scale: Elastic Moduli and Equation of State of MgO and Ringwoodite by Simultaneous X-Ray Density and Brillouin Sound Velocity Measurements at High-P and High-T
Sinogeikin S, Lakshtanov D, Prakapenka V, Sanchez-Valle C, Wang J, Shen G & Bass J

10:00 Elastic Properties of Nano-Crystalline MgO to High Pressures by Brillouin Scattering
Marquardt H, Gleason A, Marquardt K, Speziale S, Miyagi L, Neusser G, Wenk H-R & Jeanloz R

10:15 Laboratory-Based Conductivity Structure in the Mantle Transition Zone
Yoshino T, Shimojuku A & Katsura T

10:30 **Keynote:** From Solids to Liquids: A Coordinated Approach for Studying Dynamic Processes in the Deep Earth Using Large-Volume Apparatus and Synchrotron Radiation
Wang Y

11:00 Experimental Compressibility of Molten Hedenbergite at High Pressure
Agee C, Barnett G, Waller C, Asimow P, Guo X & Lange R

11:15 Pressure-Induced Phase Transitions and Electron Spin State Changes of Iron Bearing Spinels
Yamanaka T, Kyono A, Kharlamova S, Struzhkin V, Mao H-K & Hemley R

Session 20k follows this session in this room. For details see page 322.

20k: Petrology and Geochemistry of Rutile

Session chaired by Thomas Zack, Daniel F. Stockli & Alicia Cruz-Uribe

11:30 **Invited:** Trace Element Systematics in HT Metamorphic Rutile: The Robustness of the Zr Geothermometer
Kooijman E, Smit M, Mezger K & Berndt J

11:45 **Invited:** Insights into Lower Crustal Evolution from Hf Isotope and Zr Thermometry Data for Rutile
Ewing T, Rubatto D & Hermann J

12:00 U/Pb Age Spectra of Detrital Rutile as a Powerful Tool for Provenance Analysis
Rösel D, Zack T, Barth M, Möller A & Oalmann J

12:15 Growth of Zircon and Rutile during Continental Subduction-Zone Metamorphism: A Case Study of UHP Eclogite in the Dabie Orogen
Zheng Y-F, Gao X-Y, Chen R-X & Gao T

(Session 20k continues on Thursday 18th PM on page 355)

21c: Application of Noble Gases and Naturally Occurring Radioactive Isotopes in Waters and the Environment

Session chaired by Rolf Kipfer & Michael Schubert

09:30 **Invited:** Noble Gas Paleotemperature Records: Recent Developments in Dating, Archives, and Interpretation
Aeschbach-Hertig W, Wieser M & Marx T

09:45 Investigation of ^{36}Cl Distribution in the North-Western Sahara Aquifer System
Petersen J, Hadj Ammar F, Deschamps P, Hamelin B, Goncalves J, Zouari K, Guendouz A & Michelot J-L

10:00 Neon Identifies Two Billion Year Old Fluid Component in Kaapvaal Craton
Lippmann-Pipke J, Sherwood Lollar B, Niedermann S, Stroncik NA, Naumann R, van Heerden E & Onstott TC

10:15 Noble Gases from the Precambrian Shield of Canada
Holland G, Sherwood Lollar B, Li L, Lacrampe-Couloume G, Slater G & Ballentine C

10:30 Mantle Volatiles in Groundwaters Near the San Andreas Fault
Kulongoski J, Hilton D & Belitz K

10:45 Dispersal of Tritium and ^{3}He along the Outer Rim of the Weddell Gyre
Moriarty R, Zhou Z & Ballentine C

11:00 Growth Conditions of Stalagmites Derived from Noble Gas Concentrations in Fluid Inclusions
Scheidegger Y, Vogel N, Figura S, Brennwald M, Wieler R, Fleitmann D & Kipfer R

11:15 Measuring Annual Variation of Soil Air Composition Focusing on the Effect of Oxygen Depletion on Noble Gas Partial Pressures
Freundt F, Schneider T & Aeschbach-Hertig W

11:30 On the Fate of ^{220}Rn in Partially Saturated Media
Huxol S, Brennwald MS, Hoehn E & Kipfer R

11:45 The Dependence of $^{222}Radon$ Air-Water Partitioning on Water Temperature and Water Salinity
Schubert M & Paschke A

(Session 21c continues on Thursday 18th Posters on page 388)

22b: General High-Temperature Geochemistry

Session chaired by Evelyn Füri & Dominique Tobler

11:45 Geochronological and Thermochronological Evolution of the Southern Gaoligongshan Metamorphic Belt, Yunnan (China)
Eroglu S, Siebel W, Danisik M, Pfänder J & Chen F

12:00 Origin of Miocene Volcanic Rocks from Eskisehir, NW Anatolia, Turkey
Telsiz S, Temel A & Gourgaud A

12:15 The Characteristics of Generation and Distribution of CO_2 Gas Pools in Songliao Basin, China
Wang J, Luo X, Hou L & Wang Y

Oral Presentations Overview Thu PM

	Chamber Hall	Club A	Club B/C	Club D	Club E	Club H	Conference Hall	Forum Hall	Meeting Hall I
	10j / 10g	02h / 02j	06c	01b	04d / 04e	05c	09f	17k / 17g	16a / 16b
14:00	Atlas	de Leeuw	Kimura	Bouvier	Demouchy	Roberts	Bachmann	Luther	Blowes
14:15	Hazen	Kremer	Todd		Novella	O'Neill		Santschi	Couture
14:30	Conrad	Cody	Haase	Mishra	van Keken	Condie	Büchner	Dixneuf	Turner
14:45	Lewan	Siljeström	Timm	Gopel	Iwamori	Hawkesworth	Klügel	Morin	Parmentier
15:00	Huettel	Lee	Kirchenbaur	Walker	Jackson		Peters	Muehe	Schäffner
15:15	Gallego	Tice	Jweda	Horan		Shirey	Wolff	Root	Longmire
15:30		Zolotov	Sonntag	Wittig	Day	Nowell	Ratschbacher	Robson	Ulrich
15:45		Michalski	Kay	Brennecka	Yamamoto	Chauvel	Janoušek	Pham	Simon
16:00	Aagaard	Kennedy	Prelevic	Kaltenbach	Pető	Storey	Harris	Záková	Baciu
16:15	Alt -Epping		Martin	Kruijer	Ballentine	Allen	Masotta	Herndon	O'Loughlin
16:30	Ji		Zi	Kleine	Shimizu	Lancaster	Jolis	Lintern	Yang
16:45	Bea		Dallai	Dauphas	Clog	Iizuka	Balen	Couder	Whittleston

	Meeting Hall IV	Meeting Hall V	North Hall	Panorama Hall	Small Hall	Small Theatre	South Hall	Terrace 1	Terrace 2
	08k / 08j	17n / 17l	13b	04h	18h / 19g	20k / 20a	11b	12f / 12d	14g / 22c
14:00	Machesky	Helz	Stephens	Hofmann	Dell'Abate	Manning	Barnes	Nishiizumi	Rivé
14:15	Predota					Vinograd		Niedermann	Verney -Carron
14:30	Kalinichev	Eckert	Zuidema	Mattinson	Liles	Lucassen	Ripley	Blard	Chemtob
14:45		Pakhomova	Flossmann	Bell	Siewert	O'Brien	Barnes	Cossart	Mavromatis
15:00	Waychunas	Porter	Engström	Reid	Herrmann		Penniston-Dorland	Stone	Voinot
15:15	Chialvo	Dellwig	Baltensperger	Graham	Fernández	Proyer	Latypov	Dickinson	
15:30	Wolthers	Pichevin	Harris	Hanan	Rosso	Kriegsman	Hanemann	Gattacceca	Brügmann
15:45	Ross	Shaw	Nuijens	Hoernle		Brown	Osbahr	Clift	Ismail
16:00	Fernandez-Martinez	Bullen	Takemura	Burton	Otte	Cesare	Donoghue	Tyrrell	Karlsson
16:15	Churakov	Heuser	Field	Gill	Noguera	Saha	Wildau	Naafs	Luo
16:30		Tütken	Ming	Barkman	Raiteri	Engi	Dolgopolova	Blanchet	Phoenix
16:45	Marry	Morgan	Adams	Vervoort	Andersson	Vidal		Jia	Xiao

01b: From Gas and Dust to Planetesimals: Processes and Timescales

Session chaired by Fred Ciesla & Ed Young

14:00 **Keynote:** The First 10 Million Years of the Solar System
Bouvier A

14:30 Chronology of Early Solar System Inferred from Precise Al-Mg Isotope Systematics of Vigarano CAIs
Mishra RK & Chaussidon M

14:45 Mn/Cr Systematics in Carbonaceous Chondrites: Mineral Isochrons Versus Stepwise Dissolution
Gopel C, Birck JL & Zanda B

15:00 Uniform Os Isotopic Composition in Early-Formed Planetesimals
Walker R

15:15 Palladium-Silver Systematics in the Oldest Differentiated Planetesimal
Horan M, Carlson R & Blichert-Toft J

15:30 W-Os Isotope Systematics in IVB Iron Meteorites
Wittig N & Humayun M

15:45 $^{238}U/^{235}U$ Ratios of Angrites: Adjusting Absolute Ages of Anchors
Brennecka GA & Wadhwa M

16:00 Revised Ages of Angrites
Kaltenbach A, Stirling C & Amelin Y

16:15 Hf-W Evidence for Rapid Accretion and Core Formation in Protoplanets
Kruijer T, Sprung P, Kleine T, Leya I & Wieler R

16:30 Hf-W Chronometry of Angrites: Implications for ^{26}Al Heterogeneity and Core Formation in Protoplanets
Kleine T, Hans U, Irving T & Bourdon B

16:45 **Invited:** Mars as a Planetary Oligarch
Dauphas N & Pourmand A

(Session 01b continues on Thursday 18th Posters on page 357)

02h: Taphonomy and Geochemistry: Experiment and Observation in Understanding the Fossil Record of Early Life

Session chaired by Tanja Bosak, Michael Tice & Jochen Brocks

14:00 **Keynote:** On the Morphology and Chemistry of (Micro) fossils: Matches, Mismatches and Kerogen Formation
de Leeuw J

14:15 **Invited:** Deciphering the Early Fossil Record of Cyanobacterial Mats Based on their Mode of Mineralization
Kremer B, Kazmierczak J & Kempe S

14:30 **Invited:** Revealing the Hidden Signature of Biomacromolecules in Ancient Organic Fossils
Cody G, Hazen R, Gupta S & Kilcoyne D

14:45 Analysis of Organic Biomarkers in Single Precambrian Oil-Bearing Fluid Inclusions Using TOF-SIMS
Siljeström S, Lausmaa J, Volk H, George S, Sjövall P, Dutkiewicz A & Hode T

15:00 Identification of the Oldest Carotenoid Breakdown Products in the Geological Record
Lee C & Brocks J

15:15 Peering through the Diagenetic Window for Archean Phototrophs
Tice M, Cai J, Lee C-T & Lowe D

Session 02j follows this session in this room. For details see page 330.

02j: Aqueous Environments Captured by Clay Mineral Deposits on the Early Earth and on Mars

Session chaired by Joseph Michalski & Javier Cuadros

15:30 Chemical Models for Formation of Clay-Rich Layered Rocks in the Mawrth Vallis Region, Mars
Zolotov M & Mironenko M

15:45 Evidence for Habitable Environments Deep in the Martian Crust
Michalski J, Niles P & Cuadros J

16:00 **Keynote:** Terrestrialization of the Earth and its Influence on the Advent of Complex Life
Kennedy M

04d: Influence of Volatiles on Mantle and Magma Processes

Session chaired by Rajdeep Dasgupta, Alison Shaw & Dan Frost

14:00 **Invited:** Water Weakening in Dunite: Highlights from Torsion Experiments
Demouchy S, Hansen L, Zimmermann M, Tommasi A, Barou F & Kohlstedt D

14:15 Water Contents of Incipient Partial Melts in Equilibrium with Peridotite at Upper Mantle Conditions
Novella D & Frost DJ

14:30 **Invited:** H_2O and CO_2 Devolatilization in Subduction Zones: Implications for the Global Water and Carbon Cycles
van Keken P, Hacker B, Syracuse E & Abers G

Session 04e follows this session in this room. For details see page 332.

04e: Mantle Compositional Variability: From Ocean Basins to Melt Inclusions

Session chaired by John Maclennan, Leonid Danyushevsky & David Graham

14:45 **Invited:** Mantle Compositional Variability Constrained from Arc and Oceanic Basalts
Iwamori H

15:00 **Keynote:** A New Starting Point for the Mantle's Geochemical Reservoirs
Jackson M & Carlson R

15:30 ^{186}Os-^{187}Os and Highly Siderophile Element Abundance Systematics of Earth's Upper Mantle
Day J, Warren J & Walker R

15:45 Noble Gas Isotopic Compositions of Mantle Xenoliths in a Kimberlite
Yamamoto J, Kurz M, Ishibashi H & Curtice J

16:00 Heavy Noble Gases from the Northern Lau Basin: The Xenon Perspective on Mantle Heterogeneity
Pető M, Mukhopadhyay S & Kelley K

16:15 Noble Gases and Halogens in the MORB-Source Mantle: Recycled?
Ballentine C, Burgess R, Weston B, Chavrit D, Sumino H & Teagle D

16:30 Large Regional Variations in F/Cl Ratio for the MORB Source Mantle
Shimizu N

16:45 H Isotopes in Lavas from Loihi and Pitcairn: Primitive or Recycled Water ?
Clog M, Cartigny P & Aubaud C

(Session 04e continues on Thursday 18th Posters on page 358)

04h: Pb Isotopic Insights into Earth's Evolution: A Tribute to George R. Tilton (1923 – 2010)

Session chaired by Julie Bryce, Sam Mukasa, Barry Hanan & Kaj Hoernle

14:00	**Keynote:** George Tilton: Pioneer of Lead Isotope Geochemistry *Hofmann AW*
14:30	**Invited:** George R. Tilton and the Development of U-Pb Geochronology *Mattinson J*
14:45	**Invited:** Carbonatites and Pb Isotopes – Insights into Terrestrial Evolution *Bell K*
15:00	**Invited:** Melting Conditions Associated with the Colorado Plateau, USA *Reid M, Bouchet R & Blichert-Toft J*
15:15	**Invited:** Isotopic Variations in Mafic Volcanic Rocks from the Western Branch of the East African Rift *Graham D, Furman T, Blichert-Toft J, Lupton J, Ebinger C & Rogers N*
15:30	A High-Resolution, Multi-Isotopic Study of Mantle Heterogeneity beneath the Southeast Indian Ridge: Preliminary Pb and Hf Results *Hanan B, Blichert-Toft J, Sayit K, Agranier A, Hemond C, Briais A, Maia M, Graham D & Albarède F*
15:45	The Christmas Island Seamount Province, Indian Ocean: Origin of Intraplate Volcanism by Shallow Recycling of Continental Lithosphere? *Hoernle K, Hauff F, Werner R, van den Bogaard P, Conrad S, Gibbons A & Müller D*
16:00	Ancient Lead Trapped in the Earth's Upper Mantle *Burton K, Cenki-Tok B, Mokadem F, Harvey J & Parkinson I*
16:15	Tracing Mantle Enrichments into Oceanic Crust and Hydrothermal Systems, Juan de Fuca Ridge *Gill J*
16:30	Phosphate Dissolution/Precipitation Controls on Isotopic Compositions of Continental Assimilants *Barkman J, Bryce J, Watson B, Blichert-Toft J, Baxter E & Bowring S*
16:45	The Pb Age of the Earth from Neoarchean Galenas *Vervoort J, Blichert-Toft J & Albarède F*

05c: Continent Formation through Time

Session chaired by Steve Parman, Peter Clift, Steven Shirey & Martin Van Kranendonk

14:00 Continental Growth Spurts during Supercontinent Break-Up
Roberts N

14:15 The Punctuated Evolution of the Earth: Geodynamic Constraints and Model Predictions
O'Neill C, Lenardic A & Condie K

14:30 **Invited:** Contrasting Roles of Continental and Oceanic Arcs in the Growth of Continents
Condie K & Kroener A

14:45 **Keynote:** The Generation and Evolution of the Continental Crust
Hawkesworth C, Cawood P & Dhuime B

15:15 3 Ga Onset of the Supercontinent Cycle: SCLM and Crustal Evidence
Shirey S, Richardson S & Van Kranendonk M

15:30 Crust-Mantle Links and a Major Mesoproterozoic Melting Event
Nowell GM, Dale CW, Pearson GD, Oberthur T, Dijkstra AH & Parman SW

15:45 Average Nd-Hf Isotopic Compositions and Model Age of the Upper Continental Crust
Chauvel C, Garcon M, Arndt NT, Gallet S & Jahn B-M

16:00 The Magmatic, Metamorphic, Mineralisation and Plate Tectonic Evolution of Continents
Storey C & Smith M

16:15 Continental Growth Periods Deduced from River Sand U-Pb-Dated Zircons with O and Lu-Hf Isotope Analyses
Allen CM, Campbell IH & Iizuka T

16:30 Eoarchaean Crustal Evolution of the North Atlantic Craton
Lancaster P, Storey C & Hawkesworth C

16:45 Evolution of the African Continental Crust from Pb-Hf-O Isotope Systematics of Detrital Zircons
Iizuka T, Campbell I & Allen C

06c: Geochemical Tracing of Recycled Subducted Materials

Session chaired by Julian Pearce & David Peate

14:00 What Stays in the Slab and What Returns to the Surface? A Geochemical Mass Balance Model Perspective
Kimura J-I, Kawabata H, Hacker B, van Keken P, Gill J & Stern R

14:15 A Variably Enriched Mantle Wedge and Contrasting Melt Types during Arc Stages Following Subduction Initiation in the Southwest Pacific
Todd E, Gill J & Pearce J

14:30 Sediment Melt Flux into the Melting Zone of the Northernmost Tonga Island Arc
Haase K, Regelous M & Beier C

14:45 Effects of Louisville Seamount Subduction: Geochemical Evidence from Central Tonga-Kermadec Arc Volcanoes
Timm C, Graham I, Leybourne M, de Ronde C & Woodhead J

15:00 Recycling of Subducted Sediments Traced by HFSE and W Systematics of K-Rich Mafic Aegean Lavas
Kirchenbaur M & Münker C

15:15 Distinguishing Mantle Derived Contributions at a Continental Arc Volcano: Tatara-San Pedro
Jweda J, Goldstein S, Dungan M, Langmuir C & Davidson J

15:30 Geochemical Fingerprint of an Oligocene to Miocene Arc Segment in Eastern Mindanao (Philippines)
Sonntag I, Kerrich R & Hagemann S

15:45 Neogene Central Andean Adakites, Frontal Arc Migration and Forearc Subduction Erosion at 27°-28.5°S
Kay S, Goss A & Mpodozis C

16:00 Recycling Plus: A New Recipe for Making Orogenic Mantle
Prelevic D

16:15 Nd and Hf Model Ages in the Western Gneiss Region, Norway: A New way to Better Understand Mantle-Crust Evolution
Martin C, Duchêne S, Luais B & Deloule E

16:30 U-Pb Age, Geochemical and Hf-O Isotopic Constraints on Magma Source of the I-Type Calc-Alkaline Baimaxueshan Batholith (SW China): Implications for Crustal Recycling at Convergent Margin
Zi J, Cawood PA, Fan W, Tohver E, Wang Y & McCuaig TC

16:45 The Oxygen Isotopic Composition of Xenoliths from Tallante (Southern Spain): Evidence for Crust Recycling into the Mantle
Dallai L & Bianchini G

08j: Nanoparticles, Interfacial Processes and Nuclear Waste Management

Session chaired by Andrey Kalinichev, Stepan N Kalmykov & Melissa Denecke

16:15 **Keynote:** Multi-Scale Modelling of Ions and Water Diffusion in Clays
Churakov S

16:45 Water Dynamics in Clay as a Function of Temperature: Coupling Neutron Spin Echo and Molecular Dynamics
Marry V, Dubois E, Malikova N, Salanne M, Longeville S, Haussler W & Breu J

(Session 08j continues on Thursday 18th Posters on page 363)

08k: Water Structure and Hydrogen Bonding on Mineral and Nanoparticle Surfaces

Session chaired by Glenn Waychunas & Alejandro Fernandez-Martinez

14:00 Influence of Interfacial Water Structure on Surface Protonation and Ion Adsorption at Metal Oxide Surfaces
Machesky M, Wesolowski D, Vlcek L, Mamontov E, Kent P, Predota M, Rosenqvist J, Ridley M, Cummings P, Kubicki J, Sofo J, Kumar N, Lvov S, Bandura A, Fenter P & Zhang Z

14:15 Electrokinetic Properties of the Rutile/Water Interface: Zeta-Potential Prediction from Computer Simulations
Predota M, Machesky M, Wesolowski D & Cummings P

14:30 **Keynote:** Hydrogen Bonding and Molecular Ordering of Water at Mineral-Solution Interfaces
Kalinichev A, Wang J & Kirkpatrick RJ

15:00 Sum Frequency Vibrational Spectroscopy (SFVS) of Water and Hydroxyls on the Corundum (1-102) Surface: Acid-Base Properties from Direct Observation of Protonation States
Waychunas G, Sung J & Shen R

15:15 Aqueous CO_2 Solutions at Silica Surfaces and Confined Environments
Chialvo A, Vlcek L & Cole D

15:30 Water Structure at the Structurally Heterogeneous Calcite Surface
Wolthers M, Di Tommaso D, Du Z & De Leeuw N

15:45 Thermodynamic Properties of Hydration Layers on Surfaces of Metal Oxide Nanoparticles
Ross NL, Spencer EC, Woodfield BF, Navrotsky A, Parker SF & Kolesnikov AI

16:00 Water Structure and Hydration Properties of Imogolite Nanotubes
Fernandez-Martinez A, Cuello G, Bourg I, Johnson M, Waychunas G, Sposito G & Charlet L

Session 08j follows this session in this room. For details see page 336.

09f: Linking the Plutonic and Volcanic Records: Textural and Geochemical Fingerprinting of Magma Chamber Processes

Session chaired by Vojtech Janousek, Valentin Troll & Abigail Barker

14:00 **Keynote:** The Volcanic-Plutonic Connection
Bachmann O, Deering C, Dufek J & Huber C

14:30 Age Relations, Mineral-Chemical and Isotopic Investigations on Basaltic Gem Stone Zircons from Eastern Germany
Büchner J, Tietz O, Seifert W, Gerdes A & Linnemann U

14:45 Basanite-Phonolite Mixing Indicated by Trace Elements in Green-Core Clinopyroxenes from La Palma
Klügel A

15:00 Amphibole Antecrysts in Deposits of Merapi Volcano, Indonesia: A Plutonic Phase in Extrusive Magmas
Peters S, Chadwick J & Troll V

15:15 Magma Physical Properties Affect Isotope Variations in Volcanic Rocks: The Example of High-T Rhyolites
Wolff J, Ellis B & Ramos F

15:30 Mineral Compositions Indicate Magma Recharge Processes in the Ilímaussaq Complex, Greenland
Ratschbacher B, Marks M, Pfaff K & Markl G

15:45 Nature, Origin and Causes of Jurassic Felsic Igneous Activity in the Victory Glacier Area (Eastern Graham Land)
Janoušek V, Gerdes A, Žák J, Soejono I, Venera Z, Erban V, Lexa O & Mixa P

16:00 **Invited:** O-Isotope Evidence for a Hydrothermally Altered Volcanic Roof to the Bushveld Complex
Harris C & Fourie D

16:15 Catching a Collapsing Solidification Front through Thermal Gradient Experiments
Masotta M, Freda C & Gaeta M

16:30 Constraining Magma-Carbonate Interaction at Vesuvius, Italy: Insights from Stable Isotopes and Experimental Petrology
Jolis EM, Troll V, Harris C, Freda C, Orsi G, Siebe C, Blythe L, Deegan F, Misiti V & Civetta L

16:45 A 3D Snapshot from Granitic System: Tourmaline Nodules and their Bearing on the Granite Evolution
Balen D & Petrinec Z

10g: Organic and Inorganic Fluid-Fluid-Rock Interactions in CO_2 Storage Systems

Session chaired by Axel Liebscher, Andrea Vieth-Hillebrand & Ann-Kathrin Scherf

16:00 Potential for Mineral Trapping during CO_2 Storage in Sedimentary Basins
Aagaard P, Hellevang H, Alemu BL, Pham VTH & Sundal A

16:15 Numerical Simulation of Alteration Patterns Induced by Sequestration of CO_2 in a Carbonate-Hosted Saline Aquifer
Alt-Epping P & Diamond LW

16:30 Thermodynamic Study for CO_2 Storage in Deep Saline Aquifers
Ji X & Zhu C

16:45 Reactive Transport Modeling of Natural Carbon Sequestration in Ultramafic Tailings
Bea SA, Mayer KU, Wilson SA & Dipple G

(Session 10g continues on Thursday 18th Posters on page 366)

10j: Giant Oil Spills and Environmental Impact: Past Lessons and Future Predictions

Session chaired by Bill Mahaffey & Terry Hazen

14:00 The Exxon Valdez, BP MC 252, and Other Oil Spills: What We Learned About Petroleum Biodegradation and Bioremediation
Atlas R

14:15 The Deepwater Horizon Oil Spill: Ecogenomics of the Deep-Sea Plume
Hazen T

14:30 Isotopic Evidence for Microbial Oxidation of Dissolved Methane in the Gulf of Mexico Oil Spill Deep Plume
Conrad M, Bill M, Stringfellow W, Borglin S, Mason O, Dubinsky E, Piceno Y, Fortney J, Tom L, Chavarria K, Lamendella R, Joyner D, Wetmore K, Kuehl J, Mackelprang R, Wu C, Lim H, Reid F & Hazen T

14:45 Asphaltene Content as a Measure of Oil Losses Related to the Deepwater Horizon Oil Spill
Lewan M, Warden A, Dias R, Lowry Z, Hannah T, Kokaly R, Hoefen T, Swayze G, Mills C, Harris S, Plumlee G & Marshall B

15:00 **Invited:** Penetration, Accumulation and Degradation of Deepwater Horizon Oil in Florida Sandy Beaches
Huettel M, Kostka J, Prakash O, Overholt W, Green S, Freyer G, Canion A, Delgardio J & Norton N

15:15 The Prestige Oil Spill after a Decade: Evaluation of Remediation Strategies and the Role of Bioremediation
Gallego JR, Peláez AI, Sánchez J, García-Martínez MJ, Ortiz JE, Torres T & Llamas JF

Session 10g follows this session in this room. For details see page 339.

11b: Ore Deposits and the Role of the Lithospheric Mantle – Sponsored by SGA

Session chaired by Wolfgang Dereck Maier, Sisir K. Mondal, Thomas Oberthür & Marco Fiorentini

14:00 **Keynote:** Chalcophile Elements in Magmas and Magmatic Sulfide Deposits: Can We see the Mantle Signals?
Barnes S, Maier W & Fiorentini M

14:30 **Invited:** Mechanisms for the Attainment of Sulfide Saturation in Magmas Derived from Subcontinental Lithospheric Mantle
Ripley E

14:45 **Invited:** Is the Platinum in the Bushveld Complex Derived from the Lithospheric Mantle ?
Barnes S-J, Maier W & Curl E

15:00 Can Multiple Sulfur Isotopes be Used as a Tracer of Sub-Continental Lithospheric Mantle in the Bushveld?
Penniston-Dorland S, Farquhar J, Polley G, Mathez E & Kinnaird J

15:15 Sudbury Asteroid Impact Triggered the Emplacement of Endogenous Magma that Produced a Giant Ni-Cu-PGE Deposit
Latypov R

15:30 Petrogenetic Implications from PGE in the Layered Mafic Dufek Intrusion and Related Sills of the Ferrar Large Igneous Province, Antarctica
Hanemann R, Viereck-Goette L & Mukasa S

15:45 PGE Distribution in Base-Metal Sulfides from the Merensky Reef of the Bushveld Complex, South Africa
Osbahr I, Oberthur T & Klemd R

16:00 Multiple Magma Inputs and Sulfur Sources in the Development of the BIC Intrusion, Northern Michigan, Midcontinent Rift System
Donoghue K & Ripley E

16:15 Hydrothermal Alteration and Ni Sulphide Formation in the Bon Accord Ni-Oxide Body, Barberton, South Africa
Wildau A, Williams-Jones AE & Tredoux M

16:30 Sr-Nd-Hf-Pb Isotope Systematics of the Oyu Tolgoi Cu-Au Deposit (Mongolia)
Dolgopolova A, Seltmann R, Armstrong R, Belousova E & Pankhurst R

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12d: Novel Molecular and Isotopic Tracers of Terrigenous Supply to Marine Sediments

Session chaired by Guillemette Menot, Germain Bayon & Johan Weijers

15:30 Changes in Neogene Himalayan Erosion Regime: Input of Pb and Nd Isotopes into the Indian Ocean
Gattacceca JC, Galy A, Piotrowski AM & Frank M

15:45 **Keynote:** Evolving Isotopic Fluxes to Asian Marginal Seas Controlled by Monsoon Strength Since the Last Glacial Maximum
Clift P, Hu D & Limmer D

16:00 Heinrich Events on the Irish Atlantic Margin: Insights from the Pb Isotopic Composition of Ice-Rafted Feldspar
Tyrrell S, Toms L & Haughton P

16:15 Tracing the Source of IRD in the Heinrich Layers of the North Atlantic
Naafs D, Hefter J, Zhang S & Stein R

16:30 Response of Vegetation and Erosion Dynamics to Changes in Precipitation in the Nile River Drainage Basin during the African Humid Period
Blanchet C, Lorenzen J, Tjallingii R, Schouten S & Frank M

16:45 A Major Decline of C4 Plant in the Source Region of the North Pacific Eolian Dust (Asian Interior) from 12 to 9 Ma
Jia G, Li Z & Peng P

12f: Frontiers in Cosmogenic Dating of Glacial Landscapes: Last Analytical Developments, New Production Rates Calibration, Sampling Strategies and Paleoclimatic Significance of New Glacial Chronologies

Session chaired by Pierre-Henri Blard, Didier Bourles & Finkel Bob

14:00 Long-Term Production Rates of Cosmogenic Nuclides: Millions of Years of Rock Exposure in Antarctica and the Atacama Desert
Nishiizumi K, Caffee M, Binnie S, Finkel R, Owen J, Amundson R, Dietrich W & Faure G

14:15 Approaching a Consistent Set of Cosmogenic ^{3}He, ^{21}Ne and ^{10}Be Production Rates
Niedermann S & Fenton C

14:30 A New Calibration Site for Cosmogenic ^{3}He Production Rate in the Central Altiplano
Blard P-H & Lavé J

14:45 **Invited:** Deglaciation Pattern during the Late-Glacial / Holocene Transition in the Southern French Alps. Chronological Data from the Clarée Valley (Durance Catchment, S. France)
Cossart E, Bourles D, Braucher R, Fort M, Perrier R & Siame L

15:00 Cosmogenic Nuclide Measurements of Pleistocene Glacial Erosion
Stone J, Ploskey Z, Hallet B & Jaffrey M

15:15 Soil Closure Ages from Meteoric ^{10}Be, McMurdo Dry Valleys, Antarctica
Dickinson W, Schiller M, Ditchburn R, Graham I & Zondervan A

Session 12d follows this session in this room. For details see page 342.

13b: Aerosols, Clouds and Precipitation

Session chaired by Patrick Chuang & Johannes Quaas

14:00 **Keynote:** Aerosol, Clouds, Precipitation, Radiation, and Climate; A Global Perspective
Stephens G

14:30 **Invited:** Robust Aerosol Indirect Effects Inferred from Remotely-Sensed Cloud Properties Acquired during VOCALS
Zuidema P, Leon D & Painemal D

14:45 **Invited:** Interaction of Particulate Pollution and Precipitation
Flossmann A & Wobrock W

15:00 Modeled Response in Radiative Properties of Shallow Convective Clouds due to Perturbations in Meteorological State Variables and Atmospheric Aerosol Loading
Engström A & Ekman A

15:15 **Invited:** Cloud Condensation Nuclei Concentrations and Actual Supersaturations in Real Clouds
Baltensperger U, Jurányi Z, Emanuel H, Gysel M, Bukowiecki N & Weingartner E

15:30 Cloud Processing Measured with Sulfur Isotopes during HCCT 2010
Harris E, Sinha B, Hoppe P, Crowley J, Borrmann S, Foley S, Gnauk T, Van Pinxteren D & Herrmann H

15:45 **Invited:** The Barbados Cloud Observatory: Controls on Precipitating Shallow Cumulus Convection
Nuijens L, Serikov I, Hirsch L & Lonitz K

16:00 **Invited:** Projection of Future Climate Change by Aerosols along the Representative Concentration Pathways (RCPs) with a Global Climate Model
Takemura T

16:15 **Invited:** Cloud-Aerosol Interactions in Operational NWP: Presently Simple, but the Future is Complicated
Field PR, Wilkinson J, Shipway B & Hill A

16:30 Anthropogenic Aerosols and the Weakening of the South Asian Summer Monsoon
Ming Y, Bollasina M & Ramaswamy V

16:45 **Invited:** Evaluating New Particle Formation, Growth, and CCN Formation in Global Models
Adams P, Westervelt D, Riipinen I, Pierce J & Trivitayanurak W

14g: Experimental Constraints on Chemical Erosion Rates and Mechanisms Using New and/or non Traditional Isotope Tools

Session chaired by Nathalie Vigier & Eric Oelkers

14:00 Li Isotopes a Powerful Tool to Trace Hydrothermal Impact during Chemical Weathering Processes
Rivé K, Rad S, Garcin M & Millot R

14:15 Modelling Li Isotope Signatures of Waters Altering a Basaltic Glass in Under-Saturated Condition
Verney-Carron A, Vigier N & Millot R

14:30 Silica Coatings on Young Hawaiian Basalts: Constraints on Formation Mechanism from Silicon Isotopes
Chemtob S, Hurowitz J, Guan Y, Ziegler K, Eiler J & Rossman G

14:45 Effect of Aqueous Organic Ligands on Mg-Isotope Fractionation during Magnesite Precipitation
Mavromatis V, Gautier Q, Schott J & Oelkers E

15:00 Experimental Weathering of Micas in Acid Soils Conditions: Contribution of Boron Isotopes
Voinot A, Lemarchand D, Turpault M-P & Chabaux F

Session 22c follows this session in this room. For details see page 356.

16a: Geochemical Processes in Mining Environments: Field/Lab Studies, Modeling, and New Strategies

Session chaired by Kate Campbell & Colleen Hansel

14:00	**Invited:** Amendment of Mill Tailings for *in situ* Treatment of Mine Drainage *Blowes D, Lindsay M, Hulshof A, Ptacek C & Gould D*
14:15	Geochemical Behavior of (Thio)arsenates with Fe-Minerals *Couture R-M, Wallschläger D, Mitchell K & Van Cappellen P*
14:30	Dissolved Metals and As from Metal Mine Waste – Laboratory vs. Field Determination *Turner A, Braungardt C & Rieuwerts J*
14:45	Mine Water Geochemistry and Biogeochemical Modeling *Parmentier M, Croiset N, Battaglia-Brunet F & Azaroual M*
15:00	Formation of Secondary Minerals – A Lysimeter Approach *Schäffner F, Merten D, De Giudici G, Ricci PC & Büchel G*
15:15	Geochemical Modeling of Reactive Minerals Associated with *in situ* Recovery of Uranium *Longmire P, Lagneau V & Bouzid M*
15:30	Long-Term Forecast of Acidity Load from Overburden Substrate into a Mining Pit Lake: An Integrated Approach *Ulrich K-U, Guderitz I, Heinrich B, Weber L, Pokrandt K-H & Nitsche C*
15:45	Balancing of Geological Acidity and Buffering Potentials of Mid German Lignite Open Casts by Long-Term Experiments *Simon A, Hoth N, Rascher J & Jolas P*
16:00	Enhancing the Accuracy of the Environmental Monitoring Systems in Mining Areas *Baciu C, Costin D, Pop C & Lazar L*

Session 16b follows this session in this room. For details see page 347.

16b: Understanding the Fate and Transformations of Metal and Radionuclide Contaminants in Unsaturated and Saturated Subsurface Environments

Session chaired by Scott Brooks, Dawn Wellman, Henning Prommer & Ann Miracle

16:15 **Invited:** Effects of Microbial Activity and Electron Shuttles on the Reduction of U(VI) Under Sulfidogenic Conditions
O'Loughlin EJ, Boyanov MI, Kwon MJ, Long P, Williams K & Kemner KM

16:30 Modeling of Co-metabolic Cr(VI) Reduction Under Denitrifying Conditions
Yang L, Molins S, Steefel C & Beller H

16:45 Geomicrobiology of Hyperalkaline Cr(VI) Contaminated Land
Whittleston R, Burke I, Stewart D & Mortimer R

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17g: Dynamics, Mobility and Bioavailability of Trace Elements in Contaminated Environments

Session chaired by Michael Komarek, Melanie Davranche, Carla Koretsky & Martin Mihaljevic

14:45 **Invited:** How Biogenic Nano-Iron Oxides can Control the Fate of Pollutants
Morin G, Ona-Nguema G, Juillot F, Maillot F, Wang Y, Egal M, Bruneel O, Casiot C, Elbaz-Poulichet F, Calas G & Brown GE

15:00 Fate of As Upon Microbial Fe(III) Reduction of As-Bearing Biogenic Fe Minerals
Muehe EM, Scheer L & Kappler A

15:15 Synchrotron XAS and XRF Study of Microbially Reduced Arsenic and Iron in Iron-Based Remediation Media
Root R, Alday F, Fathordoobadi S, Ela W & Chorover J

15:30 Rapid Weathering of Arsenopyrite in Agricultural Soils
Robson T, Braungardt C & Keith-Roach M

15:45 Arsenic Uptake and Speciation in the Green Marine Alga *Ulva lactuca*: Development of a Coastal Aquatic Bioindicator
Pham C, Charlet L & Sposito G

16:00 Arsenic and its Compounds in Plants Growing in Soils Contaminated by Mining Activities
Pacáková I, Száková J, Goessler W & Tlustoš P

16:15 Biogeochemical Characterization of Contaminant Mn Sequestration
Herndon E, Martinez CE, Eissenstat D & Brantley S

16:30 Plant Uptake of Metals of Economic Importance: Laboratory Studies
Lintern M, Hough R, Anand R & Ryan C

16:45 Zn Isotope Fractionation in the Soil-Plant System (A pot Experiment)
Couder E, Drouet T, Delvaux B, Maerschalk C, Meeus C & Nadine M

(Session 17g continues on Thursday 18th Posters on page 381)

17k: Significance of Iodine in Biogeochemistry and the Environmental Sciences: Special Session Commemorating the Bicentennial of the Discovery of Iodine

Session chaired by Yasuyuki Muramatsu & Glen Snyder

14:00 **Keynote:** Thermodynamics of One and Two Electron Transfer Steps: Implications for Iodide Oxidation and Iodine Environmental Cycling
Luther G

14:15 Biogeochemical and Microbial Controls of ^{129}I Mobility in Groundwater
Santschi PH, Brinkmeyer R, Schwehr KA, Zhang S, Xu C, Li H-P, Kaplan DI, Yeager C & Roberts KA

14:30 Molecular Iodine Emission Rates from *Laminaria digitata* as a Function of Algal Part, Irradiance and Temperature
Dixneuf S, Ruth AA, Nitschke U & Stengel DB

Session 17g follows this session in this room. For details see page 348.

17I: Biomedical Applications of Natural Stable Isotope Variations

Session chaired by Vincent Balter & Anton Eisenhauer

16:00 **Keynote:** The Expansion of Metal Stable Isotope Biogeochemistry into Biomedicine
Bullen T & Croteau M-N

16:15 Calcium Isotopes in Human Urine Under Simulated Microgravity Conditions
Heuser A, Frings-Meuthen P, Rittweger J & Galer S

16:30 Assessing Calcium Isotopes as a Dietary Proxy for Terrestrial Vertebrates
Broska J, Tütken T, Galer SJG, Held P & Alt KW

16:45 Rapidly Assessing Changes in Bone Mineral Balance Using Natural Stable Calcium Isotopes
Morgan JLL, Gordon G, Romaniello S, Skulan J, Smith S & Anbar A

17n: Trace Metal Records in Marine Systems: Processes and Proxies

Session chaired by Christian März, Jennifer McKay & Philipp Böning

14:00	**Keynote:** Geochemical Roles of Thioanions of the Heavier Metals and Metalloids *Helz G*
14:30	Chemocline Oscillations in the Black Sea Documented by Sedimentary Iron Isotopes and Trace Metal Patterns *Eckert S, Schnetger B, Fröllje H, Severmann S, Montoya-Pino C, Weyer S, Köster J, Arz H & Brumsack H-J*
14:45	Benthic Fluxes of Iron and Manganese Under Various Redox Conditions *Pakhomova S*
15:00	Understanding Early Jurassic Ocean Connectivity Using Os Isotopes *Porter S, Selby D, Suzuki K & Grocke D*
15:15	Impact of Authigenic Particles on Phosphate and Trace Metal Budgets of Anoxic Basins *Dellwig O, Leipe T, März C, Glockzin M, Häusler K, Moros M, Pollehne F, Schnetger B, Böttcher M & Brumsack H-J*
15:30	Diatom-Bound Trace Metals: A Tracer for Past Changes in Micronutrients Availability? *Pichevin L, Geibert W & Ganeshram R*
15:45	**Invited:** Proxy Validation from the Culturing Perspective: A Top Down Approach *Shaw T, Myrick M, Richardson T & Hill L*

Session 17l follows this session in this room. For details see page 350.

18h: Recent Advances in the Application of Calorimetry and Thermal Analysis in the Biogeosciences

Session chaired by Alain Plante & Nieves Barros

14:00 **Keynote:** Potentiality and Limits of Applying DSC and TG to Complex Systems: Direct and Indirect Information
Dell'Abate MT

14:30 Developing Models to Assess Fine Scale Energy Change in Soil Organic Matter Under Different Forest Managements
Liles G & Horwath W

14:45 Thermal Stability of Soils and the Detection of Use Induced Changes
Siewert C

15:00 **Invited:** Thermodynamic Principles of Soil Organic Matter Decomposition in a Changing World
Herrmann AM, Grice SM, Ritz K & Harris JA

15:15 Use of CO_2/H_2O IRGA-Based Evolved Gas Analysis during Thermal Analysis of Soil Organic Matter
Fernández JM, Craine JM & Plante AF

Session 19g follows this session in this room. For details see page 353.

19g: Reactions and Catalysis: Mineral-Water Interaction, CO_2 Sequestration, Electron Transfer

Session chaired by James Rustad, Nora de Leeuw & Rossitza Pentcheva

15:30 **Keynote:** Reactive Fe(II) and Electron Exchange Dynamics in Iron Oxides
Rosso K, Zarzycki P, Pearce C, Katz J, Gilbert B, Handler R, Scherer M & Meakin P

16:00 Density Functional Theory Study of the Interaction of Arsenic Complexes with FeOOH Surfaces
Otte K, Schmahl WW & Pentcheva R

16:15 Nucleation and Growth of Calcite Particles: Comparing Modelling and Experimental Approaches
Noguera C, Fritz B, Clement A & Montes-Hernandez G

16:30 Nucleation of Amorphous Calcium Carbonate: A Combined Theoretical and Experimental Perspective
Demichelis R, Raiteri P, Gale J, Gebauer D & Quigley D

16:45 How Acidic is Water on Calcite?
Andersson M & Stipp S

20a: Unraveling P-T-t Paths: Pseudosections Versus Classical Phase Petrology

Session chaired by Sönke Brandt & Niels Jöns

14:45	**Keynote:** Unravelling P-T-t Paths: Pseudo-Sections Versus Classical Phase Petrology *O'Brien P*
15:15	Classical Geothermobarometry Versus Pseudosections: Practical Experiences and Strange Encounters *Proyer A & Bruand E*
15:30	Combining Phase Petrology, Reaction Balancing and Partial Pseudosections – Theory and Examples *Kriegsman L & Álvarez-Valero A*
15:45	Decompression Melting in Tectonics: Where's the Melt? *Yakymchuk C, Korhonen F & Brown M*
16:00	Constraining the P-T Conditions of Melting in Stromatic Migmatites from Ronda (S. Spain) *Tajcmanova L, Bartoli O, Cesare B & Acosta-Vigil A*
16:15	Prograde P-T Path of a ~3.2 Ga Tectonometamorphic Event from Assegaai Greenstone Belt, SE Kaapvaal Craton *Saha L, Hofmann A & Xie H*
16:30	Allanite Petrochronology in High-Pressure Rocks *Engi M, Regis D, Darling J, Cenki-Tok B & Rubatto D*
16:45	From Compositional to P-T-Deformation-t(Relative Age)-Redox Maps at the Thin Section Scale *Vidal O, Lanari P, Dubacq B, Munoz M & Lewin E*

20k: Petrology and Geochemistry of Rutile

Session chaired by Thomas Zack, Daniel F. Stockli & Alicia Cruz-Uribe

14:00 **Keynote:** New Roles for Rutile in Tracing Petrogenetic Processes
Manning C

14:15 **Invited:** Thermodynamics of Rutile- and α-PbO_2-type Solid Solutions from Quantum-mechanical Calculations
Vinograd VL & Winkler B

14:30 Element Redistribution during Rutile Dissolution and Titanite Precipitation
Lucassen F, Franz G & Rhede D

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Session 20a follows this session in this room. For details see page 354.

22c: General Biogeochemistry

Session chaired by Juraj Farkas

15:30 Composition of Hippopotamid Enamel: Paleoenvironmental Reconstruction and Enamel Formation
Brügmann G, Krause J, Brachert T, Kulmer O & Ssemmanda I

15:45 Organic Geochemical Analysis of the Impact of Cadaver Burial on Soil
Ismail SS, Bull I & Evershed R

16:00 Molecular-Level Studies of Fe(III) in Aquatic Systems
Karlsson T, Persson P & Skyllberg U

16:15 Biogas Generating Simulation from Source Rock and Oil in Jiyang Depression, Bohai bay Basin, China
Luo X, Hou LH, Yang C & Wang JH

16:30 Magnetic Resonance Imaging of Pollutant Mass Transport in Biofilms
Ramanan B, Holmes W, Sloan W & Phoenix V

16:45 Biogeochemical Characteristics and Environmental Effects of Low Molecular-Weight Organic Acids in Lacustrine Ecosystem
Xiao M & Wu F

01b: From Gas and Dust to Planetesimals: Processes and Timescales

Floor 1

1001 Spectroscopic Characterization of Olivine due to Fe/Mg in Dergaon H5 Chondrite
Saikia BJ, Parthasarathy G & Borah RR

1002 REE Abundances in CAIs from Rumuruti Chondrites
Horstmann M, Bischoff A & Berndt J

1003 Oxygen Isotope Variations in the Allende CV3 Meteorite
Goldmann A, Pack A, Gellissen M, Albrecht N, Zipfel J & Palme H

1004 Solar Noble Gases in Tagish Lake
Jakubowski T, Ott U & McCausland PJA

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01d: Mars and the Moon: New Discoveries from Sample Science to Recent Missions

Floor 1

1005 Calcium Isotopes in Lunar Crust
Bermingham K, Magna T, Gussone N & Mezger K

1006 Cathodoluminescence of High-Pressure Feldspar Minerals
Nishido H, Kayama M, Sekine T & Ninagawa K

1007 U-Pb and Pb-Pb Dating of Phosphates in Martian Meteorites
Ota Y, Takahata N, Sano Y & Sugiura N

1008 Radioactive Element Abundances, Paleo-Heat Flows, and the Internal Evolution of Mars
Ruiz J, Jimenez-Diaz A, Lopez V, McGovern PJ, Williams J-P, Hahn BC & Tejero R

1009 Viscosity Measurements of FeO-Rich Silicate Melts and Its Implication for the Lunar Crust Formation
Sakai R, Kushiro I, Nagahara H, Ozawa K & Tachibana S

1010 Magmatic Evolution of Lunar Highland Rocks Estimated from Trace Elements of Plagioclase in Regolith
Togashi S, Kita NT, Tomiya A & Morishita Y

1011 The First Observation of Chang'E-2 Gamma-Ray Spectrometer
Zhu M-H, Ma T, Chang J, Ip W-H, Tang Z & Xu A

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02a: Redox Evolution of the Early Mantle, Oceans and Atmosphere

Floor 1

1012 Controls on and Effects of Surface Ocean Oxygenation Prior to the Great Oxidation
Daines S, Clark J & Lenton T

1013 The Lomagundi-Jatuli $\delta^{13}C$-Event Revisited
Illing CJ, Summons RE, Fallick AE, Melezhik VA & Strauss H

1014 Molecular-Scale Mechanism of Mo Isotopic Fractionation during Adsorption on Ferromanganese Oxides
Kashiwabara T, Takahashi Y & Tanimizu M

1015 A Record of Paleoproterozoic Sulfur Cycling from ~2 Ga Zaonega Formation, NW Russia
Meister D, Melezhik VA, Lepland A & Strauss H

1016 Development of the Modern-Style Geochemical Cycle of Uranium by 3.5 Ga: A Solution to the "Lead Paradox"
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1017 Long Residence (> 6 Ma) Time of Paleoproterozoic Seawater Sulfate Revealed by *in situ* and *ex situ* Sulfur Isotope Measurements
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1018 Negative Sulfur-MIF Anomalies in Metasomatized Eclogites from Siberia
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1019 Iron Isotope Signature of Paleoproterozoic Banded Iron Formation from Quadrilátero Ferrífero, Minas Gerais, Brazil
Vieira LC, Poitrasson F, Trindade RIF & Alkimim FF

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1020 Melt Inclusion Pb-Isotope Analysis by LA-MC-ICPMS: Assessment of Analytical Performance and Application to OIB Genesis
Paul B, Woodhead J, Hergt J & Danyushevsky L

1021 An Isotopic Glimpse of the Lithospheric Mantle beneath the East African Rift System
Nelson W, Shirey S & Furman T

1022 Os Isotopes in Sulfides from Xenoliths of the Campos de Calatrava Volcanic Field, Central Spain
Villaseca C, Gonzalez-Jimenez JM, Griffin WL, Ancochea E, Gervilla F, O'Reilly SY, Pearson NJ & Belousova E

1023 Serpentinization and Subsequent Metamorphism in Mid-Atlantic Ridge Peridotites from Hole 1268a, ODP Leg 209: Seawater vs. Hydrothermal Alteration
Harvey J, Savov I & Newton RJ

1024 Mantle Peridotites from the Stalemate F.Z. (NW Pacific)
Krasnova E, Portnyagin M, Silantyev S, Werner R & Hoernle K

1025 An Unusual Hf-Pb Signature Below the East Pacific Rise – Mathematician Hotspot System
Mougel B, Agranier A, Hemond C & Gente P

1026 Megacryst Compositional Heterogeneities in Plagioclase Ultraphyric Basalts (PUBs)
Tepley Iii F, Lange A, Burleigh A, Nielsen R & Kent A

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1027 Highly Siderophile Element and Os Isotope Systematics of Pyroxenite Layers from the Lanzo Peridotite Body (Northern Italy)
Gawronski T & Becker H

1028 Differentiation of Ophiolitic and Nonophiolitic Gabbros Using Confocal Raman Spectroscopy: Central Anatolia Turkey
Kadioğlu YK, Koralay T, Zoroglu O, Gullu B, Akce MA, Deniz K & Yildirim B

1029 Reactive Melt Transport in the Oceanic Lithosphere: Implications to MORB Thermobarometry
Luffi P & Lee C-T

1030 Melt Generation at the Intra-Plate Al Haruj Volcanic Field, Libya
Nixon S, Maclennan J & White N

1031 Fractionation of Highly Siderophile Elements, Selenium and Tellurium in Peridotites from the Baldissero and Balmuccia Peridotite Massifs, Ivrea Zone (Northern Italy)
Wang Z, Becker H & Gawronski T

1032 Geochronology of Cenozoic Intrusive Rocks of NW Anatolia: Topkaya-Eskişehir, Turkey
Güllü B & Kadıoğlu YK

1033 Monitoring of Plagiogranite of the Yeşilova Ophiolite: Geochemistry and Confocal Raman Spectroscopy, Southwest Anatolia, Turkey
Koralay T & Kadioğlu YK

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05h: Kimberlite, Carbonatite, and Strongly Alkaline Magmatism: Source-Forming Processes and Relations to Basaltic Magmatism

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1034 Precise Age Determination of the Paleozoic Kimberlites in North China Craton and Hf Isotopic Constraint on the Evolution of its Subcontinental Lithospheric Mantle
Li Q-L, Wu F-Y, Li X-H, Qiu Z-L, Liu Y, Yang Y-H & Tang G-Q

1035 Zircon from Kimberlites of the Nyurbinskaya Pipe (Yakutia) as Indicator of Kimberlite Emplacement and Lithosphere Evolution
Spetsius Z, Belousova E, Griffin W, O'REILLY SY & Ivanov A

1036 Halogen Compositions in Kimberlites and their Constituent Minerals
Toyama C, Muramatsu Y, Yamamoto J, Sumino H, Nakai S & Kaneoka I

1037 Late Cretaceous Alnöite from the Delitzsch (Germany) Carbonatite-Ultramafic Complex
Krüger JC, Romer RL & Kämpf H

1038 Genesis of Carbonatite from Hannuoba and Yangyuan, North China
Fan Q, Sui J, Du X & Zhao Y

1039 Quantification of CO_2 Dissolved in Silicate Glasses and Melts Using Raman Spectroscopy: Implications for Geodynamics
Amalberti J, Neuville D, Sarda P, Sator N & Guillot B

1040 Calc-Alkaline Lamprophyre from Lusatia (Germany) Derived from a Multiply Enriched Mantle Source
Abdelfadil K, Romer R, Seifert T & Lobst R

1041 Mantle Source Components of the Early Cretaceous to Paleogene Mafic Tholeiitic and Alkaline Magmatism in Rio and Related Mantle Metasomatism Processes
Valente S

1042 Phosphorus in Olivine from Italian Potassium-Rich Lavas
Chaneva S, Nikogosian I, Van Bergen M & Mason P

1043 Applications of Laser Microprobe Analysis for Silicon and Oxygen Isotopes (Fujian, China)
Gao J & Ding T

1044 Petrology of Lamprophyres as a Result of the Study of Minerals
Vasyukova E

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1045 2D Geochemical-Thermomechanical Modelling of Pb, Hf, Sr and Nd Isotopes Evolution in Intra-Ocean Subduction Zones
Baitsch Ghirardello B, Nikolaeva K, Jagoutz O & Gerya T

1046 Mineral and Whole-Rock Chemical Properties of Pyroxenites in the Peridotites of the Kop Ultramafics, NE Turkey
Bilici Ö & Kolaylı H

1047 A LA-ICP-MS Chronological and Tectonic Environment Study of the Ore-Bearing Volcanics in Baiyin Orefield
Li X-M, Ma Z-P, Sun J-M & Yu J-Y

1048 Relative B-Li-Cl Compositions: Capability and Limitation to Direct Observation of Deep Geofluid
Yoshida K, Sengen Y, Tsuchiya S, Minagawa K, Kobayashi T, Mishima T, Ohsawa S & Hirajima T

1049 Geochemistry of Antigorite Serpentinite and Chlorite Harzburgite from the Cerro del Almirez (S. Spain): Compositional Constraints on Fluids Released by Dehydration of Mantle Serpentinites
Marchesi C, Garrido CJ, Padrón-Navarta JA, Gómez-Pugnaire MT & López Sánchez-Vizcaíno V

1050 Geochemical Consequences of Thermomechanical Processes in Subduction Zones. Implications for Crustal Making Processes
Vogt K, Gerya T & Castro A

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1051 Atoll Garnet in the Yukahe UHP Eclogite: Evidence for Melt/Fluid Activity during the Eclogitic Facies Metamorphism
Chen D, Liu L & Liu X

1052 The Inclusions of Carbonates in UHP Eclogite from the South Altyn Tagh, Northwest China: A New Constraint for its Peak Metamorphic Pressure
Liu L, Cao Y-T, Wang C, Chen D-L, Kang L & Yang W-Q

1053 U-Pb Dating, and Lu-Hf Property of Zircon from Granitic Leucosome within Orthogneiss from Sulu UHP Terrane, Eastern China
Liu F & Gerdes A

1054 Two Pyroxene-Garnet Rock of the Gridino Area of Belomorian Mobile Belt (Northern Karelia), Karelia, Russia: Record of the Prograde and Retrograde Metamorphic Events
Morgunova A & Perchuk A

1055 Microstructure of Yuka Eclogite, North Qaidam HP/UHP Terrane, Northwestern China
Park M & Jung H

1056 Deep Subduction of Crustal Minerals in the Mantle: Evidence from Ophiolites
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08e: Current Challenges in Predicting Trace Metals Mobility in the Environment

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1057 Influence of Citric Acid, EDTA and Fulvic Acid on U(VI) Sorption onto Kaolinite
Barger M & Koretsky C

1058 Interactions of Eu(III) and Cm(III) with Celestite and Strontianite: Precipitation Kinetics and Uptake Mechanisms Characterisation
Chagneau A, Holliday K, Schmidt M, Stumpf T & Schäfer T

1059 Lead(II) Sorption to Soil Materials – Binding Heterogeneity and Influence of Phosphate
Gustafsson JP, Tiberg C, Edkymish A & Kleja DB

1060 The Calcite–Water Interface and its Interactions with Selenium IV and VI
Heberling F, Heck S & Rothe J

1061 Zn-Labeled Montmorillonite RN Sorption Reversibility Studies
Höss P, Truche L, Bouby M, Brendlé J, Huber FM & Schäfer T

1062 Adsorption of Cr(VI) on Hydrous Manganese Oxide
MacLeod A & Koretsky C

1063 Migration of Europium and Uranium in Opalinus Clay Influenced by pH and Temperature
Möser C, Kautenburger R & Beck HP

1064 Complexation of Eu^{3+} with Humic Substances Studied by Time-Resolved Laser Fluorescence Spectroscopy and Parallel Factor Analysis
Saito T, Lukman S, Aoyagi N, Kimura T & Nagasaki S

1065 Application of NICA-Donnan Model to Modelling of Eu(III) Solubility in the Presence of Deep Groundwater Humic Substances
Terashima M, Okazaki M, Iijima K & Yui M

1066 Interaction of Se(IV)/Se(VI) Species with Granitic Rock: Understanding of Retention Processes
Videnska K, Havlova V, Galiova M & Havranek V

1067 Microecology Perspective and Environmental Impact of Coal Mine Sulfur-Bearing Waste Dump
Wang L, Yue M & Wang L

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1068 Complexation Studies of EDTA with ^{99}Tc Analogue Rhenium
Chapman P, Corkhill C & Romero-Gonzalez M

1069 Sorption and Interfacial Redox of Sn(II) Under Anoxic Conditions: Magnetite vs. Anatase
Dulnee S, Banerjee D, Scheinost A & Rossberg A

1070 Hydrothermal Synthesis of Lentil Shaped $ThSiO_4$ Nanoparticles
Labs S, Curtius H & Bosbach D

1071 Comparative Study of the U(VI) Complexation onto γ-Al_2O_3 by ATR FT-IR and EXAFS Spectroscopy
Müller K, Foerstendorf H, Rossberg A, Stolze K & Gückel K

1072 Sorption of Np on Magnetite in Solutions of Different Ionic Strengths
Petrov V, Zadorin A & Kalmykov S

1073 Predicting the Properties and Behavior of Multiphase Materials in Disposal Environments
Ryan J, Ward A, Chung C-W, Williford R, Turo L & Washton N

1074 Sorption of Sr^{2+} on Hydroxyapatite from Calcined Fish Bones at Different Temperatures
Sasaki K, Tsuruyama S, Moriyama S & Hirajima T

1075 Uranium(VI) Complexation with Lactate and Citrate in Dependence on Temperature (7-65°C)
Steudtner R, Schmeide K & Bernhard G

1076 Eu(III) Interactions with Calcium Carbonate
Vavouraki A, Fernández-González Á, Prieto M & Koutsoukos P

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09b: New Insights into Geochemical Monitoring of Volcanic Activity

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1077 Incorporation of Heavy Metals into Recent Travertine Formations at the Eyjafjallajökull Volcano
Olsson J, Stipp SLS, Dalby KN & Gislason SR

1078 Automated Characterization of Eyjafjallajökull Ash Cloud Particles
Meier MF, Weber K, Vogel A, Fischer C & Grobéty B

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09c: Magmatic Volatiles: From Natural and Experimental Systems to Thermodynamics and Numerical Modeling. Their Influence on Magma Properties

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1079 H_2O-CO_2 Solubility in Mafic Melts
Morizet Y, Iacono-Marziano G & Gaillard F

1080 Chloride Degassing and its Effects on the Evolution of Magmatic Redox State
Bell A, Simon A & Webster J

1081 Rates of Oxidation in CSPV Experiments Involving H_2O-Bearing Mafic Magmas
Shea T & Hammer J

1082 C-Solubility in Magmas at Low fO_2
Wetzel D, Rutherford M, Jacobsen S, Hauri E & Saal A

1083 Volatile Solubility in Phonolites from Erebus Volcano: Towards a Multi-Component Degassing Model
Alletti M, Burgisser A, Scaillet B & Oppenheimer C

1084 The Influence of S on Silicate Melt Structure: An Experimental and Spectrocospic Approach
Scaillet B, Morizet Y, Di Carlo I & Paris M

1085 Water Speciation in Silicate Melts Investigated by Raman Spectroscopy: Implication for Volcanic Process
Le Losq C, Moretti R & Neuville D

1086 The Influence of CO_2 on Phase Relations at Mount St. Helens
Riker J, Blundy J, van Hoek C & van der Laan S

1087 Partitioning of Hydrogen between Plagioclase and Basaltic Melt
Hamada M, Ushioda M & Takahashi E

1088 Do Melt Inclusions Record the Pre-Eruptive Volatile Content of Magmas?
Esposito R & Bodnar R

1089 Volatile Abundances and Pb Isotopes in Melt Inclusions from Iwate Volcano, Japan
Rose-Koga EF, Koga KT, Hamada M, Hélouis T, Whitehouse MJ & Shimizu N

1090 Application of the Linkam TS1400 X-Y Heating Stage to Melt Inclusion Studies
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1091 Raman Spectroscopy of Sodium Silicates and Germanates
Koroleva O & Ivanova T

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09e: Timescales of Magma Evolution, Degassing, and Ascent through the Crust

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1092 Crystallization Kinetics of Alkali Feldspar in Trachytic Melts of Phlegraean Fields (Napoli, Italy)
Arzilli F

1093 Processes and Timescales of Magma Evolution Prior to the Campanian Ignimbrite Eruption (Campi Flegrei, Italy)
Arienzo I, Heumann A, Wörner G, Civetta L, Moretti R & Orsi G

1094 Magma Degassing Processes during Plinian Eruptions of La Montagne Pelée (Martinique, F.W.I.)
Ruzié L & Moreira M

1095 Pre-Eruptive History and Longevity of Felsic Magma in Iceland Illuminated by *in situ* U-Th Dating and Trace-Element Analysis of Zircon from Historical Eruptions
Carley T, Miller C & Wooden J

1096 Uranium Series Analysis of 2006 Augustine Volcanics: An Investigation into the Timescales of Magmatic Processes
Thompson J & Reagan M

1097 Assessing the Seismic Hazard for Some Parts in Hormozgan Province, Southern Iran
Fazelvalipour A, Vejdani Y & Fazelvalipour A

1098 Timescale of Quartzarenite Xenoliths Assimilation by Trachybasaltic Melt: Case of 2001 Etna Eruption
Fomin I & Plechov P

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10g: Organic and Inorganic Fluid-Fluid-Rock Interactions in CO_2 Storage Systems

Floor 2

2001 Evaluation of Thermodynamic Data and Activity Coefficient Models for the Geochemical Modeling of CO_2 Storage Systems
Gimeno MJ, Acero P, Gutierrez V, Auque LF, Asta MP & Gomez J

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Pham V, Hellevang H & Aagaard P

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Simonyan A, Dultz S, Behrens H, Fiebig J & Voges K

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Naumko I, Zagnitko V & Belets'ka Y

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11b: Ore Deposits and the Role of the Lithospheric Mantle – Sponsored by SGA

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2017 Tectono-Geochemistry Exploration and the Ore-Finding Discovery – A Case Study of the Zhaotong Zn-Pb Deposit, Yunnan, China
Han R-S, Wang X-K & Wang F

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Wu P, Han R-S & Li J

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Abbasnia H & Torshizian HA

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An Y, Zhou Y, Lv W, Tan X, Chen Q, Bai M & Zhang Y

2021 Geochemical Features of the Aladag Fe-Cu-Zn-Pb Skarn Deposit (Ezine/Canakkale-North West Turkey)
Arik F & Aydin Ü

2022 A New Ore Mineral Assemblage from the Shilu Iron-Polymetallic Deposit, Hainan Island, South China
Bakun-Czubarow N, Mikulski S, Xu D, Kusy D & Wang Z

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Cui B, He Z & Zhao L

2024 Pt-Bearing Metabasites from the East Sayan (Russia): Composition and Origin
Damdinov B

2025 Mineral Chemistry and Fluid Inclusion Characteristics of the Kabadüz Ore Veins (Ordu, NE-Turkey)
Demir Y, Sadiklar MB, Uysal I, Ceriani A & Hanilçi N

2026 The Geochemical Characteristics of Beach Sediments of the Finike Gulf (Southwest Turkey)
Durmus ES, Ergin M, Karakas Z, Sozeri K, Eser-Dogdu B & Onal Z

2027 A Study on the Beach Sediments of The Gulf of Fethiye (SW Turkey), Focus on Geochemical Data
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2028 Geological Characteristics and Fluid Inclusions of Chagangnuoer Iron Ore Deposit in the Western Tian Shan Mountain, NW China
Hong W & Zhang Z

2029 Geochemical Characteristics and Geological Significance of the Basic Intrusive Rocks in Shifengshan Copper Deposit, Yimen, Yunnan, China
Huang J-G, Han R-S & Wang L

2030 Characteristics of the Ruwai Base Metal-Ag Skarn in Tertiary Middle Kalimantan Volcanic Arc, Indonesia
Idrus A, Meyer M, Sindern S, Setidjaji LD & Warmada IW

2031 Research on Chronology and Formation Mechanism of Xiaorequanzi Cu-Zn Field in Tianshan Orogenic Belt, Western China
Ji H, Sun J, Li J, Li H, Chen F & Chen W

2032 EPMA Study of Sulfides in Ultramafic Suites of J.C. Pura Belt, Western Dharwar Craton, India
Kashyap NR & Prabhakar BC

2033 The Differences of Fluid Inclusions between Ore Minerals and Gangue Minerals of Huize Lead-Zinc Deposit, Yunnan Province, China
Li B, Han R, Gu X, Wen S & Sheng R

2034 Two Types of Gold Mineralization from One Ore District: Constraints on the Genetic Model of Yangshan Gold Deposit in Western Qinling, China
Liang J & Sun W

2035 ^{40}Ar-^{39}Ar Isotopic Dating of Muscovite from the Hukeng Tungsten Deposit, Jiangxi Province, South China
Liu J, Ma M, Shi G, You H, Zhan Y & Guan Y

2036 Constraints of the Concentration of the Platinum-Group Elements in Pobei Ni-Cu Sulfide Deposit, Xinjiang Province
Liu Y, Lü X, Mei W & Dai Y

2037 Two Contrasting Ore-Bearing Granites: Sn-Bearing Qitianling Granite and W-Bearing Xintianling Granite, Hunan Province, China
Lu J & Zhang R

2038 The Isotope Evidence of Ore-Forming Materials of the Erdaogou Gold Deposit in Beipiao Liaoning Deriving from Magmatic Rocks Mixed by the Crust and Mantle Source
Gong L, Ma G, Zhang G & Chen K

2039 Petrogenesis and Geochemistry of the Dajing Cu-Sn-Pb-Zn-Ag Ore Deposit in Chifeng, Inner Mongolia
Mei W, Lü X, Ai Z, Tang R & Liu Z

2040 Mineralogy and Geochemistry of the Yellice Magnetite Occurrences of Sivas-Central Anatolia, Turkey
Öztürk C, Ünlü T & Sayili İS

2041 First Finds of "Alloclasite" (Fe,Co,Ni) AsS in Ni Sulphides of Bangur Gabbro, Orissa, India
Sunder Raju PV

2042 Trace and Rare Earth Elements Characteristics of Scheelite from the Sanjiazi Tungsten Deposit in Siping Area, Northeastern China
Ren Y-S, Wang H, Ju N & Wu C-Z

2043 Geological Characteristics of the Hukeng Tungsten Deposit, Jiangxi Province, South China
Shi G, Ma M, Liu J, You H, Guan Y & Zhan Y

2044 REE and Isotope (Sr, S, Pb) Geochemistries to Constrain the Genesis of the F-(Ba-Pb-Zn) Ores of the Zaghouan District (NE Tunisia)
Souissi F, Jemmali N, Souissi R & Dandurand J-L

2045 Geochemistry of Lamprophyres in Rare-Metal Districts Related to Granitoids
Stemprok M, Seifert T & Dolejs D

2046 The Geochemical Properties of Manganese Occurences of Isparta, Turkey
Teker Y & Kuşcu M

2047 Rb-Sr and Sm-Nd Isochron Ages of the Dongmozhazhua and Mohailaheng Pb-Zn Ore Deposits in Yushu Area, Southern Qinghai and their Geological Implications
Tian S, Hou Z, Yang Z, Liu Y & Song Y

2048 A Low Sulphur Epithermal Gold Mineralisation in Kisacik-Ayvacik Area (Çanakkale-Turkey)
Vural A, Aydal D & Akpınar İ

2049 Precious Metal (Pt, Pd, and Au) in Fengshan Porphyry Cu-Mo Deposit, China
Wang M

2050 Trace Elements and REE Geochemistry of Copper-Bearing Sandstone in the Middle Submember of the Liuju Member of the Upper Cretaceous Matoushan Formation, Yunnan, China
Li J, Han R & Wu P

2051 Ore-Forming Age and Origin of the Donggou Porphyry Mo Deposit in the Eastern Qinling Orogenic Belt, Central China
Yang L, Chen F & Zhu XY

2052 Pb, C, H, O and S Isotope Geochemistry of the Maoping Carbonate-Hosted Pb-Zn(-Ag-Ge) Deposit in Northeast Yunnan Province, China
Yang G, Zhang Y, Han R & Wu P

2053 Genesis of Ultramafic Related Magnesite in Northwest Turkey along the Izmir-Ankara Suture: A Stable Isotope Study
Yilmaz A & Kuşcu M

2054 Weighting Stream Sediment Geochemical Samples as Exploration Indicator of Deposit-Type
Yousefi M, Kamkar-Rouhani A & Carranza EJM

2055 Characteristic and the Formation Conditions of Chlorite in Granite-Type Uranium Ore-Field, South China
Zhang Z & Guo G

2056 Geogical Significations of Qiatekaer Cu-Ni-Sulfide Mineralized Occurrence in West Kangguer Ductile Shear Belt, Jueluotage Area, Eastern Tianshan, Northwest China
Zhang D, Zhou T, Yuan F & Fan Y

2057 Structure and Mineralization Characteristics of Kangding Gold Orefield, Sichuan Province, China
Zhang. Z, Deng J, Gong Q & Wang Q

2058 Whole Rock and Mineral Composition Constraints on the Genesis of the Giant Hongge Fe-Ti-V Oxide Deposit in the ELIP, SW China
Bai Z-J, Zhong H, Li C, Zhu W-G & Xu G-W

2059 Effects of Grid Size in Interpolating of Geochemical Data
Zuo R

2060 Lead Isotope Composition Variations in Sulfides from Hydrothermal Fields of the Mid-Atlantic Ridge: High-Precision MC-ICP-MS Isotope Data
Chernyshev I, Bortnikov N & Chugaev A

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11f: Natural and Synthetic Platinum-Group Minerals (PGM): Tracers of Processes at High and Low Temperatures – Sponsored by IMA COM and SGA

Floor 2

2061 Investigation of Platinum Group Minerals (PGM) from Falcondo Ni-Laterite Deposit (Dominican Republic) Using Hydro-Separation Concentrates
Aiglsperger T, Proenza J, Zaccarini F, Garuti G & Longo F

2062 Microprospecting for Platinum Group Minerals by X-Ray Fluorescence Mapping Using the Maia Detector
Barnes S, Godel B & Ryan C

2063 Interesting Finds in Norilsk Copper-Nickel Sulfide Ores
Evstigneeva T

2064 Platinum Group Minerals (PGM) from Chromitites of Kytlym Uralian-Alaskan Type Complex (Russia)
Garuti G, Zaccarini F & Pushkarev E

2065 Genesis of Platinum Mineralization in Gabbro-Dolerites of Pay-Khoy (Russia, Nenets Autonomous District)
Shaybekov R

2066 Minerals of Pt_3Sn-Pd_3Sn-Pd_3Pb-Pd_3As-Pd_3Sb System in PGE-Cu-Ni and PGE Ores of the Norilsk Region
Sluzhenikin S & Mokhov A

2067 Application of Experimental Mineralogy to the Description of New Platinum-Group Minerals
Vymazalová A, Drábek M & Zaccarini F

2068 Platinum Group Minerals (PGM) in Chromite Lode Deposits from the Sulawesi Ophiolite Belt
Zaccarini F, Idrus A, Garuti G, Thalhammer O & Meyer M

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11g: The Rare Earth Elements: Their Deposits, Geochemistry, and Environmental Impact

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2069 Geochemical Features of the Amur River Sediments in its Middle Reaches
Sorokina O

2070 Mobility of Rare Earth Elements during Igneous Rocks Weathering and Associated Stream Water Transport (Malaval Catchment, Massif Central, France)
Chaux L, Routier T, Pourret O, Steinmann M & Bontemps S

2071 Mineralogy and Geochemistry of the Yangyang IOA Deposit, South Korea
Choi S-G, Seo J, Park J-W & Kim DW

2072 Geochemistry and Distribution of Total Heavy Mineral Concentrations of Beach Sediments of the Sakarya Delta (SW-Black Sea)
Sözeri K, Ergin M, Karakaş Z & Eser Dogdu B

2073 Assessment of the Geochemical Processes and Environmental Pollution in the Trincomalee Bay, Sri Lanka
Young S, Pitawala A & Ishiga H

2074 Effects of Fluorine on the Solubility of Nb, Ta, Zr and Hf in Highly Fluxed Water Saturated Haplogranitic Melts
Aseri A & Linnen R

2075 Ce-Rich Layers in Manganese Micronodules of the Brasil Basin
Dubinin A, Uspenskaya T, Sval'nov V & Demidova T

2076 Geochemical Characteristics of Trace Elements of Sandstone-Type Uranium Deposits in the Ordos Basin
Gao E, He S & Sun SC

2077 REE Patterns in the Ore-Bearing of the Chortovo Koryto Gold Deposit (Eastern Siberia)
Kolmakov Y & Platon T

2078 Unusual Apatite Crystals and Pegmatites with Rare Earth Elements Tetrad Effect
Krejsek Š & Kynicky J

2079 Trace and REE Geochemistry of the Angola Basin Sediments
Krikun E, Rimskaya-Korsakova M & Dubinin A

2080 Geochemical Variation of Fracture Carbonates in Crystalline Bedrock
Maskenskaya O, Drake H, Peltola P & Åström M

2081 Metastable Accessory Phases in High Heat-Producing Felsic Igneous Rocks
Middleton A, Golding S & Uysal T

2082 REE Geochemistry of Iron-Apatite Deposits in Central Iran
Mokhtari MAA, Emami MH, Abedian N, Khezri M & Baburek J

2083 Comparison of REE Concentrations between the Bozkir Ophiolitic Rocks and Stream Sediments Derived from These Rocks in the Bozkir Region (Konya – Turkey)
Öztürk A, Arık F & Karadag MM

2084 REE Fractionation during Crustal Anatexis: Constraints from the South Bohemian Batholith (Bohemian Massif)
René M

2085 Characteristics and Origin of the Lala Iron Oxide Cu-Co-(U, REE) Deposit: Sichuan, Southern China
Meyer M, Schardt C, Sindern S, Gehlen M, Halbach P, Lahr J & Li J

2086 Abnormal (Y+REE)-enriched Zircon from the Pegmatite Dike (Gridino, the Belomorian Province, Fennoscandian Shield)
Skublov S, Galankina O & Simakin S

2087 REE Distribution for the Arkachan Large Intrusion-Related Gold Deposit: Evidence for Fluid Origin
Vikent'eva O, Gamyanin G & Bortnikov N

2088 REE Deposits in China
Xu C, Kynicky J & Chakhmouradian A

2089 Behavior of Rare Earth Elements during Chemical Alteration of Deep Granitic Rocks at Tono, Central Japan
Yamamoto Y, Takahashi Y, Sakami H, Mizuno T, Amano K, Hama K & Shimizu H

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12c: Chronologies and Rates of Climate Change

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2090 Effects of Laschamp Excursion on Cosmogenic Isotope Production
Cauquoin A, Raisbeck G & Jouzel J

2091 Statistical Evaluation of the Holocene Climate Parameters in the NE of European Russia (From Palynological Data)
Golubeva Y & Golubev Y

2092 Australasian Sea Surface Temperatures over the Past Millennium
Smith M, Brocks J, De Deckker P, Lopes dos Santos R & Schouten S

2093 Oxygen and Carbon Isotope Signatures of High-Latitude Permian to Jurassic Calcitic Fossils from Southern Hemisphere
Ullmann CV, Campbell HJ & Korte C

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2094 Spatial and Temporal Tritium Variability at Vostok Station
Fourre E, Jean-Baptiste P, Petit J-R, Lipenkov V, Winkler R & Landais A

2095 A 50-year Record of PGEs in Antarctic Snow
Soyol-Erdene T-O, Huh Y, Hong S & Hur SD

2096 Study on Glaciochemical and Microparticle Characteristics of Three Snow Pits in East Antarctica
Zhou L, Li Y & Jiang S

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13c: Air Quality and Climate: Bridging the Scales

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2097 Investigation of Atmospheric Nitrate and Ammonium and their Impact on Air Quality and Climate in GMI
Bian H, Steenrod S, Chin M & Rodriguez J

2098 Assessments of the Anthropogenic Radiative Forcing over the Amazon Basin: Aerosols and Land-Use Change
Sena E, Camara S, Frigeri F, Correia A & Artaxo P

2099 Long Term Aerosol Trends over Large Global Urban Centers
Gupta P, Khan M & da Silva A

2100 Assessment of Cloud Droplet Growth Based on the Measurements of Hygroscopicity and CCN Activity of Aerosol Particles in Nagoya, Japan
Kawana K, Mochida M & Kuba N

2101 Historical Perspective of Passive Aerosol Remote Sensing: Bridging the Years
Remer L & Torres O

2102 On the Variability of Aerosol Intensive Optical Properties over South America
Rosario N, Yamasoe M & Longo K

2103 Inventory of Particulate Matter from all Possible Major Sources for Air Quality Forecasting during Commonwealth Games 2010 in Mega City Delhi
Sahu SK & Beig G

2104 Aerosol Optical Properties and Direct Radiative Effect over India Based on Satellite Remote Sensing Measurements
Sundström A-M, Kolmonen P, Sogacheva L, Hannukainen M, Atlaskna K & de Leeuw G

2105 Connection of Atmospheric Stability and Aerosol and Gaseous Polutants Concentration
Zikova N & Zdimal V

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13e: Land-Atmosphere Interactions: The Role of Aerosols

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2106 Modelling Global Trace Gas Emissions from Biomass Burning
Knorr W, Lehsten V & Arneth A

2107 Geochemistry and Mineralogical Composition of the Airborne Particles of Sand Dunes and Dust Storms Settled in Iraq and their Environmental Impact
Awadh SM

2108 Fungal Spore Contributions to Subtropical Aerosol Particles
Chen S-H & Engling G

2109 Monoterpene Emission Dynamics from Arctic to Tropics
Rinne J, Arneth A, Schnitzler J-P & Guenther A

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14a: Critical Zone Processes at Multiple Scales

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3001 Geochemical Study of the Stone Deterioration in a Granitic Monument of Oporto, Northern Portugal
Lobo J & Almeida A

3002 Shale to Soil: Geochemistry and Clay Mineral Transformations
April R, Lemon S & Keller D

3003 Integrating Multi-Scale Experiments and Modeling to Couple Biotic Weathering at Nano and Global Scales
Bridge J, Taylor L, Banwart S, Leake J, Beerling D, McMaster T & Benning L

3004 Si Isotope Signatures in Soils by UV Femtosecond Laser Ablation
Steinhoefel G, Breuer J, von Blanckenburg F, Horn I, Kaczorek D & Sommer M

3005 Long-Term Versus Short-Term Weathering Fluxes in Contrasting Lithologies at the Luquillo Critical Zone Observatory, Puerto Rico
Buss H, White A, Blum A, Schulz M & Vivit D

3006 Mass-Dependent Fractionation and Mass-Independent Fractionation of Hg Isotopes in Aqueous Environment
Chen J-B, Hintelmann H & Feng X-B

3007 Geochemical Expression of Buried Iron-Oxide Copper Gold Mineralisation within Physical and Chemical Interfaces of the Deep Cover at the Hillside Prospect, South Australia
Dietman BJ & Hill S

3008 Irreducible Uncertainty in Estimates of Silicate Mineral Weathering Rates
Futter M, Klaminder J, Lucas R & Köhler S

3009 Speciation of Trace Elements in Strengbach Soil Solutions by Ultrafiltration
Gangloff S, Stille P & Chabaux F

3010 Dissolution Rates of Plagioclase Feldspars as a Function of Solution Composition
Gudbrandsson S, Wolff-Boenisch D, Gislason S & Oelkers E

3011 Colloidal Processes in Gold Transport and Deposition
Hough R

3012 Ni and Cr Speciation in Soils Formed on Ultramafic Rocks from Barberton Greenstone Belt (South Africa)
Jerzykowska I & Michalik M

3013 Sedimentary Basin Acid Sulfate Weathering: Its Recognition and Palaeo-Environmental Implications in the Eucla Basin, South Australia
Johnson A, Hill SM, Chittleborough D & Mitchell D

3014 Trends in Buffer Capacity, pH and Al at the Swedish Integrated Monitoring Sites
Köhler SJ, Zetterberg T, Futter M, Fölster J & Löfgren S

3015 Solute Compositions and Fluid Residence Times along an Erosional Gradient, Middle Fork of the Feather River, CA
Kouba C, Maher K, Mayer K, Yoo K, Weinman B, Mudd S & Attal M

3016 Role of Fe- and Mn- Redox Coupling on the Carbon Cycle in a Mixed Land Use Watershed: Christina River Basin Critical Zone Observatory
Lazareva O, Sparks DL, Aufdenkampe A, Yoo K, Hicks S & Kan J

3017 SoilTrEC: An International Consortium to Assess Soil Processes and Functions Using a Global Network of Critical Zone Observatories
Menon M, Chabaux F, Lundin L, Novak M, Brandao M, Nikolaidis N, Panagos P, van Gaans P, Kram P, Blum W, deRuiter P, Bernasconi S, Rousseva S, White T, Ragnarsdóttir KV, van Riemdijk W, Banwart S, Reynolds B & Lair G

3018 Geochemical and Physical Characterisation of Palaeo and Contemporary Redox Interfaces within Late Palaeozoic Sediment Sequences in South Australia
Normington V, Hill S & Dart RC

3019 Long Term Chemical Variations in Stream Waters Draining a Granitic Catchment (1986-2010). Link between Hydrology and Weathering (Strengbach Catchment, France)
Pierret M-C, Viville D, Chabaux F, Stille P & Probst A

3020 Human Impact on Global Element Cycles
Sen I & Peucker-Ehrenbrink B

3021 Effects of Diagenesis in Triassic Limestone of Opolskie Voivodesip
Stanienda K

3022 How Deep is Deep? Plant Biogeochemistry for Detecting Deep Mineralisation
van der Hoek B, Hill SM & Dart RC

3023 Cryogenic Cave Carbonates – A New Tool for Estimation of Former Permafrost Depths
Zak K, Filippi M, Zivor R & Richter DK

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15i: Metal Stable Isotope Signals in Earth's Oceans and Seas

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3024 On the Radiogenic ^{40}Ca Anomaly in Seawater and Limestone
Bender M & Higgins J

3025 Low Molybdenum Isotope Compositions in Euxinic Sapropel S1
Azrieli I, Matthews A, Bar-Matthews M, Almogi-Labin A, Vance D, Archer C & Teutsch N

3026 The Suitability of ^{236}U as an Ocean Tracer
Eigl R, Wallner G, Srncik M, Steier P & Winkler S

3027 Mercury Stable Isotopic Variations in Arctic Ocean Pelagic Sediment
Gleason J, Blum J, Moore T, Polyak L & Jakobsson M

3028 Selenium Adsorption and Associated Selenium Isotope Fractionation
Mitchell K, Couture R-M, Johnson T, Mason P & Van Cappellen P

3029 Isotopic Fractionation of Mg, Ca and Sr in Calcite and Aragonite
Ohno T, Wakabayashi T, Hirata T, Tipper E & Galy A

3030 Equilibrium Se Isotope Fractionation Parameters: A First-Principles Study
Li X & Liu Y

3031 Kinetics of Fe-Isotope Exchange with Pyrite at Hydrothermal Conditions
Syverson D, Seyfried W & Shanks WC

3032 The Evolution of Zn and Cd Isotopes in the South China Sea
Lee D-C, Yang S-C & Ho T-Y

3033 Calcium Isotope Fractionation during Dolomite Formation
Böhm F, Eisenhauer A, Fietzke J, Rausch S, Klügel A & Bach W

3034 100-year Record of $^{236}U/^{238}U$ in Coral as a Step Towards Establishing ^{236}U as Oceanic Tracer
Winkler S, Carilli J & Steier P

3035 Using Lead Isotopes in Marine Barite to Understand Intermediate Water Dynamics
Erhardt A & Paytan A

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16b: Understanding the Fate and Transformations of Metal and Radionuclide Contaminants in Unsaturated and Saturated Subsurface Environments

Floor 3

3036 Uranium in Tap and Groundwater – Indications for Anthropogenic Origin
Smidt G, Birke M, Erdinger L, Schäf M, Knolle F, Koschinsky A & Schnug E

3037 Diffusive Anisotropy in Low-Permeability Ordovician Sedimentary Rocks from the Michigan Basin in Southwest Ontario
Xiang Y, Al T, Cave L & Loomer D

3038 Thermodynamics of Long-Term Metastable Magnesium (Chloro) Hydroxo Carbonates at 25°C
Bube C, Altmaier M, Metz V, Schild D, Kienzler B & Neck V

3039 Microbial Uptake and Methylation of Dissolved Elemental Mercury
Colombo M, Barkay T, Reinfelder J & Yee N

3040 Comparison of Mercury Bioacumulation within a Trophic-Web for Pristine and Anthropogenically Contaminated Aquatic Ecosystems
Epov V, Pastukhov M, Perrot V, Husted S, Alieva V, Amouroux D, Grebenshchikova V & Donard O

3041 Lead Cycling in Forested Catchments: Trends in Input-Output Mass Balances over 12 Years of Easing Industrial Pollution
Erbanova L, Zemanova L, Novak M & Fottova D

3042 Pb and Zn Distribution in Stalagmites
Goettlicher J, Marks S, Simon R, Steininger R, Platte A & Niggemann S

3043 The Geogenic Impact on Groundwater Composition in the Netherlands
Griffioen J, Vermooten S & van der Grift B

3044 A Physiochemical Analysis of the Mechanisms for Transport and Retention of Technetium (^{99}Tc) in Unsaturated Hanford Sediments
Jansik D, Wellman D, Cordova E, Dage D & Istok J

3045 Sequential Extraction of Pb, Zn, Cd, and Cu in Contaminated Soils due to Mining Operation in Isfahan-Iran
Karimzadeh L

3046 Research on Hyperspectral Remote Sensing Estimation Model of Heavy Metal Pollution in Vegetation
Lv K & Zhang M

3047 Am(III) Retention by Cement Corrosion Products Under Highly Saline Conditions
Metz V, Bube C, Bohnert E, Schlieker M & Kienzler B

3048 Sorption of Uranyl and Arsenate on SiO_2, Al_2O_3, TiO_2 and FeOOH
Nair S & Broder M

3049 The Structure and Lability of Re(VII)-sodalite
Pierce E, Harsh J & Dickson J

3050 The Role of Multicomponent Diffusion and Electromigration for Reactive Transport in Porous Media
Rasouli P, Mayer U & Bea S

3051 The Co-precipitation of Ra in a Large Scale Evaporitic System
Rosenberg YO, Metz V & Ganor J

3052 Identification of Geochemical Processes in Groundwater at the Chernobyl Pilot Site and Preliminary Contamination Characterization with $^{36}Cl/Cl$ Ratios
Roux C, Le Gal La Salle C, Simonucci C, Bassot S, Michelot J-L, Fifield K, Van Meir N, Bugaï D & Lancelot J

3053 A Chinese Antimony Smelting Site and Possibility for its Phytoremediation
Shurkhuu T & Liu C-Q

3054 Integrated Model to Simulate and Predict Fate and Transport Process of Contaminant in Vadose Zone
Song L & Zhang J

3055 Specific Sorption of Th(IV), Np(V) and U(VI) on Biogenic Mn Oxide
Tanaka K, Tani Y & Ohnuki T

3056 A Geochemical Reference (Baseline) for the Natural Geogenic Variation in Pb Isotope Ratios in Sedimentary Soils
van Gaans P, Walraven N, van der Veer G, Vriend S, van Os B & Klaver G

3057 Uranyl Coordination Chemistry on Magnesite and Brucite Surfaces: Polarisation Dependent EXAFS
van Veelen A, Law GTW, Smith AJ, Bargar JR, Rogers J & Wogelius RA

3058 Reactive Transport Modelling to Quantify Arsenic Mobilization and Capture during Aquifer Storage and Recovery of Potable Water
Wallis I, Prommer H, Pichler T, Post V & Simmons C

3059 Oxidative Weathering of Black Shale: A Long-Term Humidity Cell Test
Yu C, Åström M, Peltola P & Drake H

3060 Mobility of Trace Elements in Ombrotrophic Peat Bogs
Zemanova L, Novak M, Pacherova P & Komarek A

3061 Technical Methods of Barriers of Near-Surface Disposal of Very Low Level Radioactive Waste
Zuo R, Wang J & Teng Y

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17a: Biogeochemical Cycling in Watersheds

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3062 Organic Matter Mineralization and Trace Element Post-Depositional Redistribution in Western Siberia Thermokarst Lakes
Audry S, Pokrovsky O, Shirokova L & Kirpotin S

3063 Biogeochemical Characterization of Mercury (Hg)-Contaminated Sediments at the Bunikasih Gold Mine, West Java Province, Indonesia
Chaerun SK, Hasni S, Sanwani E & Johnson DB

3064 CO_2, CH_4, N_2O Flux Measurements from a Constructed Wetland
Kim D-S & Na U-S

3065 Geochemistry in a Boreal Stream after a Major Forest Fire – Implications for a Changing Climate
Nordblad F, Ecke F & Ingri J

3066 Radiocarbon Depression in Aquatic Foodwebs of the Colorado River, USA: Coupling between Carbonate Weathering and the Biosphere
Sickman J, Anderson M, Lucero D, McCullough J & Huang W

3067 Nd-Sr Isotopic Geochemistry of Fossils from the Bottom of Cambrian in the Yunnan, Sichuan and Xinjiang Region, China
Wang Y, Wang Y, Yang J & Li H

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17g: Dynamics, Mobility and Bioavailability of Trace Elements in Contaminated Environments

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3068 Sorption of Metals on a Novel Synthesized Mn (Oxy) hydroxide
Della Puppa L, Komárek M & Bordas F

3069 Microbial Mobilization of Arsenic from Soil of the Mokrsko Gold Deposit, Czech Republic
Drahota P, Redlich A, Falteisek L, Rohovec J & Čepička I

3070 Behaviour of Tc(VII) in Aqueous Solutions in the Presence of Iron Oxides and Microorganisms
Druteikienė R, Lukšienė B, Pečiulytė D & Baltrūnas D

3071 Effect of Initial Al Concentration, pH and Silicic Acid on the Formation and Stability of Tridecameric Al Polymer
Etou M, Hagiwara S, Saito T, Okaue Y & Yokoyama T

3072 Relation between Cobalt Fractionation and its Accumulation in Metallophytes from South of Central Africa
Faucon MP, Collinet G, Jitaru P, Verbruggen N, Shutcha M, Mahy G, Meerts P & Pourret O

3073 Bioavailability of Tungsten in Soils and Tailings of Mining Areas with Distinctive Paragenesis (Northern Portugal)
Favas P, Pratas J & Gomes E

3074 Temporal Dynamics of Arsenic-Bearing Phases during the Suspended Transport
Grosbois C, Courtin-Nomade A, Robin E, Bril H, Tamura N, Schäfer J & Blanc G

3075 Antimony and Arsenic Behaviour Upon Microbial Dissolution of Mining Waste
Grybos M, Kierczak J, Rakotoarisoa O, Courtin-Nomade A & Bril H

3076 Microbial Arsenic Transformation Associated with Soda Lake in Khovsgol, Mongolia
Hamamura N, Itai T, Damdinsuren N, Reysenbach A-L & Inskeep W

3077 Mineralogical Study of Arsenic Carrier in Coal Combustion By-Products of Kyjov-Poša Impoundment (Slovakia)
Hovorič R, Jurkovič Ľ & Hiller E

3078 Mobility and Bioavailability of Some Potentially Harmful Elements Around an Industrial Contaminated Environment (Estarreja, Portugal)
Inácio M, Silva E & Pereira V

3079 Cu Isotopes Suggest Cu Reduction during Acquisition in Higher Plants
Jouvin D, Weiss D, Bravin MN, Louvat P, Hinsinger P & Benedetti MF

3080 Geochemistry of Tin in the Southern Part of the Silesian Upland
Kucharzyk J, Bureć-Drewniak W, Jaroń I, Narkiewicz W & Pasieczna A

3081 The Influence of Biofilms on Fluid Flow and Contaminant Transport in Porous Media
Kurlanda H, Yang S, Ngwenya B, Butler I & Elphick S

3082 Coupling $\delta^{34}S$ [SO_4^{2-}] and [^{206}Pb / ^{207}Pb]: Origin of Trace Metals in the Urban Orge River, France
Le Pape P, Ayrault S, Michelot J-L & Quantin C

3083 Arsenic Partition in the Native and As-Sorbed Sediment
Lin C, He M, Li Y & Liu X

3084 A Novel Mutant Strain of *Acidithiobacillus ferrooxidans* Adapted to Extremely Low pH
Liu Y, Li J, Xu L, Chen G & Liu J

3085 Analysis of Heavy Metals in Floodplains of the Morava and Jizera Rivers
Matys Grygar T, Novakova T, Lukesova V & Mihaljevic M

3086 Column Experiments for Biosorption by Immobilized Carrier Beads Using *Bacillus sp.* And Polysulfone to Remove Pb from Aqueous Solution
Park S, Lee H, Kim I & Lee M

3087 Study for TPH Removal Efficiency of Landfarming Process Using Indigenous Microorganisms to Diesel Contaminated Site
Park M, Park S & Lee M

3088 Uranium in Aquatic Plants from Uranium Contaminated Water in Central Portugal
Pratas J, Favas P & Prasad MNV

3089 Modern Sedimentation Rate and Heavy Metal Accumulation in Jiaozhou Bay Sediments
Qi J

3090 The Bioavailability of Selenium and Risk Assessment for Human Selenium Poisoning in Se-High Areas, China
Qin H, Zhu J & Su H

3091 Relationship between Incidence of Esophageal Cancer in Maravehtapeh Region (Northeast of Iran – Golestan Province) and Concentration of Trace Elements in Sediments
Sharifi N & Moore F

3092 Pb Sources of Bivalves from Western Canada, Mexico and Hawaii
Shiel AE, Byrne AC & Weis D

3093 The Bullets Weathering in Microscale
Tejnecký V, Drábek O, Drahota P, Bakardjieva S, Jehlicka J & Borůvka L

3094 Phytoavailability and Bioaccumulation of Vanadium in the Soil in Panzhihua Region, SW China
Teng Y, Yang J & Xu Z

3095 Accumulation of Trace Elements in Paddy Soil and Dry Land Under Different Geological Background
Tu C, He T, Liu C-Q & Lang Y-C

3096 Lead Sources in Lower Silesia (S.W. Poland): Isotopic Study of Soils, Basement Rocks and Anthropogenic Materials
Tyszka R, Pietranik A, Kierczak J, Ettler V & Mihaljevic M

3097 Lead, Zinc and Antimony Leaching from Glass-Works Fly Ash in Simple Organic Acids
Udatny M, Mihaljevic M & Strnad L

3098 Effect of Low-Molecular-Weight Organic Acids on Thallium Mobility in Soil – A Model Rhizosphere Solution Approach
Vanek A, Galuskova I & Komarek M

3099 Bacterial and Fungal Communities Colonizing Mercury Sulfide Surfaces
Vazquez-Rodriguez AI, Santelli CM, Brooks SC & Hansel CM

3100 Arsenic Mobility in Coal-Combustion Ashes Mixed with Agricultural Soil
Veselská V, Peťková K, Bolanz R, Majzlan J, Jurkovič Ľ, Lalinská B, Hiller E & Ďurža O

3101 Heavy Metals and Arsenic in the Soils in the Area of Narva Power Plants: Distribution and Controlling Factors
Vinne L-E, Bityukova L & Schvede H

3102 Spatial Pollution Gradients in Central Europe after 25 Years of Decreasing Industrial Emissions
Voldrichova P, Novak M, Erbanova L, Prechova E, Veselovsky F & Blaha V

3103 Relationship between the Longevous Population and Trace Element in the Soils of Xiayi County, China
Li Y, Zou X & Wang W

3104 Risk Element Sorption in Soil Amended by Urban Particulate Matter
Zimmermannová D, Száková J, Komárek M & Sysalová J

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17i: Linking "Omics" to Biogeochemical Fluxes

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3105 Oxygen Isotope Modification through Assimilatory Sulphur Cycling
Tostevin R, Turchyn AV, Smith AG, Zori M, Howe CJ & Lea-Smith D

3106 Molecular Characterization of Soil Organic Matter by Laser-Desorption Ionization Fourier-Transform Ion Cyclotron Resonance Mass Spectrometry (LDI-FT-ICR-MS)
Abiven S, Fuchser J, Schmidt MWI & Dittmar T

3107 Genetic and Functional Properties of Uncultivated Miscellaneous Crenarchaeota Group (MCG): Implication from the Metagenome Analysis
Wang F-P, Meng J, Zheng Y-P, Qin D, Xu J & Xiao X

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17j: Biogeochemical Processes in Redox-Dominated Environments: From Cold Seeps to Soils

Floor 3

3108 Characterization of Pedogenic Mn Concretions and Coatings in Redoximorphic Soils
Händel M, Rennert T & Totsche KU

3109 Plant-Microbe Interactions in Cd-Contaminated Soils – Do Fe(III)-Reducing Bacteria Influence the Accumulation of Cd in the Metal-Hyperaccumulating Plant *Arabidosis halleri*?
Krämer U, Muehe EM & Kappler A

3110 Iron Species in Soils on a Mofette Site Studied by Fe K-Edge XANES
Rennert T, Eusterhues K, de Andrade V, Prietzel J & Totsche KU

3111 The Effects of Road Salt Influx on the Geochemical Cycling of Woods Lake, Kalamazoo, MI
Sibert R, Koretsky C, Snyder C, Macleod A & Barone S

3112 Redox Stratification of the White Sea Sediments
Rozanov A

3113 Changes in Microbial Community Structure Associated with Dynamics in Oxygen Supply at the Crimean Shelf of the Black Sea
Jessen G, Lichtschlag A, Donis D, Wenzhöfer F, Schubert CJ, Ramette A & Boetius A

3114 Study of Deep Subsurface Microbial Community Under Changing Redox Conditions Using Quantitative Method
Sasaki Y, Asano T, Amano Y, Sato T, Iwatsuki T & Yoshikawa H

3115 Temperature Controls of Sulphur Isotope Fractionation during Sulphate Reduction by *Thermodesulfobacterium* and *Desulfovibrio* Strains
Sun J-L, Lin L-H, Lin S, Shiu J-W & Wang P-L

3116 Sea Floor Methane Emissions in Continental Shelves and the Role of Anaerobic Methane Oxidation
Tsandev I, Regnier P, Ridgwell A & Dale A

3117 Geochemical Evidence of Mud Volcano Activity in the West Alboran Sea
Lopez-Rodriguez C, Martinez-Ruiz F, Comas M, Hensen C, Piñero E, Böttcher M, Dellwig O & Lenz C

3118 Sr Isotopes ($\delta^{88/86}$Sr and ^{87}Sr/^{86}Sr) in Cold Seep Environment of Niger and Nile Delta Fans
Chu N-C, Ponzevera E, Favreau E, Bayon G & Fouquet Y

3119 Pore Scale Heterogeneity of Porous Media Influencing the Spatial and Temporal Distribution of Microbial Metabolic Activity
Stolpovsky K, Gharasoo M & Thullner M

3120 Anaerobic Cultivation and Degradation Capability Evaluation of Microorganisms in Petroleum-Contaminated Groundwater at Low Temperature
Zhang Y, Su X-S, Zhang S & Jin H

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19e: Simulation of Geofluids from Melts to Aqueous Solutions

Floor 4

4001 Modelling of Hydrogeochemical Processes in Groundwaters of the North German Basin (NGB)
Bozau E & van Berk W

4002 Using *ab Initio* Potential to Predict Thermodynamic Properties of Fluids and Minerals
Duan Z, Zhang Z, Sun R & Zhang C

4003 Fluids in the Upper Continental Crust
Bucher K

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19h: High Pressure Behavior from Impacts to Interiors

Floor 4

4004 High-Pressure Mössbauer Spectroscopic Study of Lohawat (Howardite) Meteorite up to 9 GPa
Chandra U, Sharma P & Parthasarathy G

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19i: New Developments For The Analysis of Core-Level Spectroscopies

Floor 4

4005 Splittings, Satellites and Fine Structure in the Soft X-Ray Spectroscopy of the Actinides
Tobin JG

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20f: Melts and Glasses: From Deep Earth Interiors over Environmental Applications to Volcanological and Geophysical Challenges

Floor 4

4006 Geospeedometry Applied to El'gygytgyn Impact Glass
Rantzsch U, Haber T, Klimm D & Kloess G

4007 Rheological Constraints on the Deformation of Snake River-Type Ignimbrites: An Experimental Study
Robert G, Andrews G, Ye J & Whittington A

4008 Europium Structural Role in Silicate Glasses
Cicconi MR, Giuli G, Paris E, Ingrisch-Ertel W, Dingwell DB, Ulmer P, Cicconi MR & Cicconi MR

4009 "Ordering" in Glasses and Melts: Structural Observations and their Properties Implications
Neuville DR, Le Losq C, Florian P, Baronnet A & Massiot D

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4011 Using Mössbauer Spectra to Characterize and Differentiate Tourmaline Crystals from China
Guo Y, Yang S, Min J, Wang L & Xia Y

4012 Clay Minerals Deposit of Halakabad (Sabzevar, Iran)
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4013 Formation of a Layered Fe^{III} (Hydr)oxide Intercalated with Dodecanoate
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4014 Optimization of Thermodynamic Properties and Phase Diagrams of P_2O_5 and CaO-P_2O_5 Systems
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4015 Interperetaion of Microtexture and Microstructure in the Dynamic Metamorphic Rocks in Mouteh Mine area,Iran
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4016 Measuring the Elastic Properties Under Simulated Earth's Mantle Conditions
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4017 The Elasticity of Hydrous Minerals in the Lower Mantle
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4018 Micro-Xrd and ICP-MS Analysis of Sub-Milligram Sized Mineral Samples
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4019 Zircon as a Raman Spectroscopic Pressure Sensor
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4020 Spectroscopic Studies of Silicate Minerals from North-Eastern India
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4021 Determining the Porosity of Analcime by X-Ray Reflectometry
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4022 Composition and Structure of the 3.65 Å Phase: A DHMS with Exclusively Six-Fold Coordinated Si
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4023 Structure and Stability of Nickel Hydroxide at High T-P Conditions
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4024 Automated Fitting of XRD Profiles of Interstratified Phyllosilicates
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4026 Testing the Use of Detrital Rutile to Investigate HP/UHP Rocks
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4027 Post-Depositional Thermal History of the 4364–3060Ma Zircon-Bearing Metasandstones of the Illaara and Maynard Hills Granite Greenstone Belts, Western Australia
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4028 Robust Trace Element Analysis of Rutile by LA-ICP-MS
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21c: Application of Noble Gases and Naturally Occurring Radioactive Isotopes in Waters and the Environment

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4029 Short Term Environmental Reconstruction from Rich CO_2-Spring Deposits (Massif Central, France)
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4030 Are Noble Gases in the Sediment Pore Water of Lake Van Promising Proxies for Paleoclimate Conditions?
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4031 Simultaneous Analysis of Dissolved Noble Gases, SF_6 and CFCs in Water
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4032 Palaeoclimate Record from Groundwater of the Great Artesian Basin, Australia
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4033 Preliminary Estimation of Scavenging Rates in the Guadalete Estuary (Bay of Cádiz, Spain) Based on U-Th Disequilibrium Series
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4034 Study on the Geochemical Characteristics of Noble Gasses in Groundwater in Beishan, Gansu Province, China
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4035 Noble Gases Used as an Indicator of Groundwater Mixing in Azraq, Jordan
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4036 Reaching Part-Per-Quadrillion: Detection of ^{39}Ar in Environmental Samples Using ATTA
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4037 Variations in Atmospheric Helium Isotopes
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4038 A Field Method for the *in situ* Determination of Excess Air and Oxygen Consumption in Groundwater
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4039 On Dating of Groundwater with a High $^{234}U/^{238}U$ and Eh >100mV
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4040 Comparison of ^{4}He and ^{14}C Dating, Noble-Gas Temperatures and Stable Isotope ($\delta^{2}H$, $\delta^{18}O$) Data for Groundwater in Stratified Aquifers (Tomsk-7, SE Siberia)
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4041 Noble Gases in the Sediment Pore Water as Proxies for Physical Transport Processes and Past Environmental Conditions in Lake Van?
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4042 Noble Gases as Tracers to Determine the Effective Diffusivity in the Sediment Porewater of Lake Hallwil
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4043 Studies of Near Surface Redox Transitions in Crystalline Rocks in Sweden and Greenland
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4044 Uranium and Radium Isotope Ratio at Korean Hot Spring Water
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4045 Pb and Sr Isotopes and the Provenance of the Painting Materials in 19th Century Canada
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4046 Geochemical Zoning Analysis Based on "Axes Level" Innovative Method
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4047 Mineralogy and Geochemistry of Zeolites of Pyroclastic Deposits in Northwestern of Tuzgölü Basin (Turkey)
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4048 Effects of Soil Environment on Activity of Rare Earth Elements: Implications for Land Utilization
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4049 Assessment of Trace Element Concentration Related to the K-Pg Event by the Use of PXRF
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4050 Fluoride Removal by Calcite – Stirring Rate/Temperature Effects
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4051 Natural Analogue Study on Long-Term Reaction of Bentonite and Highly Alkaline Groundwater
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4052 Geochemical Study Soltanieh Formation Limestone Deposits to Determine the Primary Mineralogy and the Mineralogical Processes of Limestone (SW Urmia)
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4053 Erosion Monitored by Riverine Sediment Ti-in-Quartz, Southern Alps, New Zealand
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4054 Combining Concentration-Area Method with Indicator Kriging Analysis for Geochemical Anomaly Identification of the Typical Deposit
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4055 Fluid Inclusion and Stable Isotope Studies of the Kharape Epizonal Orogenic Gold Deposit, West Azerbaijan Province, Iran
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4056 Mineralogy of Speleothems in the Khas-E-Tarash Cave, Northeast Isfahan, Iran
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4057 High Fluctuations of Suspended Load in a Tidal Influenced River Mouth, West Coast of India
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4058 Identification of Transboundary Geothermal Aquifers by Hydrogeochemistry
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4059 Mineralogical and Geochemical Characteristics of Emet Borate Basin, Kütahya, Western Anatolia, Turkey
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4060 Genetic Relation between Skarn Ore Deposits and Magmatic Activity in the Ahar Region, Western Albuorz, Northwest of Iran: Evidence for Metasomatism and Copper Mineralization
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4061 Multipurpose Geochemistry Project of CPRM in the Pernambuco State, Brazil – Current Stage of Work
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4062 Geochemistry and Mineralogy of Volcanic Ash Red Paleosol from Fogo Island (Cape Verde)
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4063 Geochemical Signatures in Detrital Tourmalines as Indicators for Sediment Provenance: The Baixo Alentejo Flysch Group, South Portuguese Zone
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4064 Geochemical Partitioning and Mineral Speciation of Zn in Naturally Metal-Enriched Soils of SW Spain
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4065 Geology and Mineralogy of Bidakhavid Industrial Soil
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4066 Phase Equilibrium of the Cd-Bearing Systems at 298 K: Cd^{2+}//Cl-, SO_4^{2-}, NO_3^--H_2O Quaternary System
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4067 Phase Equilibrium of the Cd-Bearing Quaternary Reciprocal System at 298 K
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4068 Uranium Mobility in the Beiras Granite (Central Portugal): Implications for Radon Exhalation
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4069 $\delta^{13}C_{carbonate}$ Chemostratigraphy of the Carrapateira Outlier (Lower Kimmeridgian), Southern Portugal
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4070 Magnetic Susceptibility of Sands from a River Beach for Forensic Applications
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4071 Oxidation of FeS by Fe^{3+}(aq)
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4072 Use of Stable (HOCN) and Radiogenic (Sr) Isotopes to Determine the Geographic Provenance and Traceability of Artisanal Cheeses of Quebec, Canada
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4073 Host Rocks of Santa Eulalia Plutonic Complex (Southern Portugal): A Preliminary Study
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4074 Geochemical Correlations of Low-Temperature Calcite and Groundwater in Subsurface Granite Fractures
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4075 Geochemical and Mineralogical Studies on the Fe-Mn Deposits of Dehbid Area, Fars Province, South Iran
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4076 Metastable Phase Equilibria of the Quaternary System KCl + K_2CO_3 + K_2SO_4 + H_2O at 273 K
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4077 A Geochemical Approach to the Sado Saltmarshes (Portugal)
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4078 Stable Isotopes of Organics and Inorganics of Aptian Lacustrine Sediments in North-Eastern Brazil
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4079 The Use of Magnetic Susceptibility in Forensic Soils Analyses
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4080 Raman Spectroscopic Study of the System NaCl-Na_2CO_3-Na_2SO_4-H_2O: Implications for the Determination of Cl^- Concentration in Fluid Inclusions
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4081 Petrography and Mineralogy of Western Samen Metapelites
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4082 Oxygen Isotope Fractionation between Calcium Carbonate and Water: Influence of Ionic Strength
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4083 The Elemental and Stable Isotope Geochemistry of Korean Bottled Waters: Characterization and Identifying their Origins
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4084 Low-Temperature Thermochronology of the Mesozoic Uplift History in the Hardangerfjord Area, SW Norway
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4085 Chemical and Mass Changes of the Vein Type Mineralizations in Çetilli Area, (Ordu, Turkey)
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4086 Preliminary Account of the Silurian Carbon Isotope Record ($\delta^{13}C_{org}$) from the Barrancos Region, Ossa Morena Zone, Portugal
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4087 Modifying the Diffusive Gradients in Thin Films Technique for the Geochemical Exploration of Gold
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4088 Skarn Bearing Clintonite from Kuhe-Dor, Shirkuh, Yazd Province, Iran
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4089 Radon Risk and their Geological Control in the Region of Amarante (Northern Portugal)
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4090 Clay Mineralogy and Chemical Environment of an Aptian Lacustrine Succession in North-Eastern Brazil
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4091 Discovery and Description with Scintillometric and Geochemistry of Gossans Above Amethyst Deposits in Altered Volcanic Rocks of the Paraná Province, South America
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4092 $(Ba, Cu)(UO_2)_2(PO_4)_2.nH_2O$ Solid Solution Occurences from an Uranyl-Phosphate Deposit in Portugal
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4093 The Variation of Magnetic Susceptibility with Grain Size: Its Implication on Forensic Studies
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4094 Discrimination of Sediment Samples for Forensic Application Using REE
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4095 Concerning Organization of Geochemical Environment as a Study Object for Geochemistry
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4096 Removal Pb^{2+} from Water Sample, by Using Natural Zeolites of Aftar Mine (Semnan, Iran)
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22d: Isotope Archaeometry

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4097 Lime Lumps in Gothic Joint Mortars from Kruszwica (Central Poland): An Insight into the Lime Production
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4098 Atmospheric Lead Deposition in Ombrotrophic Peat Bogs of Southern Poland
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4099 Osmium, Carbon and Trace Element Investigations into Archaeological Material
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4100 Magnetic Susceptibility of Zafarghand Granitoidic Pluton
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4101 Tin Isotope Analysis for an Archaeological Application
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