Session Information

**Oral Sessions**
Sessions are being held in the Convention Center (CC) and Marriott Marquis (MM)

**Poster Sessions**
Posters are on display in the following venue throughout the week:
Hall A-C (Poster Hall)

Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation.
Example: **A21A-01** = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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The program is current as of 06 December 2018. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at https://agu.confex.com/agu/fm18/meetingapp.cgi/Home for updates.

Monday A.M.

**V11A (MM) Liberty I-K**

**Monday 0800h**

**Basaltic Magmatism: Constraints from Trace Elements I** (joint with DI)

**Presiding:** Shichun Huang, University of Nevada Las Vegas; Kirsten Nicolaysen, Whitman College; Alberto Saal, Brown University;

0800h **V11A-01** Ocean Island Basalts and the Deep Mantle: the View from Kerguelen in the Indian Ocean: D Weis, J S Scoates

0815h **V11A-02** The Icelandic Mantle Plume: A 62 Million Year Record of the Deep Mantle: L N Willhite, M G Jackson, J Blichert-Toft, I N Bindeman, M D Kurz

V11A-04  Cenozoic mafic volcanism in NW Saudi Arabia: geochemical and petrological evidence for interaction between peridotite and metasomatic fluids: T Furman, K L Crispin, E A Loucks, A Byrd, T Aldaajani

V11A-05  Applying a new olivine-melt Ni thermometer to K-rich primitive lavas from Colima cones, western Mexico: new constraints on melt segregation conditions and geodynamic implications: X Pu, R A Lange, G M Moore


V11A-07  Re-Os Isotope and Highly Siderophile Element Systematics of 89 Ma Gorgona Komaites: R W Nicklas, I S Puchtel, K D Ludwig, K R Bermingham, R J Walker

V11A-08  The Payenia volcanic province, deciphering the role of the lithospheric mantle: A E Saal, B H Parks, Z Wang, F Calabozo, S Mallick, F A Frey

V11B (MM) Marquis 6

Monday  0800h

Crustal Formation, Fluid–Rock Reactions, and Subsurface Microbial Communities in the Samail Ophiolite: Results from the Oman Drilling Project and Related Research II (joint with B, T)

Presiding: Damon Teagle, University of Southampton; Juerg Matter, University of Southampton; Peter Kelemen, Lamont Doherty Earth Observatory, Columbia University; Alexis Templeton, University of Colorado at Boulder;


V11B-03  Physical property of the fossilized crust-mantle transition zone from ICDP Oman Drilling Project Hole CM1A and CM2B: K Okazaki, A Byrd, K Hatakeyama, Y Akamatsu, E Takazawa, D A H Teagle, P B Kelemen, J A Coggon

V11B-04  Experimental constraints on the hydrous nature of the magmatic processes at the Sumail ophiolite paleoridge (Sultanate Oman): J Koepke, S T Feig, L France

V11B-05  Rapid Cooling of the Crust and Mantle at Hess Deep is Consistent with the Sheeted Sill Model for Accretion of Oceanic Crust: N L Grambling, N J Dygert, M M Jean

V11B-06  Questioning the Penrose Paradigm: Insights from in-situ gabbroic lower ocean crust at Pito Deep: M Gess, B E John, M J Cheadle, T C Brown, S Swapp, J S Gee

V11B-07  Origin of Serpentinite and Listvenite Near the Basal Thrust of the Samail Ophiolite Recorded in Oman Drilling Project Hole BT1B: C E Manning, S Lu, P B Kelemen

V11B-08  Strontium isotope profile of Oman Drilling Project hole BT1B: J C de Obeso, Y Cai, P B Kelemen

V11C (MM) Capitol/Congress

Monday  0800h

Volcano Seismology and Acoustics: Recent Advances in Understanding Volcanic Processes I (joint with NH, S)

Presiding: Alexandra Iezzi, Geophysical Institute Fairbanks; Diana Roman, Carnegie Institution for Science; Benoit Taisne, Asian School of the Environment; Weston Thelen, USGS Cascades Volcano Observatory;

V11C-01  What do deep low frequency earthquakes tell us on magma reservoirs, recharge and unrest? A seismological study from a continental, intraplate volcanic field: T Dahm, M Hensch, S Heimann, J R R Ritter, B Schmidt, S Stange, K Lehmann
0815h V11C-02 Characterization of the Envelope Widths of Volcano-seismic Events and Their Use to Investigate Scattering Structures Beneath Volcanoes: H Kumagai, J M Londono, Y Maeda, C M Lopez, R Lacson, Jr Jr

0830h V11C-03 What can we Learn from the Periodicity of a Geyser about Volcanic Eruptions?: E P S Eibl, M Allahbakhshi, D Müller, T Walter, P Jousset, H Woith

0845h V11C-04 High frequency seismic signal generated by landslides on complex topographies: from numerical simulation to field observation at Dolomieu crater, La Réunion: J Kuehnert, A Mangeney, Y Capdeville, V Durand, E Stutzmann, S Sethi

0900h V11C-05 VOLCANIC ERUPTION TREMOR: Analyzing the Plume Height Relationship and Application of a Fluvial Seismology Model: J E Gestrich, D Fee, M M Haney, V C Tsai, A R Van Eaton

0915h V11C-06 High Resolution Imaging of the P- and S-wave Velocity Structure at Okmok Volcano, Alaska: L Hart, N L Bennington, F Lanza, S W Roecker, M M Haney, C H Thurber, K Key

0930h V11C-07 Towards monitoring Icelandic volcanoes using relative seismic velocity: the Bárðarbunga-Holuhraun rifting episode and the importance of seasonal variations.: C Donaldson, R S White, C Caudron, J D Smith, T Winder


V11D (CC) Hall A-C (Poster Hall)

Monday 0800h

Chemistry and Physics of Redox Reactions in the Solid Earth Posters (joint with DI, MR) 

Presiding: Fred Davis, University of Minnesota Duluth; Maryjo Brounce, University of California Riverside;

0800h V11D-0053 POSTER Constraints on oxygen fugacity within metal capsules: U Faul, C J Cline II, A Berry, I Jackson, G Garapic

0800h V11D-0054 POSTER Chromites as Proxy for Redox Processes in the Archean Mantle?: L Zibarona, V Cerantola, S Milani, C B Smith, G Bulanova, C Melai, L Faccincani, V Stagno, D J Frost

0800h V11D-0055 POSTER Carbonate polymorphism reverses carbonate-silicate reaction in Earth’s lower mantle: M Lv, S Dorfman, J Badro, S Borensztajn, E Greenberg, V B Prakapenka

0800h V11D-0056 POSTER Oxygen fugacity of upper mantle beneath Dharwar craton, India: J Pattanaik, S Ghosh, E V S S K Babu, A Dongre

0800h V11D-0057 POSTER Vanadium Isotopic Compositions of the Panzhihua Layered Intrusion Associated with Giant Fe-Ti-V Oxide Deposit, SW China: M Liu, Y Cao, C Y Wang, F Huang


0800h V11D-0059 POSTER Variations in Fe³⁺/Fe²⁺ ratios in volcanic amphibole as a function of magmatic oxygen fugacity and mineral composition: B C Ratschbacher, C E Bucholz, J M Jackson, N V Solomatova

0800h V11D-0060 POSTER Using the Iron-Titanium Oxide Thermobarometer to Distinguish Silicic Magma Types: A A Orr, N Tailby

V11E (CC) Hall A-C (Poster Hall)

Monday 0800h


Presiding: Matthieu Galvez, ETH Zurich; Temilola Fatoyinbo, NASA GSFC; Cara Magnabosco, Simons Foundation; Timothy Eglinton, ETH Swiss Federal Institute of Technology Zurich;

0800h V11E-0061 POSTER Aging and Persistence of Natural Organic Matter: J Hemingway, D Rothman, K E Grant, S Rosengard, T I Eglinton, V Galy

0800h V11E-0062 POSTER Carbon cycling in low temperature oceanic hydrothermal systems: The Dorado Outcrop: J McManus, C G Wheat, W Bach


0800h V11E-0064 POSTER Distribution, Degradation and Bioavailability of Dissolved Organic Matter in the East China Sea: C Ji, G Yang, Y Chen, P Y Zhang

0800h V11E-0065 POSTER From Carbon Micro-Heterogeneity to Macro-Evolutionary Pattern: Insight from the Plate Tectonic Pump: M E Galvez, T I Eglinton, R Pellenq, W W Fischer

0800h V11E-0066 POSTER Habitability and Distribution of Subsea Floor Life in Oceanic Basement: R A Pockalny, S D’Hondt, G Ramirez, J A Huber, B Orcutt, J B Sylvan

0800h V11E-0068 POSTER Tectonic controls on the size of the marine subsurface biosphere through recent geologic history: M W Bowles, J Mogollon, K U Hinrichs, M Zabel
Monday 0800h

**V11F** (CC) Hall A-C (Poster Hall)

**Sulfur: A Unique Player for Redox Evolution, Volatile Degassing, and Metal Transport in Magmatic, Volcanic, and Hydrothermal Systems Posters** (cosponsored by GS, Geochemical Society; MSA: Mineralogical Society of America) (joint with NH)

**Presiding:** Xiaofei Pu, University of Michigan; Adrian Fiege, American Museum of Natural History; Tobias Fischer, University of New Mexico; Rita Economos, Southern Methodist University;

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0800h **V11F-0071** *POSTER* Sulfur Systematics Record the Volatile-Rich, Oxidized, and Recycled Nature of the Canary Island Mantle Source: M A Longpre, P Beaudry, R C Economos, B A Wing, J Stix

0800h **V11F-0072** *POSTER* S-CO$_2$-H$_2$O-Cl partitioning and mixing in rhyolitic melt and fluid - Implications on S degassing in rhyolite: S Ding, J D Webster

0800h **V11F-0073** *POSTER* Kinetic Fractionation of Sulfur Isotopes in Reduced, Dry Basaltic Melt: M A Fortin, E B Watson, R A Stern, S Ono

0800h **V11F-0074** *POSTER* Sulfur partitioning in hydrous subduction zone magmas: a new experimental approach: P Beaudry, T L Grove

0800h **V11F-0075** *POSTER* Apatite as a Monitor of Volatile and Trace Element Evolution at Torfajökull Central Volcano, Iceland: M E Connors, T L Carley, A Fiege

0800h **V11F-0076** *POSTER* Semi-quantification of metasomatism in the Acoculco geothermal system, eastern Mexico: M D M Sanchez Cordova, C Canet Miquel


0800h **V11F-0078** *POSTER* Sulfur extraction via carbonated melts from sulfide-bearing mantle lithologies – Implications for deep sulfur cycle: P Chowdhury, R Dasgupta

0800h **V11F-0080** *POSTER* Preliminary study on the geochemical compositions of the host rocks in the central Seruyan Pb-Zn deposit, Indonesia: Y Choi, I Lee, B Choi, Y KIM, I Moon

0800h **V11F-0081** *POSTER* Elevated sulfur contents in lunar apatite: A result of late-stage oxidation?: N D Udy, A Fiege, B Konecke, A C Simon

0800h **V11F-0082** *POSTER* Insights into Arc Magma Volatile Cycling and Oxidation State from Global Sulfur Trends: M Muth, P J Wallace

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Monday 0800h

**V11G** (CC) Hall A-C (Poster Hall)

**Volatile Budgets and Cycling Through Planetary Evolution Posters** (joint with DI, EP, P)

**Presiding:** Peng Ni, Carnegie Institution for Science; Emily Pringle, University of California San Diego; Miki Nakajima, University of Rochester; Yuan Li, Guangzhou Institute of Geochemistry, CAS;

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0800h **V11G-0083** *POSTER* Structure and geochemistry of the noble gases krypton and xenon at Earth’s lower mantle conditions.: A Rosa, G Garbarino, V Svitlyk, M Krstulovic, G Morard, R W Briggs, S Boccato, T Irfune, M A Bouhifd

0800h **V11G-0084** *POSTER* Evaporation induced Cu isotope fractionation during tektite formation: P Ni, C A Macris, E A Darling, A Shabar

0800h **V11G-0085** *POSTER* Cold volatile loss from the Moon revealed by chromium isotopes: P Sossi, F Moynier, K van Zuilen

0800h **V11G-0086** *POSTER* First-principles investigation of the concentration effect on equilibrium fractionation of K isotopes in feldspars: L Yonghui, W Wang, S Huang, K Wang, Z Wu


0800h **V11G-0088** *POSTER* A Critical Size Dependence for Planet Habitability: The Effect of Nebular Ingassing: Z D Sharp, P Olson

0800h **V11G-0089** *POSTER* Carbon/Nitrogen ratio of Bulk Silicate Earth as a probe to understand planetary accretion and differentiation: D S Grewal, R Dasgupta, T Hough, A Farnell, G Costin, K Tsuno, Y Li, A K Holmes
0800h V11G-0090 POSTER Plate tectonic cycling modulates Earth’s $^{3}$He/$^{22}$Ne ratio: N J Dygert, C Jackson, M A Hesse, M M Tremblay, D L Shuster, J T Gu

0800h V11G-0091 POSTER Constraints on Earth’s Thermal Evolution from the Heavy Noble Gas Content of the Mantle.: M Reinhold, B J Foley, A Smye

0800h V11G-0092 POSTER Understanding accretion of carbon and sulfur to the Earth: C/S versus C relationships between the Bulk Earth, the Bulk Silicate Earth, and primitive and differentiated materials.: M M Hirschmann, J Li, E A Bergin, F Ciesla, G Blake

NH12A (MM) Marquis 9-10
Monday 1020h

Engaging Science to Enhance Preparedness for Regional and National-Level Response to Volcanic Eruptions (joint with PA, SI, V)

Presiding: Erika Kohler, NASA Goddard Space Flight Center; Seth Moran, USGS; Tobias Fischer, University of New Mexico;

1020h Welcoming Remarks: E Kohler

1027h NH12A-01 Introductory Remarks - The USGS Hawaiian Volcano Observatory’s response to the 2018 eruption of Kilauea: T L Murray

1041h NH12A-03 FEMA Disaster Operations in Volcanic Eruptions: W G Nunn

1047h NH12A-04 Communications Efforts Are an Integral Aspect of Preparedness and Response, Before, During, and After Significant Volcanic Eruptions: L C Gordon

1053h NH12A-05 Balancing hazard response and scientific response during an eruption crisis.: C E Parcheta, M R Patrick


1105h NH12A-07 USGS Small UAS for Scientific Research and Operational Applications: J Sloan

1111h NH12A-08 Current challenges and opportunities in eruption forecasting: D Roman

1117h NH12A-09 Developing a coordinated volcano science community to maximize scientific returns from any volcanic event: M Manga

1133h Panel Discussion: T P Fischer

1213h Concluding Remarks: S C Moran

V12A (MM) Liberty I-K
Monday 1020h

Basaltic Magmatism: Constraints from Trace Elements II (joint with DI)

Presiding: Shichun Huang, University of Nevada Las Vegas; Kirsten Nicolaysen, Whitman College; Alberto Saal, Brown University;

1020h V12A-01 Field evidence for coal combustion links the 252 My-old Siberian Traps with global carbon disruption: L T Elkins-Tanton, S E Grasby, B A Black, R V Veselovskiy, O H Ardakani, F Goodarzi

1035h V12A-02 Did the lithosphere drip under NE Oregon? Comparison of MELTS models for Columbia River Basalt Group and Powder River Volcanic Field primitive basalts and basanites: M Wilner, L A Bedoyan, K P Nicolaysen

1050h V12A-03 Extreme CO$_2$/$^3$He variability in ocean island basalt olivines: F Horton

1105h V12A-04 Effects of Carbonate-related Metasomatism on Water Contents in the Spitsbergen Upper Mantle: H Hui, W Tang, D Ionov

1120h V12A-05 Volatiles in the Chile Ridge Basalts and the Role of Adjacent Andean Subduction Zone: S Mallick, A E Saal, E M Klein, W Bach, B Monteleone

1135h V12A-06 Magnesium isotopic systematics in postshield lavas from Mauna Kea Volcano, Hawaii: S Huang, C Del Toro Contreras, C DeFelice, Y Hu, F Z Teng, F A Frey

1150h V12A-07 Why are Western U.S. Volcanic and Hypabyssal Rocks So Rich in Ba?: M Roden

1205h V12A-08 Heat producing elements in the modern MORB mantle: B J Farcy, R Arealvo Jr, W F McDonough

V12B (MM) Marquis 6
Monday 1020h

Crustal Formation, Fluid–Rock Reactions, and Subsurface Microbial Communities in the Samail Ophiolite: Results from the Oman Drilling Project and Related Research (joint with B, T)

Presiding: Damon Teagle, University of Southampton; Juerg Matter, University of Southampton; Peter Kelemen, Lamont Doherty Earth Observatory, Columbia University; Alexis Templeton, University of Colorado at Boulder;
1020h **V12B-01** Quantification of the downhole degree of serpentinization estimated by X-ray CT core imaging (Oman Drilling Project Phase 2, D/V CHIKYU): K Michibayashi, I Katayama, P B Kelemen, K Okazaki, M Godard, E Takazawa, D A H Teagle


1050h **V12B-03** Correlated variation in vein type, vein frequency, pH, oxygen fugacity and depth in Oman Drilling Project Holes BA1B, BA3A and BA4A: P B Kelemen, W Bach, K A Evans, A Eslami, A Farough, M Hamada, Y Ichiyama, W A Kahl, J M Matter, P A Pezard, A N Paukert Vankeuren, M Godard, K Michibayashi, S Choe, J A Coggon

1105h **V12B-04** Permeability profile across the crust-mantle sections in the Oman Drilling Project inferred from onboard measurements of dry and wet resistivity: I Katayama, K Okazaki, N Abe, O I Ulven, G Hong, W Zhu, B Cordonnier, K Hatakeyama, Y Akamatsu, K Michibayashi, M Godard, P B Kelemen

1120h **V12B-05** Brucite as an Important Sink and Source of Fe(II) During Low-Temperature Serpentinization: E T Ellison, A S Templeton, L E Mayhew, S K D Zeigler


1150h **V12B-07** An Active Deep Subsurface Microbiome Supported by C1 Products of Serpentinization in the Samail Ophiolite: E Fones, D R Colman, E A Kraus, D B Nothaft, S Poudel, K R Rempfert, J R Spear, E S Boyd

1205h **V12B-08** Subsurface Cycling of Nitrogen in the Actively Serpentinizing Samail Ophiolite, Oman: K R Rempfert, S Poudel, E A Kraus, J R Spear, E S Boyd, J M Matter, S Kopf, A S Templeton

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**V12C** (MM) Capitol/Congress

**Monday 1020h**

**Volcano Seismology and Acoustics: Recent Advances in Understanding Volcanic Processes II (joint with NH, S)**

*Presiding: Alexandra Iezzi, Geophysical Institute Fairbanks; Diana Roman, Carnegie Institution for Science; Benoit Taisne, Asian School of the Environment; Weston Thelen, USGS Cascades Volcano Observatory;*

1020h **V12C-01** Short-term Explosion Precursors during the 2016-2017 Eruption of Bogoslof, Alaska: G Tepp, M M Haney

1035h **V12C-02** Evolving infrasound detections from Bogoslof volcano, Alaska: insights from forward modelling: H F Schwaiger, J J Lyons, A M Iezzi, D Fee, M M Haney

1050h **V12C-03** Automated Detection, Association, Location, and Characterization of Volcanic Infrasound Incorporating 3D Ray-Tracing and Empirical Climatologies: R S De Negri Leiva, R S Matoza

1105h **V12C-04** Nonlinear infrasound propagation in discrete volcanic explosions: J Anderson, J B Johnson, D Calhoun

1120h **V12C-05** A Synchronised Deep Source and Repetitive triggering of Long-Period Tremors in Aso volcano, Japan: T R A Song, J Niu

1135h **V12C-06** Characterizing the Seismic Activity of the Lazufre Volcanic System in Northern Chile/Argentina: H L Mcfarlin, S R McNutt, J Braunmiller, G Thompson

1205h **V12C-08** Complex Sources in Volcanic Environments: Radiation Modelling and Moment Tensor Inversions: R A Contreras-Arratia, J W Neuberg
Monday P.M.

NH13B (CC) Hall A-C (Poster Hall)

Monday 1340h

Engaging Science to Enhance Preparedness for Regional and National-Level Response to Volcanic Eruptions Posters (joint with PA, SI, V)

Presiding: Erika Kohler, NASA Goddard Space Flight Center; Seth Moran, USGS; Tobias Fischer, University of New Mexico;

1340h NH13B-0688 POSTER WATER CONTENTS ESTIMATIONS OF VOLCANIC ASH PARTICLES USING 2DVD AND WEATHER RADAR: S H Suh, L Dong-In, M Maki Dr, M Iguchi

1340h NH13B-0689 POSTER SEISMICITY ASSOCIATED TO THE TUXTLA VOLCANIC FIELD, VERACRUZ, EASTERN MEXICO, AS BACKGROUND INFORMATION FOR ITS FUTURE MONITORING: J M Espindola, A Zamora-Camacho

1340h NH13B-0691 POSTER Revisiting short-term earthquake triggered volcanism: T Sawi, M Manga

1340h NH13B-0692 POSTER Deriving digital elevation models using high-resolution satellite imagery in high relief volcanic areas: M F Buongiorno, C Spinetti, M Palaseanu, M Bisson, O Alexandrov, T Cecere, A Orsi, A Cavazzini

V13A (MM) Liberty I-K

Monday 1340h

Oceanic Intraplate Volcanism I (joint with MR, NH, OS)

Presiding: Lisa Samrock, GEOMAR Helmholtz Centre for Ocean Research Kiel; Thor Hansteen, GEOMAR Helmholtz Centre for Ocean Research Kiel; Ricardo Ramalho, Instituto Dom Luiz, Universidade de Lisboa; Dennis Geist, National Science Foundation;


1355h V13A-02 Identifying and Using Erosional Terraces on Seamounts to Constrain Paleogeography and Subsidence in the Galápagos Archipelago: D M Schwartz, S A Soule, V D Wanless

1410h V13A-03 Komatiites from the core-mantle boundary in a modern plume: E Gazel, A V Sobolev, M Bizimis, C Class, V G Batanova, B R Jicha


1455h V13A-06 Investigating the Origin of Intraplate Volcanism in the Canary Islands: C M Allison, L Moore, E Gazel, R J Bodnar, J C Carracedo

1510h V13A-07 Deciphering magma plumbing system at Fogo volcano using Geodetic (InSAR, GNSS and Gravimetric) data: R M S Fernandez, S Dumont, D Roque, B Martins, A P Falcão, M S Bos, S H da Silva

1525h V13A-08 Crystal Segregation in Vertical Conduits as a Potential Process to Explain Magma Differentiation in Oceanic Islands: S Pilet, E Tornare, A Bessat, F Bussy

V13B (CC) Hall A-C (Poster Hall)

Monday 1340h

Basaltic Magmatism: Constraints from Trace Elements Posters (joint with DI)

Presiding: Alberto Saal, Brown University; Alberto Saal, Brown University;

1340h V13B-0094 POSTER Trace elements and isotopic compositions of primitive olivine basalt and basanites test whether foundering of lithosphere created Wallowa anomaly of NE Oregon: K P Nicolaysen

1340h V13B-0095 POSTER No measurable calcium isotopic fractionation during crystallization of Kilauea Iki lava lake, Hawaii, and its implication to calcium isotopic fractionation during mantle partial melting: S Huang, H Zhang, Y Wang, Y He, F Z Teng, S B Jacobsen, R L Helz, B D Marsh

1340h V13B-0096B POSTER Basaltic magmas of Santorini from past to present: T T Flaherty, T Druitt, P Schiano, O Sigmarsson, L Franchalanci

1340h V13B-0097 POSTER Accurate Determination of High Field Strength Elements (HFSEs) in Geological Samples by ICP-MS Using an Improved Closed Digestion with Tartaric Acid as Matrix Modifier: L Jin, W Liu, W Guo, S Hu, X Li
1340h **V13C-0098 POSTER** Siderophile Element Systematics of the Early Archean Mantle: Evidence from ~3.3 Ga Ruth Well Komatiites, Pilbara Craton, Western Australia: J Slagle, R W Nicklas, E G Nisbet, I S Puchtel

1340h **V13B-0099 POSTER** Zinc isotope constraints on the origin of carbonatites from west Sichuan, China: S A Liu, H Zhai

1340h **V13B-0100 POSTER** Zinc isotopic behavior during continental subduction recorded by metamorphic rocks: L Xu, S A Liu

1340h **V13B-0101 POSTER** Calcium isotope fractionation during melt-rock interaction in the lithospheric mantle: Z Zhang, D Ionov, J Kang, H Zhu, Z LIU, F Huang

1340h **V13B-0102 POSTER** Temperature and Compositional Dependence of High Field Strength Elements Partitioning between Pyroxenes and Basaltic Liquids: A Mallik, J K Miura, Y Liang

1340h **V13B-0103 POSTER** Examining Grain-scale Sr and Nd Isotopic Heterogeneities in Metasomatized Harzburgite Xenoliths from Savai’i, Western Samoa: B L Byerly, M G Jackson

1340h **V13B-0104 POSTER** Estimating Magmaic Temperatures and Source Lithologies for Off-Axis Alkaline Magmas Snaefellsnes, Western Iceland: J A Siebach, D W Peate, L K S Horkley

1340h **V13B-0105 POSTER** Geochemistry of Mauna Loa Olivine-Hosted Melt Inclusions with Unusual Trace Element Fingerprints: O E Anderson, M G Jackson, E F Rose-Koga

1340h **V13B-0106 POSTER** Geochemical and Sr-Nd-Pb-Mg isotopic compositions of volcanic rocks from Jeju Island, South Korea: Implications for the mantle source: J I Kim, S H Choi, G Koh, J B Park, J S Ryu

1340h **V13B-0107 POSTER** Petrology of volcanic rocks from Yoneyama Formation in Northern Fossa Magna, central Japan: REE and Sr-Nd-Hf isotope constraints on the magma process: M Aizawa, R Shinjo, S Okamura, T Takahashi, N Fujibayashi

1340h **V13B-0108 POSTER** Using Neoproterozoic and Mesozoic Dikes in the Eastern Adirondack Mountains to Assess Changes in Mantle Composition: C Sinton, J R Chiarenzelli, R Coish, R L Badger, E Gazel

1340h **V13B-0109 POSTER** Variation of volatile contents in melt inclusions from Central Andean Volcanic Zone: C Gonzalez, E H Hauri, F Aguilera, A E Saal

1340h **V13B-0110 POSTER** Back-arc Basaltic Magmatism: A Case Study of the Supposed Proterozoic Gabbros from the Zhalantun-Lizishan Terrane, Great Xing’an Range, NE China: R Guo, X Ma, T Qin

1340h **V13B-0111 POSTER** The Feragen Ultramafic Body, Central Norway: The Record of the Transition from a Supra-subduction to Back-arc Tectonic Setting: A Pryadunenko

**V13C (CC) Hall A-C (Poster Hall)**

**Monday 1340h**

**Generation and Storage of Silicic Magmas in Hydrothermally Preconditioned Crust Posters**

Presiding: Shane Rooyakkers, McGill University; John Stix, McGill University; Tamara Carley, Lafayette College;

1340h **V13C-0112 POSTER** Unexpected Rhyolites: A Microanalytical Isotopic Investigation of Rhyolitic Domes at Krafla, Iceland based on: R Hampton, I N Bindeman, R A Stern, M A Cable


1340h **V13C-0114 POSTER** Genesis and significance of low-δ18O igneous rocks from observational and modeling perspective: I N Bindeman

1340h **V13C-0115 POSTER** Iceland Deep Drilling Project Explores the Magma-Hydrothermal Interface: R A Zierenberg, P Schiffman, A P Fowler, W A Elders, G Ø Fridleifsson, M H Reed

1340h **V13C-0116 POSTER** Maximizing the Economic Yield of Geothermal Energy Extracted from the Magma-hydrothermal Interface by Combining Production of Electricity, Hydrogen, Minerals and Desalinated Water.: W A Elders, G Ø Fridleifsson, R A Zierenberg, A Albertsson, J H Shnell

1340h **V13C-0117 POSTER** Oxygen Isotopic Record of Silicic Magma Genesis in Iceland through Time: Evidence Suggests Abrupt Late Pleistocene Onset of Glacial Climate Influence: C F Miller, T L Carley, A K Schmitt, T J Banik, A J Padilla, R C Economos
Monday 1340h

Volcano Seismology and Acoustics: Recent Advances in Understanding Volcanic Processes III

Presiding: Alexandra Iezzi, Geophysical Institute Fairbanks; Diana Roman, Carnegie Institution for Science; Benoit Taisne, Asian School of the Environment; Weston Thelen, USGS Cascades Volcano Observatory;

1340h V13D-0118 POSTER Lahar detection using infrasound: Pilot experiment at Mount Adams, WA: R W Sanderson, R S Matoza, R M Haymon, J H Steidl, P Hegarty

1340h V13D-0119 POSTER Assessing SE Asian’s Regional Infrasound Network Capability to Generate Actionable Products for Volcanic Events: B Taisne, D Tailpied, A B Perttu

1340h V13D-0120 POSTER Receiver function imaging of magmatic- and subduction-related structures beneath arc volcanoes: A case study at Cleveland Volcano, Alaska: H A Janiszewski, L S Wagner, D C Roman

1340h V13D-0121 POSTER When does the rock break?: Finding earthquakes during the 2008 Okmok eruption: R Garza Giron, E E Brodsky, M M Haney

1340h V13D-0122 POSTER Eruption precursors at New Zealand volcanoes observed using the ambient seismic field: C Van Houtte, L Viens, B Fry

1340h V13D-0123 POSTER Temporal Relationships of the Global Volcanic Earthquake Swarm Model: S R McNutt, T Rong, G Thompson, J Braunmiller

1340h V13D-0124 POSTER Understanding Seismo-Acoustic Explosion Signals and Their Relation to Dome Building and Destruction at Cleveland Volcano, Alaska: A M Iezzi, D Fee, M M Haney, J J Lyons


1340h V13D-0126 POSTER Seismic constraints on the magmatic system beneath the Changbaishan volcano: Insight into its origin and regional tectonics: X L Fan, Q Chen

1340h V13D-0127 POSTER An End-to-End System for Automatic Segmentation and Classification of Volcano-Seismic Waveforms: A Bueno Rodriguez, M Titos Luzón, A Diaz Moreno, S De Angelis, L Garcia Martínez, C Benitez, J M Ibáñez

1340h V13D-0128 POSTER Diverse Long-Period Tremors Reveal Temporal Variations in Shallow Conduit Geometry/Fluid Properties at Aso Volcano, Japan: J Niu, T R A Song

1340h V13D-0129 POSTER Temporal Variations in Seismic Scattering Characteristics in a Shallow S-wave Attenuation Region at Taal Volcano, Philippines: M Niino, H Kumagai

1340h V13D-0130 POSTER Triggering Processes of Long-period Seismic Events beneath Volcanoes: Vapor Condensation and Magma Fragmentation in Shallow Cracks: K Taguchi, H Kumagai, Y Maeda, R A Torres

1340h V13D-0131 POSTER Resolution Test for Moment Tensor Inversions with Varying Seismic Network Configurations: D Sindija, J W Neuberg, P Smith

1340h V13D-0132 POSTER Small amplitude waves in flowing, stratified, bubbly magma: L Karlstrom, B A Erickson, E M Dunham


1340h V13D-0135 POSTER Relation Between High-frequency Seismic Source Amplitudes of Eruption Tremors and Eruption Volume Flux: A Mori, H Kumagai, J M Londono, B Galvis

1340h V13D-0136 POSTER Monitoring surface activity of Nevado del Ruiz volcano, Colombia: M Ichihara, T Kaneko, L M Castaño, C A Ospina, O Cadena, B Galvis, J M Londono, C A Laverde

Monday 1340h

Crustal Formation, Fluid–Rock Reactions, and Subsurface Microbial Communities in the Samail Ophiolite: Results from the Oman Drilling Project and Related Research I Posters (joint with B, T)

Presiding: Damon Teagle, University of Southampton; Juerg Matter, University of Southampton; Peter Kelemen, Lamont Doherty Earth Observatory, Columbia University; Alexis Templeton, University of Colorado at Boulder;

1340h **V13E-0138 POSTER** Abundant Late-Stage Andraditic Garnet in Actively Serpentinizing Mantle Rocks in Oman and its Implications for Microbial Habitability: **S K D Zeigler**, E T Ellison, L E Mayhew, A S Templeton


1340h **V13E-0140 POSTER** Compressional and shear wave velocities of mafic rocks collected from Oman Drilling Project: **K Hatakeyama**, I Katayama, N Abe, K Okazaki, B Ildefonse, Y Akamatsu

1340h **V13E-0141 POSTER** Core-Log Integration across Crust-Mantle Transition in Oman: **K Moe**, Y Yamada, J M Matter, N Abe, E Takazawa

1340h **V13E-0142 POSTER** Crystal-plastic fabrics within serpentinized peridotites of Hole BA1B, BA3A and BA4A drilled by the Oman Drilling Project Phase 2 on D/V Chikyu: **Y Kakihata**, L Crispini, B Jamtveit, S Barbier, J A Slin, M Menzel, K Michibayashi, M Godard


1340h **V13E-0145 POSTER** From Oman Drilling Tests to the Mohole to Mantle (M2M): **K Moe**, Y Yamada, S Saito, J M Matter, E Takazawa, K Michibayashi, D A H Teagle, P B Kelemen

1340h **V13E-0146 POSTER** Geochemistry of the Samail ophiolite mantle section drilled at Oman Drilling Project Holes BA1B, BA3A and BA4A (Batin area, Oman Drilling Project Phase 2): **R Senda**, E Carter, J Zaloumis, C Zhang, A Sousa, D Klaessens, M Godard, P B Kelemen, K Michibayashi, D A H Teagle, E Takazawa, J A Coggon, S Choe


1340h **V13E-0148 POSTER** Implication of lower crustal accretion process in the Oman ophiolite: Insight from Oman Drilling Project Hole GT2A: **S Chatterjee**, E Takazawa, K Michibayashi


1340h **V13E-0152 POSTER** Magnetic remanence and rock magnetic variations across the crust-mantle transition of the Oman Ophiolite: First results of site CM1A of the Oman Drilling Project: **A Greve**, I Alsawafi, S Almusharafi

1340h **V13E-0153 POSTER** Micro-Imaging Spectroscopy of the Oman Drilling Project Phase 1 and 2 Drill Cores: **R N Greenberger**, B L Ehlmann, P B Kelemen, D A H Teagle, C E Manning, M Harris, E Amador

1340h **V13E-0154 POSTER** Microbial sulfate reduction in the actively serpentinizing peridotite of the Semail Ophiolite, Oman: **C Glombitza**, M D Kubo, E T Ellison, A S Templeton, T M Hoehler

1340h **V13E-0156 POSTER** Overview of lithology and structure of a mantle section of the Oman Ophiolite (BA active alteration sites, Oman Drilling Project): an integrated field mapping and boreholes imaging study. **J Noël**, M Godard, E Oliot, B Célérié, Y Maillard, P B Kelemen, K Michibayashi


1340h **V13E-0159 POSTER** Preliminary Petrologic and Microstructural Characterization of a Metamorphic Section Beneath the Samail (Oman) Ophiolite: Results from the Oman Drilling Project Hole BT1B: **A J Kotowski**, E Bos Orent, M Cloos, T O D P Phase I Science Party

1340h **V13E-0160 POSTER** Tochilinite Occurrence in Serpentinitized Peridotite from the Samail Ophiolite: **B M Tutolo**, K A Evans

1340h **V13E-0161 POSTER** Towards correlating between magnetic measurements conducted on core-material and magnetic downhole-logs obtained using a new borehole magnetometer: **G Hong**, A Greve, H Kim, J H Parq, S Almusharafi, I Alsawafi, N Abe, J L Till, K Moe, T Kanamatsu, S M Lee

1340h **V13E-0162 POSTER** Vein distribution in ultramafic basement of the Wadi Lawayni drill sites: **P B Kelemen**, W Bach, A Eslami, A Farough, M Hamada, Y Ichiyama, W A Kahl, B Malvoisin, B M Tutolo, M Godard, K Michibayashi

1340h **V13E-0163 POSTER** X-ray CT images of oceanic lithologies obtained on Oman Drilling Project drillcores during Chikyu Oman 2017 and 2018: **T Morishita**, K Michibayashi, P B Kelemen, M Godard, E Takazawa, D A H Teagle, M Harris

1340h **V13E-0164 POSTER** Investigating remagnetization of the southern massifs of the Oman ophiolite using rock magnetism: **L Koornneef**, A Morris, M J Dekkers, M Harris

1340h **V13E-0165 POSTER** Drilling of the crust - mantle boundary in the Wadi Tayin massif in the Samail ophiolite at Oman Drilling Project Sites CM1 and 2: **E Takazawa**, D A H Teagle, J A Coggon, J M Matter, P B Kelemen, K Michibayashi, Y Tamura, T Morishita


1340h **V13E-0167 POSTER** Experimental determination of the serpentinization rates of orthopyroxene using synthetic fluid inclusion as micro-reactors: **H M Lamadrid**, Z Zajacz

1340h **V13E-0168 POSTER** To Study An On-land Ultraslow-spaying Ocean Ridge, Go to Xigaze, Tibet: **T Liu**, C Z Liu, F Y Wu

1340h **V13E-0169 POSTER** Insights into Formation of Epidosites in Oceanic Crust from Reactive-Transport Modeling: **S Weber**, L W Diamond, P Alt-Epping

1340h **V13E-0170 POSTER** Variability in the foliated gabbros of the Northern Ibra Valley, Southern Oman Ophiolite: **C Luna**, M P Loocke, J C J Lissenberg, C J MacLeod

1340h **V13E-0171 POSTER** Experimental Investigation of Reaction-Driven Deformation, Cracking and Permeability During Serpentinization: **R M Skarbek**, H M Savage, P B Kelemen

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**G14A (MM) Independence A-C**

**Monday 1600h**

**Better Living Through Volcano Geodesy: Constraints on Volcanic Hazards from Geodetic Observations and Multidisciplinary Models I** *(cosponsored by EGU: European Geosciences Union) (joint with NH, S, T, V)*

**Presiding:** Michael Poland, Cascades Volcano Observatory, U. S. Geological Survey; Ronni Grapenthin, New Mexico Institute of Mining and Technology; Chiara Montagnia, Istituto Nazionale di Geofisica e Vulcanologia; Paul Lundgren, JPL;

1600h **G14A-01** Automatic detection of deformation at volcanoes globally: **A J Hooper**, M Gaddes, M Bagnardi

1615h **G14A-02** Volcanic data assimilation: Towards and beyond [near] real-time eruption forecasting: **M G Bato**, V Binet, Y Yano

1630h **G14A-03** Tracking reservoir stability through multi-data stream statistical data assimilation: Application to the 2008 eruption of Okmok, AK: **J Albright**, P M Gregg, Z Lu, J Freymueller

1645h **G14A-04** Surface Deformation of Asama Volcano, Japan, Detected by Sentinel-1 and ALOS-2 InSAR Observations Between 2014 and 2018: **X Wang**, Y Aoki

1715h **G14A-06** Mass transfer processes in a post eruption hydrothermal system: parameterisation of microgravity changes at Te Maari craters, New Zealand: **C A Miller**, G M Currenti, I J Hamling, G Williams-Jones

1730h **G14A-07** Offset Magma Supply Imaged with InSAR at Masaya Volcano, Nicaragua: **K Stephens**, C Wauthier

1745h **G14A-08** Chasing a “Magma Gopher”: Insights on Intricate Subsurface Magma Pathways at Sierra Negra Volcano, Galápagos: **M Bagnardi**, P Lundgren

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**V14A (MM) Liberty I-K**

**Monday 1600h**

**Oceanic Intraplate Volcanism II (joint with MR, NH, OS)**

**Presiding:** Lisa Samrock, GEOMAR Helmholtz Centre for Ocean Research Kiel; **Thor Hansteen**, GEOMAR Helmholtz Centre for Ocean Research Kiel; **Ricardo Ramalho**, Instituto Dom Luiz, Universidade de Lisboa; **Dennis Geist**, National Science Foundation;

1600h **V14A-01** Temporal and geochemical evolution of the Afanasy Nikitin - 85° E Ridge, Central Indian Ocean, R/V SONNE cruise SO258/1: **S Homrighausen**, K Hoernle, J Geldmacher, F Hauff, M Portnyagin, R Werner, B F Schaefer, J A Wartho, D Garbe-Schönberg

1615h **V14A-02** Plume-Ridge Interaction During Large Igneous Province Formation: **P Madrigal Quesada**, E Gazel, K E Flores, M Bizimis, B R Jicha

1630h **V14A-03** Volatile composition of asthenosphere below NW Pacific lithosphere revealed by petit-spot basalt: **Y Katsuragi**, N Hirano, Y Sato, K Shimizu

1700h **V14A-05B** Recent eruptions between 2009-2018 discovered at West Mata submarine volcano (NE Lau Basin, SW Pacific) and characterized by new ship, AUV, and ROV data: **W W Chadwick Jr**, K H Rubin, S G Merle, R W Embley


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**V14B (CC) eLightning Theater II**

**Monday 1600h**

**Lithium Resources in Continental Brines, Pegmatites, and Lacustrine Sediments I eLightning © (joint with EP)**

**Presiding:** Lisa Stillings, US Geological Survey; **Linda Godfrey**, Rutgers Univ; **Mark Coolbaugh**, Dajin Resources Corp.;

1600h Introductory Remarks: **L L Stillings**

1601h **V14B-22** The volatility of lithium and implications for the formation of world-class hard rock, sedimentary, and brine deposits: **T R Benson**

1604h **V14B-23** Lithium isotopes: an innovative tool for the characterization of Lithium resources, clues from Li-rich brines and pegmatites field studies: **R Millot**, B Orberger, W Rojas, S Deveaud, C Fléhoc, A Villaros, E Glaougen

1607h **V14B-24** Lithium-bearing Pegmatites in Western Northwest Territories (NT), Canada: **C Verley**

1610h **V14B-25** Relationship of Cenozoic volcanic activity to lithium concentrations in playas and sediments around the world and implications for genesis of lithium-enriched brines: **M F Coolbaugh**, L L Stillings, C J Hickson

1613h **V14B-26** Potential Importance of Past Ignimbrite Eruptions to Present Lithium-Brine and -Clay Resources in the Western U.S. and Central Andes: **A H Hofstra**

1616h **V14B-27** Tectonic influence on lithium brine genesis at Salar de Atacama, Chile: **S A Hynck**, L A Munk, D F Boutt

1619h **V14B-28** Low Temperature Weathering of Ignimbrites as a Source of Li to the Brine Deposits of the Central Andes, an Isotope Perspective: **L Godfrey**, J Setera, S M Kay

1622h **V14B-29** Spectral mapping of Atacama del Salar, Chile using Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) data, an analog for U.S. playa-hosted lithium resource assessment: **J Mars**, F Solano
1625h **V14B-30** Hydrologic characteristics of western United States extensional basin playas related to Li enrichment: example from the Bristol Trough, California: **M. R. Rosen**, L.L. Stillings, M. Vitale, R. P. Spanjers


1634h **V14B-33** Li-rich Claystone in the McDermitt Caldera, Nevada: Characteristics and Possible Origin: **C. D. Henry**, S. Castor, L. L. Stillings

1637h **V14B-34** Isotopic Composition of Lithium in Lithium-bearing Clays from the Southwestern US: **L. L. Stillings**, L. Godfrey

1640h **V14B-35** Lithium occurrences in salt deposits and experimental studies: **M. Schramm**, M. Mertineit

1643h **V14B-36** Lithium extraction from natural brines and salars – thermodynamic modeling of electrolytic systems and the evaporative sequences: **M. M. Azaroual**, A. Lassin Sr, L. André Sr, A. Lach

1646h **V14B-37** A Comprehensive Survey on process of Lithium Resources Exploration and Development in Zabuye Salt Lake, China: **M. Zheng**

1649h Concluding Remarks:
Session Information

**Oral Sessions**
Sessions are being held in the **Convention Center (CC)**
and **Marriott Marquis (MM)**

**Poster Sessions**
Posters are on display in the following venue throughout the week: **Hall A-C (Poster Hall)**

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Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation. Example: A21A-01 = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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The program is current as of 06 December 2018. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at [https://agn.confex.com/agu/fm18/meetingapp.cgi/Home](https://agn.confex.com/agu/fm18/meetingapp.cgi/Home) for updates.

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**Tuesday A.M.**

**G21B (CC) Hall A-C (Poster Hall)**

**Tuesday 0800h**

**Better Living Through Volcano Geodesy:**
**Constraints on Volcanic Hazards from Geodetic Observations and Multidisciplinary Models**

Posters (cosponsored by EGU: European Geosciences Union) (joint with NH, S, T, V)

Presiding: Michael Poland, Cascades Volcano Observatory, U. S. Geological Survey; Ronni Grapenthin, New Mexico Institute of Mining and Technology; Chiara Montagna, Istituto Nazionale di Geofisica e Vulcanologia; Paul Lundgren, JPL;

0800h G21B-0548 POSTER InSAR-detected local ground deformations in areas of potential phreatic eruptions: towards proactive monitoring for disaster risk mitigation: T Kobayashi, H Yarai, S Yamada

0800h G21B-0549 POSTER A Sentinel-1 survey of Aleutian arc volcano deformation using InSAR time series analysis: S R Slead, X Xu, D T Sandwell

0800h G21B-0550 POSTER New Constraints on Volcanic Inflation and Subduction Megathrust Behavior at Mt. Veniaminof, Alaska from Campaign GPS Measurements: C Drooff

0800h G21B-0551 POSTER Co-eruptive and post-eruptive source models at Okmok volcano from GPS and InSAR measurements: X Xue, J Freymueller

0800h G21B-0552 POSTER Deformation Behavior of Persistently Restless Telica Volcano, Nicaragua, during Unrest in 2015: R C Bussard, K Stephens, C Wauthier

0800h G21B-0553 POSTER Mechanisms of deformation at Erebus volcano, Antarctica using 20 years of GPS Observations: E Snyder, R Grapenthin, P R Kyle

0800h G21B-0554 POSTER Surface displacement and the source depth of Aso volcano due to the 2016 Kumamoto earthquake using interferometric SAR analysis: Y Wataru, K Ishitsuka, T Mogi, M Utsugi

0800h G21B-0555 POSTER Temporal evolution of the slow inflation event and the following transient increase of background seismicity at Mt. Fuji: Y Mitsui, T Kage

0800h G21B-0556 POSTER The improvement in the InSAR ground deformation monitoring at Etna volcano after the Sentinel-1 mission: A Bonforte, F Guglielmino

0815h T21B-02 Cyclical Variations in Fluid Pressure and Composition During Brittle Faulting in an Exhumed Analogue of Shallow Megathrusts (N-Apennines, Italy) From Field, Microstructural and REE Investigations: F Remiotti, A Cerchiari, A Cipriani, A Festa, S Mittempergher, F Lugli, S Lugli

0830h T21B-03 Mechanism of fluid flow near the plate interface: the importance of a thin, low viscosity layer: M Morishige

0845h T21B-04 Seismicity, Metamorphism, and Fluid Evolution Across the Northern Cascadia Fore Arc: G Savard, M G Bostock, N I Christensen

0900h T21B-05 Records of Contrasting Patterns of Fluid Flow Along the Base of the Mantle Wedge from 30–20 km Depths in the Sanbagawa Belt, Japan: S R Wallis, M Yokota, Y Kouketsu, S Endo

0915h T21B-06 Multi-stage history of fluids and faults in serpentinites on Syros, Greece: E H G Cooperdock, D F Stockli, N H Raia, J Barnes

0930h T21B-07 Dehydration embrittlement and compaction instabilities in subduction zones: I Stefanou, J Sulem, N Brantut

0945h T21B-08 Seismogenesis of Dual Subduction Beneath Kanto, Central Japan Controlled by Fluid Release: S Yoshioka, Y Ji, V C Manea, M Manea

V21A (MM) Liberty I-K

Tuesday 0800h

Data Science and Geochemistry: Applying a Data-Driven Approach in Geochemistry-Centric Studies

I (joint with B, EP, H, IN)

Presiding: Tao Wen, Pennsylvania State University; Fang Huang, Rensselaer Polytechnic Institute; Chao Liu, Carnegie Institution for Science Washington; Lisa Warden, Carnegie Institution for Science Washington;

0800h V21A-01 Frontiers in data-driven solid-earth geochemistry in the Precambrian: B Keller

0815h V21A-02 Investigating the Emergence and Geochemical Evolution of Enriched Basaltic Magmas: A Data-Driven Approach: M J Williams, J F Klump, S J Barnes


0900h V21A-05 Using Big Data (and Little Data) to Understand the Effects of Shale Gas Development on Water Quality: S L Brantley, T Wen, Z Li, M Liu, G Zheng, A Herman, M S Gonzales, J Woda, X Niu

0915h V21A-06 Finding locations of good water candidates through statistical analysis of groundwater quality and hydrogeological data: H E Yu, K K Lee, D Kaown

0930h V21A-07 Multivariate and Network Analysis of Microbe-Environment Interactions Across a Geochemically Active Subduction Zone in Northern Costa Rica: K M Fullerton, D Giovannelli, M Nakagawa, M O Schrenk, K G Lloyd

0945h V21A-08 Boosting Data Science in Geochemistry: We Need Global Geochemical Data Standards and Networking!: K Lehnert, L A Wyborn, S J D Cox, J F Klump, B McInnes

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**V21B  (MM) Marquis 6**

**Tuesday  0800h**

**The 2018 Eruptions of Kilauea Volcano, Hawaii, and Fernandina and Sierra Negra Volcanoes, Galápagos I** (joint with GH, IN, S, T)

**Presiding:** Ingrid Johanson, USGS; Matthew Patrick, USGS; Gregory Waite, Michigan Technological University; Claire Horwell, Durham University;

0800h V21B-01 Evolution of the Fissure 8 lava flow on Kilauea’s Lower East Rift Zone: M R Patrick, C Parcheta, H R Dietterich

0815h V21B-02 Kilauea’s Eruptive Style—Unsteady as She Goes?: B H Walker, B F Houghton

0830h V21B-03 Lava flow hazard modeling and the assessment of effusion rates and topographic change with UAS and lidar during the 2018 Kilauea lower East Rift Zone eruption: H R Dietterich, M R Patrick, A K Diefenbach, C Parcheta, E Lev, N L Foks

0845h V21B-04 Near Real-Time Monitoring and Detection of Rapidly Changing Magmatic Processes during Kilauea’s 2018 Lower East Rift Zone Eruption: C A Gansecki, R L Lee, S Lundblad, T Shea


0915h V21B-06 Kilauea 2018: Mapping and measuring lava extent and summit deformation using high resolution satellite data.: R L Wessels, G Fisher, J P Griswold, M Brooks, D A Bratton, K Angeli


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**T22B  (MM) Liberty L**

**Tuesday  1020h**

**Volatile Cycling in Subduction Zones: Fluid Inputs, Pathways and Outputs, and Their Impact on Geodynamic Processes and Natural Hazards I**

**Presiding:** Stephen Hicks, University of Southampton; George Cooper, University of Durham; Lidong Bie, University of Liverpool; Richard Davy, Imperial College London;

1020h T22B-01 The role of subduction velocity in slab dehydration and arc magmatism: V Magni, P Bouilhol, J Van Hunen, M Domeier

1035h T22B-02 How Slab Depth is Reflected in Aleutian Arc Magmas: D J Rasmussen, T A Plank, D C Roman, E Hauri, H A Janiszewski, E Lev, K P Nicolaysen, P E Izbekov

1050h T22B-03 Deep mantle metasomatism tracked by in-situ B isotopes: examples of the Alps and the Caribbean: C Martin, K E Flores, S Angiboust, A Vitale Brovarone, G E Harlow

1105h T22B-04 Relation Between the Nature of the Subducting Plate, Heat Flow and Fluid Escape Structures at the Lesser Antilles Island arc.: F Klingelhofer, B Marcaillou, M Laurencin, Y Biari, M Laigle, D Graindorge, M Evain, H Kopp, S Lallemand, J D Lebrun, M Paulatto


1135h T22B-06 Global and Local variations in the hydration of subducting lithospheric mantle: T Garth, A Rietbrock, L Bie

1150h T22B-07 Mantle Attenuation Related to the Taupo Volcanic Zone, New Zealand: D M Eberhart-Phillips, S C Bannister, M Reyners
1205h  **T22B-08** Imaging regional electrical structure in the central Chilean subduction zone (35 – 36° S) near the 2010 Maule earthquake using magnetotellurics: **D R Cordell, M J Unsworth, D Diaz, V Reyes**

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**V22A (MM) Marquis 6**

**Tuesday  1020h**

**2018 Bowen Lecture (Virtual Session)**

**Presiding:** **Anat Shahar,** Carnegie Institution for Science Washington; **Marie Edmonds,** University of Cambridge;

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1020h Introductory Remarks:

1025h  **V22A-01** Magma generation, storage and eruption at an island-arc caldera: **T Druitt**

1120h  **V22A-02** A Radiogenic Isotope Perspective on Pleistocene Ocean Circulation and Climate: **S L Goldstein**
**Tuesday P.M.**

**V23A  (MM) Liberty M**

**Tuesday  1340h**


*Presiding: Katherine Bermingham,* University of Maryland College Park; *Jesse Reimink,* Carnegie Institution for Science;

1340h **V23A-01** Evaluating the tungsten constraint on lunar origin: *R M Canup,* S Marchi, R J Walker

1355h **V23A-02** Timing of Cumulate Compaction and Cumulate Overturn: *C E Boukaré,* E M Parmentier, S W Parman

1410h **V23A-03** Primitive mantle reservoirs investigated using short-lived Hf-W systematics: *H Rizo,* A Poirier, I S Puchtel, I Vlastelic, B Moine, A M Forte, C R Neal, A Simonetti

1425h **V23A-04** Characterizing primordial S-isotope compositions in Ocean Island Basalts using $^{182}$W and $^3He/^4He$ relationships: *J W Dottin III,* J Labidi, J Farquhar, M G Jackson

1440h **V23A-05** Mantle Heterogeneity Revealed in the Lower Oceanic Crust.: *S Lambart,* J Koornnneef, M A Millet, G Davies, M Cook, C J Lissenberg

1455h **V23A-06** How representative are the isotope ratios of MORB and OIB of their heterogeneous mantle sources?: *B Liu,* Y Liang

1510h **V23A-07** Hf isotope constraints on evolution of the depleted mantle and growth of continental crust: *J D Vervoort,* A I Kemp, C M Fisher

1525h **V23A-08** Iron Isotopic Fractionation in Earth’s Lower Mantle: *J F Lin,* H Yang, M Y Hu, M Roskosz, W Bi, J Zhao, E E Alp, J Liu, J Liu, R Wentzcovitch, T Okuchi, N Dauphas

**V23B  (MM) Liberty L**

**Tuesday  1340h**

*Advances in Metamorphic Processes: Mechanisms, Conditions, Rates, and Drivers I* (joint with T)

*Presiding: Alicia Cruz-Uribe,* University of Maine; *Jesse Walters,* University of Maine;

1340h **V23B-01** Mechanisms of Heating in a Hinterland Nappe of Northern Scotland, with Tectonic Implications: *C A Mako,* R D Law, M J Caddick, R Thigpen, K T Ashley, J M Cottle, A R Kylander-Clark

1355h **V23B-02** Experimental Constraints on the Serpentinitization Rate of Fore-arc Peridotites: Implications for the Upwelling Condition of the Slab-derived Fluid: *T Nakatani,* M Nakamura

1410h **V23B-03** Fluctuating pressure and fluid fluxing during subduction: records from rhythmically zoned high pressure/low temperature garnets: *D R Viete,* M B Allen, J Avila, M J Tobin, G Seward

1425h **V23B-04** Comparing Raman Quartz-in-garnet Barometry with Thermodynamic Modeling Across a Barrovian Metamorphic Terrane: The Funeral Mountains Metamorphic Core Complex: *S R Mulligan,* S Craddock Affinati, M L Wells, T D Hoisch, C Childs, S Wright, A Salamat

1440h **V23B-05** Bridging petrology and geodynamics in the late Archean lithosphere: thermobarometry, and thermal modeling of the Kapuskasing Structural Zone: *J D Merriman,* A G Whittington

1455h **V23B-06** Modeling High-Resolution Pressure-Temperature Paths Across the Himalayan Main Central Thrust (Central Nepal): Implications for the Dynamics of Collision: *E J Catlos,* O M Lovera, E D Kelly, K T Ashley, T M Harrison, T M Etzel

1510h **V23B-07** Peak pressure-temperature-time estimates for Taconic orogen high-pressure rocks, Tillotson Peak Complex, Vermont: *J Gonzalez,* S Baldwin, J B Thomas, P G Fitzgerald, L E Webb, J J Kim

1525h **V23B-08** How to make and exhume (U)HP terranes: insights from southeastern Papua New Guinea: *S Baldwin,* P G Fitzgerald, L E Webb, M G Malusa’, R Moucha

**V23C  (MM) Liberty I-K**

**Tuesday  1340h**

*Magmatic Systems and Their Interactions With Tectonic Processes in Rifts, Arcs, Ridges, and Volcanic Fields I* (joint with G, NH, T)

*Presiding: Christelle Wauthier,* Pennsylvania State University Main Campus; *James Muirhead,* Syracuse University; *Sara Mana,* Salem State University; *Erin DiMaggio,* Arizona State University;
1340h V23C-01 Temporal associations between fault rupture and volcanic eruptions at the Okataina Volcanic Centre, northern Taupō Rift, New Zealand: P Villamor, R A Benites, K R Berryman

1355h V23C-02 Pulsed Magmatic Inflation and Deflation in a Silicic System Facilitated by Trapdoor Faulting: Laguna del Maule, Chile: D E Peterson, K M Keranen, N Garibaldi, L Lara, B Tikoff, A Tassara, C H Thurber, F Lanza


1425h V23C-04 Dyke intrusion between neighbouring arc-volcanoes responsible for 2017 unrest at Agung, Bali: insights from Sentinel-1 InSAR and 3D stress modelling: F Albino, J Biggs, D K Syahbana

1440h V23C-05 World’s Largest Subaerial Catastrophic Landslides were produced by Magma-Tectonic Induced Collapse of Volcanic Fields: D B Hacker, R F Biek, P D Rowley

1455h V23C-06 Refraction seismic constraints on less extensive CAMP magmatism localized by prior extension in the Southeastern United States: R E Marzen, D J Shillington, D Lizaralde, S H Harder, J K Davis

1500h V23C-07 Fault Reactivation and Oblique Rift Opening Revealed by Reoccurring Magma Intrusions in Central Iceland: J Ruch, T Wang, W Xu, M Hensch, S Jonsson

1525h V23C-08 A Surge in Seismicity in a Network of Cross-Cutting Conjugate Strike-Slip Faults Triggered by the 2014 Bárðarbunga-Holuhraun Dike Intrusion: T Winder, R S White, R G Green, T Greenfield

V23D (CC) Hall A-C (Poster Hall)

Tuesday 1340h

Applications of Unmanned Aerial Systems (UAS) to the study of volcanic systems Posters © (joint with NH)

Presiding: Brett Carr, Lamont-Doherty Earth Observatory; Emma Liu, University of Cambridge; Danielle Moyer, Drexel University; Felix von Aulock, University of Liverpool;

1340h V23D-0104 POSTER Flow dynamics of rhyolite lava inferred from UAV photogrammetry: T N Leggett, K S Befus, S M Kenderes

1340h V23D-0105 POSTER High-resolution topographic reconstruction of a compound lava field using Unmanned Aerial Vehicle (UAV) technology and Structure from Motion (SfM) methods: M Favalli, A Fornaciari, L Nannipieri, A J L Harris, S Calvari

1340h V23D-0106 POSTER Monitoring ground deformation and lava accumulation in volcanic craters using UAS image acquisitions and 4D photogrammetry: B Smets, C Waunther, A Dille, R Paris, D Samyn, N d’Oreye, F Kervyn


1340h V23D-0108 POSTER Activity and hazards of the ongoing eruption of Sinabung Volcano, Indonesia, evaluated using UAS-derived datasets: B B Carr, E Lev


1340h V23D-0110 POSTER Near real-time isotopic measurements of CO2 sampled by drone at Stromboli, Italy: J Stix, F D’Arcy, F Grassa, A Aiuppa, A L Rizzo


1340h V23D-0112 POSTER Short timescale degassing dynamics in a very young plume revealed by proximal Unmanned Aerial System (UAS) measurements at Volcán Villarrica, Chile: E J Liu, K Wood, E Mason, M Edmonds, A Aiuppa, G Giudice, M Bitetto, V Francocente, T Richardson, S Burrow, M Watson, T D Pering, T Wilkes, A J S McGonigle, G Velasquez, C Melgarjé, C Bucarey


1340h V23D-0114 POSTER Remote Sensing & Identification of Volcanic Plumes with Fixed-Wing UAS over Volcán de Fuego, Guatemala: K Wood, B Schellenberg, T Richardson, M Watson, C Greatwood, R Clarke, J E Freer, R M Thomas, E J Liu

1340h V23D-0115 POSTER Determining the 3D Structure of Volcanic Plumes using UAS Imagery: K Wood, T Richardson, A Albadra, L Berthoud, A Calway, M Watson, H Thomas, E Liu
V23E  (CC) Hall A-C (Poster Hall)  
**Tuesday 1340h**

*Beyond the Elastic Half-Space: Understanding Volcanic Processes and Their Timescales Through More Realistic Deformation Modeling Posters (joint with G, MR)*

**Presiding:** Elodie Brothelande, Carnegie Institution of Washington; Fabien Albino, University of Bristol, COMET; Benoît Taisne, Asian School of the Environment; Jamie Farquharson, University of Miami;

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<td>1340h</td>
<td>V23E-0117 POSTER A new model of magma storage in continental crust applied to silicic super-volcanoes: A A Morand, G Brandeis, S Tait</td>
<td>A A Morand, G Brandeis, S Tait</td>
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<td>1340h</td>
<td>V23E-0120 POSTER Exploring eruption mechanisms at Okmok Volcano using physics-based modeling to define evolution of the local stress regime: K DeGrandpre, Z Lu</td>
<td>K DeGrandpre, Z Lu</td>
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<td>1340h</td>
<td>V23E-0121 POSTER Linking surface deformation with gas regime variation: a new modeling approach: F Manta, B Taisne</td>
<td>F Manta, B Taisne</td>
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<td>1340h</td>
<td>V23E-0122 POSTER The effect of crystal mush on a shallow magma chamber during a dynamic magma injection event: Y Liao, S A Soule, M Jones</td>
<td>Y Liao, S A Soule, M Jones</td>
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V23F  (CC) Hall A-C (Poster Hall)  
**Tuesday 1340h**

*Beyond the Elastic Half-Space: Understanding Volcanic Processes and Their Timescales Through More Realistic Deformation Modeling Posters (joint with G, MR)*

**Presiding:** Jeffrey Karson, Syracuse University; Ulrich Kueppers, Ludwig Maximilian University of Munich; Benjamin Edwards, Dickinson College; Arianna Soldati, University of Missouri Columbia;

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<td>1340h</td>
<td>V23F-0126 POSTER A new model of magma storage in continental crust applied to silicic super-volcanoes: A A Morand, G Brandeis, S Tait</td>
<td>A A Morand, G Brandeis, S Tait</td>
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<td>1340h</td>
<td>V23F-0127 POSTER Insights into volcanic crater morphology and proximal deposits from multi-blast large scale experiments at University at Buffalo NSF Collaborative Blast Workshop: A H Graettinger, J Oppenheimer, A Soldati, K S Befus, I Sonder</td>
<td>A H Graettinger, J Oppenheimer, A Soldati, K S Befus, I Sonder</td>
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<td>1340h</td>
<td>V23F-0132 POSTER Experimentally-formed spatter clasts illustrate the relative importance of cooling rate, accumulation rate, and initial temperature to deposit morphology: E Rader, R Wysocki, J Heldmann</td>
<td>E Rader, R Wysocki, J Heldmann</td>
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Combining Monitoring Data with Models to Investigate Volcanic Unrest Posters (joint with G, NH, S)

Presiding: Hélène Le Mével, Carnegie Institution for Science; Kyle Anderson, USGS California Volcano Observatory; Nathan Andersen, University of Oregon; Yan Zhan, University of Illinois at Urbana-Champaign.


V23F POSTER Applications of a heat transfer model based on large-scale lava flow experiments and field data: S Tsang, J M Lindsay, G M Turner

V23F POSTER The Saga of Volcville: A Large-Scale Lava Flow Hazard Mitigation Exercise for Undergraduates with the Syracuse Lava Project (SLP): A M Koleszar, E Rader, K S Harpp


V23F POSTER Mechanism of Pulsating Fountaining at Basalt-Basaltic Andesite Volcanoes: A Ozerov

V23F POSTER Products of Abrasion in Pumice Rafts: Wave Tank Experiments and Seafloor Samples: M Jutzeler

V23F POSTER Turbulent pyroclastic density currents – a numerical and large-scale experimental investigation: E Breard, J Dufek, G Lube, E Brosch, M Cerminara, T Esposti Ongaro

V23G POSTER Fully consistent modeling of deformation and dike induced seismicity: Application to the 2014 Bardarbunga dike, Iceland.: E R Heimisson, P Segall

V23G POSTER Integrating satellite-derived rainfall data into models of stress evolution at active volcanoes: J Farquharson, F Amelung


V23G POSTER Link between tremor and the processes leading to volcanic eruptions: the dynamics of gas pockets trapped beneath permeable media: T Girona, C Caudron, C Huber, J F Pacheco, M Mora


V23G POSTER New findings beneath Lascar Volcano (northern Chile) using geodetic and magnetotelluric data: G Pérez Gutierrez, D Díaz, F Ortega, L Cordova


V23G POSTER Periodic outgassing preceding volcanic eruptions: preliminary results on Turrialba volcano, Costa Rica: L A Blackstone, T Girona, C Huber, K T Trinh, M Protti

V23G POSTER Temporal Variation of Seismic Wave Attenuation Associated with the Activity of Nevado del Ruiz Volcano, Colombia, 2010-2018: J M Londono, H Kumagai

V23G POSTER Turrialba volcano unrest affected human consumption clean water springs: C J Ramirez, G Gonzalez, Y Alpizar Segura, R Santamaria


V23G POSTER Volcano at Taipei’s Doorstep: Satellite Monitoring-Based Assessing in Eruption Onsets: H P Chan, T H Lin, G R Liu
Tuesday 1340h

**Data Science and Geochemistry: Applying a Data-Driven Approach in Geochemistry-Centric Studies Posters ➤ (joint with B, EP, H, IN)**

**Presiding:** Tao Wen, Pennsylvania State University; Fang Huang, Rensselaer Polytechnic Institute; Chao Liu, Carnegie Institution for Science Washington; Lisa Warden, Carnegie Institution for Science Washington;

1340h **V23I-0157** POSTER Mining of Chemistry Data Explains the Fate of Radium in Hydraulic Fracturing Wastewater: B Ouyang, D J Renock, J D Landis, X Feng

1340h **V23I-0158** POSTER Statistical Evaluation of Conservative Solute Ratios of Brines from the Eastern United States Sedimentary Basins: J M Bartos, D Gallagher, T J Burbey

1340h **V23I-0160** POSTER Dynamic Interactions of Methanogens and Archean Earth Environment: D Cui, F Tian

1340h **V23I-0161** POSTER Gold Favorability Modeling from Stream Sediment Geochemical Data using Fractal-Geospatial Approach: An Example from Sonakhan Greenstone Belt, India: S Behera, M K Panigrahi

1340h **V23I-0162** POSTER East African Rift Tephra Database [EARTHd]: a compilation documenting and analyzing explosive volcanism in East Africa: S Mana, E DiMaggio, K Fontijn

1340h **V23I-0163** POSTER Potential Consequences of the Compositional Distribution of Trace Element Partitioning Experiments: R. Nielsen, S Tung, G K Ustunisik

1340h **V23I-0164** POSTER Detecting anomalous methane in groundwater in shale gas production areas using big data: T Wen, M Liu, J Woda, G Zheng, Z Li, S Brantley

1340h **V23I-0165** POSTER Principal Component Analysis Reveals Diverse Mantle Melting at the Galápagos Plume–ridge Interaction Zone: M Uno, K Ueki, T Kuwatani

1340h **V23I-0166** POSTER Open-source Data Processing in Stable Isotope Ratio Mass Spectrometry: New Software Packages for Efficient, Transparent and Reproducible IRMS Data Reduction: S Kopf

1340h **V23I-0167** POSTER Average Chemical Composition of Indian Shale Composites: E Ray, D Paul

1340h **V23I-0168** POSTER Predicting Silicate Weathering Rates across the Continental United States: S Zhang, N Planavsky

1340h **V23I-0169** POSTER Application of multivariate statistics to geochemical and precipitation data to evaluate dissolved organic matter-trace element variability in a Coastal Bay: S Manalikkada Sasidharan, P Dash, Y Lu, V Paul, A Mercer, Z Arslan

1340h **V23I-0170** POSTER New Bond-Valence Parameters for Inferring the Oxidation State of Transition Metals in Sulfide and Sulfosalt Minerals: O C Gagné, R T Downs, S M Morrison, R Hazen

1340h **V23I-0171** POSTER Data-Driven Approaches toward Assessing Impacts of Industrial Development on Surface Water Quality in the U.S.A.: M Liu, G Zheng, T Wen, X Niu, Z Li, S Brantley

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Tuesday 1340h

**Developments in Magma–Water Interaction: Fieldwork, Experiments, and Computations Posters ➤ (joint with H, NH, OS)**

**Presiding:** Ingo Sonder, University at Buffalo; Pranabendu Moitra, University at Buffalo; Alison Graettinger, University of Missouri-Kansas City; Erin Fitch, Hawai‘i Institute of Geophysics and Planetology;


1340h **V23J-0173** POSTER Magma-to-water heat transfer rates with implications for quench-induced fragmentation: P Moitra, I Sonder, G Valentine

1340h **V23J-0174** POSTER Constraining the Energetics of Explosive Lava–Water Interactions: E P Fitch, S A Fagents

1340h **V23J-0175** POSTER Multi-phase eruptions in hydrothermal vent complexes, South Africa: L Hoyer


1340h **V23J-0177** POSTER Field observations on sediment-magma mingling textures at 71 Gulch inform analog experiments using remolten basalt: K Bennis, A Graettinger, I Sonder

1340h **V23J-0178** POSTER Investigating Submarine Eruption Dynamics Using Water Contents of Submarine Pyroclasts: I M McIntosh, S J Mitchell, K Tani, B F Houghton, R Carey, T Shea
1340h V23K-0179 POSTER Deep submarine explosive eruptions? Exploring the driving mechanisms for production of ash during the ~1 km-deep Havre 2012 eruption, Kermadec arc: T Dürrig, J D L White, A P Murch, D Mele, B Zimanowski, R Büttner, N Spitznagel, P Dellino

1340h V23J-0180 POSTER Modes of fluid circulation and hydrothermal venting associated with sill emplacement in sedimentary basins: K Iyer, D W Schmid, S Planke, L Rupke

1340h V23J-0181 POSTER Evolving magnetic and material properties of 50-year-old basaltic tuff, SUSTAIN drilling project, Surtsey volcano, Iceland: M D Jackson, P C Lippert, J M Marquardt, M J Heap, J G Moore, M Rhodes, T Weisenberger, M T Gudmundsson

1340h V23J-0182 POSTER Jurassic volcanic glass in the Ferrar Large Igneous Province of Antarctica preserves evidence for hydration by glacial meltwater: D A Nelson, J M Cottle, I N Bindeman

V23K (CC) Hall A-C (Poster Hall)

Tuesday 1340h

Interdisciplinary Characterization of Volcanic Explosion Source Dynamics Posters © (joint with NH, S)

Presiding: Kathleen McKee, Carnegie Institution for Science; Sarah Albert, Sandia National Laboratories; Benjamin Andrews, Smithsonian Institution; Maurizio Ripepe, Universita di Firenze;

1340h V23K-0183 POSTER Oscillatory Rheology Measurements of Particle- and Bubble-Bearing Fluids: Solid-Like Behavior of a Crystal-Rich Basaltic Magma: A Namiki, Y Tanaka

1340h V23K-0184 POSTER Rise and Burst of Overpressured Bubbles in a Particle-Rich Suspension: Consequences for Interpretation of Normal Activity at Stromboli Volcano, Italy.: J C Oppenheimer, A Capponi, K V Cashman, S J Lane, A Rust, M R James

1340h V23K-0185 POSTER Insights into the 2018 eruption of Volcan de Fuego, Guatemala, from geophysical data and visual observations.: S De Angelis, G Chigna, M Ripepe, D Gonzalez, A B Lockhart, F Juarez, A Lamur, A Diaz Moreno, B H Munkli

1340h V23K-0186 POSTER Gas and particle motions in a rapidly decompressed flow: B A Johnson, H A Zunino, L Ding, R J Adrian, A B Clarke

1340h V23K-0187 POSTER Explosion volume flux comparison using seismically derived tilt, infrasound, and gas data at Stromboli Volcano, Italy: K F McKee, D Fee, G P Waite, D C Roman, M Ripepe, A Aiuppa, S A Carn, H Le Mével, D Delle Donne, M Bitetto, G Lacanna, C R Sealing, V Ciciga, G Tamburello

1340h V23K-0188 POSTER Contrasting degassing behaviors before and after a shift in eruptive style at Sinabung volcano, Indonesia: J F Smekens, C R Sealing, E Carey, L Vanderkluysen, B B Carr, G I Marliyani, A Harijoko, C S Edwards

1340h V23K-0189 POSTER A quantitative definition of Strombolian activity based on simultaneous infrasonic and thermal records : Erta Ale (Ethiopia), Piton de la Fournaise (Réunion) and Yasur (Vanuatu) volcanoes: S Vergniolle, V Souty, Y Gaudemer, C Zielinski, P Bani, A LE Pichon, M Lardy, E Garaebiti

1340h V23K-0190 POSTER Correlating Entrainment Mechanisms and Turbulence in a Buoyant Plume to Large-Scale Visual Structures: L Florez, B A Johnson

1340h V23K-0191 POSTER Modeling the acoustic flux inside the magmatic conduit by integrated 3D-FDTD simulation: G Lacanna, M Ripepe

1340h V23K-0192 POSTER Dynamics of the Tongariro Magmatic System During the 2012 Eruptive Sequence: Insights from Magnetotellurics: G Hill, H M Bibby, J Peacock, E Wallin, Y Ogawa, H Keys

1340h V23K-0193 POSTER Plug and chug: The effects of volatile exsolution, and disequilibrium transport on cyclically erupting silicic volcanoes: J Jordan, D Bercovici, Y Liao

1340h V23K-0194 POSTER Analysis of Seismo-Gravity Signals Associated with Volcanic Explosions Recorded at Stromboli, Italy in May 2018: H Le Mével, K F McKee, D C Roman


1340h V23K-0196 POSTER Machine Learning on Infrared Images of Strombolian Eruptions atop Mount Erebus, Antarctica: B Dye, G Morra

1340h V23L-0198 POSTER Complex fluid flow in the conduit of Strombolian eruption inferred from seismo-acoustic observation at Aso volcano, Japan: K Ishii, A Yokoo, T Kagiyama, T Ohkura, S Yoshikawa, H Inoue

V23L (CC) Hall A-C (Poster Hall) Tuesday 1340h

Oceanic Intraplate Volcanism Posters (joint with MR, NH, OS)

Presiding: Lisa Samrock, GEOMAR Helmholtz Centre for Ocean Research Kiel; Thor Hansteen, GEOMAR Helmholtz Centre for Ocean Research Kiel; Ricardo Ramalho, Instituto Dom Luiz, Universidade de Lisboa; Dennis Geist, National Science Foundation;


1340h V23L-0200 POSTER Intraplate volcanism, melt ponding at the LAB, and the Galápagos plume: a confluence of conspicuous constraints characterizing the Cocos crust: S Naif, N C Miller, D J Shillington, A Becel, D Lizarralde

1340h V23L-0201 POSTER Cryptic evolved melts may be common in basaltic shield volcanoes: xenoliths from Volcan Fernandina: D Geist, K A Howard, M Stock

1340h V23L-0202 POSTER Multiphase Fluid Dynamics Model of Pumice Transport and Pumice Raft Development from a Silicic Seafloor Eruption in the Presence of a Thermal Plume: R C Cahalan, J Dufek

1340h V23L-0203 POSTER Phase Equilibria Experiments on Anorthitic Megacrysts and Their Melt Inclusions in Plagioclase Ultraphyric Basalts (PUBs): G K Ustunisik, R L Nielsen, D Walker

1340h V23L-0204 POSTER Changing magma stagnation depths related to oceanic volcano growth at Cape Verde: T H Hansteen, K Pank, K Krohne, K Fockenberg, G Wellschmidt, A Dürkfelden


1340h V23L-0206 POSTER Emergence/subsidence histories along the Carnegie and Cocos Ridges and their bearing upon biological speciation in the Galápagos: F Orellana Rovirosa, M A Richards

1340h V23L-0207 POSTER The geology of Formigas Islets and its significance to our comprehension of the Terceira Rift in the Azores Triple Junction: R S Ramalho, R Quartau, J Madeira, A C Rebelo

1340h V23L-0208 POSTER Tracing mantle sources in the northern Lau Basin by independent component analysis of basalt isotopic compositions: L Tian, X Wu, X C Wang

1340h V23L-0209 POSTER Directly ascending asthenospheric melt erupted atop outer rise: the preliminary report of cruise KS-18-09, R/V Shinsei: N Hirano, S Machida, S S P KS18-09

1340h V23L-0210 POSTER An Experimental Study on the genesis of petit-spot Lavas: T Yutani, P Condamine, Y Sato, C A McCammon, N Hirano, D J Frost

1340h V23L-0211 POSTER Expedition for petit-spot volcanism on the oldest Pacific Plate: the preliminary report of cruise YK18-08, R/V Yokosuka: S Machida, J Kaneko, N Hirano

1340h V23L-0212 POSTER Fracture-controlled Phreatomagmatic Activity in the Central Indian Ocean Basin: Evidences from Magnetic Spherules: A A Amonkar, S D Iyer, A A Sardar

1340h V23L-0213 POSTER Transition of eruptive style: pumice raft to dome-forming eruption at the Havre submarine volcano: M Manga, S J Mitchell, W Degruyter, R Carey

1340h V23L-0214 POSTER Evolution of the Eastern Indian Ocean basin since 120 Ma: Influence of Kerguelen hotspot in oceanic crust accretion: Y Luo, J Lin, Z Zhou

1340h V23L-0215 POSTER Development of the Igneous Logi Ridge, NE Atlantic, From Seismic Reflection Data: A J Breivik, P Tan, R Mjelde

1340h V23L-0216 POSTER Topographic and seismic constrains on the post-seafloor spreading magmatism in the Xisha uplift region, northwestern South China Sea: J Gao, N L Bangs, S Wu, B Ma, G Cai

1340h V23L-0217 POSTER Advanced dredge system in Japan for material science on oceanic bedrocks --New dredge system with acoustic transponder and/or deep sea TV camera—: T Ishii, S Machida, I Sakamoto
**V23M**  (CC) Hall A-C (Poster Hall)

**Tuesday  1340h**

**The Emerging Multidisciplinary Science of Fire and Ice: Understanding the Causes, Timing, and Consequences of Planetary Glaciovolcanism Posters**  (joint with C, EP, NH, P)

*Presiding: Benjamin Edwards,* Dickinson College; *Gioachino Roberti,* Simon Fraser University; *Meagen Pollock,* College of Wooster; *Brent Ward,* Simon Fraser University;

1340h **V23M-0218** POSTER A glaciovolcanic origin for Braéðvikir ridge, Iceland?:  **W R Irving,** B R Edwards, M Pollock, K M Sah, R Reynolds, S E Crawford-Muscat

1340h **V23M-0219** POSTER Understanding the Construction of Pillow-dominated Glaciovolcanic Ridges:  **B R Edwards,** M Pollock

1340h **V23M-0220** POSTER A Glacial Control on the Eruption Rate of Antarctic Volcanoes:  **M S Van Wyk de Vries**

1340h **V23M-0221** POSTER Glacier-volcano Interactions Provide Insight on Glacial History and Geomorphic Evolution, Ft. Selkirk, Yukon Territory, Canada:  **B C Ward,** L E Jackson, R W Barendregt, C Huscroft, F E Nelson

1340h **V23M-0222** POSTER Transcontinental Tephra: Linking the East and West Antarctica volcanic record through SPICEcore:  **N A Iverson,** N Dunbar, A Kurbatov

**V24A**  (MM) Liberty I-K

**Tuesday  1600h**

**Magmatic Systems and Their Interactions With Tectonic Processes in Rifts, Arcs, Ridges, and Volcanic Fields II**  (joint with G, NH, T)

*Presiding: Christelle Wauthier,* Pennsylvania State University Main Campus; *Erin DiMaggio,* Arizona State University; *Sara Mana,* Salem State University; *James Muirhead,* Syracuse University;

1600h **V24A-01** Insights from the magmatic record into the development of the East African Rift:  **T O Rooney,** L Peterson, R Phillips, S R Krans, R A Steiner, D Mege, W R Nelson, B B Hanan

1615h **V24A-02** Microscale Geochemical Analysis of Primitive Lava from Buumbira, Uganda: Implications for Rift Magmatism:  **E Pitcavage,** T Furman, W R Nelson, P Kalebga Kulyanyungi, E Barijajo

1630h **V24A-03** Tracking the geochemical evolution of low-Ti continental flood basalts: NW Ethiopian Plateau:  **S R Krans,** T O Rooney, J W Kappelman

1645h **V24A-04** New age and compositional constraints on mafic to ultramafic intrusions of SW Angola and implications for the geology of the region:  **T Owen-Smith,** W M Sito, G M Bybee, S Tappe

1700h **V24A-05** Focused Rifting and Magmatism Beneath the Ethiopian Plateau: A Subparallel Zone of Competing Lithospheric Deformation Offset from the Main Ethiopian Rift:  **K M Keranen,** A Hariharan, S Alemayehu, A Ayele

1715h **V24A-06** Ambient Noise Tomography of the Mantle and Upper Crust in the Northern East African Rift:  **E L Chambers,** N Harmon, D Keir, C Rychert, R J Gallacher

1730h **V24A-07** InSAR Observations of Long-term Extension in the Build-up to the January 2017 Eruption of Erta ‘Ale Volcano, Afar, Ethiopia.:  **C Moore,** T J Wright, A J Hooper, J Biggs

1745h **V24A-08** Magmatic Intrusion and Its Interaction with a Volcano Centre in Main Ethiopian Rift:  **T T Tessema,** J Biggs, E Lewi, A A Wondem
Session Information

Oral Sessions
Sessions are being held in the Convention Center (CC) and Marriott Marquis (MM)

Poster Sessions
Posters are on display in the following venue throughout the week: Hall A-C (Poster Hall)

Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation. Example: A21A-01 = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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Day    Time
1 = Monday 1 = AM 0800–1000
2 = Tuesday 2 = AM 1020–1220
3 = Wednesday 3 = PM 1340–1540
4 = Thursday 4 = PM 1600–1800
5 = Friday 5 = PM 1815–1915

The program is current as of 06 December 2018. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at https://agu.confex.com/agu/fm18/meetingapp.cgi/Home for updates.

Wednesday A.M.

DI31A (MM) Archives

Wednesday 0800h

Forms and Fluxes of Deep Carbon in Earth I (joint with V)

Presiding: Marie Edmonds, University of Cambridge; Erik Hauri, Carnegie Institution for Science; Louise Kellogg, University of California - Davis; Jie Li, University of Michigan Ann Arbor;

0800h DI31A-01 Carbon Sequestration in the Magma Ocean Implied by Complex Carbon Polymerization: N V Solomatova, R Caracas, C E Manning

0815h DI31A-02 Metal-silicate Partitioning of Carbon to 59 GPa and >5000 K with Implications for Earth’s Core Formation: R. A Fischer, E Cottrell, K K M Lee, E Hauri
0800h DI31A-03 Deep Carbon Storage in Fe-Ni-S Melt and Diamond Formation: Z Zhang, T Qin, A Pommier, M M Hirschmann

0845h DI31A-04 Carbonate-Metal Reactions in the Mantle: A Davis, B Chidester, E Greenberg, V B Prakapenka, A Campbell

0900h DI31A-05 Mobility of CaCO₃ in Subduction Zones: A Lindoo, Y Fei

0915h DI31A-06 Chemical and biological carbon sinks in the Costa Rican Forearc: First insights from the Biology Meets Subduction project: M J de Moor, P H Barry, K G Lloyd, D Giovannelli, M Schrenk, M Nakagawa, C J Ramirez, K Pratt, D R Hummer, T M Lopez


0945h DI31A-08 NEW NOBLE GAS AND VOLATILE MEASUREMENTS IN BASALT GLASSES FROM THE MID-ATLANTIC RIDGE NEAR 14° NORTHERN: M D Kurz, J Curtice, M Jones, S Péron, E L Mittelstaedt, V D Wanless, S A Soule, D J Fornari

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**P31G** (CC) Hall A-C (Poster Hall)

**Wednesday  0800h**

**The Significance of Late Accretion for Composition and Early Evolution of the Terrestrial Planets I Posters** (joint with DI, MR, V)

**Presiding:** Harry Becker, Free University of Berlin; Doris Breuer, German Aerospace Center DLR Berlin; Thorsten Kleine, University of Münster; Kai Wuennemann, Museum fuer Naturkunde;

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0800h P31G-3761 POSTER Genetic tracing of impactors on the HED parent body using Mo and Ru isotopes: E A Worsham, T Kleine

0800h P31G-3762 POSTER Siderophile Elements in Lunar Granulitic Impactites: Constraints on the Composition of pre 4 Ga Late Accretion: P Gleissner, H Becker

0800h P31G-3763 POSTER Raman Heating Experiments: Correlations of synthetic, terrestrial and extra-terrestrial carbonaceous matter: T John, R Visser, G Senges

0800h P31G-3764 POSTER In Situ Sulfur Isotope Study of Sulfides in Carbonaceous Chondrites and Volatile-rich Clasts.: R Visser, T John, M Patzek, A Bischoff, W Martin


0800h P31G-3766 POSTER Sulfur Isotope Fractionation in Mantle Rocks: F Schmid, E Iden, H Becker, U Wiechert

0800h P31G-3767 POSTER Tellurium Stable Isotope Variations Among Chondrites and Terrestrial Samples: J L Hellmann, T Hopp, C Burkhardt, T Kleine

0800h P31G-3768 POSTER Experimental evidence for ruthenium isotope fractionation between liquid metal and liquid silicate: T Grützner-Handke, T Hopp, S Klemme, T Kleine

0800h P31G-3769 POSTER New Constraints on the Earth’s Volatility Trend and SVE’s Budget: D C Loroch, S Hackler, A Rohrbach, S Klemme, J Berndt

0800h P31G-3770 POSTER On the evolution of metal delivered by giant impacts in a convecting and rotating magma ocean: C Maas, U Hansen, L Manske, K Wueunnemann

0800h P31G-3771 POSTER Modeling the Dynamics of Magma Ocean Solidification: T Wieschöfer, C Maas, U Hansen

0800h P31G-3772 POSTER The Chemical Consequences of Magma Ocean Solidification: Y Miyazaki, J Korenaga

0800h P31G-3773 POSTER IMPACT-INDUCED MELTING BY GIANT IMPACT EVENTS: L Manske, N Güldemeister, M Nakajima, K Wueunnemann, C Burger

0800h P31G-3774 POSTER Volcanic outgassing and chemical speciation of the C-O-H system during the Earth Magma Ocean evolution: G Ortenzi, F Sohl, L Noack

0800h P31G-3775 POSTER Cr isotope fractionation during the degassing of silicate melts: S Klemme, F S Hansen, J Berndt, A Rohrbach, P Sossi


0800h P31G-3777 POSTER New Experimental Insights Into the Geochemical Cycle of Halogens: Halogen Partitioning Between Amphibole, Phlogopite and Silicate Melts: S Flemetakis, S Klemme, A Rohrbach, A Stracke, J Berndt

0800h P31G-3778 POSTER Modeling the Thermochemical Evolution of the Lunar Magma Ocean using Igneous Crystallization Programs: S Schwinger, D Breuer

0800h P31G-3779 POSTER Distribution and Ti Content of Lunar Mare Basalts Produced by Internal Dynamics: Y Zhao, D Breuer, A C Plesa, M Laneuville, W Van Westrenen

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0800h **P31G-3780 POSTER** Multicomponent Melting in a Heterogeneous Lunar Mantle after Magma Ocean Solidification: **D Breuer**, B Doherty, A C Plesa, S Schwinger, Y Zhao

0800h **P31G-3781 POSTER** Are the Moon’s Nearside-Farside Dichotomies the Result of a Giant Impact?: **K Wuennemann**, M H Zhu, R W K Potter, T’Kleine, A Morbidelli


0800h **P31G-3783 POSTER** High resolution bulk density map of the lunar crust from correlation analysis of gravity and topography data: **D Wahl**, M A Wieczorek, J Oberst

0800h **P31G-3784 POSTER** Impact-induced Resetting and Growth of Zircons in Lunar Breccias at 4.2 Ga: Evidence from the Apollo 15 and 16 Landing Sites: **D Vanderlick**, H Becker, A Rocholl

0800h **P31G-3785 POSTER** One Rock – Two Dates: The Curious Case of Feldspathic Granulitic Breccia 77017.: **T Haber**, E E Scherer

0800h **P31G-3786 POSTER** CSFD Tools – A new application to account for crater obliteration effects in crater size-frequency distribution measurements: **C Riedel**, G Michael, T Kneissl, C Orgel, H Hiesinger, C H van der Bogert

0800h **P31G-3787 POSTER** Geology and Crater Size-Frequency Distributions of the Apollo 17 Landing Site: **W Iqbal**, H Hiesinger, C H van der Bogert

0800h **P31G-3788 POSTER** Re-examination of the population, stratigraphy, and sequence of Mercurian basins: Implications for Mercury’s early impact history and comparison with the Moon: **C Orgel**, C Fassett, G Michael, C H van der Bogert, L Manske, H Hiesinger

0800h **T31G-0387 POSTER** Assessing the Role of Water in Alaskan Flat-Slab Subduction Using Thermodynamic and Phase Equilibria Modeling Approaches: **S E Robinson**, R C Porrier, T D Hoisch

0800h **T31G-0388 POSTER** Tracing Geophysical Indicators of Fluid-Induced Serpentinitization in the Pampean Flat-Slab of Central Chile: **A Nikulin**, J Domino, J R Bourke, J J Park

0800h **T31G-0389 POSTER** Fluid Capture During Exhumation of Subducted Lithologies: A Fluid Inclusion Study from the Cycladic Blueschist Unit (Sifnos, Greece): **B Dragovic**, H M Brooks, H M Lamadrid, M J Caddick, R J Bodnar

0800h **T31G-0390 POSTER** Tracing Fluid Infiltration and Resultant CO₂ Release in Subducted Lithologies of the Cycladic Blueschist Unit, Greece: **E M Stewart**, J J Ague

0800h **T31G-0391 POSTER** Destroying an eclogite: feedback between deformation and metamorphism at the blueschist-eclogite transition: **C Faber**, C D Rowe

0800h **T31G-0392 POSTER** Fluid-rock interaction in subducted mélanges and its implications for fluid flow along the subduction plate boundary: **K Noro**, K Ujiie, N Nishiyama, Y Mori, H Masuyama

0800h **T31G-0393 POSTER** Grain boundary sliding as an antigorite CPO formation mechanism and implications for the slab-mantle boundary rheology: Example of antigorite schist from the Sanbagawa belt, SW Japan: **T Nagaya**, S R Wallis

0800h **T31G-0394 POSTER** Detection of mantle-derived fluid from the Makimine melange in the Shimanto accretionary complex: Evidence from helium isotope analysis on mineral veins: **N Nishiyama**, H Sumino, K Ujiie

0800h **T31G-0395 POSTER** Insights on Rock Hybridization Processes at the Slab-Mantle Interface from an Exhumed high-pressure Serpentinite-Eclogite Contact in the Voltri Massif (Ligurian Alps, Italy): **E Codillo**, F Klein, H Marschall, B Dragovic

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**T31G (CC) Hall A-C (Poster Hall)**

**Wednesday 0800h**

*The Varied Roles of Aqueous Fluids near the Subduction Interface II Posters* (joint with MR, S, V)

**Presiding:** Cailey Condit, Massachusetts Institute of Technology; Besim Dragovic, Boise State University; Jonathan Delph, Rice University; Melodie French, Rice University;

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**T31H (CC) Hall A-C (Poster Hall)**

**Wednesday 0800h**

*Volatile Cycling in Subduction Zones: Fluid Inputs, Pathways and Outputs, and Their Impact on Geodynamic Processes and Natural Hazards II Posters* (joint with MR, S, V)

**Presiding:** Stephen Hicks, University of Southampton; George Cooper, University of Durham; Lidong Bie, University of Liverpool; Richard Davy, Imperial College London;
0800h **T31H-0396** POSTER Tracking pre-eruptive magmatic \( H_2O \) evolution from the mantle to the surface at Klyuchevskoy volcano (Kamchatka arc): M Gavrilenko, P Ruprecht, M Krawczynski

0800h **T31H-0397** POSTER Insights into the Tectonic Affinities and Fluid Histories of Ultramafic Rocks from the Massif du Sud, Central Chain, and HP/LT Terranes, New Caledonia: N H Raia, D Whitney, C P Teysier, S Lesimple

0800h **T31H-0398** POSTER Hydrous melting in the deep mantle: J Yang, M Faccenda

0800h **T31H-0399** POSTER Investigation of flow reverse towards backarc side in mantle wedge: Electrical conductivity distribution of subduction zone beneath the northern part of NE Japan: M Ichiki, T Kaida, Y Ogawa

0800h **T31H-0400** POSTER Spatial distribution of seismic wave reflectors beneath the Yonezawa-Aizu region, northeastern Japan: M Suzuki, A Hasemi, T Okada, T Matsuzawa, N Umino, T Yamashina, N Tsumura

0800h **T31H-0401** POSTER Electrical conductivity structure of northern Chilean subduction zone at 23°S from 2D magnetotelluric inversion: F A Reyes, D Diaz

0800h **T31H-0402** POSTER Magnetotelluric studies of the Andean subduction zone in Southern Peru: M J Unsworth, J Chira, R Yupa, Y Antayhua-Vera, D Calla-Pilco, B Garcia Fernandez Baca, B Lee, C Nixon, D Ramos-Palomino, C Valencia-Miraval

0800h **T31H-0403** POSTER Imaging the Lesser Antilles subduction zone from a new regional seismic velocity model and relocated seismicity: L Bie, A Rietbrock, S P Hicks, N Harmon, C Rychert, J Collier, S D B Goes

0800h **T31H-0404** POSTER Seismic imaging of the Lesser Antilles subduction zone using S-to-P receiver functions and P-to-S delay times: Insights from VoIgL: B Chichester, C Rychert, N Harmon, J Collier, R Allen, T Henstock, S D B Goes, F Krueger, A Rietbrock

0800h **T31H-0405** POSTER Toward Earthquake System Science: In-Situ Physical State from Geophysical Properties: A R Lowry, R V S Kanda, X Ma, B Scheppmann, D Schutt

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**V31A (MM) Liberty I-K**

**Wednesday 0800h**

**Chemistry, Mechanics, Geophysics, and Timescales of Magmatic Processes I** (joint with EP, G, NH, S)

**Presiding:** Mattia Pistone, University of Lausanne; Benoit Taisne, Asian School of the Environment; Bradley Singer, University of Wisconsin Madison; Meredith Townsend, Brown University;

0800h **V31A-01** Co-existing Discrete Bodies of Rhyolite and Punctuated Volcanism Characterize Yellowstone’s Post-Caldera Evolution: C B Till, J A Vazquez, M E Stelten

0815h **V31A-02** Reactive Melt Flow in Mush Reservoirs: A Key Process Controlling Storage and Differentiation of Magma in the Continental Crust: M Jackson, J D Blundy, R S J Sparks

0830h **V31A-03** Constraining phase separation in magma reservoirs from field observations and modeling: C Huber, O Bachmann, M Townsend, J D Webster

0845h **V31A-04** Degassing and Outgassing of Crystal-Bearing Dacite: A G Whittington, T Herbst, M Pistone, J D Schiffbauer, T Selly

0900h **V31A-05** How Well Crystals Record Their Magmatic Environments?: L Cheng, F Costa Rodriguez, G Bergantz

0915h **V31A-06** Interpreting zircon geochronology through the lens of multi-phase numerical modeling: N L Andersen, J Dufek

0930h **V31A-07** Late-Stage (F9) Fall Deposits of the Bishop Tuff: What Melt Inclusions Can Tell Us About the Pre-Eruptive Configuration of a Supervolcanic Magma Body: A A Fulton, P J Wallace, C J N Wilson

0945h **V31A-08** Melt topology from quantitative interpretation of multi-parameter geophysical inversion at active volcanoes: M Paulatto, M Moorkamp, S Hautmann

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**V31B (MM) Liberty L**

**Wednesday 0800h**

**Triple Isotopes of Oxygen and Sulfur in Terrestrial Systems I** (joint with EP, PP)

**Presiding:** David Zakharov, University of Oregon; Justin Hayles, Rice University;

0800h **V31B-01B** Phosphoric Acid Digestion Fractionation Factor for Triple Oxygen Isotope Analyses: J Wostbrock, Z D Sharp
0815h V31B-02 The role of rivers in setting the marine sulfate 17O: D T Johnston, J Hemingway, A Waldeck
0830h V31B-03 Biogeochemical Fractionation of MIF Sulfate: P Tyler, T R Ireland, P Holden, A Hofmann, L Liu, R Bolhar
0845h V31B-04 Multiple sulfur isotope record from the Precambrian of South America shows an unusual trend: A Bouyon, P Cartigny, J Avila, E S Rego, C Rossignol, P Philippot, R I Trindade, S R Hühn

0900h V31B-05 Why analyzing the 17O/16O ratios in rocks and minerals?: A Pack
0915h V31B-06 Triple Oxygen Isotope Values of Cherts as a Proxy for the 318O and Temperature Evolution of Seawater: S Sengupta, A Pack
0930h V31B-07 Triple oxygen isotopes in evolving continental crust: I N Bindeman
0945h V31B-08 Triple Oxygen Isotope Fractionation in the DIC-H2O-CO2 system: A Numerical Framework and Its Implications: W Guo, C Zhou

V31C (MM) Marquis 6

Wednesday 0800h

The 2018 Eruptions of Kilauea Volcano, Hawaii, and Fernandina and Sierra Negra Volcanoes, Galápagos II (joint with GH, IN, S, T)

Presiding: Ingrid Johanson, USGS; Matthew Patrick, USGS; Gregory Waite, Michigan Technological University; Claire Horwell, Durham University;

0800h V31C-04 Infrasound from the Fissure 8 Lava Fountain on Kilauea’s Lower East Rift Zone: J J Lyons, D Fee, M R Patrick, W A Thelen, H R Dietterich
0815h V31C-06 The rupture process of the 2018 Mw 6.9 Hawai’i earthquake as revealed by a genetic algorithm-based source imaging technique: H Kehoe, E Kiser, P Okubo
0830h V31C-03 How did the 2018 Kilauea Eruption Affect the Volcano’s Submarine South Flank? Preliminary Results From an Ocean Bottom Seismometer Deployment Offshore Kilauea.: J Caplan-Auerbach, J Morgan, Y Shen, S A Soule
0845h V31C-02 Anticipating and following the 2018 eruptive activity of Sierra Negra volcano: M C Ruiz, S Hernandez, F Amelung, A F Bell, S J C Oliva, C Ebinger, P A Mothes, P Ramon, G Viracucha, A P Alvarado, A Calahorrano, H E Gaunt, F Mejia, G Vivas, L Garcia

0915h V31C-07 Ground Deformation associated with the 2018 eruption of Sierra Negra volcano and the source mechanism of the initial M5.5 earthquake: F Amelung, E Brothelande, S Mirzaee, P C La Femina, G Ruiz, S Vajedian, M Moragh, M C Ruiz, P A Mothes, S Hernandez, S Cesca, T Dahm, A F Bell
0930h V31C-08 The June 26, 2018 Eruption of Sierra Negra Volcano, Galapagos Islands, Ecuador: Pre-, Co- and Post-Eruptive Deformation from GPS Geodesy: P C La Femina, A G Ruiz Paspeul, M Higgins, H Geirsson, D Geist, P A Mothes
0945h V31C-01 An analytical model for caldera collapse driven by a time-dependent magma outflow: E Rivalta, B Janzen, S Heimann

V31D (CC) Hall A-C (Poster Hall)

Wednesday 0800h


Presiding: Katherine Bermingham, University of Maryland College Park; Jesse Reimink, Carnegie Institution for Science;

0800h V31D-0145 POSTER Iron isotope fractionation during Earth’s core-mantle segregation: T Qin, M L Marcondes, G Shukla, R Wentzcovitch
0800h V31D-0146 POSTER A framework for efficient chemical separation of tungsten and other trace elements using organic acids for high-precision mass spectrometry: B J Peters, A Mundl-Petermeier, M Horan, R Carlson, R J Walker
0800h V31D-0147 POSTER A global picture on correlating primordial mantle signatures in Ocean Island basalts: A Mundl-Petermeier, R J Walker, M G Jackson, M D Kurz, S A Halldorsson
0800h V31D-0148 POSTER Isotopic Anomalies in Short-lived Systems: The Plot Thickens: R J Walker, A Mundl-Petermeier, M Horan
0800h V31D-0149 POSTER Constraining the Composition of Terrestrial Building Blocks: The Molybdenum Isotopic Composition of the Earth’s Mantle: K R Bermingham, R J Walker
0800h V31D-0150 POSTER Mantle Sulfur Cycle: A Case for Non-Steady State: P Cartigny, J Labidi


0800h V31D-0152 POSTER Effect of thickness of lithosphere on $^3$He/$^4$He isotopic composition of OIB: G Shimoda, T Kogiso

0800h V31D-0153 POSTER Significantly variability in the $^{34/40}$Ca of global carbonatites: implications for carbonate recycling, magma differentiation and source-mantle mineralogy: A Banerjee, R Chakrabarti, A Simonetti

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**V31E** (CC) Hall A-C (Poster Hall)

**Wednesday 0800h**

**Advances in Metamorphic Processes: Mechanisms, Conditions, Rates, and Drivers**

**Posters** (joint with T)

**Presiding: Alicia Cruz-UrIBE, University of Maine; Jesse Walters, University of Maine;**

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0800h V31E-0154 POSTER Reaction kinetics in the Alta Stock contact metamorphic aureole, Utah: Insights from carbonate clumped isotope geothermometry: D C Brenner, D R Viete, B Passey

0800h V31E-0155 POSTER Reading The Record of Melting Events Using Compositional Mapping and In-Situ Geochronology, Adirondack Mountains, New York, U.S.A.: M L Williams, T W Grover, M J Jercinovic, S Regan, C L Pless, K Suarez

0800h V31E-0156 POSTER Prograde P-T evolution and episodic zircon growths of barroisite eclogites in the Lanterman Range, northern Victoria Land, Antarctica: T Kim, Y Kim, M Cho, J I Lee

0800h V31E-0158 POSTER Hygrochronology: I M Villa

0800h V31E-0159 POSTER Effect of pyroxene and spinel on the kinetics of serpentinization: H Ruifang, W Sun, X Ding, M Song

0800h V31E-0160 POSTER Development of in situ analysis of $^7$Li in garnets to decipher metamorphic processes: S Penniston-Dorland, L P Baumgartner, A S Bouvier, B Dragovic, D R Baker

0800h V31E-0161 POSTER Re-Os and Oxygen Systematics of Variably Altered Ultramafic Rocks, North Carolina: T Centorbi, R J Walker, W G Minarik


0800h V31E-0163 POSTER Hydrothermal experiments on olivine-quartz-seawater system at 300 °C: implication for the progress of silica-metasomatism during serpentinization at the crust-mantle boundary in the oceanic lithosphere: R Oyanagi, A Okamoto, N Tsuchiya


0800h V31E-0165 POSTER Decouple of monazite U-Pb and Th-Pb ages of the Paleoproterozoic UHT pelitic granulite in Sulu orogen, eastern China: Y Song, H Xu

0800h V31E-0166 POSTER Element transfer during retrogression and exhumation of an ultrahigh-pressure terrane: insight from the Western Gneiss Region, Norway: S M Gordon, J Hammerli, L Martin, A I Kemp

0800h V31E-0167 POSTER Factors affecting preservation of intact coesite in ultrahigh-pressure metamorphic rock: Impact of dislocations in kyanite and its petrological implication: T Taguchi, Y Igami, A Miyake, M Enami

0800h V31E-0168 POSTER High-Temperature Metamorphism Highlighted by RSCM Geothermometry: A Lahfid, T Baudin, P J Negrel


0800h V31E-0170 POSTER Calcium Isotope Fractionation in Multiple High-pressure Metamorphic Veins from the Dabie Orogen, China: W Y Li, S Guo, H Yu, Y Qi, X Gu, F Huang

0800h V31E-0171 POSTER Mechanisms of granulite formation in an archetypal accretion-to-collision orogen: pseudosections and monazite petrochronology from southern Madagascar: C Swindle, R M Holder

0800h V31E-0172 POSTER Tracing partial melt during the exhumation of deeply subducted continental crust: Insights from Sm-Nd isotope systematics in titanite, monazite and garnet: D Wang, C M Fisher, J D Vervoort, H Cao
0800h **V31E-0173 POSTER** Understanding the zinc-rich mineral assemblage of the Sterling Hill deposit, New Jersey, USA: **C Creadick**, J D Webster, A Fiege, N Tailby, K Hammond

0800h **V31E-0174 POSTER** Unraveling the thermal history of the central Kaapvaal Craton using Sm-Nd garnet chronology: **K Beaton**, G M Bybee, S Walker, M Tappa, R Gibson, E Baxter, M Wiedenbeck

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**V31F (CC) Hall A-C (Poster Hall)**

**Wednesday 0800h**

**Advancing Earth Science Through Geologic Mapping Posters** *(joint with EP, NH)*

**Presiding:** Ren Thompson, USGS; Amy Gilmer, USGS-GECSC; Joseph Colgan, USGS-GECSC

0800h **V31F-0175 POSTER** New perspectives from mapping and high-resolution $^{40}$Ar/$^{39}$Ar dating of Tongariro volcano, New Zealand: implications for stratovolcano lifecycles, glaciophenology and tectonic-volcano interactions: **L R Pure**, G Leonard, D Townsend, C J N Wilson, B L A Charlier, J A Gamble, A T Calvert, R P Cole

0800h **V31F-0176 POSTER** A quantitative reconstruction of the 2004-05 Etna compound lava field evolution through remote sensing methods: **A Fornaciai**, D Andronico, M Favalli, L Spampinato, S Branca, A Bonforte, L Lodato, L Nannipieri

0800h **V31F-0177 POSTER** A New Digital 3D Immersive Geologic Map: From the Plio-Pleistocene Calvello Basin of the Southern Apennines, Italy: **A D Pitts**, C Di Celma, T Emanuele, S Mazzoli, V Spina


0800h **V31F-0179 POSTER** Geologic map of the southern Stillwater Range, western Nevada: Insights into the development of silicic calderas and plutons: **J P Colgan**, D A John, C D Henry

0800h **V31F-0180 POSTER** Geologic map of the Stillwater Range and Clan Alpine Mountains, Nevada: Voluminous Oligocene silicic calderas and plutons of the ignimbrite flareup in the western US Cordillera: **J P Colgan**, D A John, C D Henry, M E Berry

0800h **V31F-0181 POSTER** Spatial Correlation of Ore Deposits and Silicic Calderas in the Western United States: **J M Rosera**, D S Coleman


0800h **V31F-0183 POSTER** Implications of the Newly Discovered Markagunt and Sevier Gravity Slides, Marysvale Volcanic Field, Utah USA: **R F Biek**, P D Rowley, D B Hacker


0800h **V31F-0185 POSTER** Spatial and Temporal Characterization of the Petrified Springs Fault, Central Walker Lane, Nevada: Documenting Middle Miocene Dextral Slip: **A K Hoxey**, J Lee, A T Calvert


0800h **V31F-0187 POSTER** Digital Bedrock Geology Compilation of the Central Sierra Nevada, Eastern California: **S Attia**, S R Paterson

0800h **V31F-0188 POSTER** The Late Cretaceous, migrating Jack Main intrusive complex, central Sierra Nevada, CA: Mapping as a powerful tool for unraveling magmatic histories: **C Scheland**, A Angulo, V Memeti, K E Ardill, S R Paterson

0800h **V31F-0189 POSTER** Geologic Mapping Plays Critical Role in Revealing the Volcanic, Structural, and Landscape Evolution of a Syntensional Miocene Volcanic Province, Western Whipple Mountains and Eastern Mopah Range, CA: **M K Fidler**, P B Gans

0800h **V31F-0190 POSTER** Geologic mapping, whole-rock geochemistry and isotope investigation of supracrustal rocks of the Jirau do Ponciano Dome: evidence for Archean-Paleoproterozoic crust beneath the Sergipano Fold Belt, Borborema Province, Brazil: **H Lima**, M M Pimentel, L Santos

0800h **V31F-0191 POSTER** Onset of terrane assembly in the Western Gondwana: clues from airborne geophysics, geological mapping and structural analysis of central Borborema Province, Brazil: **L Santos**, P A Cawood, R M Vidotti, H Lima, E L Dantas, E J dos Santos
0800h V31F-0192 POSTER Geologic Mapping of the Atacama and Taltal Fault Systems, Northern Chile: S P Mavor, J S Singleton, N M Seymour, R Gomila, G Heuser, S A Williams, G Arancibia

0800h V31F-0193 POSTER The tectonic history of the Arequipa Terrane informed by bedrock mapping of Neoproterozoic to Cambrian sediments in southern Peru: E B Hodgkin, J L Crowley, F A Macdonald, J R Newmann, V Carlootto

0800h V31F-0194 POSTER Structural evolution of the Potosí Uplift, Sierra Madre Oriental, northeastern Mexico: Insight from detailed geologic mapping: S A Williams, J Singleton, M G Prior, S P Mavor, G E Cross

0800h V31F-0195 POSTER Popocatépetl, Iztaçchual or Tláloc? Petrogenesis of the Older Deposits (>23,000 Yrs) of the Sierra Nevada, México: M F Flores Ríos, J Roberge, P E G Schaaf, S Salinas, D A Jerram, C A Angeles De La Torre

0800h V31F-0196 POSTER Mapping Through of the Use of Remote Sensing Techniques in the Sierra Madre Occidental, Mexico, to Better Understand Silver and Gold Hosted Structures: L N Alqahtani, P Goodell

0800h V31F-0197 POSTER Geologic lineament detection using satellite imagery and cloud-based geospatial processing: A L Nguy-Robertson, K Harvey

V31G (CC) Hall A-C (Poster Hall)

Wednesday 0800h

Geosphere to Anthroposphere: An Integrated Approach to Securing the Mineral Resources That Underpin Modern Society Posters (joint with SI)

Presiding: Graham Lederer, USGS; Jamie Brainard, USGS; Simon Jowitt, University of Nevada Las Vegas; Nedal Nassar, USGS;

0800h V31G-0198 POSTER Tellurium Supply, Demand and Waste: D J Smith, M Keith, G R Jenkin, D Holwell

0800h V31G-0200 POSTER Assessing the by-production of critical materials: the rhenium case study: J L Brainard

0800h V31G-0201 POSTER Circular Economy Strategies for Criticality Mitigation: G Gaustad, M Bustamante, M Krystofik

0800h V31G-0202 POSTER On the Inexhaustibility of Exhaustible Resources: F Pretis, A Teytelboym, C Hepburn, A Pfieffer

0800h V31G-0203 POSTER Modeling Indium Enrichment in the Mount Pleasant Ore System: G C Sullivan, A M Gion, P M Piccoli, P A Candela, R D Ash

0800h V31G-0204 POSTER Recycling and Secondary Sources of the Rare Earth Elements; An Overview: S M Jowitt, T T Werner, Z Weng, G M Mudd


0800h V31G-0206 POSTER Rare Earth Element (REE) profiles as a tool for uranium ore provenance assessment: A D Pollington, M J Caddick

0800h V31G-0207 POSTER Using Raman Spectroscopy to Determine an Ore Mineral’s Economic Value: C Rufledt, C O Marshall

0800h V31G-0208 POSTER Searching in veins for critical minerals: Comparing pegmatite resources to alternatives: G W Lederer

0800h V31G-0209 POSTER An Experimental Study on the Formation of Scandium-Rich Rocks: A M Gion, P M Piccoli, P A Candela

0800h V31G-0210 POSTER Demand and straction of non-ferrous minerals from Sierra Mojada, state of Coahuila, Mexico. Past and present. Lesson learned?: S L Zueck González

V31H (CC) Hall A-C (Poster Hall)

Wednesday 0800h

Magmatic Systems and Their Interactions with Tectonic Processes in Rifts, Arcs, Ridges, and Volcanic Fields Posters (joint with G, NH, T)

Presiding: Christelle Wauthier, Pennsylvania State University Main Campus; Erin DiMaggio, Arizona State University; Sara Mana, Salem State University; James Muirhead, Syracuse University;

0800h V31H-0211 POSTER InSAR Time Series Analysis and 3D Mixed Boundary Element Modeling of Deformation Behavior at Pacaya Volcano, Guatemala: J M Gonzalez Santana, C Wauthier

0800h V31H-0212 POSTER Icecap and subglacial crustal deformation inferred from SAR pixel tracking: the 2014 dike intrusion episode at the Bárðarbunga volcanic system: Y Himematsu, F Sigmundsson, M Furuya

0800h V31H-0213 POSTER Dike-induced fault patterns in Harrat Lunayyir (Saudi Arabia) from high-resolution drone structural mapping: D Tripanera, J Ruch, S Jonsson, L Passone

0800h V31H-0214 POSTER Temporal changes in the subduction of the Paleo-Pacific plate beneath Eurasia during the late Mesozoic: Geochronological and geochemical evidence from Cretaceous volcanic rocks in eastern NE China: F Wang, W L Xu Dr, J Tang Dr
0800h V31I-0215 POSTER The 0.4 Ma Tumalo Tuff Rhyolite VEI6 Eruption: Basin & Range Stress Reinigorivated the Oregon Central Cascade Arc after a Roughly 5 Myr Slumber: B Hill, C Connor, L Connor

0800h V31I-0216 POSTER The Chief Joseph Dike Swarm of the Columbia River Flood Basalts, and the legacy dataset of William H. Taubenack: M C Morriss, L Karlstrom

0800h V31I-0218 POSTER Structural features of the Neapolitan Yellow Tuff (NYT) collapse caldera-resurgent dome system in the Campi Flegrei offshore sector, Southern Italy.: J Natale, L Ferrari, C Scarpati, C Marino, M Sacchi

0800h V31I-0219 POSTER Clumped isotope geochemistry of East African Rift carbonatites: D G Burtt, G A Henkes

0800h V31I-0220 POSTER Petrology of the Naches Formation, Central Washington Cascades: A Record of Eocene Tectonic Transition: G C Ferguson, J H Tepper

0800h V31I-0221 POSTER Petrology and Geochronology of the Oso Volcanics, North Cascades, Washington: An Early Phase of the Cascade Arc: Z G Running, J H Tepper

0800h V31I-0222 POSTER Quantifying state-of-stress and surface deformation in magmatic rift zones:Easter Riff, Africa: S J C Oliva, C Ebinger, E Rivalta, C Wauthier, C A Williams Jr

0800h V31I-0223 POSTER Rupturing paradigms of continental rift magmatism: a chemo-spatial analysis of rift magmas: R A Steiner, T O Rooney, C Francis, G Girard

0800h V31I-0224 POSTER Geochemical constraints on evolving 1.36-1.1 Ga intraplate and volcanic arc regimes in the Konkiep Terrane, Namaqua-Natal orogenic belt, SW Namibia: K Lehman, R E Hanson, V P Andrews

0800h V31I-0225 POSTER Preliminary Petrography and Mineral Chemistry of Potassic Mafic Lavas from the Virunga Volcanic Province, Rwanda: R Demchuk, W R Nelson, E Pitcavage, P M Piccoli, T Furman

0800h V31I-0226 POSTER Pyroxenite Xenoliths Preserve Partial Melting Event in the Western Rift, Uganda: S N Spencer, W R Nelson, E Pitcavage, P M Piccoli, E Barijaijo, P Kalegga Kulyanyingi, T Furman


0800h V31I-0228 POSTER What can topography tell us about the regional-scale history of Cascades arc magmatism over the last 2 Myr?: D O'Hara, L Karlstrom, D W Ramsey

0800h V31I-0229 POSTER New insights into the magma dynamics under Kiluaea's East Rift Zone from May 2018 intrusion observed with time series InSAR: B K Varugu, F Amelung

0800h V31I-0230 POSTER Melt Inclusion Evidence for Arc Mantle and Melts Beneath the Woodlark Spreading Center, Solomon Islands: J Chadwick, D C Ruth, S Mu, M Schwartz, D McLane

0800h V31I-0231 POSTER Application of LA-ICP-MS to tephra correlation studies in Afar, Ethiopia: E DiMaggio, G Sarkawi, C Glover, E Polites, D Garello, C J Campisano, R Arrowsmith, T Furman

0800h V31I-0232 POSTER Mechanical interaction and localized fluid flow at a transtensional stepover as evidenced by a Miocene Andean porphyry copper system as a case study.: R C Nuñez, C Marquardt, W A Griffith, T M Mitchell, R Strachan, P C Iturrieta, J M Cembrano


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**V31I** (CC) Hall A-C (Poster Hall)

**Wednesday 0800h**

**Sourcing and Geochemistry of Nonhydrocarbon Gas Accumulations Posters (cosponsored by GS: Geochemical Society, MSA: Mineralogical Society of America) (joint with GC, H)**


0800h V31I-0235 POSTER Interpretive Results from Mapping and Sampling Heterogeneous Sources of Geologic Carbon Dioxide in California: M L Buursink

0800h V31I-0236 POSTER Stable Isotope Geochemistry of Coalbed Gas with Special Focus on CO₂: M Asif, A Sahu, P Naveen, D C Panigrahi

0800h V31I-0237 POSTER Understanding gas explosions in the platinum mines of the Bushveld Complex using applied fluid inclusion and gas chromatography studies: P Daya, H S R Hughes, G M Bybee, M Kerr, J A Kinnaird, P J Foster
0800h V31I-0238 POSTER Features of Fluid Inclusion and Their Implications for Hydrocarbon and Carbon Dioxide Charging Periods in the Eighth Member of the Shihezi Formation, Tianhuan Area, Ordos Basin: X Xiao, M Liao, H Chen

V32A (MM) Liberty I-K

Wednesday 1020h

Chemistry, Mechanics, Geophysics, and Timescales of Magmatic Processes II (joint with EP, G, NH, S)

Presiding: Mattia Pistone, University of Lausanne; Benoit Taisne, Asian School of the Environment; Bradley Singer, University of Wisconsin Madison; Meredith Townsend, Brown University;

1020h V32A-01 The dynamics of magma flow within dikes: J L Kavanagh, S Martin, E P Wood, A Donadio, A Biggin, D J Dennis

1035h V32A-02 Upper crustal magma chamber properties using P-wave tomography at Santorini Volcano: B McVey, E E E Hooft, B Heath, D R Toomey, M Paulatto, C V Papazachos, J V Morgan, P Nomikou, M Warner


1105h V32A-04 Non-isothermal Propagation of Km-sized Km-deep Sills at Calderas.: A Amoruso, L Crescentini

1120h V32A-05 Proterozoic massif-type anorthosites—the archetype of long-lived magmatic systems: B Hayes, T Owen-Smith, G M Bybee, J Lehmann, N MOTHABELA

1135h V32A-06 Forward Modeling of Geophysical Signals to Link Magma Dynamics Modeling to Geophysical Datasets: Laguna del Maule as a Case Study of Silicic Magmatism: G L Eggers, J Dufek

1150h V32A-07 A Systems Approach to Understanding a Basaltic Upper-Crustal Magmatic Complex: L Srogi, T M Lutz

1205h V32A-08 How fast can an arc build new crust?: B Z Klein, O E Jagoutz, J Ramezani
**DI33B (CC) Hall A-C (Poster Hall)**

**Wednesday 1340h**

**Forms and Fluxes of Deep Carbon in Earth II**

**Posters** *(joint with V)*

**Presiding:** Marie Edmonds, University of Cambridge; Louise Kellogg, University of California - Davis; Jie Li, University of Michigan Ann Arbor;

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1340h **DI33B-0033 POSTER** Reconciling Records of Forearc Dynamics and Fluid Generation with Estimates of Carbon Output in Forearc Springs and Arc Volcanic Gases: G S Epstein, G E Bebout

1340h **DI33B-0034 POSTER** A box model for the transport of carbon between major carbon reservoirs over geologic time.: L H Kellogg, D L Turcotte, H V Lokavarapu

1340h **DI33B-0035 POSTER** Behavior of nitrogen-containing aromatic heterocyclic compound at high-pressure and high-temperature conditions of shallow subduction zone.: A Shinozaki, K Mimura, T Nishida

1340h **DI33B-0036 POSTER** Experimental Exploration of the Speciation, Solubility and Solid Phases of Carbon in the CO$_2$-H$_2$O and CO$_2$-H$_2$O-NaCl Systems to 7 GPa and 700 K.: O Bollengier, E Abramson, J M Brown, B Journaux

1340h **DI33B-0037 POSTER** Internal Structure and Stability of Carbonate-rich Melts atop the Mantle Transition Zone: S Hier-Majumder, Y SUN, M J Walter, Y Xu

1340h **DI33B-0038 POSTER** Isotopically Light Carbon ($^{13}$C -31 to -24 %) in the Mantle by at Least 3.2 Ga: Insights from Carbonado Diamond: S A Eckley, R A Ketcham, F Galster

1340h **DI33B-0039 POSTER** New insights of the plumbing system of Santorini using helium and carbon isotopes: J Escartin, M A Moreira, L Scelin, L Ruzié, P Nomikou, C Mevel, M Andreani

1340h **DI33B-0040 POSTER** Quantifying the shallow crustal contribution to continental arc CO$_2$ production: E Ramos, J Barnes, J S Lackey

1340h **DI33B-0041 POSTER** Recent Developments in Calibration of the pMELTS+CO$_2$ Model of Silicate Phase Equilibria: P M Antoshechkina, O Shorttle, M S Ghiorso, P D Asimow

1340h **DI33B-0042 POSTER** Structure and thermal equation of state of Ca$_3$KNa(CO$_3$)$_4$ carbonate: M Merlini, S Milani, D Comboni, I Collings, M Hanfland

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1340h **DI33B-0043 POSTER** The composition of melts in the incipient melting regime of the upper mantle: Z Pinter, S F Foley, G Yaxley, A W Lanati, T A Rushmer

1340h **DI33B-0044 POSTER** The high temperature X-ray diffraction and infrared spectroscopy of calcite, dolomite and magnesite: X Wang

1340h **DI33B-0045 POSTER** The History of Deep Carbon Science: S A Mitton, F E Iddon

1340h **DI33B-0046 POSTER** Transfer of Organic Carbon Through Forearcs: Record in HP/UHP Metamorphic Rocks and Bearing on Estimates of the Sources of Arc Volcanic Gases: G E Bebout, K Kraft, J Cook-Kollars, G S Epstein

1340h **DI33B-0047 POSTER** Ultrasonic Sound Velocity of Carbonate Liquids at High Pressure and Temperature: M Xu, Z Jing, T Yu, Y Wang

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**V33A (MM) Liberty L**

**Wednesday 1340h**

**Hydrothermal Systems in Oceanic Arcs: Subseafloor Structure, Mineralization Processes, and Vent Communities I** *(joint with B, EP, OS, T)*

**Presiding:** Hidenori Kumagai, JAMSTEC; Susan Humphris, WHOI; Cornel de Ronde, GNS Science; Jun-Ichiro Ishibashi, Kyushu University;

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1340h Introductory Remarks: T Urabe

1355h **V33A-01 Subseafloor mineralization beneath hemipelagic sediments at the Izena Hole, middle Okinawa Trough, observed through the CK16-05 Cruise (Exp. 909): T Nozaki, Y Takaya, T Nagase, T Yamasaki, J I Ishibashi, H Kumagai, L Maeda


1425h **V33A-03 Two Decades of Monitoring Hydrothermal Plumes at the Brothers Submarine Arc Volcano, Kermadec Arc, New Zealand: S L Walker, C E J de Ronde, E T Baker

1455h V33A-05 Ocean Bottom Gravity Survey at the Active Hydrothermal Areas in the Middle Okinawa Trough: A Oshida, T Sumi, T Tachibana

1510h V33A-06 “Semi-quantitative” Geochemical Analysis of Seafloor Topographic Model in Multi-Stage Exploration for Seafloor Massive Sulfides: M Ohkawa, K Osawa, M Ikeda, K Kadoshima, E Asakawa, T Sumi

1525h V33A-07 Geological and geochemical records of submarine hydrothermal activities in the Hokuroku basin after Kuroko age (15 Ma) and their implications to explore new VMSs: T Kakegawa

V33B (MM) Liberty I-K

Wednesday 1340h

Origin and Timescales of Magmatic Systems: Discussing Ages, Rates, Transport, and Storage Processes of Magmas from the Source to Emplacement or Eruption I (cosponsored by EGU: European Geosciences Union, GS: Geochemical Society, MSA: Mineralogical Society of America) (joint with DI, MR, NH, P)

Presiding: Maurizio Petrelli, University of Perugia; Stephan Kolzenburg, McGill University / LMU Munich; Kendra Lynn, University of Hawaii at Manoa;

1340h V33B-01 The rapid ascent of low-viscosity magmas: evidence from the crystal cargo: T J Jones, K Russell, D Sasse

1355h V33B-02 The Minutes and Hours Before Eruption: Decompression Rate Scales to Explosivity: T A Plank, A Barth, M E Newcombe, H Gonnermann, E Hauri

1410h V33B-03 Zonation in Olivines in Ultra-Fast Ascending Magmas from Shiveluch Volcano: T Churikova, B Gordeychik, A Kronz, C Sundermeyer, A Simakin, G Wörner

1425h V33B-04 Petrologic Deconstruction of Magmatic Events Preceding Major Historic Eruptions of Agung Volcano, Bali, Indonesia.: J S Herrin, F Costa Rodriguez, K Fontijn


1510h V33B-07 Along Strike Variation in Eruptive and Decompression Rates for Rhyolite-Obsidian Domes, South Sister Volcano, OR: L E Waters, B J Andrews

1525h V33B-08 Magma transfer processes in the NE Japan arc: insights from volcanic eruption records combined with crustal ambient noise tomography: G F Zellmer, K X Chen, Y Gung, B Y Kuo, T Yoshida

V33C (CC) Hall A-C (Poster Hall)

Wednesday 1340h

Accessorize It: Controls on the Mobility of Trace Elements During Subduction Posters (joint with DI, MR, T)

Presiding: Alicia Cruz-UrIBE, University of Maine; Maureen Feineman, Pennsylvania State University Main Campus;

1340h V33C-0239 POSTER Accessory phases as recorders of subduction redox: Sulfide–oxide–silica equilibria during high-pressure metamorphism: J Walters, A M Cruz-UrIBE, H Marschall

1340h V33C-0240 POSTER Compressibility of synthetic tourmaline of near end-member composition up to 60 GPa: E J Berryman, D Zhang, B Wunder, T S Duffy


1340h V33C-0242 POSTER Fractionated highly siderophile element patterns in the forearc mantle peridotites: C Z Liu, Y Xu

1340h V33C-0243 POSTER Geochemical Characteristics and Tectonic Implication of Late Devonian Quartz Diorite Porphyry in the Dunbasitao Area, Northern margin of the East Junggar Basin, Xinjiang: H Zhou, J Wei, H Li, C Xu

1340h V33C-0244 POSTER Minor and Accessory Phase Controls on the Geochemistry of Exhumed Rocks from Subducted Slabs: M D Feineman, A Smye, J M Garber

1340h V33C-0246 POSTER Reworking of tectonically eroded forearc lithologies controls the isotopic and trace element signatures of arc andesites in the Trans Mexican Volcanic Belt: M Parolari, A Gomez-Tuena, C Errázuriz-Henao, J G Cavazos-Tovar

1340h V33C-0247 POSTER Rutile Controls on Vanadium During Eclogite Partial Melting: M Holycross, E Cottrell

1340h V33C-0248 POSTER Trace element redistribution during rehydration of eclogite via sulfide-silicate reactions: A M Cruz-UrIBE, J Walters, H Marschall
### V33D (CC) Hall A-C (Poster Hall)

**Wednesday 1340h**

**Chemistry, Mechanics, Geophysics, and Timescales of Magmatic Processes Posters**

*(joint with EP, G, NH, S)*

**Presiding:** Mattia Pistone, University of Lausanne; Benoit Taisne, Asian School of the Environment; Bradley Singer, University of Wisconsin Madison; Meredith Townsend, Brown University;

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<td>1340h</td>
<td>V33D-0249 3-D Electrical Resistivity Distribution beneath the Beppu–Shimabaraisuka Graben with a Focus on Aso Caldera, Southwestern Japan Subduction Zone: M Hata, M Uyeshima, Y Tanaka, T Hashimoto, R Yoshimura, N Oshiman</td>
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<td>1340h</td>
<td>V33D-0250 Three-dimensional Magnetotelluric Imaging of Magma Distribution beneath Mt.Changbai-Tianchi Volcano, China: W Lin, X Hu, B Yang, F Hui</td>
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<td>1340h</td>
<td>V33D-0251 Characterizing the Dimensions and Internal Structure of the Yellowstone Magmatic Reservoir Using a Dense Nodal Geophone Array: K M Ward, F C Lin, J Farrell</td>
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<td>1340h</td>
<td>V33D-0252 Seismicity beneath the Indian Heaven Volcanic Field, Washington State, USA: D A Moussa, E Kiser</td>
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<td>1340h</td>
<td>V33D-0253 Magmatic Structures Below Osorno Volcano (Southern Andes of Chile), Constrained by Magnetotellurics and Petrology: D Diaz, A Castruccio, F Zuñiga</td>
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<td>1340h</td>
<td>V33D-0254 A New 4D Imaging Method for Three-Phase Analogue Experiments in Volcanology and Other Three-Phase Systems: J C Oppenheimer, K B Patel, E Lev, E M C Hillman</td>
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<td>1340h</td>
<td>V33D-0255 Experimental constraints on per-redundant conditions of Aso-4 silicic end-member magma: M Ushioda, I Miyagi, E Takahashi, H Hoshizumi, T Suzuki</td>
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<td>1340h</td>
<td>V33D-0256 Variable ascent rates in persistently degassing volcanoes as a consequence of flow switching in the conduit: J Suckale, Z Qin, S Peng, Z Wei</td>
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<td>1340h</td>
<td>V33D-0257 On the Hydrodynamics of Crystal Clustering: M Z McIntire, G Bergantz, J Schleicher</td>
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<td>1340h</td>
<td>V33D-0258 Backflow in Volcanic Conduits May Contribute to Elevated CO2 Content in Melt Inclusions: Z Wei, Z Qin, J Suckale</td>
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<td>1340h</td>
<td>V33D-0259 Effects of H2O-CO2 mixtures on eruption cycles in shallow magma reservoirs: K J Scholz, C Huber, M Townsend, W Degruyter</td>
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<td>1340h</td>
<td>V33D-0260 A Novel Algorithm for Deriving Volcanic Eruption Ages from U-Pb Zircon Dates: G C Sturdevant IV, N McLean</td>
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<td>1340h</td>
<td>V33D-0262 Recording magma ascent: punctuated crystallization during a crustal journey preserved in the Atascosa Lookout lava flow, Atascosa Mountains, Southern Arizona, USA: S J Seaman, C Burrill</td>
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<td>1340h</td>
<td>V33D-0263 Rapid cooling of the Bushveld Complex layered mafic intrusion: J Setera, J A VanTongeren, B D Turri, C C Swisher III</td>
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<td>1340h</td>
<td>V33D-0264 Connecting volcanic and plutonic activity at the Platoro caldera complex, Southern Rocky Mountains Volcanic Field, Colorado: A K Gilmer, R A Thompson, P W Lipman, J A Vazquez</td>
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<td>V33D-0265 Crustal Contributions to the Stony Point and Rosetown Plutons of the Cortlandt Intrusive Complex, New York State: D G Bailey, M V Lupulescu, J R Chiarenzelli</td>
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<td>1340h</td>
<td>V33D-0266 Tectonomagmatic histories of western South America and southern Africa: L Pompe, B L Clausen, S R Paterson, S Kalapula, B N Upreti, O Sikazwe, O A Poma Porras</td>
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<td>1340h</td>
<td>V33D-0268 Cyclic Compositionally Zoned Explosive Eruptions at an Arc Volcano (Cosiguina, Nicaragua): Implications for Magma Reservoir Processes: M A Longpre, J Zayac, J Stix</td>
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<td>1340h</td>
<td>V33D-0269 Hypabyssal Intrusions Capturing the Physical Development of an Upper-Crustal Magma Plumbing System and Links Between Magma Chambers and Volcanism: From Map to Mineral Scale: K E Ardill, S R Paterson, V Memeti, C G Barnes, S Attia</td>
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<td>1340h</td>
<td>V33D-0270 Using Geochemical and Textural Evidence to Assess Crystal-Liquid Separation in a Fossil Large, Silicic Magma Chamber: M P Eddy, A Mehra, A S Pamukcu, J W DesOrmeau, B Schoene, A C Maloof</td>
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<td>1340h</td>
<td>V33D-0271 Complex Reheating and Reactivation of Basal Cumulate in the Peach Spring Tuff (USA) Magma Body Revealed by Glass and Feldspar Textures and Compositions: M Foley, C F Miller, G A R Gualda, R W Bradshaw</td>
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1340h V33D-0272 POSTER Unravelling magma emplacement mechanism in the lower crust: A forensic investigation of the Mafic Complex, Ivera-Verbano Zone (Italy): M Pistone, B Petri, O Müntener, B S G Almqvist, A Zanetti, G Hetényi, A Zappone, L P Baumgartner

1340h V33D-0273 POSTER Diffusive Loss of Water in Mantle Olivine and Pyroxene during Xenolith Emplacement: Y Xu, W Tang, H Hui, S Shang, Z Zhang

1340h V33D-0274 POSTER Fine-Scale Textural and Geochemical Stratigraphy of a Compositionally Zoned Eruption at Cosigüina Volcano, Nicaragua: Insights Into the Eruption Trigger Mechanism?: J Zayac, M A Longpre, N Ocampo Cardona

1340h V33D-0275 POSTER Pre-eruptive crystallization conditions in the past 25 Ma at Martinique Island as revealed by textural and chemical variation in phenocrysts: A Martens, A Germa

1340h V33D-0276 POSTER Determining a Partition Coefficient for Water in Plagioclase for Rhyolitic Eruptions: A C Rüfer, E A Johnson, E McTaggart, M Myers, C J N Wilson, P J Wallace

1340h V33D-0277 POSTER Potassium Feldspar Megacrysts as Archives of Magmatic Systems and Processes: H Pettus, K Brown

1340h V33D-0278 POSTER Geochemistry of Augustine Volcano’s Holocene Tephra Record: M Loewen, K Wallace, M L Coombs

1340h V33D-0279 POSTER Metal degassing and late sulphide saturation: Insights into the 1976-2000 eruptive sequence at White Island, New Zealand: C Mandon, T M Seward, B W Christenson

1340h V33D-0280 POSTER F, Cl, OH and S diffusion in apatite and applications to constrain magma ascent rates: W Li, F Costa Rodriguez, S Chakraborty, K Nagashima

1340h V33D-0281 POSTER Multicomponent diffusion in basalts, and predicting diffusion behavior during mineral dissolution: Y Zhang, C Guo


1340h V33D-0283 POSTER Cooled magma reservoir conditions between explosive eruptions at Mount Pinatubo, Philippines: S L Lee, K Hattori

V33E  (CC) Hall A-C (Poster Hall)

Wednesday  1340h

Petrochronology 2.01 Posters  (joint with MR)

Presiding: Igor Villa, University of Bern; Michael Williams, University of Massachusetts; Andrew Kylander-Clark, UC Santa Barbara; Philippe Goncalves, Université de Bourgogne Franche-Comté;


1340h V33E-0285 POSTER Ages and Trace Element Patterns of Apatite and Zircon in a Diorite from the Mt. Papuk metamorphic complex (Pannonian Basin Basement in Croatia, CE Europe): D Balen, P Schneider, J Opitz, H J Massonne

1340h V33E-0287 POSTER Intra-grain chronological and compositional inhomogeneity of magmatic micas: I M Villa, M O Naumenko-Dèzes, Y Rolland, S Gallet, P Lanari

1340h V33E-0288 POSTER Dating Monazite in Migmatites Does Not Always Mean Dating Only Partial Melting: a Case Study from the CAGE District, Torngat Orogeny (Canada): P Goncalves, P Trap, P Jenneret

1340h V33E-0289 POSTER PT Estimates for Garnet Amphibolites from Boone, Eastern Blue Ridge, North Carolina: M G Guilin, C Martin

1340h V33E-0290 POSTER Prolonged fluid-driven resetting of titanite following ultrahigh-temperature metamorphism in southern Madagascar: R M Holder, B R Hacker

V33F  (CC) Hall A-C (Poster Hall)

Wednesday  1340h

The 2018 Eruptions of Kilauea Volcano, Hawaii, and Fernandina and Sierra Negra Volcanoes, Galápagos IV Poster  (joint with GH, IN, S, T)

Presiding: Ingrid Johanson, USGS; Matthew Patrick, USGS; Gregory Waite, Michigan Technological University; Claire Horwell, Durham University;

1340h V33F-0291 POSTER The 26th June 2018 eruption at Sierra Negra volcano, Galapagos archipelago: early results on seismic tremor and low frequency seismicity from a temporary network: K L Li, C J Bean, A F Bell, S Hernandez, M Möllhoff, M C Ruiz, S J C Oliva, C Ebinger
1340h V33F-0292 POSTER Dynamic earthquake triggering promoted by system criticality at Sierra Negra volcano, Galapagos Islands: P C La Femina, A F Bell, S Hernandez, J McCloskey, M C Ruiz, C J Bean, M Möllhoff

1340h V33F-0293 POSTER Full moment tensors of caldera earthquakes during the 2018 eruption of Sierra Negra, Galápagos: S J C Oliva, M C Ruiz, C J Bean, I Lokmer, A F Bell, C Ebinger, S Hernandez, P C La Femina, G Ruiz

V33G (CC) Hall A-C (Poster Hall) Wednesday 1340h

Triple Isotopes of Oxygen and Sulfur in Terrestrial Systems Posters (joint with EP, PP)

Presiding: David Zakharov, University of Oregon; Justin Hayles, Rice University;

1340h V33G-0294 POSTER Constraining the relationship between the triple oxygen isotope composition of carbonate mollusk shells and parent water: S Bergel, E Barkan, M Stein, H P Affek

1340h V33G-0295 POSTER Hydrogen and triple oxygen isotopic composition of the early Paleoproterozoic seawater as recorded by 2.43-2.41 Ga hydrothermally altered rocks from the Baltic Shield, Russia: D O Zakharov, I N Bindeman

1340h V33G-0296 POSTER Optimising Analytical Methods for Determining $^{17}$O excess of Carbonates: B R Fosu, P Rahul, S K Bhattachraya, P Ghosh

1340h V33G-0297 POSTER Three-billion-year Secular Evolution of Oxygen Isotopes in Seawater Inferred from Chert $^8$O and $^{17}$O: J Hayles, M Homann, A Banerjee, H Jiang, B Shen, C T Lee, L Yeung

V34A (MM) Liberty L Wednesday 1600h

Hydrothermal Systems in Oceanic Arcs: Subseafloor Structure, Mineralization Processes, and Vent Communities II (joint with B, EP, OS, T)

Presiding: Hidenori Kumagai, JAMSTEC; Susan Humphris, WHOI; Cornel de Ronde, GNS Science; Jun-Ichiro Ishibashi, Kyushu University;

1600h V34A-01 Hydrothermal and Microbiological Investigations of the Active Brothers Volcano in the Kermadec Arc: A L Reaysenbach, F Caratori Tontini, C E J de Ronde, S E Humphris, M Tivey, A Diehl, G Flores, V Schenker, L C Stewart, V Stucker, S L Walker

1615h V34A-02 Meta-omic approaches at mid-ocean hydrothermal vents reveal biogeochemical roles of the Zetaproteobacteria in Fe mineralizing ecosystems: S Mcallister, S W Polson, J B Sylvan, B T Glazer, C S Y Chan

1630h V34A-03 Application of Stable Isotope Probing Coupled with -Oms to Examine Thermophilic Autotrophy in Newly Discovered Hydrothermal Vents Along the Mariana Back-arc: J A Huber, E Trembath-Reichert, D A Butterfield

1645h V34A-04 Evolution of hydrothermal fluids at Brothers submarine volcano, Kermadec arc, New Zealand: V K Stucker, C E J de Ronde, A Diehl


1715h V34A-06 Hydrogen and carbon isotope fractionation factors on microbial methanotrophy in natural hydrothermal plume: S Kawagucci, Y Matsui, Y Onishi, A Makabe, T Yokokawa

1730h V34A-07 Direct measurement of turbulent flows near a hydrothermal venting area for environmental impact assessment of deep sea mining: Y Furushima, H Higashi, T Fukuhara, T Matsuda, S Kondo, N Furuichi, H Yamamoto, T Fukushima

1745h V34A-08 Oxidation and metal dissolution mechanisms of polymetallic sulfide complex in seawater; implications for impact assessment of SMS-mining: S Fuchida, K Shimada, Y Matsushita, J I Ishibashi, M Kawachi, H Koshikawa

V34B (MM) Liberty I-K Wednesday 1600h

Origin and Timescales of Magmatic Systems: Discussing Ages, Rates, Transport, and Storage Processes of Magmas from the Source to Emplacement or Eruption II (cosponsored by EGU: European Geosciences Union, GS: Geochemical Society, MSA: Mineralogical Society of America) (joint with DI, MR, NH, P)

Presiding: Maurizio Petrelli, University of Perugia; Stephan Kolzenburg, McGill University / LMU Munich; Kendra Lynn, University of Hawaii at Manoa;

1600h V34B-01 Effects of volatile exsolution on the long-term growth and stability of magma chambers: M Townsend, W Degruyter, C Huber
Unlocking the Potential of Stable Isotopes to Constrain Thermal Histories: Early Steps Toward a Versatile Tool for Diffusion Chronometry Using Chemical-Isotopic Profiles in Zoned Minerals: C K I Sio, J D P Moore

Diffusion Chronometry: Some Complications in an Emerging Tool: S Chakraborty

Fast H loss from hydroxylated Si vacancies in experimentally dehydrated olivine: M Jollands, E Kempf, J Hermann, O Müntener

Leaky crystals – rapid dehydration of olivine in a 1 atm furnace and implications for magma decomposition rate: A Barth, T A Plank

Testing the Fidelity of Peridotite Xenoliths as Records of Water in the Lithospheric Mantle: W H Towbin, T A Plank, E Hauri, S C Kohn, R A Brooker

D/H isotope fractionation during H diffusion loss from clinopyroxene evidenced in martian nakhlites: A H Peslier, R L Hervig, S Yang, M Humayun, B Jessica, A J Irving, A D Brandon

4.1 Ga zircon grains from the Barberton greenstone belt: New constraints on the Hadean crust: N Drabon, G R Byerly, B L Byerly, D R Lowe

Hadean geodynamics and its implications for the nature of early crust: J Korenaga

Striking Similarities and Subtle Differences Across the Hadean-Archean Boundary: Model Melt Insight into the Early Earth Using New Zircon/Melt Kds: T L Carley, E A Bell, C F Miller, L L Claiborne, M Harrison

Neorarchean Ferroan Granitoids and Link to Magnesian Granitoids, North China Craton: Implications for Late Archean Granitoid Diversification: W Wang, S Liu, P A Cawood, M Wang, R Guo

Secular evolution of mass transfer across the Moho - implications for evolution of the continental crust: G M Bybee, S E Zhang, A M Roman

Evidence for an underplated island arc as the source of a continental arc monzonite: E Gammel, P I Nabelek

Nishinoshima Volcano in the Ogasawara (Bonin) Arc: New Continent from the Ocean?: Y Tamura, O Ishizuka, T Sato, A R Nichols

Polybaric crystallization of hydrous basalts in a continental arc: evidence from Hidden Lakes mafic complex, Sierra Nevada batholith, California: M J Lewis, C E Bucholz, O E Jagoutz
Session Information

**Oral Sessions**
Sessions are being held in the Convention Center (CC) and Marriott Marquis (MM)

**Poster Sessions**
Posters are on display in the following venue throughout the week:
Hall A-C (Poster Hall)

Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation.
Example: A21A-01 = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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The program is current as of 06 December 2018. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at https://agu.confex.com/agu/fm18/meetingapp.cgi/Home for updates.

Thursday A.M.

**ED41B** (MM) Marquis 7-8

**Thursday 0800h**

*Reframing the Conversation: Why Diversity in the Geosciences Workforce Matters I* (Virtual Session) (cosponsored by EGU: European Geosciences Union) (joint with IN, PA, SI)

**Presiding:** Jill Karsten, AGU Diversity & Inclusion Task Force; Erika Marin-Spiotta, University of Wisconsin Madison; Gregory Jenkins, Pennsylvania State University;

0800h **ED41B-01** Pathways to Diversity and Inclusion in 21st Century Geoscience: Challenges and Opportunities: C Garza
0815h **ED41B-02** Equality of Opportunities: Initiatives Underway in the ERC and the EGU Communities: **C Jesus-Rydin**, A Montanari, L Farina Busto

0830h **ED41B-03** Beyond Bias: Proportionality and Network Effects In Scientific Collaboration: **J A Vertesi**

0845h **ED41B-04** GENDER INEQUALITIES: HORIZONTAL POLICY-MAKING WANTED!: **D J Conley**, J Stadmark

0900h **ED41B-05** Understanding the Impact of Personal Identities on Productivity in the Geosciences: Lessons from research on Gender and Sexual Diversity in STEM: **A Matteis**

0915h **ED41B-06** Accessible, inclusive, innovative: The future of the geoscience workforce: **C Atchison**

0930h **ED41B-07** Ethics, Integrity, and Diversity in the Research Environment: Connections and A Pathway Forward: **L C Gundersen**

0945h Panel Discussion:

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**MR41A  (MM) Capitol/Congress**

**Thursday  0800h**

**Connecting Rheology, Microstructure, and Chemistry of Earth's Mantle: New Constraints from Experiments, Observations, and Theory I**

Presiding: **Yuval Boneh**, Brown University; **Emily Chin**, Scripps Institution of Oceanography; **Jeffrey Pigott**, Los Alamos National Laboratory; **Sebastian Ritterbex**, Ehime University;

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0800h **MR41A-01** Observations of a complex interplay between melt, water, grain size, and viscous anisotropy during shear localization in the lithospheric mantle: **J M Warren**, K M Kumamoto, E Hauri

0815h **MR41A-02** Relationships Between Olivine LPO and Deformation Conditions in Naturally Deformed Rocks and Implications for Mantle Seismic Anisotropy: **R E Bernard**, W M Behr, T W Becker, D J Young

0830h **MR41A-03** Quantifying the influence of oxygen fugacity on the seismic properties of olivine: **C J Cline II**, J Jackson, U Faul, E David, A Berry

0845h **MR41A-04** Activation of [100][001] slip system by water incorporation in olivine: **L Wang**, N Miyajima, T Katsura, T Kawazoe

0900h **MR41A-05** Xenolith constraints on deformation conditions and mechanisms in the lower mantle lithosphere: **N J Dygert**, R E Bernard, W M Behr

0915h **MR41A-06** Small and large effective activation energies of diffusion creep in the oceanic lithosphere and asthenosphere: **T Hiraga**, T Nakakoji, K Yabe

0930h **MR41A-07** Constraining viscosity of bridgmanite under lower mantle conditions: **R Reali**, J S Pigott, J Van Orman, J M Jackson, F Boioli, P Carrez, P Cordier

0945h **MR41A-08** Plumes morphology in a visco-plastic mantle: **A Davaille**, N Sgreva, R Reali, P Carrez, P Cordier

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**V41A  (MM) Liberty I-K**

**Thursday  0800h**

**Halogens in the Earth System I** (joint with A)

Presiding: **Anita Cadoux**, Université Paris Sud - Paris Saclay; **Marion Louvel**, University of Cambridge; **Ross Salawitch**, University of Maryland; **Alfonso Saiz-Lopez**, Spanish National Research Council;

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0800h **V41A-01** Halogens (F, Cl, Br, I) in altered ocean crust from the East Pacific Rise and SW Indian Ridge: **M Kendrick**, J D'Andres

0815h **V41A-02** Volcanic Halogens Processing and Impacts in the Troposphere and Stratosphere: **T Roberts**, L Jourdain, T Lurton, F Jegou, G Berthet

0830h **V41A-03** Arctic Chlorine Chemistry Influenced by NO₃ Pollution from Villages and Oil Fields: **K Pratt**, S M McNamara, A R W Raso, S Wang, S Thanekar, E Boone, K R Kolesar, P Peterson, W R Simpson, J D Fuentes, P B Shepson

0845h **V41A-04** Cyanogen Halides (X-CN, X = Cl, Br, I) could be significant contributors to reactive halogen chemistry in the troposphere.: **J M Roberts**, J A Neuman, P R Veres

0900h **V41A-05** Preliminary Results from the 2018 ARAON-Antarctic Cruise: Halogen Reservoir Species in the Pristine Coastal Antarctic Peninsula during Fall: **D Jeong**, R Seco, A B Guenther, K Park, K Kim, Y J Yoon, S Kim

0915h **V41A-06** Iodine monoxide (IO) variations over the tropical western Pacific observed by shipborne MAX-DOAS: **H Takashima**, S Kato, Y Kanaya, M M Friedrich, M Van Roozendael, F Taketani, T Miyakawa

0930h **V41A-07** Ozone Formation Induced by Reactive Bromine and Iodine Species in a polluted marine environment: **E Tas**, M Shechner

0945h **V41A-08** The impacts of size dependent particle acidity and availability of particle chloride on the production of CINO₂ and Cl₂: **J Haskins**, R A Zaveri, J A Thornton
The 2018 Eruptions of Kīlauea Volcano, Hawaii, and Fernandina and Sierra Negra Volcanoes, Galápagos III (joint with GH, IN, S, T)

Presiding: Ingrid Johanson, USGS; Matthew Patrick, USGS; Gregory Waite, Michigan Technological University; Claire Horwell, Durham University;


0845h V41B-04 Infrasound from the repeated collapses of Kilauea caldera: High-resolution source location and waveform inversion: D Fee, J J Lyons, W A Thelen, B Shiro, K R Anderson, G P Waite, J C Chang

0900h V41B-05 Initial Interpretation of the Source Mechanism of Caldera Collapse Events During the 2018 Kilauea Volcano Eruption: P B Dawson, A F Flinders, B A Chouet, B Shiro, P Okubo, W A Thelen, G P Waite

0915h V41B-06 Inflationary deformation accompanying collapse/explosion events at Kilauea summit: the role of elastic rebound: P Segall, K R Anderson, I A Johanson, A Miklius

0930h V41B-07 Seismic Monitoring of the 2018 Kilauea Eruption Using a Temporary Dense Geophone Array: J Farrell, F C Lin, M Miller, S M Wu, Y Wang, E M Berg, B Shiro, P Okubo, J C Chang

0945h V41B-08 Use of Social Media to Deliver Volcano-Hazards Information and Build Trust During the 2018 Kilauea Crisis: M P Poland, W K Stovall, E Westby, J L Ball, C J Horwell
Thursday 1340h

**Connecting Rheology, Microstructure, and Chemistry of Earth’s Mantle: New Constraints from Experiments, Observations, and Theory II** Posters

*Presiding:* Yuval Boneh, Brown University; Emily Chin, Scripps Institution of Oceanography; Jeffrey Pigott, Los Alamos National Laboratory; Sebastian Ritterbex, Ehime University;

1340h **MR43C-0116** POSTER Strain Weakening of Olivine-rich Rocks Linked to Microstructural Evolution During Diffusion Creep: N Zhao, G Hirth, R F Cooper, S C Krueckenberg, J Cukjati

1340h **MR43C-0117** POSTER Rheological behavior and electrical conductivity of San Carlos olivine at low melt fraction: L Hashim, M E Zimmerman, R Chapmannl, F Gaillard, D L Kohlsdett

1340h **MR43C-0118** POSTER Rapid thermal rejuvenation under O’ahu inferred from Salt Lake Crater garnet pyroxene xenoliths: I Guest, M O Garcia, G Ito, E Hellebrand

1340h **MR43C-0119** POSTER Grain Growth Kinetics of Magnesian Carbonates: A Prakash, C McDaniel, C W Holyoke III, A K Kronenberg, P Raterron

1340h **MR43C-0120** POSTER Microstructural Controls on Grain Size Distributions: A Statistical Mechanics Approach: T Breithaupt, R F Katz, L N Hansen

1340h **MR43C-0121** POSTER The Impact of the Deformation History on the Microstructural Evolution of Polycrystalline Olivine and How It Affects the Interpretation of Mantle Seismic Anisotropy: A Griera, E Gomez-Rivas, R Lebensohn, M G Llorens

1340h **MR43C-0122** POSTER Transmission of dislocations across olivine grain boundaries: F Ferreira, K Marquardt, L N Hansen


1340h **MR43C-0125** POSTER Recycling of crust in lithospheric mantle of the North China Craton: evidence from petrology, mineral chemistry, and olivine oxygen isotope of peridotite xenoliths in high-Mg diorites: C Wang, W Xu, D Yang, F Pei

1340h **MR43C-0127** POSTER Geochemistry and deformation microstructures of composite pyroxenite-peridotite xenoliths from Hannuoba, North China Craton: E J Chin, V Soustelle, Y Liu

1340h **MR43C-0128** POSTER Shallow fluid circulation in mantle wedge inferred from dihedral angle between olivine and NaCl-bearing aqueous fluid: Y Huang, T Nakatani, M Nakamura, C A McCammon

1340h **MR43C-0129** POSTER Micro-indentation tests on olivine: grain-size and indentation size effects: S Koizumi, T S Suzuki, T Hiraga

1340h **MR43C-0130** POSTER On the Role of Grain Boundary Processes and Mobility on the Rheology of Forsterite: Microstructural Evidence: C Bollinger, K Marquardt, F Ferreira, B C Nzogang, A Mussi, P Cordier

1340h **MR43C-0131** POSTER Lower mantle viscosity estimated from the common diffusion mechanism of creep and grain growth: A Okamoto, T Hiraga

1340h **MR43C-0132** POSTER Neutron imaging for calculating hydrogen diffusivity in polycrystalline forsterite aggregates: S K Patabendigedara, S M Clark, F F Salvemin

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**P43C (CC) 204A-C**

Thursday 1340h

**The Significance of Late Accretion for Composition and Early Evolution of the Terrestrial Planets II** (joint with DI, MR, V)

*Presiding:* Harry Becker, Free University of Berlin; Doris Breuer, German Aerospace Center DLR Berlin; Thorsten Kleine, University of Münster; Kai Wuenemann, Museum fuer Naturkunde;

1340h **P43C-01** Late-stage accretion of outer solar system material to the Earth: T Kleine, G Budde, C Burkhardt

1355h **P43C-02** How many CI-like parent bodies existed in the Early Solar System?: M Patzek, A Bischoff, A Pack, P Hoppe, R Visser, T John

1410h **P43C-03** High Pressure Study on Siderophile Volatile Element Metal-Silicate Sulfide-Silicate Partitioning: S Hackler, D C Loroch, A Rohrbach, S Klemme, J Berndt

1425h **P43C-04** Geochemical estimates of Earth’s core heat content at the end of accretion: R Deguen

1440h **P43C-05** Numerical simulations of the thermal state of Earth after the Moon-forming impact event: L Manske, N Güldemeister, K Wuenemann
1430h T43A-01 The Burkan Earth: T H Torsvik

1455h T43A-02 Origin of the LLSVPs at the base of the mantle is a consequence of plate tectonics: A petrological and geochemical perspective: Y Niu

1410h T43A-03 Geochemistry of Large, Low Shear-Wave Velocity Provinces in the Lower Mantle Inferred from Nd and Pb Isotopes in Oceanic Hotspots: M G Jackson, T W Becker, J G Konter

1425h T43A-04 A plate tectonic origin of kimberlites on a cooling Earth: S Tappe, K A Smart, T H Torsvik, M Massuyeau, A Stracke, G Budde, T Kleine

1440h T43A-05 Zircon U-Pb age constraints on purported Cretaceous hotspot magnetism in northern New England and Quebec: S Kinney, S A MacLennan, J Setera, B Schoene, J A VanTongeren, P E Olsen

1455h T43A-06 Northward motion of the Azores mantle plume over the last 85 Ma: M Arnould, J Ganne, N Coltice, X Feng


1525h T43A-08 Receiver function imaging at the crust and uppermost mantle of Ontong Java Plateau: T Tonegawa, D Suetsumu, S Miura, H Shiobara, H Sugiioka, A Ito, T Isse, Y Ishihara, S Tanaka, M Obayashi, J Yoshimitsu, T Kobayashi
1340h V43B-01 poster Remote Sensing of Volcanic Plumes and Clouds from the Ultraviolet to the Infrared: P W Webley

1355h V43B-02 poster Evaluation of 1D models of volcanic plume against a comprehensive database of eruption source parameters and set of analogue laboratory experiments: T J Aubry, M Jellinek, G Carazzo

1410h V43B-03 poster Using Probabilistic Forecasting in Volcanic Ash Operations: J Sartan, E Kuchera, W Sedlacek

1425h V43B-04 poster Importance of Crystallinity in the Ice Nucleating Effectiveness of Volcanic Ash: E C Maters, S N F Sikora, D B Dingwell, C Cimarelli, B J Murray

1440h V43B-05 poster Inferring compressible fluid dynamics from vent discharges during volcanic eruption: J Méndez Harper, C Cimarelli, J Dufek, D Gaudin, R J Thomas

1455h V43B-06 poster Modeling Volcanic Shocktube Lightning: J von der Linden, J Sears, A Kuhl, D Garte, M Converse, C Kueny, B Poole


1525h V43B-08 poster Remote Measurements of Volcanic Plume Electrification Using a Sparse Network Technique: J L Lapierre, A R Van Eaton, M Stock, M M Haney, J J Lyons

V43D (CC) Hall A-C (Poster Hall)

Thursday 1340h

Continental Intraplate Magmas: Their Origins and Significance Interpreted from Multidisciplinary Studies Posters (joint with NH, P, S, T)

Presiding: Thomas Sisson, USGS California Volcano Observatory; Walter Mooney, USGS Earthquake Science Center Menlo Park; Katarzyna Liszewska, USGS;

1340h V43C-0134 poster Diamonds and Other Exotic Minerals Discovered from the Xigaze Mantle Peridotite in the Yarlung-Zangbo Suture Zone, Tibet: X Xu, J Yang


1340h V43C-0136 poster Geochemical characteristics and geochronology research of diopside syenite and diopside granite of Kuzigan, Taxkorganin Ailaoshan-Jinshajiang: C Xu, Y Yuan, X Zhang, Y Lu, B Xia

1340h V43C-0137 poster Geochemistry characteristics and geological significance of clinopyroxene phenocrysts in the ~4.8 Ma shoshonite from in Quanshuigou area of West Kunlun Mountains, NW Tibetan Plateau: Y Yuan, C Xu, Y Lu, X Zhang

1340h V43C-0138 poster Inter-mineral calcium isotopic fractionation in granitoids in the Early Cretaceous Fangshan pluton, Beijing: F Liu, Z Zhang, L Zhang, Z Zhang

1340h V43C-0139 poster In situ zircon U/Pb ages of the Neoproterozoic granites of the Seychelles: evidence suggesting a transition from collisional to extensional setting: N T Dieu

1340h V43C-0140 poster Late Mesozoic magmatism and tectonic evolution in the Southern margin of the North China Craton: X Gao, T Zhao

1340h V43C-0141 poster Quantifying Relationships Between Magmatism, Asthenospheric Temperature and Dynamic Support: An African Case Study: P Ball, N White, J Macclennan, M Klöcking, F M Stuart, C Oppenheimer, M J Hoggard

1340h V43C-0142 poster Revealing the enigmatic alkaline volcanism of the Rukwa Rift through titanite – a melt inclusion study: L Lawrence, C Spandler, E Roberts, H Hilbert-Wolf
1340h **V43E-0147** POSTER Magma crystallization and mixing recorded by chronologically constrained melt inclusions: R Esposito, K Badescu, J W Boyce, M Steele-MacInnis, C E Manning, R J Bodnar, B De Vivo

1340h **V43D-0148** POSTER The volatile budget of Haleakala (Maui): implications for melting, crystallization, and degassing recorded by melt inclusions: L Moore, E Gazel, R J Bodnar

1340h **V43D-0149** POSTER Volatile contents of western Aleutian magmas and their relationship to slab thermal structure: J Andrys, K A Kelley, E Cottrell, M L Coombs

1340h **V43D-0150** POSTER Volatile Element Systematics of Effusive and Explosive Basaltic Magmatic Activity at Masaya Volcano: L Hlinka, M A Longpre, W Perez, S Kutterolf, B Monteleone

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**V43E** *(CC) Hall A-C (Poster Hall)*

**Thursday 1340h**

**Halogens in the Earth System Posters** *(joint with A)*

**Presiding:** Anita Cadoux, Université Paris Sud - Paris Saclay; Marion Louvel, University of Cambridge; Ross Salawitch, University of Maryland; Alfonso Saiz-Lopez, Spanish National Research Council;

1340h **V43E-0152** POSTER Recycling Bromine in subduction zones: New insights from X-ray absorption measurements on fluids, melts and glasses: M Louvel, C Sanchez-Valle, A Cadoux, R A Brooker, J L Hazemann

1340h **V43E-0153** POSTER The Role of Melt Composition on Aqueous Fluid vs. Silicate Melt Partitioning of Bromine in Magmas: A Cadoux, G Iacono-Marziano, B Scaillet, A Aiuppa, T A Mather, D M Pyle, E Deloule, E Gennaro, A Paonita

1340h **V43E-0155** POSTER Global reactive halogen measurements over the remote oceans: J A Neuman, P R Veres, C R Thompson, I Bourgeois, J Peischl, T B Ryerson


1340h **V43E-0157** POSTER Total column bromine monoxide measurements at middle latitudes using a research grade instrument (MFDOAS): N Nowak, N Kocur, E Spinei

1340h **V43E-0158** POSTER Stratospheric Injection of Brominated Very Short-Lived Substances: Aircraft Observations in the Western Pacific and Representation in Global Models: P Wales, R J Salawitch

1340h **V43E-0159** POSTER Sea-salt aerosol as a driver of tropospheric bromine radical chemistry: L Zhu, D Jacob, X Wang, M Payer Sulprizio, T Sherwen, M J Evans, S D Eastham, Q Chen, B Alexander, T K Koenig, R M Volkamer

1340h **V43E-0160** POSTER Prediction of Springtime Tropospheric Arctic Reactive Bromine Levels From Environmental Variables: W Swanson, K A Graham, J W Halfacre, C D Holmes, W R Simpson

1340h **V43E-0161** POSTER The relationship between environmental variables and springtime boundary layer ozone over the Arctic Ocean: J W Halfacre, P B Shepson, M V Cesler-Maloney, W Swanson, W R Simpson, K A Graham, C D Holmes, S V Nghiem, B Li, S Netcheva, D K Perovich, P Matrai

1340h **V43E-0162** POSTER Observations of High Levels of Molecular Chlorine and Nitryl Chloride at a Rural Site in the Yellow River Delta: Y Ji, Y Lee, D Tanner, R Zhang, W Song, J Tang, X Wang, L G Huey, Y Wang

1340h **V43E-0163** POSTER Reactive uptake kinetics of N2O5 and yields of ClNO2 on saline playa dusts: new insights into inland sources of ClINO2: D Mitroo, H M Royer, S Haas, K Pratt, T E Gill, C Gaston

1340h **V43E-0164** POSTER Wintertime urban ClNO2 observations in Michigan: S M McNamara, J Edebeli, Q Chen, K D Kulju, J Mumpfield, S B Bertman, K Pratt

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**V43F** *(CC) Hall A-C (Poster Hall)*

**Thursday 1340h**

**Hydrothermal Systems in Oceanic Arcs: Subseafloor Structure, Mineralization Processes, and Vent Communities III Posters** *(joint with B, EP, OS, T)*

**Presiding:** Hidenori Kumagai, JAMSTEC; Susan Humphris, WHOI; Cornel de Ronde, GNS Science; Jun-ichiro Ishibashi, Kyushu University;

1340h **V43F-0165** POSTER A drilling campaign in Okinawa Trough, back arc hydrothermal systems: H Kumagai, J I Ishibashi, T Nozaki, K Takai, T Nagase, L Maeda, Y Kubo
1340h V43F-0166 POSTER Massive Sulfide Stockwork Zones of Brothers Submarine Arc Volcano: Evidence for Large-scale Transport of Metals: C E J de Ronde, S E Humphris, B Wolfgang, F Caratori Tontini, A Koschinsky

1340h V43F-0167 POSTER Heat-flow and near-seafloor magnetic anomalies highlight hydrothermal circulation at Brothers volcano (southern Kermadec Arc): F Caratori Tontini, M Tivey, C E J de Ronde, S E Humphris

1340h V43F-0168 POSTER Temperature and pressure monitoring using the Kuroko cultivation apparatus installed on a deep-sea artificial hydrothermal vent in the middle Okinawa Trough: Y Masaki, T Nozaki, T Saruhashi, M Kyo, N Sakurai, T Yokoyama, K Akiyama, H Kumagai, I Maeda, M Koshibashi

1340h V43F-0169 POSTER Geophysical constraints on the submarine volcanic activity around a hydrothermal area in the Mid-Okinawa Trough: K Kitada, T Kasaya, H Iwamoto, Y Nogi

1340h V43F-0170 POSTER A new integrated technique to remotely detect deep sea polymetallic sulfide: E Kikawa, K Kitada, A Tahakashi, H Machiyama

1340h V43F-0171 POSTER Characteristics of Electrical and Gravitational Fields in the Hydrothermal Ore Deposit Areas in the Mid-Okinawa Trough: R Kubota, H Ishikawa, A Oshida, T Matsuda

1340h V43F-0172 POSTER Integrated geophysical approach for the seafloor massive sulfide (SMS) exploration: E Asakawa, S Lee, T Sumi, M Endo

1340h V43F-0173 POSTER Evaluation of Prospective Areas for Seafloor Massive Sulfides Deposits by Seafloor Topographic Analyses: J Nakano, M Ikeda, K Kadoshima, Y Nogawa, E Asakawa, T Sumi

1340h V43F-0174 POSTER Characteristics of Pb-As-Sb sulfide in dead chimney collected from the ANA Site, west offshore of the Kume-jima Island, middle Okinawa Trough, Japan: J Torimoto, F Taisei, S Kawagucci, T Nozaki, Y Takaya, H Kumagai

1340h V43F-0175 POSTER Depiction of the sub-seafloor hydrothermal system in the Izena Hole, middle Okinawa Trough based on the whole rock chemical analyses and mineralogical observations of core samples: Y Takaya, T Yamasaki, T Nagase, K Yonezu, K Ikehata, S Totsuka, T Nozaki, J I Ishibashi, H Kumagai, L Maeda

1340h V43F-0176 POSTER Mechanisms of bimodal volcanism and related hydrothermal mineralization in the middle Okinawa Trough, Japan: T Yamasaki
1340h **V43F-0190 POSTER** Microbial and Viral Roles in Hydrothermal Vent Fe Mat Elemental Cycling and Ecology at the Loihi Seamount: **R Vandzura**, S Mcallister, S W Polson, C S Y Chan

1340h **V43F-0191 POSTER** Modelling For The Effects of Seafloor Basin on Hydrothermal Circulation; a Case Study in Mid-Atlantic Ridge: **E Erçetin**

1340h **V43F-0192 POSTER** Ore-bearing and barren granitic porphyries related to subduction: Case study on Triassic intrusions of the west Tethys in SW China: **G Dong**

1340h **V43F-0193 POSTER** Silica Replacing Pyrite and Quartz Sulfidation Within The TAG Sulfide Mound as the Hallmark of the Stockwork Mineralization.: **S Pujatti**, B M Tutolo

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**V43G  (CC) Hall A-C (Poster Hall)**

**Thursday  1340h**

**New Insights into Oceanic Spreading Centers from Seafloor Observatories Posters** 🌐 (joint with B, OS, S, T)


1340h **V43G-0194 POSTER** Geological-geochemical exploration methods for hydrothermal deposits prospecting in the Southwest Indian Mid-Ocean Ridge: **X Su**, S Lv, H Li, C Tao

1340h **V43G-0195 POSTER** High-resolution magnetic exploration of Longgi hydrothermal field (49.6°E) on SWIR: **W Tao**, C Tao, M Tivey, J J University, Z Jinhui

1340h **V43G-0196 POSTER** In situ primary production in Mid-Ocean Ridges hydrothermal plumes: insights from biogeochemical modelling: **C Cathalot**, A Perhirin, F Chever, G Roullet, J Gula, A Godfroy, E Roussel, P M Sarradin


1340h **V43G-0198 POSTER** Hydrothermal plumes along the East Pacific Rise, 1.9°N-6.1°S: Plume distribution and relationship to the apparent magmatic budget: **S Chen**, C Tao

1340h **V43G-0199 POSTER** Geochemical Diversity of Lavas from the 8°20'N Seamount Chain Provides Insights into Seamount Evolution from a Heterogeneous Mantle: **E M Conrad**, M R Perfit, M Anderson, V D Wanless, D J Fornari, P M Gregg


1340h **V43G-0201 POSTER** Transition from rifting to seafloor spreading behind the tip of the westward propagating Cocos-Nazca spreading center: **D K Smith**, E M Klein, H Schouten, R Parnell-Turner, J R Cann, C Dunham, G Alodia, I Blasco, B W Wernette, D Zawadzki, E Latypova, S Afshar, S Curry

1340h **V43G-0202 POSTER** Initial rifting to seafloor spreading: geochemical and petrologic variations in basalts from the Cocos-Nazca Spreading Center: **B W Wernette**, E M Klein, D K Smith, H Schouten, R Parnell-Turner, J R Cann, D Zawadzki, S Curry, I Blasco, C Dunham, S Afshar, G Alodia, E Latypova

1340h **V43G-0203 POSTER** A Comparison of Viral Populations Inhabiting Atlantic and Pacific Oceanic Crustal Fluids: **D Nigro**, B J Tully, S Jungbluth, J A Huber, M S Rappe, G Steward


1340h **V43G-0205 POSTER** Near seafloor dynamics of mid-ocean ridge hydrothermal flows and formation of diffuse vents at the Lucky Strike hydrothermal field, mid-Atlantic ridge.: **B Wheeler**, M Cannat, F J Fontaine, V Chavagnac

1340h **V43G-0206 POSTER** In-situ and Acoustic Observations of Hydrothermal Discharge at ASHES Vent Field: preliminary results from an OOI Cabled Array Case Study: **K G Bemis**, G Xu, L N Germanovich, D R Jackson, A N Ivakin, A Marburg

1340h **V43G-0207 POSTER** Melt Supply Variations at Slow-Spreading Ridges Control Mode of Upper Crustal Construction: Constraints from Distribution of Volcanic Facies along the Lucky Strike Segment (Mid-Atlantic Ridge): **C Gini**, J Escartin

1340h **V43G-0208 POSTER** Morphological characteristics of off-axis volcanism in the vicinity of the easternmost segment of the Australian-Antarctic Ridge: **H Choi**, S S Kim, S H Park
S-Wave Anisotropy under Axial Seamount: C Baillard, W S D Wilcock, M Tolstoy, F Waldhauser

New seismic observations of multi-level magma sills beneath the axis of the Juan de Fuca Ridge: S M Carbotte, M Marjanovic, J P Canales, M R Nedimovic


Magmatic Source Estimates at Axial Seamount for the 2015 Eruption From Sea Floor Deformation and Seismic Data: W Hefner, S L Nooner, W Chadwick, D W Caress, D R Bohnenstiehl, J B Paduan, D A Clague

Seismo-Tectonic Monitoring of the Endeavour Ridge Segment: Recent and Future Expansion of Ocean Networks Canada’s NEPTUNE Observatory on the Juan de Fuca Ridge: J J Farrugia, M Heesemann, W S D Wilcock, C Baillard, L A Coogan, S F Mihaly, M Scherwath

Current Dynamics over a Mid-Ocean Ridge: Observations from Cabled ADCPs at the Endeavour Segment of the Juan de Fuca Ridge: S F Mihaly, M Wang, R Thomson


Plinian or Vulcanian? Using melt inclusions to characterize the volatile contents and eruption dynamics over time in Popocatepetl Volcano: C Angeles De La Torre, J Roberge, C N Mercer, P J Wallace, M F Flores Rios

Clinopyroxene megacrysts from Mount Etna’s most destructive historic eruption. Triggers and timescales recorded in trace element zonation.: R Magee, T Ubide, M Kahl

Trigger of the Toya ignimbrite eruption, Japan: short-time mixing of multiple magma batches with high-silica rhyolite: A Tomiya, Y Goto, T Danhara, S L de Silva
1340h V43H-0226 POSTER Constraints on incremental assembly of upper crustal igneous intrusions, Henry Mountains, Utah: L I M de Sousa, E M Horsman

1340h V43H-0227 POSTER Role of lithospheric melt transport in controlling the assembly of magmatic systems: T Mittal, M A Richards

1340h V43H-0228 POSTER The structure of the magma conduits and magma bodies under Klyuchevskaya volcanic group (Kamchatka, Russia): E Gordeev

1340h V43H-0229 POSTER Dike pathway evolution with time scale: S Pansino, B Taisne, A Emadzadeh

1340h V43H-0230 POSTER Sill geometry and emplacement controlled by a major disconformity in the Tarim Basin, China: Z Yao, C F Li, G He, C Dong

1340h V43H-0231 POSTER Formation of the El Laco magmatic magnetite deposits by Fe-Si melt immiscibility and bubbly suspension flow along volcano tectonic faults: T Keller, J M Hanchar, F Tornos, J Suckale

1340h V43H-0232 POSTER Geometry and Construction of Upper Crustal Igneous Intrusions, Sawtooth Ridge, Henry Mountains, Southern Utah: T E Eischen, E M Horsman

1340h V43H-0233 POSTER The Many Faces of Disequilibrium Magma / Lava Rheology: S Kolzenburg, D Giordano, D Di Genova, K U Hess, D B Dingwell

1340h V43H-0234 POSTER Determining the Crustal Storage History of Mt. Shasta Primitive Magnesian Andesite to Assess Magmatic Ascent Rates: M Phillips, C B Till

1340h V43H-0235 POSTER Pre-Eruptive Storage and Evolution of High-Mg Basalts in the Southern Cascade Arc: S Leiter, K J Walowski

1340h V43H-0236 POSTER An experimental study of dissolution and precipitation of forsterite in a thermal gradient: implications for cellular growth of olivine phenocrysts in basalt and melt inclusion formation: M Laumonier, D Laporte, P Schiano, A Provost

1340h V43H-0237 POSTER Numerical Modeling of Dike Propagation out of Magma Chambers during the Incremental Growth of the Papoose Flat Pluton, California: Y Chen, P I Nabelek

1340h V43H-0238 POSTER Towards resolving disparate datasets for rare earth element diffusion in garnet: E M Bloch, M Jollands, A S Bouvier

1340h V43H-0239 POSTER Unravelling the eruptive timescales of a Permian supervolcano with quartz diffusion chronometry: M Jollands, M Pistone, O Muntener

V43I (CC) Hall A-C (Poster Hall) Thursday 1340h

Storage, Cycling, and Environmental Consequences of Magmatic Volatile Transfer from the Mantle to the Atmosphere Posters (joint with DI, OS, PP, T)

Presiding: Tobias Fischer, University of New Mexico Main Campus; Benjamin Black, CUNY City College of New York; Taryn Lopez, University of Alaska Fairbanks; James Muirhead;

1340h V43I-0240 POSTER Lithium isotopic and concentration gradients in plagioclase – implications for pre- and syn-eruptive magmatic processes: L K Steinmann, J Neukampf, B S Ellis, M Oeser-Rabe, R Dohmen, T Ubide, T Magna, S Weyer, O Bachmann

1340h V43I-0241 POSTER Femtosecond-Laser Ablation-MC-ICP-MS In Situ Analyses of Li Isotopes in Volcanic Olivines: L K Steinmann, M Oeser-Rabe, I Horn, S Weyer

1340h V43I-0242 POSTER UTILIZING MAJOR AND TRACE ELEMENT DIFFUSION MODELS IN CLINOPYROXENE AND OLIVINE TO DETERMINE ASCENT TIMESCALES OF CINDER CONE MAGMAS IN THE SOUTHERN CASCADES: A E Hollyday, K J Walowski, S Leiter

1340h V43I-0243 POSTER Phosphate (U-Th)/He Ages from the Acapulcoite Meteorites TIL07012 and EET14074: C J Anderkin, K K Min, J Grigsby, D Sheikh

1340h V43I-0244 POSTER Analyzing sulfur and chlorine behavior in the 2006 eruption of Augustine volcano: A Wright, S Ding, J D Webster


1340h V43I-0246 POSTER Tracing volatile cycling from subduction to outgassing along the Aleutian Arc: T M Lopez, T P Fischer, T A Plank, A Malinverno, A L Rizzo, D J Rasmussen, E Cottrell, C A Werner, C Kern, T Iranko, L Buff, J Andrys, K A Kelley

1340h V43I-0247 POSTER Carbonatites and the Isotopic Composition of Flood Basalt Carbon: E Gales, B A Black, L T Elkins-Tanton
1340h **V43J-0248 POSTER** Early Deccan Traps CO₂ Budget & Degassing History Constrained from Melt Inclusions: A Hernandez Nava, B A Black, S A Gibson, R J Bodnar, P R Renne, L Vanderkluysen

1340h **V43J-0249 POSTER** H₂O and F contents in Mt. Hood magmas recorded by plagioclase phenocrysts: J R Caseres, J L Mosenfelder, M M Hirschmann

1340h **V43J-0250 POSTER** Stable isotope geochemistry of volatiles in thermal springs along the transition from amagmatic flat-slab subduction to the magmatic arc in the Peruvian Andes: D L Newell, H Upin, B E Scott, M J Jessup, T A Grambling, C A Shaw, C A Hughes


1340h **V43J-0252 POSTER** Volcanic Mercury and CO₂ Venting Through East Lake, Newberry Volcano, OR: S M Wagner, J C Varekamp, C A Cooke, C Smith, E Thomas, C Cauley, P Tartell

1340h **V43J-0253 POSTER** The chemical evolution of Paulina Lake (Newberry volcano OR) waters over the last 3000 years: C Cauley, S Koetter, C Smith, H Sonnenberg, P Tartell, S M Wagner, E Thomas, J C Varekamp

**V43J (CC) Hall A-C (Poster Hall)**

**Thursday 1340h**

**The 2018 Eruptions of Kilauea Volcano, Hawaii, and Fernandina and Sierra Negra Volcanoes, Galápagos V Posters** (joint with GH, IN, S, T)

**Presiding:** Ingrid Johanson, USGS; Matthew Patrick, USGS; Gregory Waite, Michigan Technological University; Claire Horwell, Durham University;

1340h **V43J-0254 POSTER** 4D full-wave seismic tomography of the Kilauea volcano, Hawai‘i: F Deng, Y Shen, N Wang, Q Wu

1340h **V43J-0255 POSTER** A Tale of Two Eruptions: Moment Tensor Analysis of Near-Field Seismic Waveforms at Kilauea in 2018: V H Lai, Z Zhan

1340h **V43J-0256 POSTER** Addressing the Challenges of Ground-Based Monitoring of SO₂ Emissions from the Lower East Rift Zone Eruption of Kilauea Volcano with Satellite-Based Thermal Infrared Remote Sensing: V J Realmuto, T Elias, C Kern, N A Krotkov, C Li


1340h **V43J-0259 POSTER** Analysis of thermal emission from Kilauea’s 2018 Lower East Rift Zone eruption, using satellite remote sensing assets: R G Vaughan, M E Rumpf, D P Mayer, M R Patrick, R L Wessels, J P Griswold

1340h **V43J-0260 POSTER** Andesite Erupted from Kilauea Volcano During the 2018 Eruption: C A Gansecki, R L Lee

1340h **V43J-0261 POSTER** Applying insights from the 2018 Kilauea East Rift eruption to modeling scoria and spatter cone formation: K G Bemis

1340h **V43J-0262 POSTER** Assessing lava flow dynamics and rheology using sUAS data: E Lev, J Oppenheimer, B B Carr, R L Perroy, H R Dietterich, A K Diefenbach

1340h **V43J-0263 POSTER** Conduit gravity-inertia oscillation, a mechanism for very long period (VLP) seismicity at Kilauea volcano: C Liang, J A Crozier, E M Dunham, L Karlstrom

1340h **V43J-0264 POSTER** Continuous gravity reveals huge mass changes during the onset of intrusion, eruption, and collapse at Kilauea Volcano, Hawai‘i, April–May 2018: M P Poland, D Carbone, M R Patrick

1340h **V43J-0265 POSTER** Crustal deformation associated with the 2018 eruption of Kilauea Volcano, Hawaii, revealed by ALOS-2/PALSAR-2: T Abe, M Ohki, T Tadono


1340h **V43J-0267 POSTER** Did Excessive Rainfall Contribute to the Onset of the 2018 Kilauea Activity?: J Farquharson, F Amelung
1340h **V43J-0268** POSTER Episodic Magma Transport Before the Eruption of the 2018 Kilauea Volcano, Hawaii: **H Huang**, L Meng

1340h **V43J-0269** POSTER Evolution of the Pacific Tsunami Warning Center’s Operational Procedures for Hawaii’s Local Earthquakes in Response to New Eruptive Activity at Kilauea Volcano: **V Sardina**, K K Koyanagi, S Weinstein, N C Becker, C McCreey

1340h **V43J-0270** POSTER Feedback Between Dike Intrusions, Opening in the Deep Rift Zones, and Flank Motion, Suggested by the Numerical Modeling of Geodetic Data Spanning 1993-1997 at Kilauea Volcano: **C Wauthier**, S Conway, Y Fukushima, M P Poland


1340h **V43J-0273** POSTER Hawaii Island Seismicity High-Precision Relocation 1986–2017: **R S Matoza**, P M Shearer


1340h **V43J-0276** POSTER Imbroglio by an Inferno: The IS-GEO Hawaii Workshop and ad hoc sensor network session: **P Marchetto**, A M Matheny, C Yang, S A Pierce, K E Maull, J Powell, J Chuah, J Leeman, G Jacobs

1340h **V43J-0277** POSTER Implications of Critical Flow Phenomena for Estimating Lava Flux During Recent Activity at Kilauea Volcano: **K V Cashman**, H R Dietterich, G Grant, J J Major

1340h **V43J-0278** POSTER Increase in pressure in the deep magma reservoir detected prior to the 2018 Kilauea eruption with ambient seismic noise interferometry: **C Donaldson**, G Olivier, F Brenguier, P Okubo, R Carey

1340h **V43J-0279** POSTER InSAR deformation time-series of the 2018 Kilauea events: depletion of the volcano, the east rift zone and the Mw 6.9 Earthquake: **X Xu**, B R Smith-Konter, L A Ward, L M Burkhard, G Blewitt, D T Sandwell

1340h **V43J-0280** POSTER Insights into Kilauea’s Magmatic Plumbing System from the Leilani 2018 Eruption: **M Rhodes**, M O Garcia

1340h **V43J-0281** POSTER Insights into Magma Mixing and Sulfur Degassing During the 2018 Kilauea Fissure Eruption via Mineral and Melt Inclusion Geochemistry: **A H Lerner**, R L Lee, C A Gansecki, P A Nadeau, P J Wallace, T Elias, C Kern, C R Thornber, L E Clor, P J Kelly, C A Werner, M Cappos

1340h **V43J-0282** POSTER Insights into the collapse of Kilauea caldera using seismicity and infrasound: **W A Thelen**, D R Shelly, G P Waite, A Wech, B Shiro

1340h **V43J-0283** POSTER Ionospheric Signature Recorded on the Hawaii GPS Network of the Mw 6.9 Earthquake and Tsunami: **L Rolland**, S A, C Twardzik, D Mikesell, A Sladen, B Delouis, D Rivet, C S Larmat, F Zedek, M S Bagiya


1340h **V43J-0285** POSTER Modulation of seismic activity in Kilauea’s East Rift Zone by summit inflation and deflation: **D Roman**, C Wauthier, M P Poland

1340h **V43J-0286** POSTER Monitoring the Kilauea lava flow evolution using Sentinel2 and Landsat8 images in an open WebGIS environment.: **M Musacchio**, M Silvestri, M F Buongiorno

1340h **V43J-0287** POSTER Near Field observation of 2018 Eruption of Kilauea volcano at Fissure 8 Lower East Rift Zone: **A Namiki**, I Sumita, M R Patrick

1340h **V43J-0288** POSTER Pāhala mantle source area earthquake swarms: reliable precursors to eruption at Kilauea?: **M K Burgess**, W A Thelen

1340h **V43J-0289** POSTER Preliminary Study of Mantle Fault Zone Earth Quakes Beneath Hawaii: **D Worcester**, H Lehto

Found Worldwide: Extensive, Sub-aerial, Basaltic Lava Flows

V43J-0292 POSTER Seismic Monitoring of the Kilauea Caldera Collapse Reveals Repeated Shear Failure on a Ring Fault: J Wilding, M Nettles, G Ekstrom, M Howe

V43J-0293 POSTER Shear Wave Splitting Tomography at Kilauea: J H Johnson, R Herd, J Eyles, B Shiro, B McLeod

V43J-0294 POSTER Size-resolved chemistry of volcanic aerosol from the 2018 Kilauea Lower East Rift Zone eruption, traced from source to exposed communities: E Liu, E Ilyinskaya, E Mason, P Wieser, R C W Whitty, M Edmonds, T A Mather, T Elias, P A Nadeau, C Kern, D J Schneider, C Oppenheimer

V43J-0295 POSTER Spatiotemporal Variations of Seismic Parameters During the 2018 Kilauea East Rift Zone and Summit Activity: G Lin, F Aziz Zanjani, P Okubo

V43J-0296 POSTER Statistics of seismicity associated with a sequence of explosive eruptions at Kilauea, Hawaii: R Fildes, L H Kellogg, D L Turcotte, J B Rundle

V43J-0297 POSTER Structural readjustment due to large-scale mass redistribution at active basaltic shield volcanoes based on multi-temporal SAR satellite data: N Richter, M P Poland, A Peltier


V43J-0299 POSTER Synthesizing satellite, mobile monitoring, and surface networks for air quality resulting from Kilauea Volcano: L Golston, D Pan, X Guo, L Tao, R Wang, K Olander, J McSpiritt, N Li, L P Wendt, M A Zondlo

V43J-0300 POSTER Temporal Velocity Changes on the East Rift Zone of Kilauea Concurrent with the Volcanic Activity of 2018 Interpreted from Changes in Single-Station Correlation Functions: T A Lee, M Ishii, P Okubo

V43J-0301 POSTER The 2018 Kilauea Eruption along the East Rift Zone Is Becoming Voluminous Enough to Cause Substantial Global Warming Just Like Other Extensive, Effusive, Sub-aerial, Basaltic Lava Flows Found Worldwide: P L Ward

V43J-0302 POSTER The First 100 Minutes in the Life of an Hawaiian Fissure: Segment 8 on Kilauea’s Lower East Rift Zone: B F Houghton, B H Walker, T R Orr, C M Tisdale

V43J-0303 POSTER The infrasound signal from a draining lava lake: the exceptional recordings from Halema‘uma‘u, Kilauea volcano in April and May 2018: G P Waite, W A Thelen, B Shiro

V43J-0304 POSTER The rapid emplacement of lava flows in the Lower East Rift Zone of Kilauea, May 2018: M E Rumpf, C Parcheta, M R Patrick, R G Vaughan

V43J-0305 POSTER The velocity variations of the Kilauea Volcano area of Hawaii revealed by ambient noise: Z Liu, C Liang

V43J-0306 POSTER The Volcano Rapid Response Campaign after the Kilauea eruptions (VolKilau): J P Verner, L Kalnajs, J A Diaz

V43J-0307 POSTER Triggering of the 4th May 2018 Mw 7.0 Hawaii earthquake by dike intrusion: K Chen, J D Smith, J P Avouac, Z Liu, Y T Song

V43J-0308 POSTER Understanding Summit Failure Processes during the 2018 Kilauea Eruption through Analysis of Earthquake Swarms: G Tepp, A J Hotovec-Ellis, M M Haney, W A Thelen

V43J-0309 POSTER Very Long-Period Seismic Signals and Collapse Events at the Kilauea Summit Crater in 2018: L Ye, T Lay, H Kanamori, E E Brodsky, H Tsuuruoka, K Satake

V43J-0310 POSTER Volcanic signals in webcam data: Building a Change Detection and Outreach Tool: P W Webley

V43J-0311 POSTER Was Kilauea’s East Rift Zone “primed” for intrusion? Possible evidence from ambient noise seismic interferometry.: A F Flinders

V43K (CC) Hall A-C (Poster Hall)

Thursday 1340h

Upper Crust Evolution: Models of Formation and Composition Posters (joint with S, T)

Presiding: Scott Wipperfurth, University of Maryland College Park; Jill VanTongeren, Rutgers University New Brunswick; C. Keller, Berkeley Geochronology Center; Oliver Jagoutz, Massachusetts Institute of Technology;

1340h V43K-0313 POSTER Crustal growth models demystified: J Korenaga

1340h V43K-0314 POSTER The influence of mantle refertilisation on the formation of TTGs in a plume-lid tectonics setting: R Fischer, T Gerya

1340h V43K-0315 POSTER Continental margin processes in the Neoarchean: insights from the Angikuni Lake, Nunavut, Canada: S Regan, J R Chiarenzelli, L Aspler, M L Williams, B Cousens, M J Jercinovic

1340h V43K-0316 POSTER New ~1.90 Ga Bayan Obo mélangé along the northern margin of the North China craton: Implications for the assembly of Columbia supercontinent: C Wu, Z Zhou, A V Zúza, G Wang, C Liu, T Jiang

1340h V43K-0317 POSTER Episodic Arc Volcanism Related to the Precambrian Supercontinent Cycle: Insights from Geochemical and Nd Isotopic Compositions of Felsic Tuffs from Proterozoic Sedimentary Basins of India: P Basu, R Chakrabarti

1340h V43K-0318 POSTER Maurice Ewing Bank Complex: A Missing Piece to Rodinia Puzzle and Beyond.: F Chemale Jr, M Rodrigues de Vargas, T J Girelli

1340h V43K-0319 POSTER Neo-proterozoic magmatism in the Songnen-Zhangguangcai Range Massif, NE China: Implications for tectonic evolution of the Rodinia: J Luan, W Xu, F Wang, P Guo

1340h V43K-0320 POSTER Petrogenesis of Late Indosinian I-type Qingxi Pluton in Jiangxi Province, South China: Evidence from U-Pb Zircon Geochronology, Whole-rock Geochemistry and Sr-Nd-Hf Isotopes: L Wang, Z Zhao, X Mo

1340h V43K-0321 POSTER Petrogenesis of Mesozoic Granitic Pluton in the Eastern Hunan Province, South China: Evidence from Zircon and Whole-rock Geochemistry: Q Liu, M He, J F Sun

1340h V43K-0322 POSTER Episodic crustal thickening and growth of the Gangdese arc in south Tibet: L Guo, H F Zhang

1340h V43K-0323 POSTER Cadomian basement evolution and Cenozoic crustal growth in Iran: Constraints from zircon Hf isotopes: H Y Chiu, S L Chung, M H Zarrinkoub, K N Pang, H Y Lee

1340h V43K-0324 POSTER Understanding Magmatic Processes and Evolution in Georgian Caucasus: H Y Lee, Y H Chang, S L Chung

1340h V43K-0325 POSTER Late Miocene garnet-bearing andesites in the Northern Andean Block and their tectonic implications: S Hoyos, M Weber, E Cottrell, A L Cardenás-Rozo, J Duque, A Beltrán-Triviño

1340h V43K-0326 POSTER Recovery of 4He concentration profiles across the zircon He partial retention zone through application of step-heating and direct laser-ablation to zircon 4He/3He thermochronology: C Brennan, D F Stockli, D B Patterson


NS44A (MM) Marquis 12-13

Thursday 1600h

Near-Surface Geophysics and Its Applicability to Volcanic Environments I (cosponsored by SEG; Society of Exploration Geophysicists) (joint with H, V)

Presiding: Niels Grobbe, University of Hawaii at Manoa; Mark Everett, Texas A & M Univ; Andrew Binley, University of Lancaster; Charles Connor, University of South Florida;

1600h NS44A-01 Constraining geothermal exploration in volcanic environments with complex electrical measurements. Results from 2D ERT/IP inversions and electrical impedance measurements on core samples from boreholes at the Krafla volcano (Iceland): L E Lévy, S Byrdina, B Gibert, F Sigmundsson, D Deldicque, J Vandemeulebrouck, O G Flovenz, G P Hersir, K Árnason, P Briole

1615h NS44A-02 Geological Controls on Hydrothermal Systems: 3D Images of Yellowstone’s Subsurface Plumbing from Airborne Electromagnetic Measurements: S Holbrook, C A Finn, P Bedrosian, E Auken, J B B Pedersen, K Dickey

1630h NS44A-03 What lurks below: plumbing the depths of the hydrothermal system at Yellowstone: P Bedrosian, C Finn, K Dickey, W S Holbrook, E Auken, J B B Pedersen

1645h NS44A-04 Mapping the hydrogeology of Smoke Jumper Hot Spring, Yellowstone Caldera with airborne geophysical data: Implications for understanding factors that control microbial biodiversity: C Finn, P Bedrosian, D R Colman, E S Boyd

1700h NS44A-05 Mapping the Distribution of Groundwater in Kona, Hawai‘i, Using the Magnetotelluric Method: T M Viti, N Grobbe

1715h NS44A-06 Volcanic Explosion Backazimuth from Near-Surface Seismo-Acoustic Coupling Minimization: M M Haney, K F McKee, D Fee, R S Mataza, J J Lyons

1745h NS44A-08 Investigating Scoria Cone Morphology via GPR Imaging in Crater Flat Volcanic Field: V Bump, L M Courtland

V44A (MM) Liberty I-K
Thursday 1600h

What Can Pyroclasts Tell Us? I

Presiding: Benjamin Andrews, Smithsonian Institution; Corrado Cimarelli, Ludwig Maximilian University of Munich; Ulrich Kueppers, Ludwig Maximilian University of Munich; Heather Wright, USGS;

1600h V44A-01 Homogeneous Bubble Nucleation in Rhyolitic Melt: Experimental Confirmation of Predictions from Nucleation Theory: S Hajimirza, J E Gardner, H Gonnermann

1615h V44A-02 Controls of Crystal Shape on Degassing Mechanisms in Crystal-Rich Magmas with Rhyolitic Groundmass Melts: N A Graham, J F Larsen, K V Cashman, R deGraffenried

1630h V44A-03 Compositionally dependent response of andesites to eruption at Augustine Volcano: M Benage, H M N Wright, M L Coombs

1645h V44A-04 Evolution of mass discharge and decompression rates during the Plinian phase of the Bronze-Age eruption of Santorini: M Myers, T H Druitt, I Gurioli, F Schiavi, T T Flaherty

1700h V44A-05 Fragmentation in crystal-rich basaltic systems: Ash generation at Volcán de Fuego, Guatemala: E J Liu, E Miller, K V Cashman, A Rust, M Watson, M Edmonds, G Chigna

1715h V44A-06 Role of Nanolite Crystallization in Magma Fragmentation During Ash Eruptions: M Nakamura, M Mujin, T Toma, A Yokoo


Session Information

**Oral Sessions**
Sessions are being held in the *Convention Center (CC)* and *Marriott Marquis (MM)*

**Poster Sessions**
Posters are on display in the following venue throughout the week:
*Hall A-C (Poster Hall)*

Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation.
Example: *A21A-01* = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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The program is current as of 06 December 2018. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at [https://agu.confex.com/agu/fm18/meetingapp.cgi/Home](https://agu.confex.com/agu/fm18/meetingapp.cgi/Home) for updates.

Friday A.M.

**DI51A** *(MM)* Archives

**Friday 0800h**

**Diverse Perspectives on the Deep Mantle I** *(joint with MR, P, S, V)*

**Presiding: Bradford Foley**, Pennsylvania State University Main Campus; **Colin Jackson**, National Museum of Natural History; **Shuai Zhang**, Lawrence Livermore National Laboratory;

0800h **DI51A-01** Electrical conductivity of the magma ocean and silicate dynamos: *L P Stixrude*, R Scipioni, E Holmstrom

0815h **DI51A-02** Exsolution of SiO₂ crystals and silicate melt from the liquid core: Implications for the origins of mid-lower mantle scatters and the ultra-low velocity zone above the CMB: *K Hirose*, G R Helfrich
0830h **T51D-0175** POSTER Reykjanes Ridge Evolution by Propagating Small-Scale Convection, Plate Kinematics and a Regional Upper Mantle Anomaly: F Martinez, R N Hey

0800h **T51D-0181** POSTER Origin and Age of the Researcher Ridge Seamount Chain (Central Atlantic): J Geldmacher, X Long, K Hoernle, F Hauff, J A Wartho, D Garbe-Schönberg, I Grevenmeyer

0800h **T51D-0182** POSTER Mid-Cenozoic Pacific Plate Motion Change: Implications for the Northwest Hawaiian Ridge and Circum-Pacific: B R Jicha, M O Garcia, P Wessel

0800h **T51D-0184** POSTER Age and Isotopic Evidence for the Origin of the Madagascar Plateau, Indian Ocean: M Storey

0800h **T51D-0185** POSTER Pre- and Post-Erosional Estimates of Deccan Lava Volumes: L Vanderkluysen, N Barber, A E Jay, E Carey

0800h **T51D-0186** POSTER Constrains on Deccan Traps eruptive timescales based on high resolution terrestrial mercury chronostratigraphy: I Fendley, C J Sprain, T Mittal, M C Marvin-DiPasquale, P R Renne, C B Keller

0800h **T51D-0187** POSTER Geochemistry of seamount volcanic rocks, eastern margin of the Ontong Java Plateau: M L G Tejada, T Sano, T Hanyu, J I Kimura, T Miyazaki, Q Chang, B Vaglarov, A A P Koppers, A Ishikawa, S Shimizu, K Tani, M Nakanishi

**T51D (CC) Hall A-C (Poster Hall)**

**Friday 0800h**

**Current Understanding of Large Igneous Provinces, Hot Spot Tracks, and Mantle Plumes II Posters** (joint with DI, GP, V)

*Presiding: William Sager, University of Houston; Anthony Koppers, Oregon State University; Cornelia Class, Lamont-Doherty Earth Observatory; Trond Torsvik, University of Oslo;*

0800h **T51D-0171** POSTER Dynamics in East China: insight from a P-wave teleseismic tomography and receiver function analysis: C He, S Dong

0800h **T51D-0172** POSTER Anisotropic full waveform ambient noise and earthquake tomography and Pn analysis of the Ontong Java Plateau and surrounding Pacific upper mantle: A C Hirsch, B Savage, Y Shen

0800h **T51D-0173** POSTER Crustal Structure in Hotspot and Cratonic Environments: a Reappraisal of the H-k Stacking Technique: C S Ogden, I D Bastow, A Gilligan, S Rondenay

0800h **T51D-0174** POSTER The earthquakes of the Western Quebec Seismic Zone and their Relationship with the Great Meteor Hot Spot Track: M Lamontagne, P Brouillette, B A Kjarsgaard

0800h **T51D-0175** POSTER Reykjanes Ridge Evolution by Propagating Small-Scale Convection, Plate Kinematics and a Regional Upper Mantle Anomaly: F Martinez, R N Hey

0800h **T51D-0176** POSTER Implications of Updated Magnetic Anomalies for the Tectonic Evolution of Walvis Ridge: S Thoram, W Sager

0800h **T51D-0177** POSTER Paleomagnetism of the Orre-bearing Intrusions of the Norilsk Region (the Siberian Traps LIP): Correlation with the Volcanic Section and Implications for the Cu-Ni-PGE Deposits Genesis: A Latsyhev, R V Veselevskiy, A M Fetisova, V Pavlov

0800h **T51D-0178** POSTER Paleomagnetic Results of the Mesoarchean Pongola Supergroup Nsuze Large Igneous Province and a Primary Post-Pongola Pole, Kaapvaal Craton, Southern Africa: C Luskin, M de Kock, H Wabo

0800h **T51D-0179** POSTER Linear Magnetic Anomalies Over Tamu and Ori Massifs (Shatsky Rise Ocean Plateau) Imply Formation by Spreading Ridge Volcanism: W W Sager, Y Huang, M Tominaga, J A Greene, M Nakanishi, J Zhang

0800h **T51D-0180** POSTER The Role of Plate Boundary Geometry and Ridge Processes in the Emplacement of Shatsky Rise: K Shotorban, J E Georgen

0800h **T51D-0181** POSTER Origin and Age of the Researcher Ridge Seamount Chain (Central Atlantic): J Geldmacher, X Long, K Hoernle, F Hauff, J A Wartho, D Garbe-Schönberg, I Grevenmeyer

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0800h **T51D-0187** POSTER Geochemistry of seamount volcanic rocks, eastern margin of the Ontong Java Plateau: M L G Tejada, T Sano, T Hanyu, J I Kimura, T Miyazaki, Q Chang, B Vaglarov, A A P Koppers, A Ishikawa, S Shimizu, K Tani, M Nakanishi
0800h T51D-0188 POSTER Remelting of the fossil Ontong Java Plateau plume head, with clues to Archean continent formation: K A Smart, S Tappe, A Ishikawa, J Pfänder, A Stracke

0800h T51D-0189 POSTER Sources of Southern African Large Igneous Provinces: L D Ashwal

0800h T51D-0190 POSTER Imprints of Volcanism in the Lithosphere Beneath the Malani Igneous Province in Northwestern India: G Mohan, R Kumar


0800h T51D-0192 POSTER Tarim Large Igneous Province Constrained by Geodynamic Modelling and Geophysical Observations: H Liu, G Lei, W Leng, H Zhang

0800h T51D-0194 POSTER Possible residuary lithospheric signature of Permian Emeishan plume from multiscale body-wave finite frequency tomography: X Liang, Q Wang, Y Chen, S H Hung

0800h T51D-0195 POSTER Effects of rapid plate motion on the Mid-Continental Rift and mantle plume interactions under Pre-Cambrian mantle conditions: R Moucha, P M Gunawardana, T O Rooney, S Stein, C A Stein

0800h T51D-0196 POSTER Thermochemical Evolution of Mantle Plumes Observed Spatially (TEMPOS): E C Thompson, E Bredow, N Creasy, K E Godfrey, J Muller, M Xu, C Wang, M Ballmer, S Huang, G Morra, S Mukhopadhyay

0800h T51D-0197 POSTER Lower crustal flow and the generation of high versus low volcanic plateaus: X Tian, W R Buck

0815h V51A-02 Delivery of deep-sourced, volatile-rich plume material to the global ridge system: S A Gibson, M A Richards

0830h V51A-03 Neogene to present changes in CO2 sources and sinks due to the growth and tectonic evolution of Indonesia: E Anttila, S J LoBianco, A R Brenner, F A Macdonald

0845h V51A-04 Tectonic Control of the Carbon Cycle and Climate: Resolving the Effects of Global Spreading-Rate Variations with High Temporal Resolution over the Past 20 Myr: C A Dalton, T Herbert

0900h V51A-05 The dynamic role of volatiles in igneous systems: a perspective from reactive transport modeling: T Keller, J Suckale

0915h V51A-06 Punctuated or sustained? Estimates of the CO2 output of explosive volcanic eruptions: M Edmonds, J Biggs, C M Vidal

0930h V51A-07 Volcanic gases include slab- and air-derived nitrogen but no contributions from the mantle: a 15N perspective: J Labidi, P H Barry, B Marty, T P Fischer, T Giunta, B Sherwood Lollar, E D Young

0945h V51A-08 Tree rings as a volcanic gas proxy: carbon and sulfur isotopes in proximal trees linked to volcanic degassing fluctuations through time: F D'Arcy, E Boucher, M J de Moor, J F Helie, J Stix, R Piggott

V51B (CC) Hall A-C (Poster Hall)

Friday 0800h

A Perfect Match: Bringing Together Models of Geodynamics and Thermodynamics to Understand Geochemical and Petrological Observations Posters (joint with DI, T)

Presiding: Tobias Keller, Stanford University; Rosie Jones, University of Oxford; Mark Ghiorso, OFM Research; Marc Spiegelman, Columbia University;

0800h V51B-0112 POSTER Non-Equilibrium Thermodynamic Modeling of Mantle Melting and Phase Transformation: C J Grose, P D Asimow

0800h V51B-0113 POSTER ENKI business: Progress in integrating Computational Thermodynamics and Geodynamics: M W Spiegelman, M S Ghiorso, A S Wolf, L E L Tweed, O Evans, C R Wilson

0800h V51B-0114 POSTER Modelling of Melt Segregation and Reactive Flow in Crustal Mush Reservoirs: C A Booth, M Jackson

0800h V51B-0115 POSTER Conditions of melt ascent leading to the igneous composition of the Martian surface: C Ho, J Schools, L Montesi
0800h V51B-0116 POSTER Subridge Thermal Fluctuations Induced by Melting Low-Solidus Pyroxenite: Thermodynamic, Geochemical and Petrological Constraints: D Brunelli, E Bonarti, M Ligi, A Cipriani

0800h V51B-0117 POSTER Temperature Variations In Isentropic (Adiabatic) Uprise Of Magma: A I Kilinc

0800h V51B-0118 POSTER Density Foundering of Pamir Lithosphere: Geo- and Thermodynamic Constraints: R K Stoner, M D Behn, B R Hacker

0800h V51B-0119 POSTER Testing the theory of immiscibility within the sills of the San Rafael Volcanic Field, Utah, through the use of thermodynamic modeling: D J Koebli, A Germa, Z D Atlas, P H Wetmore

0800h V51B-0120 POSTER Unraveling the formation of economic tungsten deposits in the Earth’s crust in hydrous fluids: Solubility of scheelite (CaWO₄) in supercritical fluids in the system H-O-Cl-F: V Potapkin, A Loges, M Wilke, D Testemale, S Klemme

0800h V51B-0121 POSTER Implications from U, Th and Ra Partition Coefficients for Constraining Uncertainties and Investigating the Melting Process beneath Mid-Ocean Ridges: Y Lyu, L J Elkins

0800h V51C-0125 POSTER Feasibility of Carbon Isotopes Determination by Atmospheric-pressure Glow Discharge Plasma - Molecular Emission Spectrometry: Z Liu, S Hu, L Jin, W Guo, Y Zhang

0800h V51C-0126 POSTER A new method for calibrating the current gain of 10¹³ Ω amplifiers in thermal ionization mass spectrometry: G Wang, J F Xu

0800h V51C-0127 POSTER High Precision Determination of Lead and Antimony Isotope Ratios by Dielectric Barrier Discharge Induced Plasma–Chemical Vapor Generation Coupled with MC-ICPMS: X Liu, Z Zhu, Z Bao, S Hu

0800h V51C-0128 POSTER Improving the precision and accuracy of ion counter TIMS and MC-ICPMS measurements using a hierarchical Bayesian approach: Beam interpolation revisited: N M McLean, S Burdick

0800h V51C-0129 POSTER Linking the U-Th and U-Pb Chronometers: Utilizing Mass Spectrometry and New Age Equation Algorithms: J Sophis, N McLean

0800h V51C-0130 POSTER Reassessment of chemical separation techniques for isotope analysis of pg-level Os with N-TIMS: N Nakanishi, T Yokoyama, A Ishikawa

0800h V51C-0131 POSTER Rubidium Isotope Fractionation During Chemical Weathering of Granite: J Ma, Z Zhang, Z Wang, T Zeng

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**V51C (CC) Hall A-C (Poster Hall)**

**Friday 0800h**

**Innovations in Isotope Mass Spectrometry and Isotope Metrology in Geosciences Posters**

**Presiding:** Chuan-Chou Shen, Department of Geoscience, National Taiwan University; Claudia Bouman, Thermo Scientific; Xiaomei Xu, Univ California Irvine; Nicholas Lloyd, Thermo Fisher Scientific;

0800h V51C-0122 POSTER A practical method for measuring high precision calcium isotope ratios without chemical purification for calcium carbonate samples by multiple collector inductively coupled plasma mass spectrometry: D He, Z Zhu

0800h V51C-0123 POSTER Direct Ca isotopic measurement of Ca-rich minerals or rocks using the double spike technique and thermal ionization mass spectrometry (TIMS): X Li, F Liu, Z Zhang

0800h V51C-0124 POSTER Enhanced Software Integration between SEM and Laser Ablation Instrumentation for a Simpler Workflow and Higher Throughput: C O’Connor, M Andrew

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0800h V51D-0132 POSTER Calculating Volcano Explosivity Index (VEI) in real time during an eruption: L Tintle, D L Sahagian, C M Wygel

0800h V51D-0133 POSTER Characterizing ash-atmosphere interactions for better hazard prediction from explosive volcanic eruptions: A A Proussevitch, C M White, L G Mastin, D L Sahagian

0800h V51D-0134 POSTER Investigating the stability of the Laguna del Maule magmatic systembey modeling the stress state using data assimilation: Y Zhan, P M Gregg, H Le Mével
0800h **V51D-0135 POSTER** Modeling Concentrations of Resuspended Volcanic Ash: A Crawford, C Loughner, A F Stein

0800h **V51D-0136 POSTER** Building a Model of Collapse and Debris Flow Hazards at Mt. Ruapehu with Remote Sensing: C A Miller, S Mead, G Keresztnu, L N Schaefer


0800h **V51D-0138 POSTER** The 2011 eruption of Nabro volcano: a retrospective analysis through the combined use of satellite data and lava flow modelling: C Del Negro, G Ganci, A Cappello, V Zago, G Bilotta, A Herault

0800h **V51D-0139 POSTER** Study of seismic activity of the Lascar and Nevados de Chillan volcanoes in Chile using the LANSAT images by applying the lineament analysis: A A Arellano-Baeza

0800h **V51D-0140 POSTER** The First Volcanic Hazard Maps in South Korea: Jeju Island and Ullung Island: C Chang, S H Yun

0800h **V51D-0141 POSTER** The VolSatView for Satellite Monitoring and Kamchatkan Volcanoes Study: E I Gordeev, O Girina

0800h **V51D-0142 POSTER** Thermal Infrared Spectroscopy of Volcanic Glasses: Toward Improving Eruption Monitoring: R Lee, P L King, M S Ramsey

**V51E (CC) Hall A-C (Poster Hall)**

**Friday 0800h**

**Volcanic Ash Plumes: Generation, Dynamics, Electrification, Dispersion, and Impacts Posters** (joint with A, AE, NH)

**Presiding:** Cassandra Smith, University of South Florida Tampa; Sonja Behnke, Los Alamos National Laboratory; Sebastian Mueller, University of Hawai'i at Mānoa; Ali Hosharyaripour, Karlsruhe Institute of Technology;

0800h **V51E-0143 POSTER** What the ash?! Improving ash identification through accessibility to global tephra data: J Krippner, S C Kuehn, C Cameron, S J Goring, K Lehnert, D Fils, A Myrbo, A J Noren, S Loeffler

0800h **V51E-0144 POSTER** Surface Wettability of Volcanic ash on APS and EB-PVD Thermal Barrier Coatings: S Lokachari, W Song, D B Dingwell

0800h **V51E-0145 POSTER** Influence of volcanic ash composition on the interaction with thermal barrier coatings of jet engines: D B Dingwell, D Müller, K U Hess, G Wolf, V Palchyn, P Rokicki

0800h **V51E-0146 POSTER** Can Volcanic Domes act as Gas Filters? An experimental Approach to SO2 scavenging by rhyolitic Glass.: D B Dingwell, A S Casas, F B Wadsworth, P B Ayris, P Delmelle, J Vasseur, C Cimarelli

0800h **V51E-0147 POSTER** Investigating plume dynamics using ground-based thermal infrared imagery at Sabancaya Volcano, Peru: C R Rowell, M Jellinek


0800h **V51E-0149 POSTER** Vent Discharges Produced by Explosive Volcanic Eruptions: Characteristics, Signatures, and Volcano Monitoring Applications: S A Behnke, H E Edens, J P Theiler

0800h **V51E-0150 POSTER** Plume Charging and Volcanic Lightning Generation: a Quantitative Lab Analysis.: D Gaudin, C Cimarelli

0800h **V51E-0151 POSTER** Unsteadiness Timescales of Volcanic Explosions Through Electrical Monitoring of Ash Plumes.: D Gaudin, C Cimarelli, M K Hort, A Bennett, D Miki, M Iguchi

**V51F (CC) Hall A-C (Poster Hall)**

**Friday 0800h**

**What Can Pyroclasts Tell Us? Posters**

**Presiding:** Benjamin Andrews, Smithsonian Institution; Corrado Cimarelli, LMU Munich; Ulrich Kueppers, Ludwig Maximilian University of Munich; Heather Wright, USGS;

0800h **V51F-0152 POSTER** Experimental Study of Microlite Crystallization During Magma Ascent: E Needham, J M Watkins, V Garcia, J E Gardner, T Giachetti

0800h **V51F-0153 POSTER** Why are Larger Pumices More Porous?: K Trafton, T Giachetti, H Kruse

0800h **V51F-0154 POSTER** Chemical controls on volcanic ash morphology: Magmatic heterogeneities or evolving energetics?: L Tintle, G E Bebout, J McDermott, D L Sahagian

0800h **V51F-0155 POSTER** Volcanic ash surface chemistry modified by elemental diffusion during late-stage microlite crystallization: A Hornby, P M Ayris, D E Damby, S Diplas, J E Kendrick, J Utley, B Schel, D B Dingwell
0800h **V51F-0156 POSTER** Geochemical Evidence for Multi-Stage Chaotic Magma Mixing at Turrialba Volcano, Costa Rica: C Devitre, E Gazel, P Madrigal Quesada, O H Lücke, G J Soto, G Alvarado-Induni

0800h **V51F-0157 POSTER** Grain-size and Componentry Analysis of Multiple Vents in 2010 from Submarine Volcano NW Rota-1, Mariana Arc: C W Cromwell, N Deardorff

0800h **V51F-0158 POSTER** Modeling submarine pyroclast dispersal using the distribution of giant pumice at Havre Volcano: M Jones, S A Soule, K Fauria, R Carey, J T Perron, M Manga

0800h **V51F-0160 POSTER** Evidence of Simultaneous Effusive and Explosive Activity During the 1993 Submarine Eruption West of Socorro Island, Mexico: M Lubetkin, S Carey, K A Kelley, C Siebe, U Kueppers, C Roman, R D Ballard

0800h **V51F-0161 POSTER** Hot pyroclast saturation in water is controlled by cooling: K E Fauria, M Manga

0800h **V51F-0162 POSTER** Solubility and diffusivity of H2O in rhyolitic glass at hydrothermal temperatures: M Hudak, I N Bindeman, Y Guan

0800h **V51F-0163 POSTER** Resolving rehydration in pumice: Methods for deriving original H2O content and quenching pressures using H2O speciation and H isotope analysis: S J Mitchell, I M McIntosh, R Carey, B F Houghton, M Hudak, I N Bindeman

0800h **V51F-0164 POSTER** A new method to estimate the source vent location of tephra fall deposits based on thickness and maximum clast size measurements and its validation and application: Q Yang, M I Bursik, E B Pitman

0800h **V51F-0165 POSTER** Deciphering the dynamics of the 2015 eruption of Calbuco volcano (Southern Andes of Chile) using textural analyses and numerical modeling: A Castruccio, D Diaz

0800h **V51F-0166 POSTER** Spatter-Rich and Lava-Like Ignimbrites of the Halarauður Eruption, Krafla (Iceland): An Unusually Violent Eruption From a Basalt-Dominated Caldera: S M Rooyakkers, J Stix, K Berlo, S J Barker

0800h **V51F-0167 POSTER** Syn-depositional sedimentary structures as a record of flow conditions in pyroclastic density currents: N M Pollock, B D Brand, P Rowley, D Sarocchi, R Sulpizio

0800h **V51F-0168 POSTER** Chemostratigraphic Correlation of Irish Zn-Pb Deposits: H A Koch

0800h **V51F-0169 POSTER** Preliminary Tephrostratigraphy and Eruption History of Misti Volcano, Southern Peru, Since the Late Pleistocene: C Harpel, M Rivera, F J Tepley III, J J Cuno, N Manrique, R Aguilar, K Cueva, M Dossey, S Japura, M Cabrera, Y Soncco


**V52A (MM) Liberty I-K**

**Friday 1020h**

**Glass and Stone Cavities in Minerals: Melt Inclusions at 160 Years I**

Presiding: Rosario Esposito, University of California Los Angeles; Omar Bartoli, Università di Padova; Rosario Esposito, University of California Los Angeles; James Webster, Curator - Div Physical Science;

1020h **V52A-01** From the Cradle to the Grave: An in Situ Study of Olivine Growth and Dissolution in a Tholeiitic Magma: B T Welsch, F Faure

1035h **V52A-02** Melt Inclusions and Significant Advances in Earth Geodynamics: A V Sobolev

1050h **V52A-03** Crystal relaxation, an important temperature-dependent post entrapment process of mineral-hosted melt inclusions: M J Drignon, R Nielsen, F J Tepley III, R J Bodnar

1105h **V52A-04** A high carbon content of the Hawaiian mantle from olivine-hosted melt inclusions: J Tucker, J Marske, E Hauri, M O Garcia, A J Pietruszka, F Trusdell

1120h **V52A-05B** Melt inclusions at extreme crustal conditions: O Gianola, O Bartoli, F Ferri, B Cesare, A Galli, S Ferrero

1135h **V52A-06** Melt Inclusions in Olivine Provide Constraints on the Water Contents of Archaean Komatiites: E Asafov, A V Sobolev, A Gurenko, M Portnyagin, N T Arndt, V G Batanova, S Krasheninnikov

1150h **V52A-07** Partial degassing and regassing of CO2 in CO2 undersaturated mid-ocean ridge basalts: K Shimizu, A E Saal, E Hauri, M R Perfit, R Hekinian

1205h **V52A-08** The evolution of melt inclusion research: From Sorby to today: R J Bodnar
**V52B** (MM) Capitol/Congress

**Friday 1020h**

*New Insights into Oceanic Spreading Centers from Seafloor Observatories I* (joint with B, OS, S, T)

**Presiding:** Christian Baillard, School of Oceanography, University of Washington; Thibaut Barreyre, K.G.J. Centre for Deep Sea Research, University of Bergen; Marjolaine Matabos, IFREMER; David Butterfield, University of Washington, NOAA/PMEL;

1020h **V52B-01** Constraining Permeability of Fast-spreading Upper Crust: Estimates From Seismic Velocity and Poroelastic Response at the L-vent Site (East Pacific Rise): M Marjanovic, J Escartin

1035h **V52B-02** Spatial, Temporal and Size-Frequency Characteristics of Microearthquake Sequences Leading up to the 2015 Eruption of Axial Seamount: D R Bohnenstiehl, D P Sprinkle II, C Baillard, P A Moyer, M S Boettcher

1050h **V52B-03** Tracking salt and magmatic gas in two hydrothermal observatories in the NE Pacific: D A Butterfield, M D Lilley

1105h **V52B-04** Exploring Diffuse Temperature Flow, Seismicity, and Tidal Pressure Controls on Flocculation Events at Axial Seamount: E Pesar, E Tesin, D C Soule, T J Crone, F Knuth

1120h **V52B-05** Coupled stability and change in hydrothermal fluid chemistry during a quarter century at 9°50’N East Pacific Rise: J M McDermott, D J Fornari, J G Bryce, M F Fahnestock, T Barreyre, J Seewald, K L Von Damm, M D Lilley

1135h **V52B-06** Characterizing the geologic setting of popping rocks: Preliminary results from the 2018 Popping Rocks cruise to the Mid-Atlantic Ridge: E L Mittelstaedt, M D Kurz, V D Wanless, S A Soule, M Jones, K E Fauria, J Curtice, D M Schwartz

1150h **V52B-07** A NOVEL APPROACH TO THE STUDY OF ACTIVELY ERUPTING SUBMARINE VOLCANOES ON EARTH AND BEYOND: J R Delaney, D Manalang, K L Daly, W S D Wilcock

1210h Discussion:
**Friday P.M.**

**DI53A (CC) Hall A-C (Poster Hall)**

**Friday 1340h**

**Diverse Perspectives on the Deep Mantle II**

**Posters (joint with MR, P, S, V)**

**Presiding:** Bradford Foley, Pennsylvania State University Main Campus; Colin Jackson, National Museum of Natural History; Shuai Zhang, Lawrence Livermore National Laboratory;

1340h **DI53A-0030 POSTER** Marine Carbonates in the Mantle Source of Oceanic Basalts: Clues from Pb and Sr Isotopes: P Castillo

1340h **DI53A-0031 POSTER** Thermochemical evolution of the upper mantle over 3.5 Gyr: Implications from Mid Ocean Ridge and Subduction Zone basalt magmas: J I Kimura, J Gill, P E Van Keken

1340h **DI53A-0032 POSTER** Role of recycled sediment in the origin of enriched deep mantle source: Y Zhang, C WANG, Z Jin, J Zhang, S Jin, W Gan

1340h **DI53A-0033 POSTER** Constraining the global water budget: Understanding the deep water cycle using 3D mantle convection models: M Price, J H Davies, J Panton

1340h **DI53A-0034 POSTER** Instantaneous characteristics of convection in a heterogeneous mantle: A Limare, C P Jaupart, E C Kaminski, C G Farnetani

1340h **DI53A-0035 POSTER** The formation and preservation of large-scale primordial heterogeneity in the Earth’s mantle: M Ballmer, A J P Gülcher, D Gebhardt, L Waszek

1340h **DI53A-0036 POSTER** Can deep subduction of dense eclogite slow mantle convection enough to preserve high $^3$He/$^4$He in the deep mantle?: R Jones, P E Van Keken, E Haari, J Tucker, C J Ballentine

1340h **DI53A-0037 POSTER** Effects of plate tectonic simulations on mantle convection and mixing: M Nakajima, P E Van Keken


1340h **DI53A-0039 POSTER** Inference of mantle viscosity structure from density tomography: M L Rudolph, P Moulik, V Lekic

1340h **DI53A-0040 POSTER** Exploring Deformation Mechanisms at the Base of the Earth’s Mantle with Combined Constraints from Geodynamics, Mineral Physics and Seismic Anisotropy.: B C Chandler, L W Chen, M Li, S Cottaar, A K McNamara, B A Romanowicz, H R Wenk

1340h **DI53A-0041 POSTER** Evaluating the ratio of S-wave to P-wave velocity variations for the Pacific LLVP based on long-period traveltime data: C A M Chaves, P Koelemijer, J Ritsema

1340h **DI53A-0042 POSTER** Ultra-High Velocity Zones (UHVZs) at Earth’s core mantle boundary: S Yu, E Garnero, S H Shim, M Li

1340h **DI53A-0043 POSTER** An Ultra-low Velocity Zone beneath the Galapagos Hotspot: S Cottaar, Z Li

1340h **DI53A-0044 POSTER** Deep dip reversal of Indian Ocean slab induced by the African LLSVP: H Wang, Y Wang, M Gurnis, S Zahirovic, W Leng

1340h **DI53A-0045 POSTER** Modeling and Observations of Seismic Anisotropy in the Lowermost Mantle Beneath Siberia: N Creasy, A Picconti, M D Long, C Thomas

1340h **DI53A-0046 POSTER** Imaging Earth’s lowermost mantle with a global data set of diffracted shear waves: S M Klem, E Garnero, H Lai


1340h **DI53A-0048 POSTER** Lower mantle structure beneath Africa imaged by SKS-SKKKS differential splitting and traveltime delays: M D Long, M C Reiss

1340h **DI53A-0049 POSTER** Seismic Evidence for Small-scale Shear Velocity Variance of D” Layer beneath Northern Indian Plate: G Li, L Bai, J Ritsema

1340h **DI53A-0050 POSTER** The internal structure of the African superplume; insights from body-wave seismic tomography and converted phases: A Boyce, I D Bastow, E M Golos, E Caunt, J Guilloud De Courbeville, S Desai, R Kounoudis, S Burdick, S Cottaar, R D van der Hilst

1340h **DI53A-0051 POSTER** Topography of the western Pacific LLSVP constrained by S wave multipathing: S K Roy, N Takeuchi, S Davulluri, R K Mangalampally, H Kawakatsu

1340h **DI53A-0052 POSTER** Toward Mapping P-wave Azimuthal Anisotropy near the Core-Mantle Boundary using Novel Observations of Core-Diffracted Waves Psdiff: K Deng, J Xue, T R A Song
A Perfect Match: Bringing Together Models of Geodynamics and Thermodynamics to Understand Geochemical and Petrological Observations I (joint with DI, T)

Presiding: Tobias Keller, Stanford University; Rosie Jones, University of Oxford; Mark Ghiorso, OFM Research; Marc Spiegelman, Columbia University;

Modeling Melt Generation and Transport by Integrating Thermodynamic Models in Geodynamic Simulations Using the Community Code ASPECT: J Dannberg, R Gassmoeller, T Heister

A Multiphase Multicomponent Reactive Transport Formalism for Disequilibrium Melt-Rock Processes and Geochemical Geodynamics: B Oliveira, J C Afonso, R Tilhac

A 2D ridge model for melt migration constrained by geophysical, geochemical, and petrologic observations: B Liu, Y Liang

Modeling uranium-series disequilibria in partial melts on the ENKI platform: progress and goals: L J Elkins, M W Spiegelman, B Bourdon, Y Lyu

Thermodynamically consistent fluid dynamics of a strombolian volcanic conduit: J von der Lieth, M K Hort

Thermal history of phenocrysts during mafic injection resolved by granular-scale simulations: C Culha, T Keller, J Suckale, Z Qin


A Model for the Density of H2O-CO2-NaCl Fluids Based on High-Pressure Experimental Data to 800 K and 1500 bars: M Louvel, C Springsklee, J L Hazemann, C Sanchez-Valle

Continental Intraplate Magmas: Their Origins and Significance Interpreted from Multidisciplinary Studies I (joint with NH, P, S, T)

Presiding: Thomas Sisson, USGS California Volcano Observatory; Walter Mooney, USGS Earthquake Science Center Menlo Park; Katarzyna Liszewska, USGS;

Mmagmatic mapping: Providing the temporal link between lava flow chemistry, volume, petrogenesis and the mantle at the edge of the Colorado Plateau: M Mnich, C Condit


Origin of parental magmas of ultramafic-carbonatite complexes in LIPs via two-stage melting of mantle plume heads: evidence from Tiksheozero intrusive complex, Northern Karelia, Russia: E V Sharkov, M M Bogina, A V Chistyakov, B V Belyatsky

The generation of Cenozoic intraplate basalts in the big mantle wedge under eastern Asia: Y Xu, H Li, L Hong

Thermobarometry of Silica-Undersaturated Rocks on the Example of Rungwe Volcanic Province, Tanzania, East African Rift: C Class, G T Mesko, T A Plank, N Boniface, S Manya
Quantitative Volcanic Hazard Assessment and Uncertainty Analysis in Satellite Remote Sensing and Modeling I

Presiding: Ciro Del Negro, National Institute of Geophysics and Volcanology; Michael Ramsey, University of Pittsburgh; Alexis Hérault, Conservatoire des Arts et Métiers; Matthew Watson, University of Bristol;

1600h V54A-01 Optimal Digital Elevation Models (DEMs) from multiple data sources, and topography analysis sensitivity for improved volcano hazard assessment: E Macorps, F Deng, T H Dixon, M Rodgers, C M López, M Ordoñez


1630h V54A-03 Emissivity retrievals from active lava surfaces: Implications for improved flow modeling and hazard assessment: J O Thompson, M S Ramsey

1645h V54A-04 InSAR Characterization of Ground Surface Displacements Related to Lava Flows at Piton de la Fournaise (La Réunion Island, Indian Ocean): A Hrysiewicz, J L Froger, T Menand, N Villeneuve, A Peltier


1715h V54A-06 SPACEBORNE SUPPORT TO THE PREDICTION OF LAVA DISTANCE TO RUN: A DISCUSSION: F Ferrucci, N Rogic, G Ganci, A Cappello, S Blake, H Rymer

1730h V54A-07 Toward Modeling Lava Breakouts: C J Conroy, E Lev

1745h V54A-08 Statistical theory of probabilistic hazard maps: a probability density function for inundation edge location: D Hyman, M I Bursik, A Bevilacqua