

Wednesday April 11th, AM Session

Symposium BG05 Room G1 Effects of Environmental Perturbations on Extinction and Evolutionary Innovations

Convenors: Paul Barrett & Eric Buffetaut

Session chaired by Eric Buffetaut

08:30 Possible Effects of Environmental Perturbations on Macroevolutionary Trends of Mid Jurassic to Early Cretaceous Radiolaria: **Danelian T & Johnson KG** (BG05:WEam01:G1).

08:45 Size Variability in Planktic Foraminiferal Assemblages: Ecological and Evolutionary Implications: **Schmidt DN, Bollmann J & Thierstein HR** (BG05:WEam02:G1).

09:00 Large-Sized Specimens of *A.infracretacea* and *R.terebrodentariatus*: May Increasing Fertility Yield Morphometric Changes?: **Tremolada F & Erba E** (BG05:WEam03:G1).

09:15 Environmental Control of Microstructural Novelty in Molluscan Evolution?: **Harper E** (BG05:WEam04:G1).

09:30 The Triassic-Jurassic Boundary Event: Linking the Terrestrial and Marine Records: **Hesselbo S, Robinson S & Surlyk F** (BG05:WEam05:G1).

09:45 **BREAK**

Session chaired by Paul Barrett

10:15 The Effects of Changing Atmospheric CO₂ on Plant Evolution: **Willis KJ & McElwain JC** (BG05:WEam08:G1).

10:30 Clayey Mineral Assemblages in Siliceous Rocks: Evidence of Anoxic Events in the Mesozoic of Southeastern Russia (Sikhote Alin Range, Dalnegorsk Village): **Tuchkova M, Bragin N & Krylov K** (BG05:WEam09:G1).

10:45 The Impact of Continental Fragmentation on Organismal Distribution: A Case-Study from the Early Cretaceous: **Upchurch P & Hunn C** (BG05:WEam10:G1).

11:00 Natural Selection at the K/T Boundary: **Buffetaut E** (BG05:WEam11:G1).

11:15 The K-T Mass Extinction, A Multi-Causal Scenario: **Adatte T, Keller G & Stinnesbeck W** (BG05:WEam12:G1).

11:30 Mineral Sources and Innovations of Biological Evolution: **Yushkin N** (BG05:WEam13:G1).

11:45 Earthworm-Clay Mineral Interactions and Potential Chemical Transfers into Runoffs: **Chaudhuri S, Clauer N & Armstrong D** (BG05:WEam14:G1).

12:15 **MEDALLIST LECTURE** The Geochemical Memories of Mantle Convection: **Francis Albarède** (PL01:WEam16:G0).

(Symposium BG05 Continued in Session WE po on Page 93)

Symposium CC03 Room G2 From Icehouse to Greenhouse: Records, Causes and Consequences of Extreme Climatic Events in the Last 750 Ma

Convenors: Greg Price, Anne Nedelec,
Gilles Ramstein, Joe Meert & Alastair Ruffell

Session chaired by Anne Nedelec

08:30 Snowball, Slushball and Oddball Glaciations: Comings and Goings of Precambrian Ice Sheets: **Meert J** (CC03:WEam01:G2).

08:45 **KEYNOTE** The Fundamental Proterozoic-Cambrian Transition in Earth's Icehouse Modes: **Evans DA** (CC03:WEam02:G2).

09:15 From Rodinia to Gondwanaland: Growth of the Pacific Ocean and Destruction of the Mozambique and Brazilide Oceans: **Powell CM & Pisarevsky S** (CC03:WEam04:G2).

09:30 Paleogeography of Neoproterozoic Gondwana: Implications of Paleomagnetic Poles from South America and West Africa: **Trindade R, Ponte-neto C & Ernesto M** (CC03:WEam05:G2).

09:45 Paleomagnetism of Upper Riphean Rock Complexes of the Polar Urals: **Didenko A, Khain E & Bachtadse V** (CC03:WEam06:G2).

10:00 **BREAK**

Session chaired by Gilles Ramstein

10:30 Theme and Variations on Neoproterozoic Cap-Carbonate Sequences: Signatures of Snowball Earth Events: **Hoffman PE, Halverson GP, Soffer G, Schrag DP, Bowring SA & DePaolo DJ** (CC03:WEam09:G2).

10:45 The Mid Cretaceous Siberian Continental Interior Climate Paradox: Geological Facts and AGCM Results: **Spicer RA, Ahlberg AT, Herman AB, Hofmann C, Raikevich MI & Valdes PJ** (CC03:WEam10:G2).

11:00 High Resolution Analysis of Cyclicity in Upper Triassic Lake Sediments in the UK: **Posen PE, Andrews JE, Hounslow MW & Stuart-Williams H** (CC03:WEam11:G2).

11:15 Milankovitch Cyclicity and Sea-Level Change in the Late Eocene-Early Oligocene Interval; Evidence for Rapid and Extensive Antarctic Glaciation at 33.5 Ma?: **Gale A, Palike H, Hardenbol J, Huggett J, Laurie E & Skipper J** (CC03:WEam12:G2).

11:30 From Icehouse to Greenhouse: Clues from Permian Benthic Faunas of the Southwestern Tethys for the Interpretation of Extreme Climate Changes: **Weidlich O** (CC03:WEam13:G2).

11:45 Late Triassic-Jurassic Clay Mineral Suites of the Fennoscandian Border Zone and the East European Platform: Effects of Pangean Seasonality, Aridity and Humidity: **Ahlberg A, Erlström M, Grigelis A, Grinkevičiute E, Olsson I & Simkevičius P** (CC03:WEam14:G2).

12:15 **MEDALLIST LECTURE** The Geochemical Memories of Mantle Convection: **Francis Albarède** (PL01:WEam16:G0).

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Symposium CC04 Room G3 New and Refined Proxies in Palaeoceanography and Palaeoclimatology

Convenor: Martin Frank

Session chaired by Martin Frank

08:30 The Chemical Index of Alteration as a Palaeoclimatic Proxy: **Young G & Nesbitt HW** (CC04:WEam01:G3).

08:45 Dynamics of the Erosion in the Irrawaddy River Basin during the Last two Climatic Cycles (280 ka): **Colin C, Bertaux J, Turpin L, Kissel C, Siani G & Duchamp S** (CC04:WEam02:G3).

09:00 Uplift-Related Climate Change in the Southern Patagonian Andes- Evidence from Oxygen Isotope Values of Soil Carbonates: **Blisniuk P, Stern L, Chamberlain P & Strecker M** (CC04:WEam03:G3).

09:15 Towards Quantifying Trace and Nutrient Element Release Rates during Black Shale Weathering: **Peucker-Ehrenbrink B, Jaffe L & Petsch S** (CC04:WEam04:G3).

09:30 Testing the Validity of Dissolved ⁸⁷Sr/⁸⁶Sr as a Proxy for Silicate Weathering in the Himalaya: **Oliver L, Harris N, Dise N, Bickle M & Thornton G** (CC04:WEam05:G3).

Wednesday April 11th, AM Session

09:45 Sr-Nd Isotope and Geochemical Analysis of Lithic Components in Late Pleistocene Sapropels and Homogeneous Sediments from the Eastern Mediterranean Sea: Implications for Detrital Influx and Climatic Conditions in the Source Areas: **Weldeab S, Emeis K & Hemleben C** (CC04:WEam06:G3).

10:00 Nd Isotopic Compositions of Terrigenous Detritus and Seawater in the South Atlantic as Inferred from Particles Suspended in Surface Waters: **Hegner E, Walter H & van der Loeff MR** (CC04:WEam07:G3).

10:15 **BREAK**

Session chaired by Thomas Nägler

10:45 Rare Earth Element Patterns and Neodymium Signature along the Greenland Slope and in the Denmark Strait: **Lacan F, Jeandel C & Candaudap F** (CC04:WEam10:G3).

11:00 Vertical and Latitudinal Mapping of the Glacial North Atlantic Deep Water Extent Inferred from Nd Isotopes: **Bayon G, German CR, Nesbitt RW, Pierre C, Schneider R, Chen M & Bertrand P** (CC04:WEam11:G3).

11:15 Pb Isotope Data of Authigenic and Detrital Phases of a Deep-Sea Core from Southeastern Arabian Sea- A Record of Climate-Controlled Changes in Weathering Processes and Circulation Pattern?: **Wolff-Boenisch B, Hamelin B & Angeletti B** (CC04:WEam12:G3).

11:30 Monitoring the Style and Intensity of Weathering with Combined Hf-Pb-Nd Isotopic Studies on Fe-Mn Crusts: **van de Fliert T, Frank M, Lee D & Halliday AN** (CC04:WEam13:G3).

11:45 NADW Export to the Eastern South Atlantic and Southern Ocean over the Past 14 Myr Deduced from Nd and Pb Isotopes in Ferromanganese Crusts: **Frank M, Whiteley N, Kasten S, Hein JR, Halliday AN & O'Nions RK** (CC04:WEam14:G3).

12:15 **MEDALLIST LECTURE** The Geochemical Memories of Mantle Convection: **Francis Albarède** (PL01:WEam16:G0).

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Symposium EVO4 **Room F5** Interaction of Endogenic, Exogenic and Biological Terrestrial Systems and Possible Extraterrestrial Impacts during the Early Palaeoproterozoic

Convenors: Victor Melezhik & Evgenii V. Sharkov

Session chaired by Evgenii Sharkov

08:30 **KEYNOTE** Tectonic Control of Chemical and Isotopic Composition of Ancient Oceans: **Veizer J & Godderis Y** (EVO4:WEam01:F5).

09:00 Isotopic Composition of Paleoproterozoic Carbonate Successions on the Kaapvaal Craton: Implications for the Secular Carbon Isotope Curve: **Beukes N, Bekker A, Swart Q, Dorland H, van Niekerk H, Gutzmer J, Karhu J & Kaufman J** (EVO4:WEam03:F5).

09:15 The Great Early Palaeoproterozoic (Huronian) Glaciation: Convergence of Astrophysical, Plate Tectonic and Biological Phenomena?: **Young G** (EVO4:WEam04:F5).

09:30 Palaeoproterozoic ¹³C-Rich Carbonates: More Evidence for Restricted Depositional Environments: **Melezhik V & Fallick A** (EVO4:WEam05:F5).

09:45 Palaeoenvironmental Factors in World-Wide Formation of ¹³C-Rich Carbonate Sediments at 2.2-2.0 Ga: Geochemical and Sr Isotope Evidence: **Kuznetsov A, Melezhik V, Gorokhov I, Fallick A & Melnikov N** (EVO4:WEam06:F5).

10:00 **BREAK**

Session chaired by Victor Melezhik

10:30 Black Shales, Organic Matter, Ore Genesis and Hydrocarbon Generation in the Paleoproterozoic Franceville Series, Gabon: **Mossman DJ, Gauthier-Lafaye F & Jackson SE** (EVO4:WEam09:F5).

10:45 $\delta^{13}\text{C}$ Anomalies in the Archaean and Proterozoic: Organic Anomaly or Mile Stone of a Global Tectonic Reorganization: **Rammelmair D** (EVO4:WEam10:F5).

11:00 **KEYNOTE** The Palaeoproterozoic as the Main Turning Point of Endogenic Evolution of the Earth: Evidence for the Baltic Shield: **Sharkov E & Krassivskaya I** (EVO4:WEam11:F5).

11:30 Palaeoproterozoic Crustal Evolution of the Western Ukrainian Shelf: Sm-Nd and U-Pb Zircon Ion-Microprobe Isotopic Data: **Bibikova E, Claesson S, Bogdanova S & Skobelev V** (EVO4:WEam13:F5).

11:45 Palaeomagnetic Evidences for the Evolution of the Earth during Early Palaeoproterozoic: **Mertanen S** (EVO4:WEam14:F5).

12:15 **MEDALLIST LECTURE** The Geochemical Memories of Mantle Convection: **Francis Albarède** (PL01:WEam16:G0).

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Symposium EVO6 **Room F1** The Late Quaternary Glacial and Environmental History of the Eurasian North – Land Areas, Shelf Seas and the Adjacent Deep Arctic Ocean (QUEEN)

Convenors: J. Thiede & Christian Hjort

Session chaired by J Dowdeswell

08:30 A Review of The Consensus View: Limited Glacial Ice Extent across N.E. Russia and Alaska during LGM: **Brigham-Grette J** (EVO6:WEam01:F1).

08:45 The Late Quaternary Climatic and Environmental History of the Taymyr Peninsula, Northern Central Siberia: **Hubberten H, Melles M & Siegert C** (EVO6:WEam02:F1).

09:00 Weichselian Glaciations on the Taymyr Peninsula, Siberia: **Möller P, Hjort C & Alexanderson H** (EVO6:WEam03:F1).

09:15 Late Pleistocene Glaciers Keep Dwindling in West Siberia: **Astakhov V** (EVO6:WEam04:F1).

09:30 Late Quaternary Glacial History of Southern Kara Sea Area: Stratigraphical Evidence from Yamal and Yugorski Peninsulas: **Ingolfsson O** (EVO6:WEam05:F1).

09:45 **BREAK**

Session chaired by J Thiede

10:15 The Chronology of the Barents-Kara Ice Sheet Advances and Ice Dammed Lakes in Northern Russia: **Mangerud J, Astakhov V, Svendsen JI & Mona H** (EVO6:WEam08:F1).

10:30 Palaeogeographical Reconstructions around the Busiest Weichselian Ice-Flow Junction in Northern Russia: **Larsen E, Demidov I, Funder S, Grøsfjeld K, Houmark-Nielsen M, Kjær KH, Lavrova N, Lyså A & Nielsen JK** (EVO6:WEam09:F1).

10:45 The Last Glaciation on the Kola Peninsula, Russia: **Lunkka JP, Saarnisto M & Demidov I** (EVO6:WEam10:F1).

11:00 Environmental Changes during the Last Interglacial-Glacial Macrocycle in the North-West of the Russian Plain: **Velichko A, Zelikson E & Borisova O** (EVO6:WEam11:F1).

11:15 Modelling the Eurasian Ice Sheet through the Weichselian Glacial Cycle: **Siegert M & Dowdeswell J** (EVO6:WEam12:F1).

11:30 Reconstruction of the Eurasian Ice Sheets during the Weichselian: **Svendsen JI** (EVO6:WEam13:F1).

Wednesday April 11th, AM Session

Symposium FMF3 Room F4 Petroleum Geology and Fluid Flow and Property Predictions from Basin Scale Numerical Models

Convenors: Stuart Burley & Philip Muechz

Session chaired by Stuart Burley

08:30 Source, Maturation and Petroleum Migration: From Industry to Academia: Fleet A (FMF3:WEam01:F4).

08:45 Thermal Modelling Applied to Sedimentary Basins: Amir L, Martinez L, Michels R, Suarez Ruiz I, Disnar J, Robin C & Guillocheau F (FMF3:WEam02:F4).

09:00 Subsidence, Thermal and Maturity Modelling of the Northern Foreland of the Mecsek Mountains (Oil and Gas Potential of the Mesozoic Formations): Badics B (FMF3:WEam03:F4).

09:15 Temperature-Dependent Viscoelastic Compaction and Compartmentalization in Sedimentary Basins: Connolly J & Podladchikov Y (FMF3:WEam04:F4).

09:30 Porosity, Permeability and Compressibility of Fine Grained Sediments: Quantitative Constraints from the ODP: Matenaar IF, Aplin AC & Yang Y (FMF3:WEam05:F4).

09:45 BREAK

Session chaired by Philippe Muechz

10:15 The Geologist's Role in Seismic Attribute-Based Predictions of Reservoir Properties: Hart B (FMF3:WEam08:F4).

10:30 Analogue Modelling of Tectonic Structures and Hydrocarbon Traps: A Mature Technique with Future Possibilities: Cobbold P (FMF3:WEam09:F4).

10:45 Lost Ancient Oil Traced using the $^{20}\text{Ne}/^{36}\text{Ar}$ Ratio: Hydrocarbon Migration, Rare Gas Distillation and Basin Dynamics: Sarda P, Battani A & Prinzhofer A (FMF3:WEam10:F4).

11:00 Overpressuring from Mineral Dehydration: Deffeyes K (FMF3:WEam11:F4).

11:15 Porosity Preservation and Creation: Sandstone Cementation in Hydrocarbon Basins: Haszeldine RS, Wilkinson M, Marchand A, Macaulay CI, Lee MR, Fallick AE & Graham CM (FMF3:WEam12:F4).

11:30 Tracing Sources of Natural Gases: Clayton C (FMF3:WEam13:F4).

11:45 Quantitative Chemical Mapping of Adsorbed Scale Inhibitors on Representative Reservoir Mineral Surfaces: Hill P, Farquhar M, Wogelius R & Grime G (FMF3:WEam14:F4).

12:15 *MEDALLIST LECTURE* The Geochemical Memories of Mantle Convection: Francis Albarède (PL01:WEam16:G0).

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Symposium LS02 Room F2 Structure, Composition and Accretion of the Oceanic Crust: Geophysical, Petrological and Geochemical Constraints

Convenors: Benoit Hedefonse, Carlos Garrido
& Jason Phipps Morgan

Session chaired by Jason Phipps Morgan

08:30 Accretion of Oman and United Arab Emirates Ophiolite: Nicolas A & Boudier F (LS02:WEam01:F2).

08:45 Seismic Structure of EPR Magma Chamber: New Constraints from the 9°03'N OSC: Bazin S, Singh S, Kent G, Harding A, Orcutt J & the ARAD group (LS02:WEam02:F2).

09:00 Three-Dimensional Reflectivity Image of the Melt Sill and Moho- Implications for Crustal Accretion Process at Fast Spreading Centres: Singh S, Harding A, Sinha M, Kent G & The ARAD Group (LS02:WEam03:F2).

09:15 Lower Crustal and Moho Melt beneath the East Pacific Rise, 9°-10°N, from Seafloor Compliance Measurements: Crawford WC, Webb SC & Dunn RA (LS02:WEam04:F2).

09:30 Geochemical and Volcanological Development of the East Pacific Rise; 9°-10° N: Perfit MR, Fornari D, Smith M, Ridley W, Sims K & Haymon R (LS02:WEam05:F2).

09:45 Origin of the Lowermost Oceanic Crust: Trace-Element and Isotopic Composition of Layered Gabbros from the Oman Ophiolite: Pfänder JA, Maissenbacher P, Jochum KP & Hofmann AW (LS02:WEam06:F2).

10:00 Fluid Flow Patterns in Fast-Spreading EPR Crust Exposed at Hess Deep: Gillis K, Muehlenbachs K, Stewart M & Karson J (LS02:WEam07:F2).

10:15 BREAK

Session chaired by Carlos Garrido

10:45 Deep, Near-Axis Hydrothermal Circulation at Oman Fast-Spreading Ridge: Boudier F, Bosch-Bruguier D & Godard M (LS02:WEam10:F2).

11:00 Structure of the Central Indian Ridge Near 19°S: Influence of the Reunion/Rodrigues Hotspot: Briaais A, Maia M, Gente P & Dymant J (LS02:WEam11:F2).

11:15 Wavelet Analysis of Deep-Tow Magnetic Profiles: Modelling the Magnetic Layer Thickness over the Central Indian Ridge: Pouliquen G, Sailhac P & Dymant J (LS02:WEam12:F2).

11:30 Off-Axis and Along-Axis Segment Characteristics: Insights from a 3D Thermal Modeling: Gac S, Tisseau C & Dymant J (LS02:WEam13:F2).

11:45 Long-Lived "Superpropagators" on the Carlsberg Ridge between Chrons 26-20 (58-42 Ma): Dymant J, Chaubey AK & Royer J (LS02:WEam14:F2).

12:15 *MEDALLIST LECTURE* The Geochemical Memories of Mantle Convection: Francis Albarède (PL01:WEam16:G0).

(Symposium LS02 Continued in Session WE pm on Page 88)

Symposium LS07 Room G0 Origin and Significance of Major Boundaries in the Deep Crust and Continental Lithosphere

Convenors: J. Stephen Daly, Tim S. Brewer
& Sven-Erik Hjelt

Session chaired by J. Stephen Daly

08:30 Seismic Stratigraphy of the Continental Lithosphere from Deep Seismic Reflection Profiling: Brown L (LS07:WEam01:G0).

08:45 Assessing the Reliability of High Grade Xenoliths as Lower Crustal Samples: An Example from Central Ireland: van den Berg R & Daly JS (LS07:WEam02:G0).

09:00 Crustal Thickness and the Question of Partial Melt beneath the Northeastern Part of the Tibetan Plateau: Combined Study of Receiver Functions and Teleseismic Tomography: Vergne J, Wittlinger G, Tapponnier P & Poupinet G (LS07:WEam03:G0).

09:15 The Accretionary Svecofennian Orogen- Insights from the BABEL Profiles: Korja A & Heikkinen P (LS07:WEam04:G0).

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09:30 Evolution and Collision Related Structure of the Early Precambrian Lithosphere in the Eastern Baltic Shield: Synthesis of Deep Reflection Profiling, Geological and Geochronological Data: **Mints MV, Berzin RG, Babarina II, Konilov AN, Stupak VM & Zamozhniaya NG** (LS07:WEam05:G0).

09:45 Interplate and Intraplate Boundaries in the SW Iberian Variscides: **Ribeiro A, Chaminé H, Pereira E & Fonseca P** (LS07:WEam06:G0).

10:00 Major Crustal/Lithospheric Boundaries in the Western Part of the East European Craton as Seen from Geology and the EUROBRIDGE Seismic Experiment: **Bogdanova S & EUROBRIDGE Working Groups** (LS07:WEam07:G0).

10:15 BREAK

Session chaired by Tim S. Brewer

10:45 DSS EUROBRIDGE'94-97: Lithospheric Structure of the Western Part of the East European Craton: **Yliniemi J & EUROBRIDGE Seismic Working Group** (LS07:WEam10:G0).

11:00 Integrated Density-Velocity Modeling along EUROBRIDGE'95-97 Wide-Angle Reflection and Refraction Profiles: Main Results: **Kozlovskaya E, Yliniemi J, Karatayev G & Seismic Working Group** (LS07:WEam11:G0).

11:15 Structure of Upper Lithosphere in Western Part of the East European Craton (Results of DSS Profiles Eurobridge and Polonaise): **Motuz G, Korabliova L & Nasedkin V** (LS07:WEam12:G0).

11:30 Reflection Seismic Evidence of Late Proterozoic Orogenic Structures Below Kattegat, Eastern Denmark: **Lassen A & Thybo H** (LS07:WEam13:G0).

11:45 Geochronology of Deformation along a Major Linear Banded Gneiss Unit in SW Scandinavia and Implications for Sveconorwegian Orogenic Evolution: **Bingen B, Davis WJ, Hamilton MA & Nordgulen Ø** (LS07:WEam14:G0).

12:15 *MEDALLIST LECTURE* The Geochemical Memories of Mantle Convection: **Francis Albarède** (PL01:WEam16:G0).

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Symposium MS03 Room G8

Magmatic Inclusions in Minerals – A Source of Key Information about the Mantle Processes

Convenors: Alexander V. Sobolev, N. Shimizu & L.V. Danyushevsky

Session chaired by AV Sobolev

08:30 Interaction between Ocean Island Basalt-Type and Island Arc Basalt-Type Mantle Sources in Convergent Margin Settings: Evidence from the Southern Tyrrhenian-Sicilian Region: **Schiano P, Clochiatti R & Ottolini L** (MS03:WEam01:G8).

08:45 Assimilation of Lower Crust Cumulates Recorded by Melt Inclusions in Olivine Phenocrysts from the Siqueiros FZ MORB: **Danyushevsky L, Eggins S, Perfit M & Falloon T** (MS03:WEam02:G8).

09:00 Melt Inclusions as a Tool for Investigating and Circumventing the Effects of Crustal Contamination in CFB Provinces: An Example from the Oligocene Flood Basalts of Yemen: **Kent A & Baker J** (MS03:WEam03:G8).

09:15 Origin of Chlorine-Rich Melt Inclusions from Raivavae, Austral Islands: Evidence for Altered-Lithosphere Assimilation by Ascending Magmas: **Lassiter J, Hauri E, Nikogosian I & Barszczus H** (MS03:WEam04:G8).

09:30 Oxygen Isotopic Variations in the Source of Icelandic Tholeiites: Evidence from Ol-Hosted Glass Inclusions: **Gurenko A & Chaussidon M** (MS03:WEam05:G8).

09:45 Tracking Carbon in Olivine-Hosted Melt Inclusions by Nuclear Reaction Analysis: **Metrich N, Batanova V, Daudin L, Sobolev A, Varela M & Waguena E** (MS03:WEam06:G8).

10:00 BREAK

Session chaired by LV Danyushevsky

10:30 Parental Melts and Mantle Sources of Hawaiian Shield Tholeiites: The Constraints from Studies of Melt Inclusions in Olivines: **Sobolev AV, Hofmann AW & Nikogosian IK** (MS03:WEam09:G8).

10:45 Crystallised Melt Inclusions in Greenland Basalts: Evidence for Mixing in Primitive Plume Melts: **Nielsen TE, Turkov VA, Brooks CK, Kogarko LN, Krigman LD, Ryabchikov ID, Sokolov SV, Solovova I & Veksler IV** (MS03:WEam10:G8).

11:00 Early Alkaline Volcanics from Mt. Etna: Indications of Different Degrees of Partial Melting from the Study of Melt Inclusions: **Busà T, Cristofolini R, Clochiatti R & Ottolini L** (MS03:WEam11:G8).

11:15 Magmatic Inclusions in Olivines from the Noril'sk Intrusions (Russia) as a Source of Information on the Composition of their Parental Melts and Volatiles: **Krvolutskaya N & Sobolev A** (MS03:WEam12:G8).

11:30 Olivine Hosted Melt Inclusions in Kamchatka Lavas: Implications for the Origin of High-Ca Low-Si Melt Inclusions in Island-Arc Settings: **Portnyagin MV, Pletchov PY, Mironov NL & Tetroeva SA** (MS03:WEam13:G8).

11:45 Magmatic Inclusions in Olivine, Orthopyroxene and Augite in Ureilite Meteorites: Insights into the Mantle and Early Differentiation of an Achondritic Parent Body: **Goodrich C** (MS03:WEam14:G8).

12:15 *MEDALLIST LECTURE* The Geochemical Memories of Mantle Convection: **Francis Albarède** (PL01:WEam16:G0).

Symposium MS09 Room F6

Upper Mantle Structure and Flow

Convenors: Guilhem Barruol, Geoffrey Lloyd & Mike Kendall

Session chaired by Guilhem Barruol

08:30 Reconciling Regional and Global Surface Wave Tomography: **Kennett B & Yoshizawa K** (MS09:WEam01:F6).

08:45 Heterogeneity and Anisotropy of the Australian Upper Mantle: **Simons FJ & van der Hilst RD** (MS09:WEam02:F6).

09:00 Origin of Continental Roots Inferred from Joint Inversions of Gravity and Seismological Data: **Deschamps F, Trampert J & Snieder R** (MS09:WEam03:F6).

09:15 Rayleigh Wave Polarisation Anomalies Reveal Lithospheric Anisotropy at the Kerguelen Hotspot: **Pettersen O & Maupin V** (MS09:WEam04:F6).

09:30 Shear Wave Structure of the Upper Mantle beneath the Horn of Africa: **Debayle E, Sicilia D, Lévêque J & Cara M** (MS09:WEam05:F6).

09:45 Paleozoic Subduction Imaged by Seismology in a Preserved Segment of the Western European Hercynian Range: **Judenherc S, Granet M, Jean-Pierre B & Georges P** (MS09:WEam06:F6).

10:00 BREAK

Session chaired by Mike Kendall

10:30 Seismic Tomography and Anisotropy of the Upper Mantle beneath the Southern Massif Central: **Barruol G, Granet M, Achauer U & Dorel J** (MS09:WEam09:F6).

10:45 Seismic Anisotropy of the Upper Mantle beneath the Bohemian Massif: **Plomerova J, Achauer U, Babuska V, Granet M, Judenherc S, Jedlicka P, Kouba D & Vecsey L** (MS09:WEam10:F6).

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11:00 Mid-Mantle Anisotropy and Mantle Flow: **Wookey J, Kendall J & Barruol G** (MS09:WEam11:F6).

11:15 Subduction Body Force Stresses and Viscosity Structure at the 410 and 660 km Phase Transitions: **Kusznir N** (MS09:WEam12:F6).

11:30 Predicted Anisotropic Structure for Plate Boundary Flow Models: **Blackman D & Kendall J** (MS09:WEam13:F6).

11:45 Anisotropy of Thermal Diffusivity in the Upper Mantle: **Gibert B, Tommasi A, Seipold U & Mainprice D** (MS09:WEam14:F6).

12:15 *MEDALLIST LECTURE* The Geochemical Memories of Mantle Convection: **Francis Albarède** (PL01:WEam16:G0).

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Symposium OS06 Room G5 Mineralogy, Ore Geology and Mineral Resources

Convenors: Gregor Borg & Susanne Schmid

Session chaired by Lee Groat

08:30 Diagenesis and Subsequent Regional Metamorphism and Deformation at Bamsar Skarn Tungsten-Tin Occurrence in Central Iran: **Ghaderi M, Rastad E & Maghvan MA** (OS06:WEam01:G5).

08:45 Cr, Ni, PGE and Au Geochemistry of Kizildag Ophiolites (Middle Anatolia): **Ciftci Y** (OS06:WEam02:G5).

09:00 Deep Exhumation and Tectonic Emplacement of the Nishni Tagil Ultramafic Complex and its Platinum Ores, Urals, Russia: **Borg G, Degen TJ, Tarkian M, Shmelev V & Anikina E** (OS06:WEam03:G5).

09:15 Chemistry and Morphology of Chromite Grains in an Early Archaean Ultrabasic Intrusion, West Greenland: **Appel CC, Appel PW & Rollinson HR** (OS06:WEam04:G5).

09:30 Complex Metasomatic Process between Serpentinized Ultrabasic Rocks and Alkaline Intrusive Bodies In Divrigi: **Isik MA** (OS06:WEam05:G5).

09:45 The Modes of Occurrence of PGE in Low-Sulphide Platinum Ores of Norilsk Region (Russia): **Sluzhenikin S, Distler V, Krivolutskaia N & Turovtzev D** (OS06:WEam06:G5).

10:00 *BREAK*

Session chaired by Catherine Lerouge

10:30 P-T Conditions of Formation of Lherzolitic Diamonds: **Nimis P** (OS06:WEam09:G5).

10:45 Loss of Copper during Mining and Processing and its Effect on Sustainability: **Sievers H, Ruhrberg M, Meyer FM, Grassmann J & Eden K** (OS06:WEam10:G5).

11:00 Resource Oriented Characteristics of Copper Deposits in the Context of Sustainable Development: **Grassmann J, Eden K & Meyer FM** (OS06:WEam11:G5).

11:15 The High Temperature Behaviour of Defect Hydrous Species in Quartz: Implications for Hydrogen Isotope Studies: **Grant K, Sarah G & Steve R** (OS06:WEam12:G5).

11:30 Ganterite: A New Barium Dominant White Mica: **Hetherington CJ, Graeser S, Schmidt ST & Gieré R** (OS06:WEam13:G5).

11:45 Compositional, EPR and SQUID Magnetometry Data on the Tetrahedrite Group Minerals: **Bernardini GP, Cipriani C, Danti C, Di Benedetto F, Emiliani C, Gatteschi D & Romanelli M** (OS06:WEam14:G5).

12:15 *MEDALLIST LECTURE* The Geochemical Memories of Mantle Convection: **Francis Albarède** (PL01:WEam16:G0).

(Symposium OS06 Continued in Session WE po on Page 99)

Symposium OS07 Room G7 Igneous and Metamorphic Geology

Convenors: Paddy O'Brien & Leo Kriegsman

Session chaired by Dominique Lattard

08:30 Garnet Breakdown at Very High Temperature in Al-Mg Granulites, from the In Ouzzal Terrane (Western Hoggar, Algeria): **Adjerid Z, Ouzegane K, Kienast J-R & Godard G** (OS07:WEam01:G7).

08:45 P-T Evolution in Garnet-Pyroxenite from Tin Begane (Central Hoggar, Algeria): **Derridj A, Ouzegane K & Kienast J** (OS07:WEam02:G7).

09:00 Thermochronology and Ar-Ar Dating of the Fast Cooling Petrological Systems: **Gerasimov V** (OS07:WEam03:G7).

09:15 The Origin of Rare Sanidine Eclogite Xenoliths from the Zero Kimberlite (R.S.A.): **Schmickler B, Jacob D & Foley S** (OS07:WEam04:G7).

09:30 The Raman Spectrum of Carbonaceous Material in Metasediments: Calibration and Application of a New Geothermometer: **Beysac O, Goffé B, Bollinger L, Avouac JP, Vidal O & Rouzaud JN** (OS07:WEam05:G7).

09:45 Corona Formation in Metagabbro: Experimental Modeling and Diffusion Coefficients: **Larikova T & Zaraisky G** (OS07:WEam06:G7).

10:00 Multistage Tectonometamorphic Evolution of the Taratash Complex, Middle Urals, Russia: **Schulte B & Sindern S** (OS07:WEam07:G7).

10:15 *BREAK*

Session chaired by Leo Kriegsman

10:45 Granitic Plutons Composed of Small Melt Batches- Examples from Proterozoic Rocks in Southern Finland: **Stålfors T & Ehlers C** (OS07:WEam10:G7).

11:00 Abundance and Distribution of B and Li in Metapelites and Granites from a Proterozoic Terrane in the Black Hills, South Dakota, USA: **Wilke M, Nabelek PI & Glascock MD** (OS07:WEam11:G7).

11:15 Geochemical and Isotopic Characteristics of the Pan-African Magmatic Torra Baai Complex in the Kaoko Belt, NW Namibia: **Mihm D, Masberg P, Jung S & Friedrichsen H** (OS07:WEam12:G7).

11:30 Towards a Better Calibration of the Titanomagnetite-Ilmenite Thermo-Oxybarometer: New Experimental Results in the Fe-Ti-O System at 1 bar and 1000-1300 °C: **Lattard D, Käsemann M, Fleischhammer M & Höltzen H** (OS07:WEam13:G7).

11:45 Sulfur Isotope Composition of Magmatic Anhydrite from Plutonic Rocks: **Freiberger R, Cuney M & Deloule E** (OS07:WEam14:G7).

12:15 *MEDALLIST LECTURE* The Geochemical Memories of Mantle Convection: **Francis Albarède** (PL01:WEam16:G0).

(Symposium OS07 Continued in Session WE pm on Page 90)

Wednesday April 11th, AM Session

Symposium PCM8 Room G6 Transformation Processes in Minerals

Convenors: Michael Carpenter, C. McCammon & M. Kunz

Session chaired by M Kunz

08:30 The Origin of Stable Remanent Magnetization in Exsolved Titanohematite: Insights through the Application of Neutron Diffraction, Transmission Electron Microscopy, Electron Energy Loss Spectroscopy, and Monte Carlo Simulations: **Harrison R, McEnroe S, Golla U & Becker U** (PCM8:WEam01:G6).

08:45 A Sulphide Mineral Switch: **Butler I, Rickard D & Oldroyd A** (PCM8:WEam02:G6).

09:00 Reductive Dissolution of Synthetic Goethite with Ascorbic Acid Observed by Scanning Force Microscopy: **Weidler PG & Stipp SL** (PCM8:WEam03:G6).

09:15 Transformation of the (010) Olivine Surface by HF-Etching. Study by RBS in Channeling Geometry: **Lemelle L, Abel F, Cohen C & Guyot F** (PCM8:WEam04:G6).

09:30 Microstructural and Compositional Changes in Olivine during Electron Irradiation: **Carrez P, Leroux H, Cordier P & Guyot F** (PCM8:WEam05:G6).

09:45 **BREAK**

Session chaired by Michael Carpenter

10:15 He⁺ Irradiation-Induced Structural and Chemical Modifications in Olivine: **Demyk K, Carrez P, Leroux H, Cordier P, D'Hendecourt L & Jones A** (PCM8:WEam08:G6).

10:30 The Degree and Nature of Radiation Damage in Zircon Observed by ²⁹Si Nuclear Magnetic Resonance: **Farnan I & Salje E** (PCM8:WEam09:G6).

10:45 Hydrous Olivine Mg_{2-x}Si₄H_{2x}-The HMS Phase with Ordered Mg-Vacancies and Ordered Planar Defects: **Khisina N & Wirth R** (PCM8:WEam10:G6).

11:00 The Dehydration Products of Normal Tobermorite and Clinotobermorite: **Bonaccorsi E, Merlino S & Taylor H** (PCM8:WEam11:G6).

11:15 The Fate of Structure-Bound Mn(II) in a CaO-MgO-H₂O-CO₂ System during Phase Transformation: **Granwehr J, Weidler PG & Gehring AU** (PCM8:WEam12:G6).

11:30 Transformations and Overgrowths in Serpentine Microstructures: A HRTEM Survey: **Baronnet A, Belluso E, Devouard B, Grauby O & Auzende A** (PCM8:WEam13:G6).

11:45 Postmagmatic Alterations of Accessory Minerals in the Ultrapotassic Rocks of the Trebic Pluton (Bohemian Masif): **Sulovsky P & Leichmann J** (PCM8:WEam14:G6).

12:15 **MEDALLIST LECTURE** The Geochemical Memories of Mantle Convection: **Francis Albarède** (PL01:WEam16:G0).

Symposium RCM3 Room F3 Contrasting Processes of Continental Rift and Passive Margin Development: Comparison of Results from the Modern Oceans and Orogenic Belts

Convenors: Alastair Robertson, H.-C. Larsen, R Whitmarsh & G. Manatschal

Session chaired by Bob Whitmarsh

08:30 **KEYNOTE** Architecture and Tectonic Evolution of Magma-Poor Margins: Present-Day Iberian and Ancient Tethyan Margins: **Manatschal G, Bernoulli D, Desmurs L, Müntener O & Schaltegger U** (RCM3:WEam01:F3).

09:00 MORB-Type Magmatism: End of Passive Rifting and Initiation of a Slow Spreading System. The Platta Ocean-Continent Transition, Graubünden, Eastern Switzerland: **Desmurs I, Müntener O, Schaltegger U, Chalot-Prat F, Manatschal G & Bernoulli D** (RCM3:WEam03:F3).

09:15 Plagioclase Peridotite along Continental Margins: Controlled by Subsolvus Equilibration or Melt/Rock Reaction?: **Müntener O, Desmurs L, Pettke T, Schaltegger U, Manatschal G & Bernoulli D** (RCM3:WEam04:F3).

09:30 Petrography of Volcaniclastic and Ophiolitic Clasts in the Western Woodlark Basin: **Cortesogno L, Gaggero L & Gerbaudo S** (RCM3:WEam05:F3).

09:45 The Neoproterozoic Volcanic Rifted Margin of Baltica as Preserved by Thrust Sheets of the Scandinavian Caledonides: **Andreasson P** (RCM3:WEam06:F3).

10:00 A Vendian Paleolatitude for Baltica- Paleomagnetic Constraints from the Sarek Dyke Swarm, Northern Swedish Caledonides: **Eneroth E & Svenningsen O** (RCM3:WEam07:F3).

10:15 **BREAK**

Session chaired by Chris Wilson

10:45 **KEYNOTE** A Combined Plume-Influenced and Slab-Pull-Related Model for Late Triassic Continental Break-Up in the Eastern Mediterranean Region: **Robertson A & Dixon J** (RCM3:WEam10:F3).

11:15 Stratigraphy and Geochemistry of Cretaceous Volcano-Sedimentary Units in the North of Istanbul: Development of a Volcanic Rifted Margin, Western Pontides, Turkey: **Keskin M & Ustaomer T** (RCM3:WEam12:F3).

11:30 Genesis of the Rift Volcanism and Basin Formation Related to the Opening of the Black Sea during Late Cretaceous, Western Pontides, Turkey: **Keskin M & Tuysuz O** (RCM3:WEam13:F3).

11:45 Geochronological Constraints on Igneous Crustal Accretion along the Southeast Greenland Volcanic Rifted Margin: **Tegner C, Larsen HC, Leshar CE & Duncan RA** (RCM3:WEam14:F3).

12:15 **MEDALLIST LECTURE** The Geochemical Memories of Mantle Convection: **Francis Albarède** (PL01:WEam16:G0).

Wednesday April 11th, AM Session

Symposium VPP3 Room G4

Growth of Volcanic Structures in the Oceans, from Ridge Crests to the Plate Interiors

Convenors: Neil Mitchell & David Pyle &
Michael Marani

Session chaired by DM Pyle

08:30 Piling Rate and Magmatic Evolution through Time of the Teide Volcano (Tenerife, Canary Islands): **Gillot P, Soler J V & Quidelleur X** (VPP3:WEam01:G4).

08:45 Contrasting Submarine Slopes of the Canary and Hawaiian Hotspot Islands: **Mitchell N, Masson D, Watts T, Gee M & Urgeles R** (VPP3:WEam02:G4).

09:00 Giant Landslides in the Flanks of Volcanic Ocean Islands and Overall Significance in their Evolution, the Canary Islands: **Urgeles R, Canals M, Masson DG, Watts AB, Gee MJ & Mitchell NC** (VPP3:WEam03:G4).

09:15 Submarine and Subaerial Growth Phases of the Canary Volcanic Islands as Seen in Reworked Sediment Sequences: **Weaver P & Jarvis I** (VPP3:WEam04:G4).

09:30 *KEYNOTE* Numerical and Analogue Modelling of Volcano Flank Spreading: Characterisation of Structure, Morphology and Associated Landslide Activity: **Cecchi E, van Wyk de Vries B & Garaebiti E** (VPP3:WEam05:G4).

10:00 *BREAK*

Session chaired by M Marani

10:30 The Model of Strike-Slip Induced Volcano Deformation and Instability and its Application to Mount Bao, Philippines: **Lagmay AMF & Aurelio M** (VPP3:WEam09:G4).

10:45 Large Scale Flank-Collapses during the Activity of Mount Pelée: **Le Friant A, Boudon G, Deplus C & Villemant B** (VPP3:WEam10:G4).

11:00 Evidence for a Differentiated Ignimbritic Activity Ending the Building-Stage of Tahiti (French Polynesia): **Hildenbrand A & Gillot P** (VPP3:WEam11:G4).

11:15 Seismic Imaging of the Caribbean Plateau Shows the History of Growth of the Volcanic Structures of a Large Igneous Province: **Diebold J & Tischer M** (VPP3:WEam12:G4).

11:30 Mapping Weak, Altered Zones with Aerogeophysical Measurements at Mount Rainier, Washington: Implications for Catastrophic Collapse: **Finn C, Sisson T & Deszcz-Pan M** (VPP3:WEam13:G4).

Wednesday April 11th, PM Session

Symposium CC03 Room G2 From Icehouse to Greenhouse: Records, Causes and Consequences of Extreme Climatic Events in the Last 750 Ma

Convenors: **Greg Price, Anne Nedelec, Gilles Ramstein, Joe Meert & Alastair Ruffell**

Session chaired by Joe Meert

14:00 Planetary Greenhouses and Icehouses: Oxygen Isotope Record: **Veizer J, Godderis Y & Francois LM** (CC03:WEpm25:G2).

14:15 A Major Carbon-Cycle Perturbation in the Middle Jurassic and Accompanying Climatic Change Adduced from the Land-Plant Record: **Hesselbo S, Morgans-Bell H, McElwain J, Rees PM & Stuart R** (CC03:WEpm26:G2).

14:30 Observations of the Neoproterozoic Glaciogenic Rock Record: Implications for Palaeoclimate (Snowball Earth) Models: **Prave T, Fallick T, Condon D & Benn D** (CC03:WEpm27:G2).

14:45 $\delta^{13}\text{C}$ Data from Neoproterozoic Cap and Associated Dolostones, Varanger, Finnmark, N. Norway: **Rice AHN, Halverson GP & Hofmann C** (CC03:WEpm28:G2).

15:00 Isotopic and Stratigraphic Evidence for a Neoproterozoic Cap-Carbonate in the Grusdievbreen Formation, Northeastern Svalbard: **Halverson GP & Maloof A** (CC03:WEpm29:G2).

15:15 Rapid, Orbitally Controlled Global Sea-Level Change during the Cenomanian: Evidence for Antarctic Ice during the Late Cretaceous?: **Gale A, Hardenbol J, Kennedy J, Hathway B & Young J** (CC03:WEpm30:G2).

15:30 **BREAK**

Session chaired by Gregory Price

16:00 Cretaceous Model-Data Comparisons: How Bad are the Models?: **Valdes P & Spicer R** (CC03:WEpm33:G2).

16:15 Modeling the Eocene/Oligocene "Greenhouse" to "Icehouse" Transition: **DeConto R & Pollard D** (CC03:WEpm34:G2).

16:30 The Late Devonian Faunal Crisis as Seen Through a Numerical Model of the Geochemical Cycles: **Godderis Y & Joachimski MM** (CC03:WEpm35:G2).

16:45 Simulation of the Permo-Carboniferous Glaciation with a GCM Forced by a Global Paleogeographic Reconstruction: **Fluteau F, Ramstein G, Besse J & Ritz C** (CC03:WEpm36:G2).

17:00 Earth's Climate and Glaciation Changes over Phanerozoic Time: Comparison of Two Different Modeling Approaches: **Berner U, Hiete M & Richter O** (CC03:WEpm37:G2).

17:15 Is High Obliquity a Possible Mechanism to Explain Tropical Glaciation at Neoproterozoic?: **Gilles R, Yannick D, Jacques L, Frederic F & Jean B** (CC03:WEpm38:G2).

(Symposium CC03 Continued in Session WE po on Page 93)

Symposium CC04 Room G3 New and Refined Proxies in Palaeoceanography and Palaeoclimatology

Convenor: **Martin Frank**

Session chaired by Martin Frank

14:00 $\delta^{44}\text{Ca}$ -Temperature Calibration on Fossil and Cultured *Globigerinoides sacculifer*: A New Paleo Sea Surface Temperature Proxy: **Nägler TF, Eisenhauer A, Müller A, Hemleben C & Kramers JD** (CC04:WEpm25:G3).

14:15 Determination of $\delta^{44}\text{Ca}$ -ratios on *G. bulloides* (ODP Leg 183 Site 1138) using a New TIMS Multicollector Technique: **Heuser A, Eisenhauer A, Gussone N, Bock B, Böhm F & Nägler T** (CC04:WEpm26:G3).

14:30 Using $\delta^{44}\text{Ca}$ - and $\delta^{18}\text{O}$ -Isotopes as Proxies for SST and Salinity Changes during the Closure of the Central American Gateway: **Gussone N, Haug G, Tiedemann R, Heuser A, Eisenhauer A, Bock B & Naegler T** (CC04:WEpm27:G3).

14:45 Oxygen and Carbon Isotopic Compositions of Coral Skeleton at Micrometer Scale: **Rollion-bard C, Chaussidon M, France-lanord C & Bard E** (CC04:WEpm28:G3).

15:00 Paleotemperatures Reconstructed from Mg/Ca in Foraminifer Tests: Correcting for Dissolution Effects using Calcite Crystallinity and Other Dissolution Proxies: **Bassinot F, Lévi C, Mélières F, Gehlen M & Labeyrie L** (CC04:WEpm29:G3).

15:15 Interspecies Variability in Foraminiferal Sr/Ca Ratios over Glacial-Interglacial Cycles: **Barker S, Elderfield H & Ganssen G** (CC04:WEpm30:G3).

15:30 Sclerosponges: New Proxy Recorders of Environmental Data: **Haase-Schramm A, Böhm F, Deyhle A, Eisenhauer A, Gussone N, Lehnert H, Joachimski M, Müller A, Reitner J & Dullo W** (CC04:WEpm31:G3).

15:45 **BREAK**

Session chaired by Martin Frank

16:15 Global Calibration of *Gephyrocapsa* Coccolith Abundance and Morphology for Paleotemperature Assessment during the last Glacial Maximum in the Canary Islands Region: **Henderiks J, Bollmann J & Thierstein HR** (CC04:WEpm34:G3).

16:30 Planktic Foraminiferal Distribution Across the Azores Front: **Schiebel R, Barbara S & Hemleben C** (CC04:WEpm35:G3).

16:45 Paleoveilication Conditions in the Equatorial Indian Ocean between 300 and 500 ka B.P.: **Willamowski C, Hamelin B & Bard E** (CC04:WEpm36:G3).

17:00 Determination of Isotopic Variations of Zinc in the Biogenic Fraction of Marine Sediments: A Potential Tool for Paleo-productivity Reconstruction: **Pichat S, Albaredo F & Douchet C** (CC04:WEpm37:G3).

17:15 Reconstructing Paleosalinities of the Baltic Sea from Oxygen Isotopic Composition of Authigenic Mn-Carbonates: Applicability and Limitation: **Neumann T, Uwe H & Markus A. L** (CC04:WEpm38:G3).

(Symposium CC04 Continued in Session WE po on Page 93)

Wednesday April 11th, PM Session

Symposium CC09

Room G1

Clathrates, Climate, and Carbon Budget (A): Accumulation and Destabilisation of Natural Gas Hydrate Systems: Dynamic Carbon Reservoirs at the Earth's Surface

Convenors: Marc de Batist & Juergen Mienert

Session chaired by Juergen Mienert

14:00 Global Implications of Natural Methane Hydrate: Kvenvolden KA (CC09:WEpm25:G1).

14:15 Multi-Component Ocean Bottom Cable Data in Gas Hydrate Investigations: Andreassen K, Berteussen KA, Mienert J, Sognness H, Henneberg K & Langhammer J (CC09:WEpm26:G1).

14:30 Multi-Frequency Seismic Study of the Gas Hydrate Accumulations in Lake Baikal, Siberia: Vanneste M, De Meersman K, Guidard S, Versteeg W, Golmshtok A, Kremlev A & De Batist M (CC09:WEpm27:G1).

14:45 High Resolution Seismic Images of Near Sea-Floor Gas Hydrate Occurrences and Fluid/Gas Migration Zones within the Hydrate Stability Zone: Spieß V, Zuehlsdorff L, Breitzke M, Schwenk T, Schneider R, Kasten Riedel M & Chapman R (CC09:WEpm28:G1).

15:00 New Seismic Reflection Data from the Blake Ridge Hydrate Province, SE U.S. Margin: Implications for Gas Dynamics and Methane Expulsion: Holbrook WS, Lizarralde D & Pecher I (CC09:WEpm29:G1).

15:15 *BREAK*

Session chaired by Marc De Batist

15:45 Short-Lived Mud Volcanism and Cold Seeps Caused by Dissociation of Gas Hydrates in Lake Baikal: Van Rensbergen P, De Batist M, Klerkx J, Poort J, Hus R, Vanneste M, Granin N & Krinitsky P (CC09:WEpm32:G1).

16:00 Methane-Hydrate Dissociation in the Lorca Basin (SE Spain) during the Mediterranean Messinian Salinity Crisis: Pierre C, Rouchy JM, Blanc-valleron MM, Pueyo Mur JJ & Taberner C (CC09:WEpm33:G1).

16:15 Variability of Benthic Flux and Discharge Rates at Vent Sites Determined by In Situ Instruments: Linke P, Pfannkuche O, Witte U & Nakamura K (CC09:WEpm34:G1).

16:30 Gas Hydrates in Surface Sediments of the Northern Congo Fan- Geochemical and Microbiological Characterization of the Top of the Gas Hydrate Stability Zone: Kasten S, Hensen C, Zabel M, Ravensschlag K, Boetius A, Spiess V & Schneider R (CC09:WEpm35:G1).

16:45 Pore-Water Anomalies of Submarine Hydrate Zones- Progress Made during the Past Decade: Hesse R (CC09:WEpm36:G1).

17:00 In Situ Measurement of the Effect of Methane Hydrate Formation on the Microgeometry of Sediment and Rock: Kleinberg RL, Brewer PG, Yesinowski J, Malby G, Peltzer E & Friederich G (CC09:WEpm37:G1).

17:15 U Isotopes: A Sensitive Tracer for Pore Fluid Signatures in Authigenic Carbonates at Methane Vents: Teichert B, Bohrmann G, Eisenhauer A, Haase-Schramm A & Bock B (CC09:WEpm38:G1).

(Symposium CC09 Continued in Session WE po on Page 94)

Symposium EVO1

Room F5

Greenhouse Gas Storage

Convenors: Shelagh Baines & John Gale

Session chaired by Shelagh Baines

14:00 Why Do We Need Geological Storage of CO₂? Gale J (EVO1:WEpm25:F5).

14:15 The Case for Underground Carbon Dioxide Sequestration in Northern Europe: Chadwick A, Kirby G, Holloway S, Zweigel P & Arts R (EVO1:WEpm26:F5).

14:30 Progress Report- CO₂ Capture Project (CCP) Joint Industry Project: Lewis C & Hill G (EVO1:WEpm27:F5).

14:45 Disposal of CO₂ in Deep Aquifers: Geochemical Investigations of Water-Rock-CO₂ Interactions at Sleipner (North Sea) as Part of the SACS Project: Czernichowski-Lauriol I, Rochelle CA, Brosse E, Springer N, Pearce JM, Bateman KA, Sanjuan B & Kervévan C (EVO1:WEpm28:F5).

15:00 Reactive Transport Modeling of Geologic CO₂ Sequestration: Identification of Optimal Target Formations Based on Geochemical, Hydrologic, and Structural Constraints: Johnson JW, Steefel CI & Nitao JJ (EVO1:WEpm29:F5).

15:15 Long-Term Mineral Storage of CO₂ in Aquifers and Reservoirs: Trapping Mechanisms Offered by Sandstones Rich in Anhydrite or Gypsum: Brosse E & Portier S (EVO1:WEpm30:F5).

15:30 *BREAK*

Session chaired by John Gale

16:00 Geologic Sequestration of CO₂ in Carbonate Rocks: Preliminary Results from Coupled Multiphase Flow, Transport, and Reaction Simulations: Steefel CI, Johnson JW, Nitao J, Gunter WD & Law DH (EVO1:WEpm33:F5).

16:15 Evaluation of Long Term Geological CO₂ Storage: Controls on the Presence of CO₂ in Naturally Occurring Accumulations: Worden R & Baines S (EVO1:WEpm34:F5).

16:30 Analysis of CO₂ Leakage along Faults from Natural Reservoirs in the Colorado Plateau, United States: Evans J, Shipton Z, Kolesar P, Kirchner D & Parry W (EVO1:WEpm35:F5).

16:45 Geophysical Monitoring of Carbon Dioxide Injection and Sequestration using Electrical Resistance Tomography (ERT): Sensitivity Studies: Newmark R, Ramirez A & Daily W (EVO1:WEpm36:F5).

17:00 Geological Sequestration of Carbondioxide and Enhanced Coalbed Methane Recovery: The Campine Coal Basin (N-Belgium) and its Mined-Out Areas Have a Potential: van Tongeren P, Dreesen R, Laenen B & Dusar M (EVO1:WEpm37:F5).

17:15 Subsurface Storage of Carbon Dioxide for the in Salah Gas Project, an Eight Field Gas Development in Central Algeria: Bishop C, Froukhi R, Davis N, Taylor B & Riddiford F (EVO1:WEpm38:F5).

Symposium FMF5

Room F4

The Timing and Location of Major Ore Deposits in an Evolving Orogen

Convenors: Derek Blundell, A. von Quadt & F Neubauer

Session chaired by Derek Blundell

14:00 Geodynamic Control of Late-Stage Orogenic Mineralisation in Young Orogenic Belts: The Alpine-Carpathian-Balkan-Dinaride Mountain Belt: Neubauer F (FMF5:WEpm25:F4).

Wednesday April 11th, PM Session

14:15 A Comparison of the ^{187}Re - ^{187}Os and $^{40}\text{Ar}/^{39}\text{Ar}$ Chronometers in the Ore-Forming Environment: **Stein H** (FMF5:WEpm26:F4).

14:30 Timing the Mineralization in an Evolving Orogen. The Relativity of Absolute Age Information: **Lips A** (FMF5:WEpm27:F4).

14:45 Dating of Formation of Mesothermal Quartz-Gold Veins within the Tauern Window, Eastern Alps (Austria): Constraints from $^{40}\text{Ar}/^{39}\text{Ar}$ Ages of White Mica and Adularia: **Handler R & Neubauer F** (FMF5:WEpm28:F4).

15:00 Re-Os Ages for Molybdenites from the Felbertal Tungsten Deposit, Tauern Window, Austria: **Raith JG, Stein H & Höll R** (FMF5:WEpm29:F4).

15:15 BREAK

Session chaired by Heikki Papunen

15:45 Hydrothermal Activity Related to the Precious/Polymetallic Mineralization in the Baia Mare District, Romania: **Grancea L, Bailly L, Leroy JL, Banks D & Cuney M** (FMF5:WEpm32:F4).

16:00 The Elatsite Porphyry Copper Metal Deposit of the Panagyurishte Corridor, Srednogie Zone, Bulgaria: U-Pb Zircon and Isotopic Investigations for Timing and Ore Genesis: **von Quadt A, Peycheva I & Kamenov B** (FMF5:WEpm33:F4).

16:15 Temporal and Thermal Evolution of Hydrothermal Vein Deposits in the Madan Extensional Core Complex (Bulgaria): **Rohrmeier M, von Quadt A, Ovtcharova M, Driesner T & Heinrich C** (FMF5:WEpm34:F4).

16:30 Kinematics of Successive Eocene to Miocene Low-Angle Detachment Systems (Rhodope Zone, N Greece): **Krohe A & Mposkos E** (FMF5:WEpm35:F4).

16:45 A Little Rain Falls but Faulting is Essential for the Origin of Zn-Pb Deposits in Western Europe: **Muchez P, Schneider J & Heijlen W** (FMF5:WEpm36:F4).

17:00 Timing of PGE Deposition during the Generation of Successive MORB to Boninitic-Type Ophiolites: **Ohnenstetter M** (FMF5:WEpm37:F4).

17:15 Pre-Metamorphic Fluorine in Orthoamphibole Dominated Pb-Zn-Cu Deposits: **Rajavuori L & Kriegsman LM** (FMF5:WEpm38:F4).

(Symposium FMF5 Continued in Session WE po on Page 95)

Symposium LS02 Room F2 Structure, Composition and Accretion of the Oceanic Crust: Geophysical, Petrological and Geochemical Constraints

**Convenors: Benoit Ildefonse, Carlos Garrido
& Jason Phipps Morgan**

Session chaired by Benoit Ildefonse

14:00 Crustal Thickness and Mantle Temperature: Implications from Ophiolites: **Humler E & Langmuir C** (LS02:WEpm25:F2).

14:15 Constraints on Melt Generation at Very-Slow Spreading Ridges from Geophysical and Geochemical Measurements: **White R, Minshull T, Bickle M & Robinson C** (LS02:WEpm26:F2).

14:30 Structural Signature of Core Complex Formation on Slow-Spreading Oceanic Crust: **Blackman D, Karson J, Kelley D & Scientific Party** (LS02:WEpm27:F2).

14:45 Southwest Indian Ridge 61 to 70°E: Melt Supply Variations to an Ultra-Slow Spreading Ridge: **Cannat M, Rommevaux-Jestin C & Patriat P** (LS02:WEpm28:F2).

15:00 Focused and Distributed Magma Supply on the Southwest Indian Ridge: **Sauter D, Mendel V, Rommevaux-Jestin C, Patriat P & Parson L** (LS02:WEpm29:F2).

15:15 The Building of High Volcanic Massifs at Mid-Oceanic Ridges with Very Low Extents of Melting: **Mével C, Cannat M, Humler E, Meyzen C & Rommevaux-Jestin C** (LS02:WEpm30:F2).

15:30 Magmatic to Amagmatic Spreading Segments along the Ultra-Slow Spreading Southwest Indian Ridge: **Mendel V, Parson L, Sauter D, Tamaki K & Catherine M** (LS02:WEpm31:F2).

15:45 BREAK

Session chaired by Cathy Gillis

16:15 Unusual Depletion in Moderately Incompatible Elements on the Southwest Indian Ridge between 49° and 69°E: **Meyzen C, Humler E, Ludden J, Toplis M & Mével C** (LS02:WEpm34:F2).

16:30 ODP Hole 735B: A Glimpse at Crustal Accretion and Geochemical Fractionation within Oceanic Layer 3: **Hertogen J** (LS02:WEpm35:F2).

16:45 Cryptic Mineral Variations Resulting from Propagating Alteration during Igneous and Metamorphic Vein Formation in Gabbroic Rocks from Hole 735B: Results from ODP Leg 176 (Atlantis II Transform Fault, Southwest Indian Ridge): **Bideau D** (LS02:WEpm36:F2).

17:00 Tectonics and Magmatism of the Knipovich Ridge, the Northern Atlantic: Initial Results of the Knipovich-2000 Cruise: **Tamaki K, Okino K, Curewitz D, Sato H, Baranov B, Gusev E, Crane K, Gardner J, Goto S & Asada M** (LS02:WEpm37:F2).

17:15 New Evidences of Hydrothermal Activity on the Knipovich Ridge, Norwegian-Greenland Basin: **Cherkashov G, Crane K, Egorov A, German C, Koike Y, Naganuma T, Stepanova T, Tamaki K & Zhirnov E** (LS02:WEpm38:F2).

(Symposium LS02 Continued in Session WE po on Page 96)

Symposium LS07 Room G0 Origin and Significance of Major Boundaries in the Deep Crust and Continental Lithosphere

**Convenors: J. Stephen Daly, Tim S. Brewer
& Sven-Erik Hjelt**

Session chaired by J. Stephen Daly

14:00 Crustal Structure of the Palaeozoic and Precambrian Platforms; Polonoise'97-Profiles P1, P3 and P4: **POLONAISE Working Group & Grad M** (LS07:WEpm25:G0).

14:15 3-D Configuration of Crustal Blocks in Central Europe Accreted to Baltica during the Palaeozoic: **Winchester J & PACE Network** (LS07:WEpm26:G0).

14:30 Palaeozoic Terrane Accretion in the Central European Variscides: A REE and Sm-Nd Isotopic Study of the NE Bohemian Massif: **Crowley QG, Timmermann H, Noble S & Holland JG** (LS07:WEpm27:G0).

14:45 Studies of TESZ Crustal Structure in the North Sea using Potential Field Modelling: **Williamson P, Pharaoh T, Banka D, Lee M, Laigle M & Thybo H** (LS07:WEpm28:G0).

15:00 A Compressional Wedge Model for the Lower Palaeozoic Anglo-Brabant Belt (Belgium) Based on Potential Field Data: **Sintubin M & Everaerts M** (LS07:WEpm29:G0).

15:15 Longevity and Regional Importance of Orogenic Structures-An Integrated Study in the NE German Basin: **Krawczyk C & North German Basin Research Group** (LS07:WEpm30:G0).

15:30 The Potential Field Pattern in the Eastern North German Basin-A Result of Caledonian to Variscan Orogenic Activity or Later Volcanic/Magmatic Events?: **Lassen A, Bayer U & Scheck M** (LS07:WEpm31:G0).

15:45 BREAK

Wednesday April 11th, PM Session

Session chaired by Tim S. Brewer

16:15 Characterization and Evolution of a Lithospheric Accretion Channel: The Southern Steep Belt of the Central Alps (Switzerland/Italy): **Engi M, Berger A, Roselle G & Grandjean V** (LS07:WEpm34:G0).

16:30 Interpreting the Moho-Displacement across the Redbank Thrust, Central Australia: **Biermeier C & Stüwe K** (LS07:WEpm35:G0).

16:45 The Mantle-Crust Boundary Acting as a Lithospheric-Scale Shear-Zone in Collisional Belts: The Case of the Variscan Maures Massif (France). Petrological, Geochemical and Tectono-thermal Evidences: **Bellof J, Laverne C & Bronner G** (LS07:WEpm36:G0).

17:00 A Thermomechanical Model of Continental Collision and Exhumation of HP and UHP Metamorphic Rocks in Alpine Mountain Belts: **Burov E, Jolivet L & Le Pourhiet L** (LS07:WEpm37:G0).

17:15 Chronology, Metamorphism and Deformation in the Lower Crustal Hengshan Complex and Significance for the Evolution of the North China Craton: **Kröner A, O'Brien P, Passchier C, Li J & Wilde S** (LS07:WEpm38:G0).

Symposium MS08 Room F6 Mantle Convection and Lithosphere Deformation

Convenors: Yuri Podladchikov & Julian Lowman

Session chaired by Yuri Podladchikov

14:00 Super-Zed Pattern; The Pattern when Very Large Fracture Zones adjust to New Spreading Directions: **Morgan WJ & Phipps Morgan J** (MS08:WEpm25:F6).

14:15 **KEYNOTE** An Elastic Layer in the Mantle-Lithosphere Boundary can Make the Difference in the Modelling of Lithosphere Deformation: **Ornelas Marques F & Podladchikov Y** (MS08:WEpm26:F6).

14:45 **KEYNOTE** Behaviour of the Lithosphere and Upper Mantle during a Young Continental Collision: Numerical Modeling and Observation: **Pysklywec R, Beaumont C & Fullsack P** (MS08:WEpm28:F6).

15:15 Plate Reorganization Events Triggered by Radiogenic Mantle Heating: **Lowman JP, King SD & Gable CW** (MS08:WEpm30:F6).

15:30 BREAK

Session chaired by Yuri Podladchikov

16:00 Thermo-Mechanical Models of Orogenic Collision Stage: **Arnold J & Jacoby W** (MS08:WEpm33:F6).

16:15 Folding of Layered Rocks: Analytical and Numerical Models: **Schmalholz SM & Podladchikov Y** (MS08:WEpm34:F6).

16:30 Thin-Sheet Dynamics of Subduction: **Ribe N** (MS08:WEpm35:F6).

16:45 Plate Equilibrium over the Rotating Earth: **Ricou L & Legros H** (MS08:WEpm36:F6).

17:00 Seafloor Spreading: A Way towards the Coupling between the Lithosphere and the Upwelling Mantle: **Putelat T, Scott J, Sidoroff F & Guillot S** (MS08:WEpm37:F6).

17:15 Mantle Advection and Geological Structures: Origin and Evolution: **Svalova V** (MS08:WEpm38:F6).

Symposium OS01 Room G8 Palaeontology, Stratigraphy and Sedimentology

Convenor: Duncan McIlroy & Helen Morgans-Bell

Session chaired by Duncan McIlroy

14:00 Late Pleistocene and Holocene Megamammals of the European North-East: **Ponomarev D** (OS01:WEpm25:G8).

14:15 Vegetation, Climate, and Fire: A Post-Glacial Landscape History from Western Canada: **Brown K & Hebda R** (OS01:WEpm26:G8).

14:30 Recent Endolithic Microfossils in Early Archaean Fossiliferous Rocks: **Westall F & Walsh M** (OS01:WEpm27:G8).

14:45 Diagenetic Alteration of Biogenic Phosphate- Constraints from Oxygen Isotope Analysis of Vertebrate Fossils from Neogene Marine Deposits: **Tütken T, Vennemann T & Pfretzschner H** (OS01:WEpm28:G8).

15:00 Tethys-Paratethys Relationship in the Gulf of Saros: Northwestern Turkey: **Dikbas A, Sakinc M & Tuysuz O** (OS01:WEpm29:G8).

15:15 Proposal for Redefinition and New Chronology of the Skade and Utsira Formations, Norwegian North Sea: **Eidvin T & Rundberg Y** (OS01:WEpm30:G8).

15:30 BREAK

Session chaired by H. Morgans Bell

16:00 Details of Aptian Sea Level Fall Record and High Resolution Cyclostratigraphy in Carbonate Peritidal Deposits (Seydisheir and Fele Areas, Western Taurides, SW Turkey): **Yilmaz IO, Altiner D & Satir M** (OS01:WEpm33:G8).

16:15 Sequence Stratigraphy of the Upper Jurassic Kimmeridge Clay: Evidence from Quartz Grain-Size Analysis: **Williams C, Hesselbo S, Jenkyns H & Morgans-Bell H** (OS01:WEpm34:G8).

16:30 Reconciling Molecular Phylogeny of Planktonic Foraminifera with the Fossil Record: **Kucera M, Darling KF & Wade CM** (OS01:WEpm35:G8).

16:45 Palaeontological 'Estimates', Molecular 'Clocks' and the Evolutionary History of Lower Chordates and Early Vertebrates: **Donoghue P, Sansom I & Smith P** (OS01:WEpm36:G8).

(Symposium OS01 Continued in Session WE po on Page 98)

Symposium OS03 Room F1 Marine Geology and Geophysics

Convenor: Wolfgang Bach

Session chaired by Wolfgang Bach

14:00 The Equatorial Atlantic "Cold Spot": Constraints from Osmium Isotope Composition, Plate Kinematics and Tomography: **Maia M, Sichel S, Esperanca S & Thiriot J** (OS03:WEpm25:F1).

14:15 High-Temperature Alteration in Pillow Basalts from Slow Spreading Ridges: Hydrothermal Upflow Zones or Shallow Convection Systems?: **Bach W, Humphris S, Dick H & Vanko D** (OS03:WEpm26:F1).

14:30 Cenozoic Contourite Drift Development in the Northern Norwegian Sea: **Laberg JS, Dahlgren T & Vorren TO** (OS03:WEpm27:F1).

14:45 Chirp Sonar Mapping of Gas Seepage and Gas Bearing Sediments in a Fine-Grained Thick Holocene Sequence in Skagerrak: **Gyllencreutz R** (OS03:WEpm28:F1).

15:00 Trapped Shallow Gas above BSR?: **Baltzer A, Nouze H & Cochnat P** (OS03:WEpm29:F1).

Wednesday April 11th, PM Session

15:15

BREAK

Session chaired by Marcia Maia

15:45 Regional Multiscale Synthesis of Recent Tectonics and Mud Volcanism over the Central and Eastern Mediterranean Ridge, from New Geophysical Data: **Huguen C, Mascle J, Zitter T & Woodside J** (OS03:WEpm32:F1).

16:00 Combined Thin-Skinned and Thick-Skinned Tectonics in the Eastern Nile Deep-Sea Fan, Eastern Mediterranean: Results from the Recent "FANIL" Survey: **Gaullier V, Loncke L, Mascle J, Bellaiche G, Vendeville B, Courp T, Moreau A, Radan S & Sardou O** (OS03:WEpm33:F1).

16:15 Pock-Marks, Mud Volcanoes and Gas Chimneys: Evidences from the Nile Deep-Sea Fan: **Loncke L, Huguen C, Mascle J, Bellaiche G, Courp T, Gaullier V, Moreau A, Radan S & Sardou O** (OS03:WEpm34:F1).

16:30 Pyroclastic Diapirs in the Bay of Naples, Eastern Tyrrhenian Sea: **Sacchi M, Aiello G, Angelino A, Budillon F, Ferraro L, Insinga D, Iorio M, Molisso F, Morra V & Tonielli R** (OS03:WEpm35:F1).

16:45 Stratigraphic Signatures of the Late Quaternary Sequence off the Salerno and Naples Bays, Eastern Tyrrhenian Sea: **Conforti A, Sacchi M, Aiello G & Budillon F** (OS03:WEpm36:F1).

17:00 Stratigraphy, ¹⁴C and ⁴⁰Ar/³⁹Ar Geochronology, and Petrochemistry of Holocene Deposits in an Active Volcanic Area: The Pozzuoli Bay, Southern Italy: **Insinga D, Lanphere M, Morra V, Sacchi M, Molisso F & Ricci G** (OS03:WEpm37:F1).

17:15 SEISCAN and SEISTRANS: The Creation of SEG-Y Files from Images of Paper Seismic Records: **Miles P, Schaming M, Muller G, Casas A, Sachpazi M & Marchetti A** (OS03:WEpm38:F1).

(Symposium OS03 Continued in Session WE po on Page 99)

Symposium OS07

Room G7

Igneous and Metamorphic Geology

Convenors: Paddy O'Brien & Leo Kriegsman

Session chaired by Mathias Westphal

14:00 Mare Regolith Target Rocks are much more Feldspathic than Alleged Primary Magmas (Hand Specimens and Pyroclastic Glasses) on the Moon: **O'Hara M** (OS07:WEpm25:G7).

14:15 Cyclical Compositional Variations in the Tertiary Flood Basalts, East Greenland: Inferences about Magma Chamber Processes: **Andreasen R, Peate DW & Brooks CK** (OS07:WEpm26:G7).

14:30 Graphical Analysis of the Orthopyroxene-Pigeonite-Augite-Plagioclase Equilibrium at Liquidus Temperatures and Low Pressure: **Latypov R, Dubrovskii M & Alapietti T** (OS07:WEpm27:G7).

14:45 Magma Replenishment Processes: Results from a Sulphide-Bearing Orthopyroxene in the Bjerkreim-Sokndal Layered Intrusion, SW Norway: **Jensen KK, Wilson JR & Robins B** (OS07:WEpm28:G7).

15:00 Formation of Non-Cotectic Hybrid Cumulates: Intrusion 4 of the Honningsvåg Intrusive Suite, Northern Norway: **Lundgaard KL, Robins B, Tegner C & Wilson JR** (OS07:WEpm29:G7).

15:15 Age and Origin of Mafic-Ultramafic Cumulates in the Zentralgneis of the SW Tauern Window: **Barzi L, Cesare B, Gomez-Pugnaire MT, Hermann J & Rubatto D** (OS07:WEpm30:G7).

15:30 Evidence for Subduction in Basaltic Magmatism associated with the Amirante Ridge-Trough Structure, Western Indian Ocean: **Stephens W, Donaldson CH, Ellam R & Lelikov E** (OS07:WEpm31:G7).

15:45

BREAK

Session chaired by Bernardo Cesare

16:15 Timing and Style of Explosive Silicic Eruptions during Flood and Rift Volcanism in Yemen and Ethiopia: **Ukstins IA, Baker J, Menzies M, Renne P, Peate DW, Wolfenden E, Al-Kadasi M, Al-Subbary A & Aleyew D** (OS07:WEpm34:G7).

16:30 Emplacement Textures of Late Paleozoic Andesite Sills in the Flechtingen Block, Central Germany: **Awdankiewicz M & Breitzkreuz C** (OS07:WEpm35:G7).

16:45 Partial Melting and Assimilation of Dolomite Xenoliths by Mafic Magmas of the Ioko-Dovyren Intrusion (N-Baikal Region): **Wenzel T, Baumgartner LP, Brueggemann GE, Konnikov EG & Kislov EV** (OS07:WEpm36:G7).

17:00 Chemical and Isotopic Exchange between an Alkaline Pluton and Carbonate Host Rocks at Zippa Mountain, B.C., Canada: **Westphal M, Dipple GM & Coulson IM** (OS07:WEpm37:G7).

17:15 Metasomatic Sodalite Formation Caused by the Interaction between NaCl-Rich Fluid, Anorthosite and Alkaline Syenite at Swartbooisdrif, NW Namibia: **Drüppel K & von Seckendorff V** (OS07:WEpm38:G7).

Symposium OS10

Room G5

Structural Geology and Tectonics

Convenor:

Graham Potts

14:00 Centrifuge Modelling of Nested Diapirs: **Dietl C & Koyi HA** (OS10:WEpm25:G5).

14:15 Emplacement of Gneiss Domes: An Integrated Study of Field Work (Variscan Pyrenees) and Analogue Modelling: **Mezger JE, Passchier CW, Piazzolo S & ten Grotenhuis SM** (OS10:WEpm26:G5).

14:30 Quantification of Grain Boundary Migration Microstructures in Quartz Veins of the Sambagawa Metamorphic Belt, Central Shikoku, Japan: **Heilbronner R & Takeshita T** (OS10:WEpm27:G5).

14:45 Kinematics and Quartz Textures in the Pennine Mischabel Fold and Austro-Alpine Dente Blanche Thrust, Zermatt Switzerland: **Klaper E, Lebit H & Lüneburg C** (OS10:WEpm28:G5).

15:00 From Ductile Mass Flow to Discrete Shear Zones: Evolution of the Penninic Units of the Monte Rosa Region, Switzerland/Italy: **Kramer J & Schmid SM** (OS10:WEpm29:G5).

15:15 Dynamic Recrystallization Microstructures of Quartz Indicate Fast Strain Rates in High Temperature Shear Zones of the Ivrea Zone: **Stipp M & Stünitz H** (OS10:WEpm30:G5).

15:30

BREAK

16:00 Slip Systems, Dislocation Generation, and Dynamic Recrystallization of Plagioclase in Nature and Experiments: **Stünitz H, Fitz Gerald J, Tullis J & Kruse R** (OS10:WEpm33:G5).

16:15 Systematic Analysis of the Temporal Significance of Porphyroblast-Foliation Relationships in Deformed Rocks: **Potts G & Reddy S** (OS10:WEpm34:G5).

16:30 K-Ar Dating of Synkinematic Illite in Fault Gouge: **Zwingmann H, Tanja W & Robin O** (OS10:WEpm35:G5).

16:45 ⁴⁰Ar/³⁹Ar Geochronology and Structural Evolution of the Québec Appalachians: Recurrent Tectonic Compression and Exhumation during the Paleozoic: **Tremblay A, Castonguay S & Ruffet G** (OS10:WEpm36:G5).

17:00 A Fission-Track Approach to the Timing of Exhumation of the Danubian Window (South Carpathians, Romania): Cretaceous and/or Tertiary?: **Fuegenschuh B & Schmid SM** (OS10:WEpm37:G5).

Wednesday April 11th, PM Session

17:15 Cooling and Exhumation History of the Oligocene Rieserferner Pluton: Constraints from Combined K/Ar-Mica and Apatite and Zircon Fission-Track Dating: **Steenken A, Siegesmund S & Heinrichs T** (OS10:WEpm38:G5).

(Symposium OS10 Continued in Session WE po on Page 100)

Symposium PCM6 Room G6

Physicochemical Behaviour of Accessory Minerals: Crystallisation, Transformation, and Technological Applications

Convenors: Franck Poitrasson, Urs Schaltegger & John M. Hanchar

Session chaired by Hans Jurgen Förster

14:00 **KEYNOTE** Thorite-Zircon-Coffinite-Xenotime Solid Solutions: Composition and Origin: **Förster H** (PCM6:WEpm25:G6).

14:30 Non-Linear Behaviours in the Apatite-Britholite Solid-Solution: **Oberti R, Ottolini L & Della Ventura G** (PCM6:WEpm27:G6).

14:45 Trace-Element Incorporation in Titanite: Constraints from Experimentally Determined Solid/Liquid Partition Coefficients: **Tiepolo M, Oberti R, Cannillo E & Vannucci R** (PCM6:WEpm28:G6).

15:00 The Substitution of Al and F in Titanite at High Pressure and Temperature: **Tropper P, Manning CE & Essene EJ** (PCM6:WEpm29:G6).

15:15 **BREAK**

Session chaired by Franck Poitrasson

15:45 Apatite and Phosphorus Geochemistry of the Granitic Rocks of the Western Carpathians: **Broska I, Aubin A & Konecny P** (PCM6:WEpm32:G6).

16:00 Towards a Better Understanding of Rare Earth Element Partition Coefficients in Zircon: **Hanchar JM, Finch RJ, Watson E & Hoskin PW** (PCM6:WEpm33:G6).

16:15 Diffusion in Zircon Under Crustal UHT Metamorphic Conditions?: **Möller A, O'Brien PJ, Kennedy A & Kröner A** (PCM6:WEpm34:G6).

16:30 The Physical Behaviour of Radiation Damages in Apatites and Zircons Under Pressure, Temperature and Stress: **Wendt AS & Vidal O** (PCM6:WEpm35:G6).

16:45 Structural Healing of a Radiation Damaged Zircon Under High Pressure: **Simoncic P, Kunz M & Schaltegger U** (PCM6:WEpm36:G6).

17:00 Control of Substitution on Apatite Fission Track Annealing: **Barbarand J, Carter A & Hurford AJ** (PCM6:WEpm37:G6).

17:15 Case Study of Metamorphic Zircons from Alpine HP/LT Metamorphic Rocks from Syros, Cyclades, Greece: **Tomaschek F, Kennedy A, Villa IM & Ballhaus C** (PCM6:WEpm38:G6).

(Symposium PCM6 Continued in Session WE po on Page 102)

Symposium RCM2 Room F3

The Formation of the Continent-Ocean Boundary Zone: Structure and Processes

Convenor: Nick Kuszniir, Garry Karner

Session chaired by Nick Kuszniir

14:00 Cretaceous Ultra-Slow Spreading in the Ocean-Continent Transition along the Southwest Australian Passive Margin: Constraints from $^{40}\text{Ar}/^{39}\text{Ar}$ Dating: **Beslier M, Le Bihan T, Féraud G & Girardeau J** (RCM2:WEpm25:F3).

14:15 Images of a Continent-Ocean Boundary: A New Seismic Reflection and Refraction Survey Offshore Newfoundland, SCREECH Transect 1: **Hopper JR, Funck T, Larsen HC, Tucholke B, Holbrook S & Loudon K** (RCM2:WEpm26:F3).

14:30 A Regional Comparison of the Conjugate Ocean Continent Transitions of the Newfoundland Basin and Iberia Abyssal Plain: **Loudon K, Tucholke B & Lau K** (RCM2:WEpm27:F3).

14:45 Microstructures and Differential Stress Estimates at an Active Low-Angle Detachment Fault (Moresby Seamount-Offshore Papua New Guinea): **Roller S & Behrmann JH** (RCM2:WEpm28:F3).

15:00 Detachment Faulting, Mantle Serpentinization, and Serpentine Mud Volcanism beneath the Porcupine Basin, SW of Ireland: **Reston T, Perez-Gussinye M, Pennell J, Stubenrauch A & Walker I** (RCM2:WEpm29:F3).

15:15 Serpentinisation and Magmatism during Extension at Non-Volcanic Margins- The Effect of Initial Lithospheric Structure: **Perez-Gussinye M, Reston TJ & Phipps Morgan J** (RCM2:WEpm30:F3).

15:30 Evolution of a Magmatic Passive Margin: The Red Sea Escarpment, Ethiopia: **Wolfenden E, Ebinger C, Ukstins I, Yirgu G, Ayalew D & Eagles G** (RCM2:WEpm31:F3).

15:45 **BREAK**

Session chaired by Garry Karner

16:15 New K-Ar Constraints on the Silicic Volcanism in Central Afar, its Implications in the Rifting Process: **Lahitte P** (RCM2:WEpm34:F3).

16:30 Continent-Ocean Boundary, Breakup Magmatism, and Segmentation along the Lofoten-Vesterålen Volcanic Margin off Norway: **Tsikalas F, Eldholm O & Faleide JI** (RCM2:WEpm35:F3).

16:45 Petrophysical-Petrologic Interpretation of Thick Igneous Crust at the Continent-Ocean Boundary of NW-Namibia: **Sobolev SV, Trumbull RB & Bauer K** (RCM2:WEpm36:F3).

17:00 Petrogenesis of the Palaeogene Sorgenfri Gletscher Sill Complex at the East Greenland Volcanic Rifted Margin: **Gisselø PG, Tegner C & Wilson JR** (RCM2:WEpm37:F3).

17:15 $^{40}\text{Ar}/^{39}\text{Ar}$ Dating and Geochemistry of Taoudenni Basin Dikes (North Mali): Further Constraints for the Duration and Emplacement Process of the CAMP Related to the Central Atlantic Rifting: **Verati C, Bertrand H & Féraud G** (RCM2:WEpm38:F3).

(Symposium RCM2 Continued in Session WE po on Page 103)

Wednesday April 11th, PM Session

Symposium VPP4 Room G4

What Is a Magma Chamber?

Convenors: **David Pyle, Rob Hughes,
John MacLennan & Lucy MacGregor**

Session chaired by David Pyle

14:00 Crustal Structure at a Slow Spreading Ridge: Seismic Images from 57°45'N on the Reykjanes Ridge: **Topping S, Peirce C & Sinha MC** (VPP4:WEpm25:G4).

14:15 Magma Chamber Structure beneath the East Pacific Rise at the 9°03' N Overlapping Spreading Centre: **Pye J, Shipp RM, Tong CH, Barton PJ, White RS, Hobbs RW, Singh SC, Sinha MC & ARAD Group** (VPP4:WEpm26:G4).

14:30 Geochemical and Geophysical Constraints on the Location of Magma Chambers under NE Iceland: **MacLennan J, McKenzie D & Gronvold K** (VPP4:WEpm27:G4).

14:45 Identifying Syn-Magmatic Tectonics in Iceland: **Hallot E, Dauteuil O & Bourgeois O** (VPP4:WEpm28:G4).

15:00 Melt Distribution in a Partially Molten Crust: Some Insights from the Central Andes: **Schilling FR & Partzsch GM** (VPP4:WEpm29:G4).

15:15 *BREAK*

Session chaired by John MacLennan

15:45 Determining Sr Isotope Systematics of Feldspar Crystals to Track Petrogenetic Pathways and Timescales: **Davidson JP, Tepley III FJ & Knesel K** (VPP4:WEpm32:G4).

16:00 Volcanic Power Outputs and U-Series Age Constraints: A Link between Crystallisation Processes and Magma Differentiation: **Hawkesworth C, Blake S, Thomas L & Tuner S** (VPP4:WEpm33:G4).

16:15 Magma Chamber Processes Reflected in Major, Minor and Trace Element Plagioclase Zoning (Parinacota Volcano, Chile): **Ginibre C, Wörner G & Kronz A** (VPP4:WEpm34:G4).

16:30 Magma Dynamics beneath Piton de la Fournaise Volcano, Reunion Islands, as Inferred from U-series Disequilibria: **Sigmarsson O, Condomines M & Bachelery P** (VPP4:WEpm35:G4).

16:45 ²³⁰Th-²³⁸U Disequilibrium in Zircons from the Post-Caldera Sequence at Taupo Volcano, New Zealand: Constraints on Pre-Eruptive Processes: **Charlier B, Blake S, van Calsteren P & Wilson C** (VPP4:WEpm36:G4).

17:00 Short-Lived Radioactive Disequilibria (²¹⁰Pb-²¹⁰Bi-²¹⁰Po) in Volcanic Gases at Merapi, Central Java, Indonesia: Constraints on the Magma Chamber Dynamics and the Eruptive Behavior: **Gauthier P & Le Cloarec M** (VPP4:WEpm37:G4).

17:15 Self-Mixing in Magma Chambers: **Couch S, Sparks S & Carroll M** (VPP4:WEpm38:G4).

(Symposium VPP4 Continued in Session WE po on Page 103)

Symposium BG05 **Room PO**
**Effects of Environmental Perturbations on
 Extinction and Evolutionary Innovations**

Convenors: **Paul Barrett & Eric Buffetaut**

- 1 Mid Pliocene Nannoplankton Assemblages of the North Atlantic: A High Resolution Investigation into Nannoplankton Population Evolution: **Gibbs S, Shackleton N & Young J** (BG05:WEpo01:PO).
- 2 The Structural Oxygen of Minerals in Evolutionary Processes: **Kotova O** (BG05:WEpo02:PO).
- 3 Impact of Devegetation on Soil Dynamic-Interactions between Organic and Mineral Components: **Semhi K, Clauer N & Chaudhuri S** (BG05:WEpo03:PO).
- 4 Dynamics of Health Impacts in Central Russia: **Sorokovikova N & Ratanova M** (BG05:WEpo04:PO).
- 5 Sr and Pb Isotopes as a Tool for Tracking Human and Animal Historical and Ancient Migrations: **Budd P, Evans J & Montgomery J** (BG05:WEpo05:PO).

Symposium CC03 **Room PO**
**From Icehouse to Greenhouse: Records, Causes
 and Consequences of Extreme Climatic Events in
 the Last 750 Ma**

Convenors: **Greg Price, Anne Nedelec,
 Gilles Ramstein, Joe Meert & Alastair Ruffell**

- 1 Astronomical Forcing in Late Eocene Sediments: Using XRF Data from ODP Leg 171B Site 1052: **Paelike H, Shackleton NJ & Roehl U** (CC03:WEpo01:PO).
- 2 Discovery of the Northernmost Gondwanian Evidence of an Upper Ordovician Glacier: Southern Turkey: **Ghienne JF, Kozlu H, Dean WT, Günay Y & Monod O** (CC03:WEpo02:PO).
- 3 The use of Organic Matter and Clay Minerals Study to Define the Selli Event (Konhora Fm., Western Carpathians, Slovakia): **Kotulova J, Biron A, Lintnerova O & Michalik J** (CC03:WEpo03:PO).
- 4 Depositional Rate of the Cap Carbonates in Namibia Estimated with Periodicity Analysis of Rhythmites: **Tojo B, Kawakami S, Yoshioka H, Okaniwa T, Takano M & Hoffman PF** (CC03:WEpo04:PO).
- 5 Palaeoclimatic Development Recorded in Palaeozoic Sediments of SW Gondwana: **Scheffler K, Hoernes S & Schwark L** (CC03:WEpo05:PO).
- 6 Early-Middle Cretaceous Equatorial Ocean Temperature Variability: **Price GD** (CC03:WEpo06:PO).
- 7 Getting into Global Glaciation: Clues from Isotope Profiles and Stratigraphy in the Polarisbreen Group, Northeastern Svalbard: **Halverson GP & Maloof A** (CC03:WEpo07:PO).
- 8 Sensitivity of Coupled Climate System to Position of Indonesian Throughflow: **Rodgers K, Menkes C, Guilyardi E, Ramstein G & Madec G** (CC03:WEpo08:PO).

Symposium CC04 **Room PO**
**New and Refined Proxies in Palaeoceanography
 and Palaeoclimatology**

Convenor: **Martin Frank**

- 1 Artemisia as a Climatic Proxy? Morphometry of Selected Artemisia Species Pollen Grains (REM- and Spectral Confocal Microscopy Study): **Subally D** (CC04:WEpo01:PO).
- 2 First Results on the Miocene Palaeoaltitude of Southern Tibet using the CLAMP Palaeoclimate Proxy: **Spicer RA, Herman AB, Guo S, Widdowson M, Harris NB, Argles TW, Wolfe JA & Valdes PJ** (CC04:WEpo02:PO).
- 3 Lake-Level of Closed Basins as a Proxy for Past Atmospheric Changes- Seismic Stratigraphy of Lago Cardiel, (49°S, Argentina): **Gilli A, Anselmetti FS, Ariztegui D, McKenzie JA, Kelts KK & Markgraf V** (CC04:WEpo03:PO).
- 4 Stable Isotopic and Geochemical Proxies for the Palaeoenvironment of Organic Rich Eocene Maar Lake Sediments: **Sabel M, Bechtel A & Hoernes S** (CC04:WEpo04:PO).
- 5 Use of Isotopic Determinations from Brachiopod Shells as Environmental Indicators: **Parkinson D, Cusack M, Curry GB & Fallick AE** (CC04:WEpo05:PO).
- 6 Tree Ring Indicators of Climate in Northern Eurasia: **Barker A, Robertson I, Waterhouse J, Loader N, Switsur R & Carter T** (CC04:WEpo06:PO).
- 7 The Study of Trace Metals in Modern Marine Sediments to Refine their use as Proxies in Paleoceanography: **Chaillou G, Anschutz P, Léauté F, Desmazes F & Dedieu K** (CC04:WEpo07:PO).
- 8 Time-Lags Inferred by Early Diagenesis: Tests with a Numerical Model of U, C_{org} and Al Burial to Simulate the Paleoclimatic Time Series: **Donnadieu Y, Lecroart P, Anschutz P & Bertrand P** (CC04:WEpo08:PO).
- 9 Temporal Evolution and Origin of Recent Atmospheric Lead Fall-Out over French Alps: Constraints from Lead Concentration and Isotopic Ratio from two Lake Sediment Records: **Arnaud F, Revel M, Winiarski T, Pouchet M, Beck C, Desmet M, Lignier V & Tribovillard N** (CC04:WEpo09:PO).
- 10 Temporal Evolution and Origin of Recent Atmospheric Lead Fall-Out over French Alps: Constraints from Lead Concentration and Isotopic Ratio from two Lake Sediment Records: **Arnaud F, Revel M, Winiarski T, Pouchet M, Beck C, Desmet M, Lignier V & Tribovillard N** (CC04:WEpo10:PO).

Symposium CC06 **Room PO**
**Holocene Palaeoclimate Records over Europe
 and the North-Atlantic**

Convenors: **Kay Emeis & S. Bjoerck**

- 1 Tephrochronology and Holocene Climate Changes as Identified in the Klockamyren Mire; Mid-Central Sweden: **Bergman J, Wastegård S, Hammarlund D & Wohlfarth B** (CC06:WEpo01:PO).
- 2 Climatic Variations in Holocene Sediments from Skagerrak and their Correlation to Historical Records: **Blanz T & Emeis K** (CC06:WEpo02:PO).
- 3 Isotopic Climatic Records of Modern and Subfossil Scots Pine Trees from North-Western Russia: **Boettger T, Friedrich M, Hiller A & Kremenetski C** (CC06:WEpo03:PO).

Wednesday April 11th, PO Session

4 High Mountain Lakes Sediment Records: Evidence for Multi-Decennal Oscillations of Climate and Anthropogenic Impact during the Last Millennium: **Desmet M, Cyril D, Pourchet M, Blanc-Gonnert F, Lignier V, trentesaux A, Chapron E & Winiarski T** (CC06:WEpo04:PO).

5 Human Impact on the Vegetation of the Upper Engadine (Central Swiss Alps): **Gobet E, Hochuli PA & Ariztegui D** (CC06:WEpo05:PO).

6 Geochemical Changes of the Aral Sea Water during the Regressive Events from the Last 11000 Years: **Le Callonnec L, Ben Khelifa L, Létolle R, Combourieu Nebout N, Person A & Renard M** (CC06:WEpo06:PO).

7 A Paleoclimatic Reconstruction of the Last Deglaciation in the Central Mediterranean: A Multidisciplinary Approach: **Sangiorgi F, Capotondi L, Combourieu Nebout N, Morigi C, Pierre C, Negri A, Giunta S, Vigliotti L & Brinkhuis H** (CC06:WEpo07:PO).

8 A Record of High Resolution Ocean Variability from the Skagerrak over the Past 500 Years: **Senneset L, Jansen E & Backman J** (CC06:WEpo08:PO).

9 Determination of Climatic Changes by Speleothem Analysis: **Vokal B, Mihevc A, Dolenc T & Genty D** (CC06:WEpo09:PO).
(Symposium CC06 Continued in Session TH am on Page 105)

Symposium CC09 Room PO

Clathrates, Climate, and Carbon Budget (A): Accumulation and Destabilisation of Natural Gas Hydrate Systems: Dynamic Carbon Reservoirs at the Earth's Surface

Convenors: Marc de Batist & Juergen Mienert

1 Submarine Slope Failure Offshore Norway Causes Rapid Gas Hydrate Decomposition and Seafloor Collapse: **Berndt C, Buenz S & Mienert J** (CC09:WEpo01:PO).

2 The Structural Control of the Methane Venting Area in the Southern Basin of Lake Baikal, Siberia: **Klerkx J, Hus R, De Batist M, Khlystov O, Van Rensbergen P & Poort J** (CC09:WEpo02:PO).

3 Multi-Frequency Acoustic Data (Deeptow, Surface Towed) on Hydrate Ridge: First Results: **Guidard S, Klaeschen D, Versteeg W, Vanneste M, Henriot J, Bialas J & SO150-Shipboard Party** (CC09:WEpo03:PO).

4 Measured and BSR-Derived Heat Flow in an Area of Gas Venting in Lake Baikal: **Poort J, Vanneste M, De Batist M & Klerkx J** (CC09:WEpo04:PO).

5 Effect of Mud Volcano Activity and Gas Hydrate Formation on Sub-bottom Temperature Field: **Kaulio V & Soloviev V** (CC09:WEpo05:PO).

6 Gas Hydrate Accumulation Associated with Fluid Discharge Structure in Lake Baikal: **Matveeva T, Mazurenko L, Soloviev V, Klerkx J, Kaulio V & Khlystov O** (CC09:WEpo06:PO).

7 Visualization of Fluid Flow at Cold Seep Sites using a Novel 'Schlieren Optic' System: **Karpen V, Linke P, Suess E & Thomsen L** (CC09:WEpo07:PO).

8 Fluid-Escape Features in Potentially Gas Hydrated Sediments: **Bünz S, Berndt C & Mienert J** (CC09:WEpo08:PO).

9 Black Sea Methane Hydrates- How Many are They?: **Dimitrov L & Vassilev A** (CC09:WEpo09:PO).

10 Experimental Modeling of Methane Hydrate Formation and Dissociation in Nature: **Afanassyev I, Bezverkhly P, Martynets V, Matizen E & Klerkx J** (CC09:WEpo10:PO).

11 Effect of Salinity on Hydrate Phase Equilibria in Porous Media: **Ostergaard KK, Llamedo M, Tohidi B & Anderson R** (CC09:WEpo11:PO).

Symposium CC11 Room PO

Clathrates, Climate, and Carbon Budget (B): Sub-Sea Floor Methane Deposits on the Margins of Europe, Arctic to Caspian: Seafloor Carbon Fluxes via Methane

Convenors: John Woodside & Euan Nisbet

1 Hydrocarbon Leakage and Gas Hydrate along the California Continental Margin: **Lorenson T & Kvenvolden K** (CC11:WEpo01:PO).

2 Gas-Hydrate-Prone Areas of the Ocean and Gas Hydrate Accumulations: **Soloviev V** (CC11:WEpo02:PO).
(Symposium CC11 Continued in Session TH am on Page 105)

Symposium EVO4 Room PO

Interaction of Endogenic, Exogenic and Biological Terrestrial Systems and Possible Extraterrestrial Impacts during the Early Palaeoproterozoic

**Convenors: Victor Melezhik
& Evgenii V. Sharkov**

1 Evolution of the Lower Crust Throughout Earth History: **Sharkov E, Downes H & Markwick A** (EVO4:WEpo01:PO).

2 Thermal Structure and Suggested Heightened Heat Flow through Lithosphere of the Palaeoproterozoic Supercontinent: Probable Consequences: **Mints MV & Konilov AN** (EVO4:WEpo02:PO).

3 U-Pb Systematics and the Age of Early Palaeoproterozoic ¹³C-Rich Carbonate Rocks of Kola Peninsula and Karelia, Northwestern Russia: **Ovchinnikova G, Melezhik V, Gorokhov I & Kusnetzov A** (EVO4:WEpo03:PO).

4 Some Aspects of Studying Early Palaeoproterozoic Rocks: **Rozanov A & Ushatinskaya G** (EVO4:WEpo04:PO).

5 Regarding Occasional Sun Fly within Star-Cloud 2600 Million Years Ago and its Feasible Repercussions for the Earth: **Barenbaum A** (EVO4:WEpo05:PO).

6 Evolution of the Karelian Palaeo-Proterozoic (2.25-1.95 Ga) Volcanic Associations (Eastern Part of the Fennoscandian Shield): Geodynamic Significance: **Philippov N & Ivanikov V** (EVO4:WEpo06:PO).

7 Stromatolites in the Palaeo-Proterozoic ¹³C-Enriched Carbonate Successions of the Fennoscandian Shield: **Medvedev P & Makarikhin V** (EVO4:WEpo07:PO).

Wednesday April 11th, PO Session

Symposium FMF3 Room PO Petroleum Geology and Fluid Flow and Property Predictions from Basin Scale Numerical Models

Convenors: **Stuart Burley, & Philip Muchez**

- 1 Simulation of Eustatic-Driven Contrasted Flow Patterns in Great Bahama Bank: **Caspard E, Rudkiewicz J, Eberli G & Renard M** (FMF3:WEpo01:PO).
- 2 Intermittent Basin-Wide Fluid Reorganisation Triggered by Pressure Drop of Cap-Rock: North Sea Central Graben: **Keller P** (FMF3:WEpo02:PO).
- 3 Ultrasonic Velocity Measurements: A Useful Tool Combined with Petrophysical Investigations to Characterize Porous Solids: **Burlot R, Cerepi A & Humbert L** (FMF3:WEpo03:PO).
- 4 Tectonic Burial and Exhumation in the External Areas of Southern Apennines Thrust Belt (Italy): The Alpi Mt. Case History, Implications for Petroleum Exploration: **Corrado S, Mazzoli S & Invernizzi C** (FMF3:WEpo04:PO).
- 5 Chlorine Isotopes in Residual Salts from the Elgin and Elgin-West Oil Fields (North Sea): **Woule Ebongue V, Walgenwitz F, Jendrzewski N, Pineau F & Javoy M** (FMF3:WEpo05:PO).
- 6 Petrological and Geochemical Organic Characteristics of Coal Samples from the Asturias Basin, NW Spain: **Piedad Sanchez N, Martinez L, Suarez Ruiz I, Amir L, Disnar JR & Faure P** (FMF3:WEpo06:PO).
- 7 Geodynamic Types of Global Belts of Petroleum Occurrence and their Peculiarities: **Levin L & Khain V** (FMF3:WEpo07:PO).
- 8 Comparison between Outcrop-Spectral Gamma Ray (SGR) Logging and Whole Rock Geochemistry: Implications for Quantitative Reservoir Characterisation in Continental Red-Bed Sediments: **Svensden J & Hartley N** (FMF3:WEpo08:PO).
- 9 Oil and Gas of the Russian Arctic Shelf: **Gramberg IS & Suprunenko OI** (FMF3:WEpo09:PO).
- 10 Geochemical Characteristics of Coals in the Eskihisar (Yatagan) Area, Western Turkey: **Engin H** (FMF3:WEpo10:PO).
- 11 Timing of Illite Formation in the Cooper Basin, South Australia: **Hamilton PJ, Zwingmann H, Tingate P, Lemon N & Cubitt C** (FMF3:WEpo11:PO).
- 12 The Catagenetic Zones and Modeling of the Sediment Heating in Timan-Pechora Basin: **Klimenko S** (FMF3:WEpo12:PO).
- 13 Basin Settings and Depositional Environment of the Napo Group (Subandean Zone and Oriente Basin, Ecuador): **Vallejo C, Ruiz G, Hochuli P, Spikings R & Winkler W** (FMF3:WEpo13:PO).

Symposium FMF5 Room PO The Timing and Location of Major Ore Deposits in an Evolving Orogen

Convenors: **Derek Blundell, A. von Quadt & F Neubauer**

- 1 GIS Andes: Mining Districts: **Cassard D, Felenc J, Hocquard C, Joubert M, Monthel J & Prevot J** (FMF5:WEpo01:PO).
- 2 Predictive Mapping with GIS Andes Datasets: **Cassard D, Billa M, Bouchot V, Salleb A, Stein G & Tourliere B** (FMF5:WEpo02:PO).
- 3 Crustal-Scale Fracture Zones Controlling Ore-Forming Processes: A Case Study from Central Mexico: **Steyrer H & Horner JT** (FMF5:WEpo03:PO).

4 The Mississippi Valley-Type Zn-Pb Deposit of San Vicente, Central Peru: A Syntectonic Deposit during the Andean Orogeny: **Badoux V, Moritz R & Fontboté L** (FMF5:WEpo04:PO).

5 Lead and Sulfur Isotopic Characteristics of the Neoproterozoic Araes Gold Deposits, Mato Grosso State, Brazil: **Geraldes MC, Tassinari CCG, Babinski M, Martinelli CD & Iyer SS** (FMF5:WEpo05:PO).

6 Structural Control of Ag-Sn Vein-Type Mineralisation at the Pirquitas Mine (Prov. Jujuy, NW-Argentina)- Ore Precipitation during Fold and Thrust Belt Evolution: **Amann G & Paar WH** (FMF5:WEpo06:PO).

7 Re-Os Dating of Orogenic Gold Deposits, Yilgarn, Western Australia: **Stein H & Markey R** (FMF5:WEpo07:PO).

8 Age and Structural Control of the Ifri Copper Mineralization (Western High-Atlas, Morocco): **Gaouzi A, Chauve t A, Barbanson L, Badra L & Touray J** (FMF5:WEpo08:PO).

9 Constraints on Age Variation of Different Ore Forming Processes due to Orogen Development Duration: **Pushkarev YD** (FMF5:WEpo09:PO).

10 Discrimination Criteria for Affiliation of Ore Deposits Located in the Dinaridic Triassic-Paleozoic Formations to the Variscan or Alpine Metallogeny: **Jurkovic I & Palinkas L** (FMF5:WEpo10:PO).

11 Timing and Compositional Evolution of Magmatism and Mineralization in a Large (Borovitsa) and a Small (Madjarovo) Paleogene Volcanic Center of the Rhodope Massif, Bulgaria: **Marchev P & Singer B** (FMF5:WEpo11:PO).

12 Exhumation of the Central Rhodopian Core Complex and Related Magmatism- Isotope and Geochronologic Studies of the Madan Dome (Bulgaria): **Ovtcharova M, Von Quadt A, Peycheva I & Neubauer F** (FMF5:WEpo12:PO).

13 Elatsite Copper Porphyry- Relative Age Relations between Host Rocks, Structures, Ore Mineralisation, and Alteration: **Driesner T, Fanger L & Heinrich CA** (FMF5:WEpo13:PO).

14 Geochemistry of Upper Cretaceous High-K Calc-Alkaline Post-Collisional Intrusions from the Banat Province (Western South Carpathians, Romania): **Dupont A, Vander Auwera J, Pin C, Marincea S & Berza T** (FMF5:WEpo14:PO).

15 Hydrothermal Alteration Associated with Bolcana Porphyry Cu-Au Ore Deposit (Metaliferi Mts., Romania): **Milu V, Piantone P, Leroy J, Udubasa G & Constantinescu E** (FMF5:WEpo15:PO).

16 A Review of Fluid Inclusion Typology in Barren and Productive Subvolcanic Structures from the Alpine Carpathian Chain (Romania): **Pintea I** (FMF5:WEpo16:PO).

17 The Volcanic Rocks Petrology and K-Ar Ages for Widen Zone Bor Ore Deposit as the Part of the Timok Magmatic Complex (East Serbia): **Banjesevic M** (FMF5:WEpo17:PO).

18 Petrology of the Paleozoic Metamorphic Rocks in the Area between Mlava and Pek Rivers (Eastern Serbia): **Radovic M, Kalenic M & Milovanovic D** (FMF5:WEpo18:PO).

19 Are there Genetic Links between a Granite Dome and Gold Mineralisation in the Variscan Belt? A Case Study of the South Limousin (French Massif Central): **Bellot J, Roig J, Truffert C, Bouchot V, Bitri A, Ledru P & Milesi J** (FMF5:WEpo19:PO).

(Symposium FMF5 Continued in Session TH am on Page 106)

Wednesday April 11th, PO Session

Symposium LS02

Room PO

Structure, Composition and Accretion of the Oceanic Crust: Geophysical, Petrological and Geochemical Constraints

Convenors: Benoit Ildefonse, Carlos Garrido & Jason Phipps Morgan

- 1 On Magmatic Processes at Fast-Spreading Ridges as Revealed in a Xenolith from the Mush Zone beneath the East Pacific Rise at 9°50'N: **Ridley WI, Perfit MR & Smith MC** (LS02:WEpo01:PO).
- 2 Insights into Ridge-Hotspot Interaction on the Juan de Fuca Ridge: Geochemical Investigations of Axial Seamount and Adjacent Rift Zones: **Perfit M, Chadwick D, Ridley W, Embley R, Jonasson I & Herzig P** (LS02:WEpo02:PO).
- 3 Volcanic Cyclicity and Crustal Accretion at the Cleft Ridge Segment, Juan de Fuca Ridge: **Stakes D, Perfit M & Tivey M** (LS02:WEpo03:PO).
- 4 Recharge, Discharge and Routes of Fluid Flow within a Young Oceanic Crust (Eastern Flank of the Juan de Fuca Ridge, NE Pacific): **Monnin C, Buatier M, Wheat G & Fisher A** (LS02:WEpo04:PO).
- 5 Deep-Sea Exploration and Sea-Surface Magnetism on the Central Indian Ridge at 19°S: Initial Results of Cruise Gimnaut: **Dyment J, Hémond C & Scientific Party TG** (LS02:WEpo05:PO).
- 6 3D Inversion of Magnetic Data Collected in Five Areas of the Mid-Atlantic Ridge Axis between Azores and Equator: **Sichler B, Auffret GA, Bideau D & Hékinian R** (LS02:WEpo06:PO).
- 7 A Thermo-Mechanical Model of Accretion of the Oceanic Crust at Fast-Spreading Mid-Ocean Ridges Considering the Effect of Deep Off-Axis Hydrothermal Circulation and Distributed Melt Injection: **Garrido CJ & Machel P** (LS02:WEpo07:PO).
- 8 Can we Distinguish between Serpentinised Peridotites and Gabbros from their Physical Properties? Insights from the GEOMAN Experiment: **Ildefonse B, Pezard P, Mainprice D, Wilcock WS, Toomey DR & Constable S** (LS02:WEpo08:PO).
- 9 Silicic Rocks in Iceland: Composition and Distribution during the Brunhes Epoch: **Jonasson K** (LS02:WEpo09:PO).
- 10 Basalts from DSDP Leg 28, Sites 265, 266, 267 and 274: Similarities and Differences between Indian and Pacific Mantle Domains: **D'Antonio M, Spadea P & Dini M** (LS02:WEpo10:PO).
- 11 Magmatic History of Plagioclase Phyric Basalt from the Mohs Ridge, Norwegian Greenland Sea: **Hellevang B & Pedersen RB** (LS02:WEpo11:PO).
- 12 REE and Trace Elements in Mineral Phases: Igneous Partitioning and Seafloor Alteration in Gabbroic Rocks from 23°N (Mid-Atlantic Ridge): **Cortesogno L, Gaggero L & Zanetti A** (LS02:WEpo12:PO).
- 13 Comparative Laser Ablation ICP-MS Analyses on Amphiboles from two Gabbros from Vema Fracture Zone and Montgenèvre Ophiolite Complex: Some Petrologic Implications: **Bolou L, Guenther D & Bertrand J** (LS02:WEpo13:PO).
- 14 The Oceanic Lithosphere of the Jurassic Ligurian Tethys: Inference from Petrology and Geochemistry of the Ligurian Ophiolites: **Piccardo GB, Rampone E & Romairone A** (LS02:WEpo14:PO).
- 15 Magmatic and Hydraulic Breccias in Corsican Ophiolitic Plagiogranites (France): **Martin L, Bébien J & Braud X** (LS02:WEpo15:PO).
- 16 Evidences for Chemical Segmentation in the Haylayn Massif (Oman Ophiolite) from its Ultra-Depleted Mantle Part: **Le Mée L, Monnier C, Girardeau J & Juteau T** (LS02:WEpo16:PO).
- 17 Paleo-Oceanic Islands and Seamounts in Caledonian Folded Areas, Gorny Altai and Salair, Russia: **Dobretsov N & Buslov M** (LS02:WEpo17:PO).
- 18 Accretionary Tectonics of the Sea of Okhotsk Region: **Bogdanov NA** (LS02:WEpo18:PO).

Symposium LS03

Room PO

Integrated Tectonic Studies of the Evolution of the Tethyan Orogenic Belt in the Eastern Mediterranean Region

Convenors: Antony Morris, Timur Ustaomer, Despina Kondopoulou, Alastair Robertson & Costas Xenophonos

- 1 A Comparison of Metamorphic Conditions in Magmatic Sequences of Ophiolite Complex from NE Russia (Povorotny Cape, Taigonos Peninsula) and Cyprus (Result of Investigations Supported by INTAS Grant 96-1880): **Silant'ev S** (LS03:WEpo01:PO).
 - 2 Timing of Cenozoic Extension in the Kraisthe Region, (SW Bulgaria): Evidence from Fission Track Analysis: **Kounov A, Seward D, Bernoulli D, Burg J & Ivanov Z** (LS03:WEpo02:PO).
 - 3 Paleomagnetic Results from the Tarim Block. Toward a Comprehensive of the Jurassic Configuration of Eurasia: **Halim N & Otofujii Y** (LS03:WEpo03:PO).
 - 4 The Grigoriou Plutonic Complex (Mt Athos, Greece): A Component of the North Aegean Eocene-Oligocene Calc-Alkaline Magmatism: **Bébien J, Michard A, Montigny R, Feinberg H & Voidomatis P** (LS03:WEpo04:PO).
 - 5 Mount Athos Paleomagnetism: A Hint for Fault Controlled Deformations in the North Aegean Area: **Kondopoulou D, Feinberg H, Montigny R, Michard A, Voidomatis P, Atzemoglou A & Pozzi J** (LS03:WEpo05:PO).
 - 6 Palaeozoic as well as Mesozoic Sedimentation and Polymetamorphism in Central Rhodope (N' Greece) as Inferred from U-Pb SHRIMP-Dating of Detrital Zircons: **Liatf A & Gebauer D** (LS03:WEpo06:PO).
 - 7 Geochronological Constraints on Carboniferous and Triassic Magmatism in the Cyclades: SHRIMP U-Pb Ages of Zircons from Syros, Greece: **Tomaschek F, Kennedy A, Keay S & Ballhaus C** (LS03:WEpo07:PO).
 - 8 The Geology of Western Crete (Greece): Heritage of the Interplay between Arc-Normal Compression and Arc-Parallel Extension Since the Middle Miocene: **van Hinsbergen DJ, van Hattum MW & Meulenkamp JE** (LS03:WEpo08:PO).
 - 9 Morphotectonic Structures at the Eastern Edge of the Boundary between the Cretan Back-Arc Basin and the Aegean Volcanic Arc, using Swath Bathymetric Data: **Nomikou P** (LS03:WEpo09:PO).
 - 10 Role of Crustal Extension and Basin Inversion in Late Palaeozoic-Early Tertiary Tectonic Evolution of the South Margin of Eurasia in the Circum-Black Sea Region: **Nikishin A, Ustaömer T, Robertson AH, Seghedi A & Ziegler PA** (LS03:WEpo10:PO).
 - 11 Pre-Eocene Exhumation of the Nigde Metamorphic Dome, Central Anatolia, Turkey: **Gautier P, Bozkurt E, Hallot E & Dirik K** (LS03:WEpo11:PO).
 - 12 Tectonomorphologic Evolution of Tuzgolü (Salt Lake)- Central Anatolia, Turkey: **Kadir D** (LS03:WEpo12:PO).
 - 13 The Arabia/Anatolia Collision as Reflected by Detrital Modes of Miocene Flysch and Modern Sand (North Cyprus, Turkey, Syria): **Garzanti E, Vezzoli G, Andò S, Guarnone W & Mastrovito M** (LS03:WEpo13:PO).
 - 14 First Results from GPS Measurements on Present day Iranian Kinematics: **Masson F, Nilforoushan F, Martinod M, Martinod J, Abbasi M, Bayer R, Tavakoli F, Hatzfeld D, Ashtiani M & Vernant** (LS03:WEpo14:PO).
 - 15 A New Approach to 3-D Gravity Modelling and its Tectonic Implications in the Eastern Mediterranean: **Makarenko I, Buryanov V, Legostaeva O, Starostenko V & Rusakov O** (LS03:WEpo15:PO).
 - 16 Radiolarians from the UMBER of the Perapedhi Formation, Late Cretaceous, Cyprus: **Urquhart E & Thurow J** (LS03:WEpo16:PO).
 - 17 Peri-Tethyan Platforms Palaeogeography: **Vrielynck B** (LS03:WEpo17:PO).
- (Symposium LS03 Continued in Session TH am on Page 106)

Symposium LS06 Room PO

**Blueschist to UHP Metamorphism
and Back Again**

**Convenors: John Schumacher, Simon Cuthbert
& Tony Carswell**

- 1 Diversity of High Grade Metabasic Rocks from South Togo, West Africa: A Clue for a Regional Tectonic Imbrication of Pan-African Age: **Agbossoumonde Y, Ménot R & Gulliot S** (LS06:WEpo01:PO).
- 2 Episodic Retrograde-Prograde Metamorphism during Subduction of Oceanic Crust: An Example from High-P Blocks of a Serpentinite Melange, Cuba: **Garcia Casco A, Schneider J, Millán Trujillo G, Torres Roldán R & Monié P** (LS06:WEpo02:PO).
- 3 Exhumation of HP Rocks in a Serpentinized Mantle Channel: Evidence from Geochemical Study of Serpentinites (Tso Moriri Dome, E Ladakh): **de Sigoyer J, Nägler T, Stéphane G & Hattori K** (LS06:WEpo03:PO).
- 4 Eo-Alpine Andalusite in the Schneeberg Complex (Eastern Alps, Italy/Austria): Constraining the P-T-t-D Path during Cretaceous Metamorphism: **Habler G, Linner M, Thiede R & Thöni M** (LS06:WEpo04:PO).
- 5 Exhumation of Alpine Eclogites of the Eastern Alps: Constraints from Structural and Metamorphic Geology: **Kurz W, Froitzheim N & Neubauer F** (LS06:WEpo05:PO).
- 6 Neoproterozoic Metagranite did not Experience Ultrahigh-Pressure Metamorphism from Bixiling, Dabie Shan, Central China: **Liu X & Dong S** (LS06:WEpo06:PO).
- 7 Ultrahigh-Pressure Metamorphism from the Rhodope Metamorphic Province, Northeastern Greece: A Preliminary Report on a New Discovery: **Mposkos E, Kostopoulos D & Krohe A** (LS06:WEpo07:PO).
- 8 Exhumation of UHP Rocks in SW Norway- Allochthonous Western Gneiss Region Models: **Rice AHN** (LS06:WEpo08:PO).
- 9 Metamorphic Rates Attending Continental Collision, Bergen Arcs, Norwegian Caledonides: **Perchuk A & Philippot P** (LS06:WEpo09:PO).
- 10 High-Pressure Conditions in the Quartzo-Feldspathic Gneisses Hosting the Mafic Eclogites of the Lanterman Range (Antarctica): Evidence for a Common P-T Evolution: **Palmeri R, Di Vincenzo G, Ghibelli B, Giorgetti G, Talarico F & Ricci CA** (LS06:WEpo10:PO).
- 11 Alpine Metamorphic Evolution of Corio and Monastero Metagabbros (Sesia-Lanzo Zone): An Example of Prograde Evolution and Development of Chloritoid-Bearing Eclogitic Assemblages in Basic Rocks: **Rebay G & Messiga B** (LS06:WEpo11:PO).
- 12 Recognizing and Mapping a UHP Metamorphic Terrain: The Southern Dora-Maira Massif (Western Alps): **Rolfo F, Compagnoni R, Hirajima T & Turello R** (LS06:WEpo12:PO).
- 13 Exhumation of High Pressure Rocks in Greece: Preliminary Results: **van Koolwijk M, Lips A, White S & Wijbrans J** (LS06:WEpo13:PO).
- 14 Evolution of an Orthogneiss Suite during UHP Metamorphism and Exhumation (Dabie Shan, E-China): Petrological and Geochronological Constraints: **Wawrzenitz N, Schmid R, Oberhänsli R, Romer R & Dong S** (LS06:WEpo14:PO).
- 15 Blueschist-Facies Metamorphic Overprint in the Continental Crust Rocks from the Bocca di Tenda Gabbroic Complex (Northern Corsica): **Tribuzio R, Giacomini F & Messiga B** (LS06:WEpo15:PO).
- 16 Identification of the Tectono-Metamorphic Units: Deformation Gradients and Rate of Metamorphic Transformation, an Example from the Formazione di Pietra Rossa and Formazione di Cima Roavaia (Austroalpine Units, Central Alps, Italy): **Zucali M, Spalla M, Gosso G, Salvi F & Gazzola D** (LS06:WEpo16:PO).

(Symposium LS06 Continued in Session TH am on Page 107)

Symposium MS06 Room PO

Oceanic Large Igneous Provinces

Convenors: Nicholas Arndt & Malcolm Pringle

- 1 Did the Hawaiian Plume Interact with a Mid-Ocean Ridge in the Late Cretaceous?: **Kempton PD & Barry TL** (MS06:WEpo01:PO).
 - 2 The Diamantina Rift Zone: New Evidence from Geochemistry: **Robert U & Montigny R** (MS06:WEpo02:PO).
 - 3 Two Distinct Cretaceous Oceanic Plateaus in Ecuador: Implications for the Geodynamic Evolution of the Andean Margin: **Mamberti M, Lapierre H, Jaillard E, Bosch D, Hernandez J & Polvé M** (MS06:WEpo03:PO).
 - 4 Structure of the Cretaceous Kerguelen and Mod-Astrid Volcanic Provinces from Magnetic Anomaly Data: **Golynsky A, Gandyukhin V & Guseva J** (MS06:WEpo04:PO).
 - 5 The Effect of fO_2 on the Differentiation of LIP-basalts from the Kerguelen Archipelago. An Experimental Study: **Freise M, Holtz F, Koepke J, Damasceno D & Leyrit H** (MS06:WEpo05:PO).
 - 6 The Val Gabbro Revisited, Kerguelen Archipelago: Evolution of a Plutonic Complex in an Oceanic Island and Relations with Volcanic Rocks: **Franssens M, Scoates JS, Weis D, Nicolaysen K & Frey FA** (MS06:WEpo06:PO).
 - 7 The Significance of Thick, Aphyric Basaltic Lava Flows on the Kerguelen Archipelago: **Scoates J, Lo Cascio M, Weis D, Doucet S, Damasceno D & Giret A** (MS06:WEpo07:PO).
 - 8 Experimental Constraints on the Evolution of Mildly Alkaline Basalts from the Kerguelen Archipelago: **Lo Cascio M, Scoates J, Damasceno D & Weis D** (MS06:WEpo08:PO).
 - 9 Hf Isotope Systematics of Kerguelen Archipelago and Plateau Lavas: Kerguelen Plume Source Revisited: **Mattielli N, Weis D, Blichert-Toft J, Barling J & Frey FA** (MS06:WEpo09:PO).
 - 10 North Atlantic Volcanic Province- Platinum Group Elements during Magmatic Processes: **Philipp H & Eckhardt J** (MS06:WEpo10:PO).
- (Symposium MS06 Continued in Session TH am on Page 107)

Symposium MS07 Room PO

**Sub-Continental Mantle Plumes: Origin,
Evolution, Surface Expression and Fate; What
Do We Really Know?**

Convenors: Marjorie Wilson & Ulrich Achauer

- 1 North Ladoga Early Proterozoic Plume: The Geology and Geochemical Evidences (Russia, Karelia): **Vasilyeva T** (MS07:WEpo01:PO).
- 2 Crust and Mantle Contributions to Anorogenic Magmatism: A Case Study of the Cretaceous Erongo Complex, Namibia: **Wigand M, Trumbull R & Emmermann R** (MS07:WEpo02:PO).
- 3 Palaeozoic Activation in the Northeastern Fennoscandian Shield: Rb-Sr and Sm-Nd Isotope Evidence for Evolution of Mantle Sources: **Arzamastsev A, Belyatsky B & Arzamastseva L** (MS07:WEpo03:PO).
- 4 The Influence of Hawaiian Hot-Spot on Deep Structure and Volcanism of Kamchatka: **Sanina I, Gontovaya L, Stepanova M & Avdeiko G** (MS07:WEpo04:PO).
- 5 Wehrlite and Clinopyroxenite Xenoliths from Mt Cameroon: Implications for Lithospheric Processes: **Ngounouno I, Déruelle B & Bardintzeff J** (MS07:WEpo05:PO).

Wednesday April 11th, PO Session

6 Geochemical Evolution and Ar-Ar Geochronology of the Emeishan Flood Basalt Province, SW China: **Guo Z, Hertogen J, Liu J, Pasteels P, Boven A, Punzalan L & Zhang W** (MS07:WEpo06:PO).

7 Isotope Systematics of Cenozoic Intraplate Basalts: Evidence for Involvement of Common Mantle Sources beneath Africa, Western-Central Europe and Central Atlantic Islands: **Ait-Hamou F & Briquieu L** (MS07:WEpo07:PO).

8 Permian Mafic Rocks in the Alps: A Post-Orogenic Mantle Melting Event Illustrated by the Mont Collon-Matterhorn Intrusion (Austroalpine Dent-Blanche Nappe): **Monjoie P, Bussy F, Schaltegger U, Lapierre H & Pfeifer H** (MS07:WEpo08:PO).

9 An Image of Tectonics into the Continental and Oceanic Mantle Structure: **Geyko V, Tsvetkova T, Livanova L, Sannikova N & Geyko K** (MS07:WEpo09:PO).

(Symposium MS07 Continued in Session TH pm on Page 113)

Symposium MS09 Room PO Upper Mantle Structure and Flow

Convenors: Guilhem Barruol, Geoffrey Lloyd & Mike Kendall

1 Dynamics of Crustal Formation in an Oceanic Environment in the Early Earth: **van Thienen P, van den Berg AP & Vlaar NJ** (MS09:WEpo01:PO).

2 Transition Zone Thickness Inferred from Circulation Models: **Thoraval C & Machetel P** (MS09:WEpo02:PO).

3 An Experimental and Numerical Study of Microstructural Parameters Contributing to the Seismic Anisotropy of Rocks: **Wendt AS, Bayuk I, Covey-Crump SJ, Lloyd G & Wirth R** (MS09:WEpo03:PO).

4 The Effect of 'Asthenospherization' on the Seismic Properties of the Mantle Lithosphere: Constraints from Lattice Preferred Orientations in Peridotites from the Ronda Massif: **Vaucher A & Garrido C** (MS09:WEpo04:PO).

5 Seismic Anisotropy and Upper Mantle Deformation in Continental Plates: **Tommasi A, Vaucher A & Tikoff B** (MS09:WEpo05:PO).

6 Observations of Subduction Retroarc Dynamic Topography and Implications for Mantle Viscosity Structure: **Kusznir N, Booth S & Flint S** (MS09:WEpo06:PO).

7 Deep Anisotropy beneath the Western Pacific and Australia Recorded by Source-Side S Wave Splitting: **Barruol G, Duclos M, Wookey J & Kendall M** (MS09:WEpo07:PO).

8 Anisotropy beneath the Dead Sea Transform from SKS Splitting at Short Periods: **Rumpker G, Ryberg T, Bock G & Group D2** (MS09:WEpo08:PO).

9 Seismic Waveform Tomography of the Iranian Region: **Maggi A, Raven K, Priestley K & Jackson J** (MS09:WEpo09:PO).

10 Body Wave Observations in Fennoscandia Related to Seismic Anisotropy: **Kouba D, Plomerova J, Hyvonen T, Vecsey L & Babuska V** (MS09:WEpo10:PO).

11 A 3D Shear Velocity Model for the Upper Mantle of South America: **Heintz M, Debayle E, Vaucher A & Assumpção M** (MS09:WEpo11:PO).

Symposium OS01 Room PO Palaeontology, Stratigraphy and Sedimentology

Convenor: Duncan McIlroy & Helen Morgans-Bell

1 Foraminiferal Zonation of the Two Facies Types of Middle Carboniferous in the Western Part of South Tien-Shan (Uzbekistan and Adjacent Countries): **Orlov-Labkovsky O & Bensch F** (OS01:WEpo01:PO).

2 Planktonic Foraminifera Biostratigraphy of the Middle Eocene-Lower Miocene Epiligurian Succession (Northern Apennines, Italy): **Mancin N & Pirini C** (OS01:WEpo02:PO).

3 Paleobathymetric Reconstructions Based on Foraminifera: The Example of the Eocene to Miocene Epiligurian Succession (Northern Apennines, Italy): **Mancin N & Pirini C** (OS01:WEpo03:PO).

4 Radiolarian Biostratigraphy of a Pelagic Succession at Monte Inici (Upper Jurassic, Sicily, Italy): **Beccaro P & Pavia G** (OS01:WEpo04:PO).

5 The Ternate Formation (Northern Italy): Planktonic Foraminiferal Biostratigraphy, Calcareous Algae Assemblages and Sedimentary Petrography: **Mancin N, Ceriani A, Tagni F & Brambilla G** (OS01:WEpo05:PO).

6 Early Jurassic Age of Ferrar Group Volcanism in North Victoria Land, Antarctica: Constraints from Interbedded Fossiliferous Black Shales: **Pertusati PC, Ribecai C, Meccheri M & Musumeci G** (OS01:WEpo06:PO).

7 Stratigraphy of Cretaceous Radiolarian Cherts of Cuba: Preliminary Results: **Aiello IW, Chiari M & Garcia Delgado D** (OS01:WEpo07:PO).

8 Lake Baikal Plio-Pleistocene Diatom Biostratigraphy from Deep Drilling Cores: **Khursevich G, Karabanov E, Prokopenko A, Williams D, Kuzmin M, Fedenia S, Soshina N & Gvozdkov A** (OS01:WEpo08:PO).

9 Carbon Isotope Event Markers near the Permian-Triassic Boundary in the Idrijca Valley (W. Slovenia): **Dolenec M & Ogorelec B** (OS01:WEpo09:PO).

10 Turbidite Deposystems of the Central-Carpathian Paleogene Basin: Submarine Fans, Facies Tracts and Paleogeography: **Starek D & Sotak J** (OS01:WEpo10:PO).

11 A Zircon SHRIMP+TIMS and Sm-Nd Isotope Study of High-Grade Paragneisses from the Mid-German Crystalline Rise: Evidence for Northern Gondwanan and Grenvillian Provenance and Early Carboniferous High-Grade Metamorphism: **Zeh A, Brätz H, Millar IL & Williams IS** (OS01:WEpo11:PO).

12 The Relation between Foreland Basin Development and Unroofing History of the Patagonian Andes; Part I: Magnetostatigraphy of the Miocene Santa Cruz Formation: **Warkus F, Nowaczyk NR, Blisniuk P & Strecker MR** (OS01:WEpo12:PO).

13 About Perspectives of the Triassic Deposits in the Komi Republic: **Trukhachev A** (OS01:WEpo13:PO).

14 Paleoflow Directions and Emplacement Mechanisms of Miocene Lahar Deposits in the Cantal Stratovolcano (Massif Central, France) as Inferred from a Photo-Statistical Method: **Huguet D, David K & Tamás T** (OS01:WEpo14:PO).

15 Early Palaeozoic Accretion of Perigondwanan-Derived Terranes to Baltica: Data from Provenance Analysis of Sedimentary Sequences Cored by Deep Drillings in Denmark, N. Germany, and N. Poland: **Vecoli M, Giese U, Samuelsson J, Handler R & Gerdes A** (OS01:WEpo15:PO).

16 Sedimentological and Paleontological Features of the Holocene Deposits Capping Volcanic Banks of the Gulf of Naples, Eastern Tyrrhenian Sea: **Molisso F, Ferraro L & Toscano F** (OS01:WEpo16:PO).

17 High-Resolution Log-Sequence Stratigraphy of the Upper Paleocene Deposits in the Eastern North Sea Basin: **Jørgensen KW & Michelsen O** (OS01:WEpo17:PO).

Wednesday April 11th, PO Session

Symposium OS02 Room PO Environmental Geology and Geohazards

Convenors: **Jean Carignan & Toni Eerola**

1 Geosciences as a Social Focus in the Early 19th Century: And Today?: **Horn S, Kreher-Hartmann B & Heide K** (OS02:WEpo01:PO).

2 Mining, Environment and the Public Image of Geology: **Eerola T** (OS02:WEpo02:PO).

3 Flood Hazards in Mainland Greece: **Lekkas E** (OS02:WEpo03:PO).

4 Landslide Hazards in Greece: **Lekkas E** (OS02:WEpo04:PO).

5 Geophysical and Geotechnical Investigation of an Areal Landslide in the Northern Tuscany (Italy): An Extensive Slope Consolidation Proposal: **Gabbani G, Lavorini G & Pacini L** (OS02:WEpo05:PO).

6 An Example of Pressure Released Jointing, Underground Career of Chalk, Meudon, France: **Moiriat D, Potherat P & Bebieen J** (OS02:WEpo06:PO).

7 Pressure-Release Jointing Related to the Formation of a Valley: Observations in an Abandoned Underground Quarry Near Paris (Meudon, France): **Moiriat D, Pothérat P & Bébieen J** (OS02:WEpo07:PO).

8 Atmospheric Pollution Records in High Mountain Lake Sediments in NW Slovenia: **Vreca P, Jeran Z, Dolenc T, Lojen S, Jacimovic R, Brancelj A & Muri G** (OS02:WEpo08:PO).

9 Estimating Natural Sources of Heavy Metals in Minerogenic Peat- A Case Study in a Pristine Area in Southernmost Patagonia, Chile: **Hertel C & Biester H** (OS02:WEpo09:PO).

10 Kovdor Phlogopite as a Raw Material for Potassium Fertiliser: **Vasilieva V, Matveev I, Krasnova N, Tereshina A & Turchenko S** (OS02:WEpo10:PO).

11 Modeling the Thermodynamical Acquisition of Groundwater Chemistry into Metamorphic Mountainous Slopes: Validation of the Model with Field Values: **Bertrand C & Guglielmi Y** (OS02:WEpo11:PO).

12 Using GIS for Environmental Geochemical Research in the South of Western Siberia: **Balandis V, Boguslavsky E & Zolnikov I** (OS02:WEpo12:PO).

(Symposium OS02 Continued in Session TH pm on Page 113)

Symposium OS03 Room PO Marine Geology and Geophysics

Convenor: **Wolfgang Bach**

1 Deformation Processes at the Fast to Ultrafast Oceanic Ridges: Analog Modeling Constrains: **Garel E, Dauteuil O & Lagabrielle Y** (OS03:WEpo01:PO).

2 The Connection of Zones of Hydrothermal Activity and Petrochemical Zoning within the Scope of the Mid-Oceanic Ridges with Deep-Seated Geophysical Anomalies (An Example of the Mid-Atlantic Ridge): **Kolobov Y, Kulakov I, Zhmodik A, Bushenkova N & Glazirin Y** (OS03:WEpo02:PO).

3 Conditions of Rift Magmatism within the Central Part of the Knipovich Ridge: **Sushevskaya N, Belyatsky B & Kamenetsky V** (OS03:WEpo03:PO).

4 The Chemical Consequences of Late-Stage Hydrothermal Circulation in an Uplifted Block of Lower Ocean Crust at the SW Indian Ridge: Results from ODP Hole 735B (Leg 176): **Bach W, Alt J, Niu Y, Humphris S, Erzinger J & Dick H** (OS03:WEpo04:PO).

5 Evidence for Intraplate Deformation in the Southern Central Indian Basin from a Swath-Bathymetry Survey (MD118-DEFLO Cruise): **Royer J, Goslin J, Deplus C, Patriat P, Begot J, Bienassis G, Chang T, Cornen G, Hirschberger F & Widwijayanti C** (OS03:WEpo05:PO).

6 Modeling of Aeromagnetic Anomalies of the Chicxulub Crater and its Implications on the Nature of the Yucatan Basement: **Rebolledo-Vieyra M, Vera-Sanchez P, Urrutia-Fucugauchi J & Soler-Arechalde AM** (OS03:WEpo06:PO).

7 Sedimentary Processes in the Naples Gulf, Southern Italy: Results from High Resolution Stratigraphy: **Iorio M, Budillon F, Angelino A, Ferraro L & Molisso F** (OS03:WEpo07:PO).

8 Evidence of the 79 A.D. Pompei Plinian Eruption in the Salerno Bay, Eastern Tyrrhenian Sea: Stratigraphic and Sedimentological Implications: **Conforti A, Insinga D, Morra V, Sacchi M, Ferraro L & Ricci G** (OS03:WEpo08:PO).

9 The Dohrn Canyon (Gulf of Naples): A Drainage System of an Active Volcanic Area: **Aiello G, Budillon F, Iorio M, Sacchi M, Tonielli R & D'Argenio B** (OS03:WEpo09:PO).

10 The Nile Deep-Sea Fan: Main Results of the Fanil Cruise (October-November 2000): **Bellaiche G, Loncke L, Gaullier V, Mascle J, Courp T, Moreau A, Radan S & Sardou O** (OS03:WEpo10:PO).

Symposium OS06 Room PO Mineralogy, Ore Geology and Mineral Resources

Convenors: **Gregor Borg & Susanne Schmid**

1 Geochemistry of Minerals from Granitic Rocks and associated Quartz Veins from Segura, Central Portugal: **Antunes I, Neiva A & Silva M** (OS06:WEpo01:PO).

2 Whole-Rock and Clay Fraction Mineralogy of the Bottom Sediments of Köyceğiz Lake, SW Anatolia, Turkey: **Temel A & Bayari S** (OS06:WEpo02:PO).

3 New Date of the Jadeite Colour of Lion-Kechpelsk Deposit: **Gyteleva I** (OS06:WEpo03:PO).

4 South-East Asian Marble-Hosted Ruby Deposits: **Garnier V, Gaston G, Onhenstetter D, Schwarz D, France-Lanord C, Dubessy J & Maluski H** (OS06:WEpo04:PO).

5 Anisotropy of Magnetic Susceptibility (AMS) and Traces Chemistry: A New Approach to Discriminate between Hydrothermal and Supergene Processes in Goethite-Rich Ore Deposits. Application to the Ba-Fe-F Deposit of Chaillac (Indre, France): **Sizaret S, Marcoux E, Chen Y & Touray JC** (OS06:WEpo05:PO).

6 Computer Modeling of the Equiponderant Crystal Form in the Context of Study of Zircons from Metamorphic Rocks: **Potapov I** (OS06:WEpo06:PO).

7 Report of Two New Rock Forming Minerals: **Tuisku P & Muhongo S** (OS06:WEpo07:PO).

8 Dynamics of Silver Ore Formation in the Beregovovo Ore Field (Intercarpathian Volcanic Belt, Ukraine): **Emetz A** (OS06:WEpo08:PO).

9 Gold-Bearing Quartz-Sulfide Aggregates and Quartz Evolution in the Muzievo Gold-Silver-Base Metal Epithermal Deposit (Intercarpathian Volcanic Belt, Ukraine): **Gayduchok-Emetz V, Emetz A & Skakun L** (OS06:WEpo09:PO).

10 Characteristics of Volcanic- and Sediment-Hosted Base Metal Anomalies in the Vicinity of Rosh Pinah Mine, Namibia: **Lüttich C, Kühn T, Hofffeld S, Borg G & Gauert C** (OS06:WEpo10:PO).

11 Preliminary Mineralogical Investigations of the Skorpion Non-Sulphide Zinc Deposit, Southern Namibia: **Kärner K, Borg B, Boshoff F & Thatcher T** (OS06:WEpo11:PO).

12 Ore-Forming Fluids in Idrija Mercury Mine, Slovenia: **Palinkas L, Herlec U & Strmic S** (OS06:WEpo12:PO).

Wednesday April 11th, PO Session

- 13 A Concept for the Investigation of the Economic Potential of Undiscovered Copper Deposits in Mauritania: **Eden K, Grassmann J & Meyer FM** (OS06:WEpo13:PO).
- 14 Petrological And Geochemical Evidence of Fluid-Rock-Interaction In The Strike Reef of The Hutti Gold Mine, North Karnataka, India: **Rogers A, Kolb J & Meyer M** (OS06:WEpo14:PO).
- 15 The Genesis of Metamorphogenetic Hg-Gold of the SE Block of Kochkar Gold Deposit, Southern Ural: **Yudin A** (OS06:WEpo15:PO).
- 16 The Gondwana Metal- Potential GIS: **Nicol N, Billa M, Christian B, Moctar D, Jean-Pierre M, Christien T & Maarten DW** (OS06:WEpo16:PO).
- 17 GIS Andes: Mining Districts: **Cassard D, Felenc J, Hocquard C, Joubert M, Monthel J & Prevot J** (OS06:WEpo17:PO).
- 18 GIS Central Europe: The Metallogenic GIS of Central and South-Eastern Europe: **Cassard D, Stein G, Milesi J & L. W. Lips A** (OS06:WEpo18:PO).
- 19 GIS Africa: A 1:2,000,000-Scale Tool for Sustainable Development: **Milesi J, Feybesse J, Pinna P & Deschamps Y** (OS06:WEpo19:PO).
- 20 SignateX: A Deposit-Model Base for Mineral Exploration: **Bouchot V, Leduc C, Viallefond L, Vaillant F, Delpont G, Deschamps Y, Milesi J, Recoche G, Joubert M, Billa M, Martel-Jantin B & Salpeteur I** (OS06:WEpo20:PO).
- 21 Mineral Resources in the Central Part of the Serbo-Macedonian Metallogenic Province: **Serafimovski T & Jelenkovic R** (OS06:WEpo21:PO).
- 22 Structural Classification of Microscopic Gold in Orogenic Au Deposits from Sudetes- The European Variscan Belt: **Mikulski S** (OS06:WEpo22:PO).
- 23 A 3-D Model for a Banded Iron Formation Hosted, Epigenetic Gold Mineralisation at Ajjanahalli, South India: **Hellmann A, Kolb J & Meyer F** (OS06:WEpo23:PO).
- 24 Mineralogy, Fluid Inclusion Study, and Re-Os Dating of Mo-Bearing Mineralization from the Vlaikov Vrah Porphyry Copper Deposit, Panagyurishte District, Bulgaria: Preliminary Results: **Kouzmanov K, Moritz R, Chiaradia M & Ramboz C** (OS06:WEpo24:PO).
- 25 Efficient Technology of Ore Minerals Investigation of PGE-Bearing Deposits- Case Study: **Rudashevsky N, Kretser Y & Rudashevsky V** (OS06:WEpo25:PO).
- 26 Geology, Mineralogy and Au-PGE Geochemistry of Kizildag Listwaenites (Middle Anatolia): **Ciftci Y** (OS06:WEpo26:PO).
- 27 Metamorphism of the Pansky Tundra PGE-Bearing Layered Intrusion (Kola Peninsula): **Voloshina Z** (OS06:WEpo27:PO).
- 28 Geological Structure and Genesis of the Urals Diamond Deposits: **Anfilogov V, Ezersky V, Orgeval J & Korablev A** (OS06:WEpo28:PO).
- 29 Relationships between the Segmentation of Urals Paleoocean Structure and the Geological Setting and Productivity of Urals Massive Sulphide Ore Fields: **Tessalina SG, Zaykov V & Orgeval J** (OS06:WEpo29:PO).
- 30 Promising for Pt Mineralization, Precambrian Basic-Ultrabasic Massives of Transbaikal Region, Siberia, Russia: **Gongalsky B & Krivolutskaya N** (OS06:WEpo30:PO).
- 31 PGE-Cu-Ni Ore Deposits of Volcano-Intrusive Ore-Bearing Complexes: **Dyuzhikov OA & Sharkov EV** (OS06:WEpo31:PO).
- 32 The Bruvann Cu-Ni Ore Deposit, Rana Intrusion, Norway Isotopic Evidences of Crustal Contamination: **Lerouge C, Auge T & Pineau F** (OS06:WEpo32:PO).
- 33 Statistical Characteristics of Oscillatory Zoning of Cave Calcite- Popcorn from Hungary: **Bryxina N & Dublaynsky Y** (OS06:WEpo33:PO).

Symposium OS10

Room PO

Structural Geology and Tectonics

Convener:

Graham Potts

- 1 Simultaneous Extensional Tectonics and Calcalkaline Magmatism in the Lora Del Rio Area (Ossa-Morena Zone, Iberian Massif): **Apraiz A, Larrea FJ & Etxebarria M** (OS10:WEpo01:PO).
- 2 Fabric of the Rio Ceará-Mirim Mafic Dyke Swarm (Northeastern Brazil), Determined by Anisotropy of Magnetic Susceptibility and Image Analysis: **Archanjo CJ** (OS10:WEpo02:PO).
- 3 Isotopic Mapping of the Western Himalayan Syntaxis: Tectonostratigraphic Correlations and Insights: **Argles T & Foster G** (OS10:WEpo03:PO).
- 4 The Investigation of Mineralogical-Petrographical and Structural Features of Sandikli Metavolcanites (Porphiroids) (SW Afyon, Turkey): **Ay AM, Tolluoglu Ü, Erkan Y & Aytar N** (OS10:WEpo04:PO).
- 5 Textural Evolution of Deformed Carrara Marble over a Large Strain Range: **Barnhoorn A, Kunze K, Bystricky M & Burlini L** (OS10:WEpo05:PO).
- 6 Interseismic Loading Behavior of the Himalayan Range in Nepal: **Bollinger L & Avouac J** (OS10:WEpo06:PO).
- 7 First Experimental Study of the Seismic Properties of Eastern Alps, Italy. A Case Study from Val Badia-Brunico-Vedrette di Ries-Valle Aurina Transect: **Burlini L, Mazzoli C & Sassi R** (OS10:WEpo07:PO).
- 8 Field Constraints to the Mid-Tertiary Kinematics of the Ligurian Alps (Italy): **Capponi G, Crispini L, Piazza M & Amandola L** (OS10:WEpo08:PO).
- 9 Optimization of a Control Network for Monitoring Possible Tectonic Displacements Using the GPS Methodology: **Caprioli M & Trizzino R** (OS10:WEpo09:PO).
- 10 Polyharmonic Buckle Folding Accommodates all the Shortening in a Thick, Shale Dominated Sedimentary Pile of the Antiatlas of Morocco: **Caritg S, Burkhard M & Helg U** (OS10:WEpo10:PO).
- 11 Progressive Duplex Development in the Miocene Foredeep Succession (Northern Apennines, Italy): **Cerrina Feroni A, Martelli L, Martinelli P & Ottria G** (OS10:WEpo11:PO).
- 12 East Sea Opening and Tectonic History of the Yangsan Fault, Southeastern Korean Peninsula: **Chang C, Chang TW, Lee J & Im C** (OS10:WEpo12:PO).
- 13 Deformation and Fluid Flow in Normal Faults of Geological Formations with Low Permeability: Example of Toarcian Shales of Tournemire (Aveyron, France): **Constantin J, Vergély P & Cabrera J** (OS10:WEpo13:PO).
- 14 Late Orogenic Shear Zones in the Ultramafites of the Voltri Group (Western Alps): Relationships between Progressive Deformation and Syntectonic Fluids: **Crispini L & Capponi G** (OS10:WEpo14:PO).
- 15 Reaction Induced Weakening in Experimentally Deformed Plagioclase-Olivine Aggregates: **de Ronde A, Stunitz H & Tullis J** (OS10:WEpo15:PO).
- 16 Transpressive Strike-Slip System of the Southern Part of the Polar Ural Mountains in Russia Derived from the Deformational Regime of Rigid, Ultramafic Bodies in the Area of the Main-Ural-Fault, MUF: **Degen TJ** (OS10:WEpo16:PO).
- 17 Detection of Active Compression Structures on SAR ERS Imagery: Example of the Central Japan Seismic Area: **Dhont D, Chorowicz J & Cadet J** (OS10:WEpo17:PO).
- 18 SIMS-Dating of Ductile Shearing in SW Finland: **Ehlers C & Skiöld T** (OS10:WEpo18:PO).

Wednesday April 11th, PO Session

- 19 Controversial Geochronological Data for the Tectonic Evolution of the Itremo Region (Central Madagascar): **Fernandez A, Schreurs G, Huber S, Villa I & Rakotondrazafy M** (OS10:WEpo19:PO).
- 20 Significance of Late Shear Zones in the Internal Domain of Western Alps: Consequence of a Pure-Shear Deformation Regime?: **Ganne J, Bertrand J & Fudral S** (OS10:WEpo20:PO).
- 21 Mesozoic Structural Evolution in the Southwestern Part of the Ogcheon Belt, Korea: **Kee W & Hwang JH** (OS10:WEpo21:PO).
- 22 New Kinematic and Ar-Ar Data on Strike-Slip Ductile Shear Zones around Junggar Basin, Xinjiang, NW China: **Laurent-Charvet S, Monié P, Charvet J & Shu L** (OS10:WEpo22:PO).
- 23 Development of Composite Quartz C-Axis Texture Patterns during Exhumation of HP-LIT Rocks of MTU (Variscan Belt of Iberia): **Llana Fúnez S** (OS10:WEpo23:PO).
- 24 The Role of Strike-Slip Tectonics in the Neogene-Quaternary Evolution of the Plateau Ibleo (Sicilia Sud-Orientale): **Mattina D** (OS10:WEpo24:PO).
- 25 Tichka-Granite (High Atlas, Morocco): Regional Tectonics vs Emplacement Related Structures: **Milenkovic I, Piguet P, Pronk M, Python J & Burkhard M** (OS10:WEpo25:PO).
- 26 Dynamic Recrystallized Carrara Marble- Field Relationships in Comparison to High Strain Deformation Experiments: **Molli G, Oesterling N & Barnhoorn A** (OS10:WEpo26:PO).
- 27 Mafic Dyke Swarms West of the Barberton Greenstone Belt, South Africa: **Nilsson P & Watkeys M** (OS10:WEpo27:PO).
- 28 Late Stage Microstructural and Textural Evolution of Naturally Deformed Carrara Marble- A Comparison to Experimental Rock Deformation Data: **Oesterling N, Heilbronner R & Molli G** (OS10:WEpo28:PO).
- 29 Basement Deformation by Folding and Fracturing. Example of the Bielsa Thrust Sheet (Pyrenees): **Oliva-Urcia B, Casas AM, Román-Berdiel T & Pueyo EL** (OS10:WEpo29:PO).
- 30 The Late Variscan Fracture Network in N Portugal (NW Iberia): A Re-Evaluation: **Ornelas Marques F, Mateus A & Tassinari C** (OS10:WEpo30:PO).
- 31 A New Perspective on the Paleoproterozoic Structure of Eastern Bergslagen, Central Sweden: **Persson KS, Sjöström H & Högdahl K** (OS10:WEpo31:PO).
- 32 Major and Minor Sheath Folds in HP Granulites of the Bacariza Formation (Cabo Ortegal, NW): **Puelles Olarte P, Abalos Villaro B & Gil Ibarguchi JI** (OS10:WEpo32:PO).
- 33 Geological-Geochronological Model of the Lower Precambrian Structural Stage Formation in the Urals: **Pystina A & Pystina Y** (OS10:WEpo33:PO).
- 34 Reconstruction of Paleostress Magnitudes by Calcite Twinning Inversion: A Review: **Rocher M** (OS10:WEpo34:PO).
- 35 Transpressional Emplacement of the Variscan Bielsa Granite (Pyrenees): **Román-Berdiel T, Casas AM, Oliva-Urcia B & Pueyo EL** (OS10:WEpo35:PO).
- 36 Tectono-Metamorphic Evolution of the Simano Nappe at Alpe Sponda, Central Alps, Switzerland: **Rütti R, Mancktelow N, Thompson AB & Marquer D** (OS10:WEpo36:PO).
- 37 Rheology and Microstructures of Quartz Aggregates Deformed in Torsion: **Schmocker M, Bystricky M, Kunze K, Burlini L & Burg J** (OS10:WEpo37:PO).
- 38 Kinematic Model for the Argentine Precordillera from a Multidisciplinary Approach using Structural and Fault Stri 3/4 Analyses and Cosmic Ray Exposure (CRE) Dating: **Siame L, Sébrier M, Bellier O & Bourlès D** (OS10:WEpo38:PO).
- 39 Structural-Metamorphic Evolution of Cordierite-Bearing Gneisses from the Teletsk Region (Altai, Russia): **Smirnova L & Korsakov A** (OS10:WEpo39:PO).
- 40 Dauphiné Twins in Quartz Tectonites: A Study from the Norwegian Caledonides: **Sørensen BE & Olesen NØ** (OS10:WEpo40:PO).
- 41 Geometry and Kinematics of the Bolta- An Anticline (Southern Pyrenees): **Soto R & Casas AM** (OS10:WEpo41:PO).
- 42 Oligo-Miocene WNW-Directed Thrusting in the Western Alps North and South of the Pelvoux Massif: A New Interpretation of the Briançonnais Front: **Trullenque G, Ceriani S, Fügenschuh B & Schmid S** (OS10:WEpo42:PO).
- 43 Large-Scale Folding in the Otago Schist Belt, New Zealand: **Tünker M & Ring U** (OS10:WEpo43:PO).
- 44 The Frontal Folds of the Jura Mountains Revisited: Subsequent Folding of Oligocene Extensional Structures during a *Thick-Skinned* Phase of Jura Folding?: **Ustaszewski K, Schmid S & Giamboni M** (OS10:WEpo44:PO).
- 45 Contrasting Structural Patterns of Granites Emplaced during Non-Coaxial Deformation, the Example of Mundão and Sátão Granites (Central Northern Portugal): **Valle Aguado B, Azevedo MR, Nolan J, Beltrán B, Medina J & Martins ME** (OS10:WEpo45:PO).
- 46 Lithostatic or Hydrostatic Fluid Pressure Conditions? A Fluid Inclusion Study in a Cataclastic Fault-Zone: **van der Klauw S & Rauche H** (OS10:WEpo46:PO).
- (Symposium OS10 Continued in Session TH am on Page 108)

Symposium OS11 Room PO

Solid Earth Geophysics

Convenor: **A.P. van den Berg**

- 1 Inferring Crustal Structure and Composition from Heat-Flow Pattern: Experience from the Variscan Erzgebirge, Germany: **Förster A & Förster H** (OS11:WEpo01:PO).
- 2 Paleomagnetic Signatures of the Late Cretaceous Igneous Massifs of Sines and Monchique (Portugal): **Gomes CS** (OS11:WEpo02:PO).
- 3 Structure of the Lithosphere from Integrated Analysis of Geophysical and Geochemical Data. Examples from Siberia and Fennoscandia: **Poudjom Djomani Y, O'Reilly S, Griffin W & Natapov L** (OS11:WEpo03:PO).
- 4 On the Evolution of the Martian Mantle: Results from Numerical Models of Mantle Convection Including Differentiation and Variable Thermal Conductivity: **Schott B, van den Berg AP & Yuen DA** (OS11:WEpo04:PO).
- 5 Sensitivity of Mantle Convection Models for Thermodynamic Parameterization: **van den Berg AP & Jacobs MHG** (OS11:WEpo05:PO).
- 6 Delayed Cooling of the Earth-Consequence of Temperature-Dependent Thermal Conductivity: **Yuen DA, van den Berg AP & Allwardt J** (OS11:WEpo06:PO).
- 7 Results of the Seismic Tomographic Simulation on a Profile Cape "Tolstik- Khibiny": **Zhirova A** (OS11:WEpo07:PO).

Wednesday April 11th, PO Session

Symposium PCM3 Room PO Glasses in Geosciences and in Environmental Sciences

Convenors: Laurence Galois & B. Champagnon

- 1 Perlite Occurrence from a Columnar Jointed Rhyodacitic Lava, Ankara, Turkey: Preliminary Results: **Ulusoy I & Aydar E** (PCM3:WEpo01:PO).
- 2 Study of Altered Volcanic Glasses from Iceland: The Protective Role of Zeolites and Gel Layer during Glass Corrosion: **Le Gal X & Crovisier JL** (PCM3:WEpo02:PO).
- 3 Correlation between REE and Si Contents of Smectites, Formed by Alteration of Basaltic Glasses: **Bernotat W, Le Gal X & Crovisier JL** (PCM3:WEpo03:PO).
- 4 The Eutectic System Anorthite-Diopside: Thermal Expansivities of Supercooled Liquids Derived by Container-Based Dilatometry: **Gottsmann J & Dingwell DB** (PCM3:WEpo04:PO).
- 5 Volumetric Properties of Halogens-Bearing Silicate Glasses: **Courtial P & Dingwell DB** (PCM3:WEpo05:PO).
- 6 Configurational Entropies of Silicate Liquids and Phase Diagrams: **Jarry P & Richet P** (PCM3:WEpo06:PO).
- 7 The Structure and Characteristics of Fulgurite Glasses: **Lysiuk A** (PCM3:WEpo07:PO).
- 8 Properties and Structure of Calcium Aluminosilicate Glasses and Melts: **Neuville DR, Cormier L & Flank A** (PCM3:WEpo08:PO).
- 9 Internal Friction Spectroscopy in $\text{Li}_2\text{O}-2\text{SiO}_2$ Partially Crystallised Glasses: **Müller K, Nikolai B & Harro S** (PCM3:WEpo09:PO).
- 10 Environment of Nickel, Cobalt, Zinc in Alkali Borate Glasses: Information from EXAFS and XANES Spectra: **Galoisy L, Cormier L & Calas G** (PCM3:WEpo10:PO).
(Symposium PCM3 Continued in Session TH pm on Page 114)

Symposium PCM6 Room PO Physicochemical Behaviour of Accessory Minerals: Crystallisation, Transformation, and Technological Applications

Convenors: Franck Poitrasson, Urs Schaltegger & John M. Hanchar

- 1 Replacement of Monazite by Florencite during Hydrothermal Alteration: **Bernhard F** (PCM6:WEpo01:PO).
- 2 Formation of Zircon and Srilankite during High-Grade Metamorphism of Mafic Rocks. Example from the Caledonides of W Norway and Implications for Zircon Geochronology: **Bingen B, Austrheim H, Whitehouse M & Mansfeld J** (PCM6:WEpo02:PO).
- 3 Relationship between the Microstructure and the Retention Properties of Apatite: **Boujrhail F, Menguy N, Morin G, Calas G & Cherkaoui El Moursli R** (PCM6:WEpo03:PO).
- 4 Nuclear Wastes Conditioning: How to Increase the Stability of Apatites?: **Carpéna J & Lacout JL** (PCM6:WEpo04:PO).
- 5 Zircon and Zircons: Unveiled by the Stepwise Leach Experiment: **Chen F, Siebel W & Satir M** (PCM6:WEpo05:PO).
- 6 Combining Microscopic (SEM-BSE), Microanalytical (EMP+SIMS) and X-Ray Diffraction Techniques in the Study of Igneous Rock Samples for Geochemical Modelling: **Della Ventura G, Oberti R, Ottolini L & Williams CT** (PCM6:WEpo06:PO).
- 7 Hydrothermal Alteration of Accessories in Carbonatites from the Kola Carbonatite Province, NE Russia: **Liferovich R, Balaganskaya E, Laajoki K & Gehor S** (PCM6:WEpo07:PO).

- 8 Crystal Chemistry of Brabantites-Monazite Solid-Solutions: **Montel J & Devidal J** (PCM6:WEpo08:PO).
- 9 Zircon Trace Element Chemistry by LA-ICP-MS: A Monitor for the Magmatic-to-Hydrothermal Evolution of a Crystallizing Pluton?: **Pettke T, Audetat A, Schaltegger U & Heinrich CA** (PCM6:WEpo09:PO).
- 10 On the Mechanisms of Allanite Alteration and their Geochemical Implications: **Poitrasson F** (PCM6:WEpo10:PO).
- 11 Geochemical Heterogeneity of Zircons as a Criterion of Conditions of Metamorphic Rock Formation (An Example of the Urals): **Pystina Y** (PCM6:WEpo11:PO).
- 12 REE-Y-U-Th Rich Accessory Minerals in Topaz-Albite Granites of the Karlovy Vary Pluton (Czech Republic): **René M** (PCM6:WEpo12:PO).
- 13 Dating of Magmatic and Hydrothermal Stages in a Mineralized Sn-W-Granite: **Schaltegger U, Audetat A, Pettke T & Heinrich CA** (PCM6:WEpo13:PO).
- 14 An XRD and TEM Study of Experimentally Annealed Natural Monazite: **Seydoux-Guillaume A, Wirth R, Montel J & Heinrich W** (PCM6:WEpo14:PO).
- 15 Arsenic: Distribution in Brown Coal Rich in Iron Disulfides: **Weiss Z, Rieder M, Crelling J, Sustai O & Drabek M** (PCM6:WEpo15:PO).
- 16 Behavior of Zircons from Granodiorites and Gabbro-Anorthosites in the Shear-Zones and their U-Pb Ages (Belomorian Belt, Baltic Shield, Russia): **Zinger TF, Belyatsky BV & Alexeev NL** (PCM6:WEpo16:PO).
(Symposium PCM6 Continued in Session TH am on Page 108)

Symposium RCM1 Room PO The Causes and Consequences of Uplift at Continental Margins

Convenors: Kerry Gallagher, Nicky White, Peter van der Beek & Jaume Vergès

- 1 Uplift and 'Extension' (that isn't) at Young Continental Margins: A Result of Mantle Phase-Changes and Deep-Crust Metamorphism: **Osmaston MF** (RCM1:WEpo01:PO).
- 2 Thermo-Mechanical Modelling of Subsidence Effects Induced by Changing In-Plane Stresses at Passive Continental Margins and in Intra Cratonic Basins: **Paulsen GE, Hansen DL & Nielsen SB** (RCM1:WEpo02:PO).
- 3 Investigating the Causes of Uplift and Denudation by Seismic Imaging Technique: A Case History from the Irish Sea: **Al-Kindi S, England R, Sinha M & Whilte N** (RCM1:WEpo03:PO).
- 4 Late Neogene Uplift of Britain- A Continental Margin Effect?: **Blundell D** (RCM1:WEpo04:PO).
- 5 Late Neogene Climatically-Forced Changes in River Activity: A Controlling Mechanism for Uplift and Subsidence in Southern and Midland Britain: **Rose J** (RCM1:WEpo05:PO).
- 6 Neogene and Quaternary Flexural Activity, NW Paris Basin: **van Vliet-Lano' B, Bergerat F, Csontos L, Everearts M, Laurent M, Manby G, Magyari A, Mansy J & Meilliez F** (RCM1:WEpo06:PO).
- 7 New Insights on the Tectonic Reactivation of the North Ligurian Margin (SE France) Since 5 Ma: **Bigot-Cormier F, Sossou M, Sage-Khadir F, Déverchère J, Thierer P & van der Beek P** (RCM1:WEpo07:PO).
- 8 Denudationally-Driven Seismicity at the Western Indian Margin? Stratigraphical, Structural, and Geomorphological Constraints for Earthquakes in the Deccan Traps Region: **Widdowson M** (RCM1:WEpo08:PO).
- 9 Cenozoic Uplift, Denudation and Drainage of India: **Halkett A, White N, Chandra K & Lal NK** (RCM1:WEpo09:PO).

Wednesday April 11th, PO Session

10 Neogene Morphotectonical Evolution in the Forearc of Chilean Central Andes, Copiapu- Region (261/4-271/4 South Latitude): **Riquelme R, Martinod J, Charrier R, Herail G & Darrozes J** (RCM1:WEpo10:PO).

11 Apatite and Zircon Fission Track Analysis of the Ecuadorian Sub-Andean Zone: A Record of the Cretaceous and Tertiary Andean Geodynamics: **Ruiz g, Seward D, Winkler W, Spikings R & Poda O** (RCM1:WEpo11:PO).

12 Variations in the Cooling and Denudation History of the Continental Ecuadorian Andes to Collision with Oceanic Crust: Evidence from ⁴⁰Ar/³⁹Ar and Fission-Track Thermochronology: **Spikings R, Winkler W, Seward D, Handler R & Ruiz G** (RCM1:WEpo12:PO).

(Symposium RCM1 Continued in Session TH pm on Page 109)

Symposium RCM2 Room PO The Formation of the Continent-Ocean Boundary Zone: Structure and Processes

Convenor: Nick Kuszniir, Garry Karner

1 Three-Dimensional Structure of the S Reflector, West of Galicia: **Leythaeuser T, Reston T, Ranero C, Long C, Klaeschen D & Perez-Gussinye M** (RCM2:WEpo01:PO).

2 Ocean-Continent Transition off SW Iberia, Images from a Deep Multichannel Seismic Profile: **Rovere M, Ranero C, Sartori R, Torelli L & Zitellini N** (RCM2:WEpo02:PO).

3 Crustal Structure across the Continent-Ocean Transition on the Newfoundland Nonvolcanic Rifted Margin at SCREECH Transect 2: **Holbrook WS, van Avendonk H, Shillington D, Nunes G, Tucholke BE, Loudon K, Hopper J & Larsen HC** (RCM2:WEpo03:PO).

4 Detailed Structure of the Complex Continent-Ocean Transition Northeast of Newfoundland: **Reid I** (RCM2:WEpo04:PO).

5 A Comparison of Seismic Reflection Profiles across the Newfoundland Basin and Southern Iberia Abyssal Plain Conjugate Margins: **Lau K, Loudon K, Hall J, Deemer S, Tucholke B, Holbrook W & Hopper J** (RCM2:WEpo05:PO).

6 Depth-Dependent Lithosphere Stretching, Mantle Exhumation and the 'Upper Plate' Paradox at Rifted Continental Margins: **Kuszniir N, Davis M & Roberts A** (RCM2:WEpo06:PO).

7 Loss of Lower Crust and the Nature of the Continent-Ocean Transition, the South China Margin: **Clift P & Lin J** (RCM2:WEpo07:PO).

8 The Structure of Volcanic Passive Margins: Inferences from Analogue Modelling and Magmatic Flow Determination: **Callot J, Geoffroy L, Brun J & Aubourg C** (RCM2:WEpo08:PO).

9 Continent-Ocean Boundary along the Norwegian Continental Margin: **Eldholm O, Faleide JI & Tsikalas F** (RCM2:WEpo09:PO).

10 The Role of Dyke Swarms in Forming the East Greenland Continent-Ocean Boundary: **Klausen MB & Larsen HC** (RCM2:WEpo10:PO).

11 Implications for Source Components in Faroe Islands Basalts and Sediments from Sr, Nd and Pb Isotopes and Zircon Xenocrysts: **Amundsen HE, Mearns EW, Tørudbakken BO & Schaltegger U** (RCM2:WEpo11:PO).

12 Evolution of the Walvis Basin Offshore NW-Namibia – Preliminary Results from FE-Modeling and Mass Balance Calculations: **Kukulius M & Henk A** (RCM2:WEpo12:PO).

13 K-Ar and TL Volcanism Chronology of the Red Sea Spreading into Afar in the Last 300 kyr: **Lahitte P, Gillot P-Y, Mercier N & Coulié E** (RCM2:WEpo13:PO).

Symposium RCM7 Room PO Tectonics and Sedimentation Associated with Arctic Margins

Convenors: Vicky Pease, R. Scott & Jan Backman

1 Tectonics of the Arctic Shelf of Russia: **Bogdanov NA & Khain VE** (RCM7:WEpo01:PO).

2 Structural Evolution of the Mesozoic Accretionary Prism on the NW Pacific-Asia Convergent Margin, Southern Taigons Peninsula, Okhotsk Sea Coast, NE of Asia (Results from the INTAS Project 96-1880): **Bondarenko G, Sokolov S & Khudoley A** (RCM7:WEpo02:PO).

3 The Palaeozoic-Mesozoic Evolution of the Hyperborean Craton Southern Margin: Evidence from New Siberian Islands: **Kuzmichev A, Bogdanov N, Zamhizitsky O & Gonikberg V** (RCM7:WEpo03:PO).

4 The Mamont-Shrenk Neoproterozoic Granitoids (Central Taimyr): Geochemistry, Petrology and Geodynamics: **Vernikovskaya A, Pease V, Vernikovskiy V, Gee D & Travin A** (RCM7:WEpo04:PO).

5 Timanides of Northwest Russia and Part of Northeast Norway: Vendian Orogenic Deformation and Linkages with Peri-Gondwanan, Avalonian-Cadomian Terranes: **Roberts D** (RCM7:WEpo05:PO).

6 Oblique Rifting and Basin Development: Eocene-Oligocene Svalbard: **Kleinspehn KL** (RCM7:WEpo06:PO).

7 Detecting Marginal Tectonic Events in a Cratonic Setting (Finland, Baltic Shield) Through Apatite Fission Track Thermochronology: **Murrell GR & Andriessen PAM** (RCM7:WEpo07:PO).

8 Spitsbergen (Svalbard) as Northwestern Corner of the Eurasian Plate: Two Types of Continental Margin: **Tebenkov A & Ivanova N** (RCM7:WEpo08:PO).

9 Coast-Parallel Faulting of Tertiary Flood Basalts and Sediments at Kap Brewster, Scoresby Sund, East Greenland: **Birkenmajer K** (RCM7:WEpo09:PO).

10 The Structure of the Disko-Nuussuaq Basin (W-Greenland): Time and Space Transition between a Sedimentary Basin to a Volcanic Passive Margin: **Gelard J, Cattaneo G, Aite M & Geoffroy L** (RCM7:WEpo10:PO).

(Symposium RCM7 Continued in Session TH pm on Page 115)

Symposium SS02 **Room PO**
**Origin and Evolution of Precambrian
Anorogenic Plutonism**

Convenors: **Jacqueline Vander Auwera,
Hervé Martin & Tapani Rämö**

- 1 Mid-Proterozoic Granitoids from the Mazury Complex (NE Poland): AMCG Affinities?: **Baginski B, Duchesne J, Martin H & Wiszniewska J** (SS02:WEpo01:PO).
- 2 The Oldest Known Anorogenic Peralkaline Granite Magmatism in the Keivy Terrane, NE Baltic Shield: **Zozulya D & Bayanova T** (SS02:WEpo02:PO).
- 3 Magnetic Fabric and Microstructures in the Holum Granite (Vest-Agder, Norway): New Constraints on the Last Sveconorwegian (Grenvillian) Regional Deformation Phase in Southern Norway: **Bolle O, Diot H & Duchesne J** (SS02:WEpo03:PO).
- 4 Dyke Swarms in the Pan-African Basement from the Alpine Danubian Window: New Field and Geochemical Investigations in Southern Carpathians (Romania): **Femenias O, Demaiffe D, Liegeois J, Tatu M, Berza T, Duchesne J & Vander Auwera J** (SS02:WEpo04:PO).
- 5 Olivine-Rich Cumulate in the Pan-African Tismana Shoshonitic Granitoid Pluton, South Carpathians, Romania: **Berza T, Latouche L, Tatu M & Liégeois J** (SS02:WEpo05:PO).
(Symposium SS02 Continued in Session TH am on Page 109)

Symposium SS03 **Room PO**
**Applications of Computerised X-Ray
Tomography in Geology and Related Domains**

Convenors: **Patric Jacobs, Rudy Swennen
& Maarten Van Geet**

- 1 Characterization by Computed X-Ray Tomography of the Water Absorption in a Limestone used as Building Stone in the Oviedo Cathedral (Spain): **Ruiz de Argando-A VG, Rodriguez-Rey A, Celorio C, Calleja L, Suarez del Rio LM & Llavona J** (SS03:WEpo01:PO).
- 2 3-D Visualization by Computed X-Ray Tomography of the Internal Damage due to Freeze Thaw Cycling Tests in a Dolomitic Rock used in Historical Buildings in Oviedo (Spain): **Rodriguez-Rey A, Ruiz de Argando-A VG, Celorio C, Suarez del Rio LM, Calleja L & Llavona J** (SS03:WEpo02:PO).
- 3 Positron Emission Tomography Studies of Physico-Chemical Processes in Sandstones: **Goethals P, Volckaert A & Jacobs P** (SS03:WEpo03:PO).
- 4 Rock Drying Tests Monitored by Computerised X-Ray Tomography: Visualisation of the Water Location- Importance of the Initial Water Saturation Value: **Tournier B, Geraud Y & Mazerolle F** (SS03:WEpo04:PO).
- 5 Application of CT Scanning for Three-Dimensional Visualization of Fractures in Rock Test Samples: **Sellers E, Vervoort A & Van Cleynenbreugel J** (SS03:WEpo05:PO).
- 6 X-Ray Tomographic Studies of Lake Sediment Drill Cores: **Flisch A & Becker A** (SS03:WEpo06:PO).
- 7 Perm Reduction Function Derived from CT-Based Pore Network Modeling: **Zhou M, Lu D, Dunsmuir J & Thomann H** (SS03:WEpo07:PO).
- 8 X-Radiographic Computed Axial Tomography: New Tool for Paleo/Astro/Geo-Biology?: **Hagadorn JW** (SS03:WEpo08:PO).
- 9 In-Situ Visualization of Advection Fluid Image within Deformed Rock by X-Ray CT during Permeability Testing: **Hirono T, Takahashi M & Nakashima S** (SS03:WEpo09:PO).

10 Prediction of Solute Transport at the Column Scale by Accounting Explicitly for Soil Structures: **Kasteel R, Vogel H & Roth K** (SS03:WEpo10:PO).

11 Quantification of 2D and 3D Air Apertures in Undisturbed Soil Samples in Relation to Hydraulic Properties: **Timmerman A, Delerue JF, Fuchs T, Vandersteen K, Van Cleynenbreugel J & Feyen J** (SS03:WEpo11:PO).

12 Derivation of Soil Hydraulic Properties and Characterisation of the Porous Soil Structure using Microfocus X-Ray Computed Tomography: **Herman S, Timmerman A, Vanderborght J & Wevers M** (SS03:WEpo12:PO).

13 Porosity and Fluid Flow Characterization of Granitic Material by Capillary Test Under Tomodensitometry RX: **Géraud Y, Surma F & Mazerolle F** (SS03:WEpo13:PO).

14 3D Characterization of a Variable Aperture Fracture in Crinoidal Limestone using Microfocus CT: **Vandersteen K, Claes S, Van Geet M & Carmeliet J** (SS03:WEpo14:PO).

15 Construction of a Microfocus Computer Tomography (μ CT) Simulator for a Quantitative Exploitation of μ CT in Material Research: **Busselen B, Bastiaens W, De Man B, Van Geet M, Nuyts J, Swennen R, Wevers M & Carmeliet J** (SS03:WEpo15:PO).

16 Computerised X-Ray Tomography as a Powerful Tool in Single Grain Zircon Study: **Plotkina Y, Sasov A, Salnikova E, Sergeev S, Tolkachev M, Kotov A & Pavlov M** (SS03:WEpo16:PO).

17 A Method for Numerical Solution of the Integral Equation of the Computerized Tomography and its Application in Geophysics: **Kostyanov S** (SS03:WEpo17:PO).

18 Assessment of Landslide Hazards using Geophysical Tomographies: **Kostyanov S, Bruchev I, Stoeva P, Stefanov P & Stianov V** (SS03:WEpo18:PO).

(Symposium SS03 Continued in Session TH pm on Page 115)

Symposium VPP4 **Room PO**
What Is a Magma Chamber?

Convenors: **David Pyle, Rob Hughes,
John MacLennan & Lucy MacGregor**

- 1 Evolution of Magmatic Melts of the Volcano Elbrus and Problem of the Magma Chamber: **Koronovsky N & Demina L** (VPP4:WEpo01:PO).
- 2 Qz-Syenites in Ignimbrites on Gran Canaria (Canary Islands, Spain): Long-Living Felsic Magma Chambers on Ocean Islands: **Freundt-Malecha B** (VPP4:WEpo02:PO).
- 3 Constraints from U-series Nuclides on the Magma Plumbing System beneath Galunggung Volcano (Sunda Arc, Indonesia): **Debeuf D & Sigmarsson O** (VPP4:WEpo03:PO).
- 4 Layering in the Fongen-Hyllingen Intrusion, Norway: **Holm D, Josephsen K & Wilson J** (VPP4:WEpo04:PO).
- 5 Evolution of Vesuvius Magma Chamber-Wall Rock Interface as Constrained by Fluid Inclusion Study: **Fulignati P, Marianelli P, Santacroce R & Sbrana A** (VPP4:WEpo05:PO).
- 6 Study of a Triassic Shallow Magma Chamber: The Subvolcanic Bodies of Montecampione (Southern Alps, Northern Italy): **Corazzato C, Gropelli G, Natoli E & Pasquaré G** (VPP4:WEpo06:PO).

(Symposium VPP4 Continued in Session TH am on Page 110)