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The deadline to submit abstract submissions for AGU25 has passed. Abstract acceptance notifications will be emailed, and the final scientific program will be published in early October. Please utilize this document to view and search for sessions and submitted abstracts. Please refer to the Annual Meeting website for updated information.

Please email the Scientific program Team with any questions about abstracts or the scientific program.

GEODESY

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21st Century Geodesy: Growing the Field by Highlighting Contributions and Careers in the Service of Society

Conveners: **Benjamin Phillips**, Self-Employed; **Donna Charlevoix**, UNAVCO, Inc. Boulder; **Daniel Roman**, National Geodetic Survey; **Linda Foster**, ESRI; **Jeremy Maurer**, Missouri University of Science and Technology

2002012 *Expanding Geodesy Awareness and Skills at the Undergraduate Level: The MSU Summer Geodesy Internship Program:* **J Elliott**, J T Freymueller

1972622 *Attracting, Preparing, and Sustaining Geodesists: EarthScope Workforce and Education Initiatives:* **M Hubenthal**, G Haberli, B A Pratt-Sitaula, K Russo-Nixon, D Okamoto, M Weber

1980301 *Educating the Global 21st Century InSAR Workforce: Lessons Learned from the EarthScope InSAR Processing and Analysis (ISCE+) Short Course:* **G Funning**, F J Meyer, M Weber

1976052 *Geodesy: Promoting a Resilient World Through Geospatial Data Sustainability:* **L Foster**

1997309 *The Point of Beginning Initiative: Strengthening the Geomatics Workforce through Career and Technical Education:* **S Holland**, R Smith

1870734 *Elevating Earth Knowledge and Education through Next-Generation Satellite Laser Altimetry:* **H A Fricker**, J D Armston

1881650 *Undergraduate Geodesy Curriculum: How Data-rich Online Modules are Used and Adapted by Faculty:* **B A Pratt-Sitaula**, K O'Connell, B J Douglas, B Walker, B T Crosby, E A R Iverson, D J Charlevoix

1881844 *Applied Geodesy for Earthquake Science and Public Safety: A Perspective from the USGS Earthquake Science Center Crustal Deformation Group:* **K A Guns**, A J Barbour, T L Ericksen, C Hanagan, S E Minson, J R Murray, E Phillips, F F Pollitz, J Parsi, R C Turner, A Aspiotes, C W Baden, E S Cochran, D E Goldberg, A Manaster, J M Nevitt, M H Murray, J L Svarc

1886335 *Building a Digital Nation: The Critical Role of Geodesy in Norway's Digitalization, Presented by The Norwegian Mapping Authority:* **J Welle**, L Olsson

1896920 *Developing a Multi-Level Geodetic Workforce Pipeline Through Integrated Education, Research, and Outreach:* **H Lee**, C L Glennie, S Xie, J C Fernandez Diaz

1897895 *Efforts to Train PhD Students in Geodesy at SIO, UCSD:* **D T Sandwell**, Y Bock, A A Borsa, D Caccamise, Y A Fialko, H A Fricker, A A Gabriel, J Greenbaum, J S Haase, M R Mazloff, M A Zumberge

1898636 *Bridging the Gap in Geodesy Education and Capacity through NGS's Geospatial Modeling Grant Program:* **C E Parrish**, J T Freymueller, Y Bock, D Gomez, C Becker

1917163 *Branding a Hero: Attracting Students in Generations Z and Alpha to Purpose-Driven Careers in Geodesy:* **I E Pope**, S Stanley, J Maurer

1920467 *What is the Role of Professional Societies in the Geodesy Workforce? A Vision for the AGU Geodesy Section:* **K M Luttrell**, L M Wallace, A Socquet, M E Pritchard

1924011 *An Academic Consortium Approach to Enhancing U.S. Geomatics Education & Research: Lessons Learned from GEO-ESCON:* **D Kelley**, B Felts

1945556 *Professional Surveyors and the Geodesy Crisis: An Opportunity to Grow our Profession AND Public Awareness:* **T Burch**, L Foster

1947356 *From Datum to Digital Twin: Geodesy as the Bedrock of the Modern Reality Capture Economy:* **R Hippenstiel**

1952129 *Spatial Literacy Through Storytelling: Inspiring the Next Generation to Save the World:* **L Kratky**

1954001 *Geodesy is a Joke: On the use of comedy and entertainment for recruitment of students to geodesy careers:* **J Maurer**, J Garcia

1966075 *A Center to Support the Sustainment and Growth of Geodesy:* **D J Charlevoix**, B R Phillips, S Merkowitz

1966604 *A Spaceflight-Based Perspective on Reinvigorating Geodesy:* **S V Bettadpur**, R S Nerem, L A Magruder

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Conveners: **Helen Amanda Fricker**, University of California San Diego; **John Armston**, Remote Sensing Center, Department of Science

2001906 *A 40-year record of Antarctic ice sheet dynamics and mass balance from satellite altimetry, climate and geodetic models:* **B M Csatho**, A F Schenk, H Gao, E Kabe Moukete, J Nilsson, I Parmuzin, S Adhikari, M R van den Broeke, D Felikson, B Medley, S Nowicki, N Schlegel

1970324 *An Overview of ICESat-2 Data Products and Release 007 Improvements:* **C Sadlik**, J Lee, L A Magruder, C E Parrish, A Gibbons, D Fritz, L Kaser, T Neumann

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1901823 *Co-Development of Sampling Lidar Missions and Statistical Methods for Evaluating Vegetation Structure and Change:* **S P Healey**, Z Yang, J D Armston, G Ståhl, S Saarela, P L Patterson, R Dubayah, R McRoberts, T Gobakken, E Næsset

1974861 *EDGE swath altimetry for monitoring of ice-shelf rifts and rift propagation:* **B E Smith**, T Sutterley, K Poinar

1949224 *Evaluating ICESat-2 ATL03 Data for Public Release:* **A Gibbons**, K Brunt, S Holland, A Ivanoff, J Lee, T Neumann, T C Sutterley

1975188 *Fine resolution boreal forest canopy height retrievals using downscaled ICESat-2, PlanetScope imagery, and ArcticDEM:* **H R K Real**, D Liu

1906185 *Four Decades of Forest Canopy Growth on the Loess Plateau Revealed by lCESat-2 and Landsat Data:* **M Liu**, B Zhao Sr

1966433 *From a laser swath to an actionable product, how will you use EDGE observations?:* **S Nowicki**

1870645 *Fusing GEDI and ICESat-2 Data for Regional Canopy Height Mapping:* **A Nazir**, N P Hanan

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1999046 *ICESat-2 Diffuse Attenuation Coefficients (Kd) in Coastal Waters: Comparison with In-Situ and Conventional Ocean-Color Satellites:* **E Eidam**, C Wang, K Bisson, H Glover, J Scheick

1961538 *Integrating Machine Learning and Spaceborne Laser Altimetry to Enhance Vegetation Height Estimation in Dryland Vegetation:* **T N Nde**, J Enterkine, N F Glenn

1912713 *Is SDB vertical accuracy dependent on satellite mission and processing method?:* **M Palaseanu-Lovejoy**, J Danielson, M Kim, B Eder, G Imahori

1986729 *libTTS: A Modular Topological Data Analysis Pipeline for Forest Point Cloud Analysis with a Pathway to Deep Learning Integration:* **X Xu**, F Iuricich, J D Armston, Y Tan, L D Floriani

1957942 *Mapping of Shallow Water Bathymetry by ICESat-2 Photons and Sentinel-2 Imagery:* **K H Tseng**

1974252 *Mapping permafrost disturbance from space: Results from the ICESat-2 mission and applications for EDGE:* **M Bryant**, A A Borsa, H A Fricker, R J Michaelides, M Siegfried

1952948 *Next Generation Forest Carbon Monitoring and Modeling Using Satellite Laser Altimetry:* **G C Hurtt**, L Ma, J D Armston, J B Blair, E T Campbell, L P Chini, R Dubayah, L Duncanson, M A Hofton, R L Lamb, S B Luthcke, Q Shen, J Pederson, H Tang

1915009 *Pan-Antarctic observations of ice shelf rift propagation and their topographic signatures: Implications for calving rate and ice shelf stability:* **C C Walker**, B P Lipovsky, C Needell, C Roberts, H A Fricker

1947904 *Selection criteria for release-3 models for GEDI aboveground biomass density:* **J R Kellner**, J D Armston, L Duncanson, J B Blair, J Bruening, T de Conto, S Hancock, S Healey, M A Hofton, A Holcomb, V Leitold, S B Luthcke, J Mascaro, D Minor, A Pascual, L Wertis, L Xiong, R Dubayah

1964006 *Snow depth from satellite laser altimetry: Recent progress with ICESat-2 and potential for EDGE:* **D E Shean**, H Besso, J D Lundquist, N F Glenn, C Vuyovich, J M Pflug, B E Smith, J P Swinski, S B Luthcke, H A Fricker

1923985 *Strong potential for young boreal forest growth found in Russia:* **C S R Neigh**, P Montesano, J O Sexton, M Wooten, W Wagner, M Feng, N Carvalhais, L Calle, M Carroll

1960811 *The "Rosetta Stone" Potential of EDGE for Glacier Mass Balance:* **C Florentine**, M A Hofton, J B Garvin

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Conveners: **R Steven Nerem**, University of Colorado at Boulder; **Jade Morton**, University of Colorado Boulder; **Benedikt Soja**, Jet Propulsion Laboratory

1937231 *A machine learning framework to map Atmospheric Rivers using space- and ground-based GNSS observations:* **E Shehaj**, S S Leroy, K Cahoy, B Soja

1997278 *A Machine Learning-Based Exploration of Modelling VLBI Station Displacements:* **S Singh**, J Boehm, H Krasna, S Boehm, N B, O Dikshit

1891356 *Bathymetry Prediction with SWOT Gravity Anomaly using Machine Learning Methods:* **D T Sandwell**, B J Phrampus, B Nilsson, Y Yu, F Salajegheh, H Harper, B Liu, O B Andersen, W H F Smith, P Elmore, J Beale, L Altamirano, J Kirby, J Roberts

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1955302 *Enhancing GGM Coefficients for Precise Geoid Modeling Using PINN:* **J Akutcha**, A Abdalla

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1945357 *Assessing the Impact on CPO Accuracy of Correcting the IAU2000Planetary Nutation Model:* **Z Zerifi**, J M Ferrandiz, A Escapa, T Baenas, M A Juárez, S Belda, M Karbon

1890428 *Ensuring Consistency in the Terrestrial–Celestial Transformation Chain: Implications for Earth System Monitoring:* **M Karbon**

1941885 *Excitation of polar motion from GRACE/GRACE-FO observations, hydrological models, and hybrid SLR + DORIS solutions:* **J Nastula**, J Śliwińska-Bronowicz, M Wińska, A Partyka, A Löcher, J Kusche, H Gerdener

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1961027 *High-Resolution Inland Surface Water Mapping Using GNSS Reflectometry and Deep Learning:* **Z Zhao**, J Morton

1981392 *Machine Learning Based Offset Detection in Vertical GPS Time Series:* **Z Young**, Z H Hoylman, H R Martens, W P Gardner

1916507 *Probabilistic Neural Networks for Atmospheric Delay Modeling: Enhancing GNSS Positioning with Uncertainty-Aware Corrections:* **B Soja**, T Hadaś, R Orus Perez, M A Adil, M Aichinger-Rosenberger, L Crocetti, J Gou, K Kaźmierski, G Marut, S Mao, A Rüegg, M Schartner

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1851835 *Responses To Extreme Weather Events From LEO Satellite Accelerometer:* **J Li**, Z Li

1910972 *Satellite-Based Geostrophic Currents for Improved Ocean Angular Momentum Estimates:* **J Vargas-Alemañy**, I Vigo, D Garcia, J M Ferrandiz

1955333 *Status of the IERS Conventions:* **S M Byram**, N G Stamatakos, M Davis

1947008 *The Work Report on the UT1 Measurement and Service of the National Time Service Center.:* **K Nan**, X Yang, Y Wu, X Li, D Yao, J Liu

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1907404 *Analysis of Selected Global Gravitational Fields with an Emphasis on Kaula's Rule:* **M Sprlak**, J Belinger

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Conveners: **Anna Klos**, Military University of Technology; **Susanna Werth**, Arizona State University; **Henryk Dobslaw**, Helmholtz Centre Potsdam GFZ German Research Centre for Geosciences; **Carmen Blackwood**, NASA Jet Propulsion Laboratory; **Grace Carlson**, Virginia Polytechnic Institute and State University

1909701 *Contemporary mass-driven sea level change is underestimated due to Earth's response to a century of ocean mass change:* **M Rousselet**, A Couhert, K Chanard, P Exertier, L Fleitout

1926749 *Analysis of Thermal Deformation of Closely Spaced GNSS Monuments:* **M Lubeck**, T Herring

2000925 *Benchmarking Model Estimates of Global Mass Change via Satellite Gravimetry:* **B Krichman**

1992201 *Discrepancies in Water Storage Trends from GRACE and LDAS Models Across U.S. River Basins: Implications for Climate Monitoring:* **Y R LAI**, C Tseng

1960796 *Disentangling Changes in Earth's Oblateness Across the Satellite Laser Ranging Record:* **A S Bellas-Manley**, R S Nerem, B D Loomis, M J Croteau

1956173 *Effects of Seasonal Snow Water on GRACE/GRACE-FO Terrestrial Water Storage and GNSS Station Displacement:* **K Gaastra**, D F Argus, F W Landerer

1938821 *Transformation Between the Celestial and Terrestrial Reference Systems: a Perspective in the Update of Its Standarization:* **A Escapa**, J M Ferrandiz

1845563 *Fluid Love Numbers and Permanent Tide of the Earth:* **S H Na**, Y Yi

1895627 *Generalized Solutions for the Gravitational Potential of Constant-Density Polyhedra:* **T Periyandy**, D M Bevis

1871146 *GNSS Data Quality Analysis and Visualization Under Varying Geomagnetic Conditions:* **B Weaver**, C Simpson

1952098 *How does the establishment of a stable VLBI network in India impact Earth Orientation Parameter estimation?:* **A Laha**, A Dwivedi, N B, O Dikshit

1978097 *Magnetic Shielding Validation for the GRATTIS Mission's Simplified Gravitational Reference Sensor:* **W Sanchez**, P J Wass, J Abedrabbo, J W Conklin

1902852 *Validation of NAPGD2022 in the Oregon Coast Range and Willamette Valley with Deflections of the Vertical:* **M Albayrak**, C E Parrish, R A Hardy, C Simpson, B Weaver, S Eng, S Guillaume

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1868063 *Isolating the Effects of Glacial Isostatic Adjustment in the Chesapeake Bay from a New GNSS-Constrained Vertical Land Motion Solution:* **D S Stamps, PhD**, K Williams, J M Duda, P Hensel, W Moore, R Hippenstiel

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Conveners: **D. Sarah Stamps**, Virginia Tech; **Emily Montgomery-Brown**, USGS California Volcano Observatory; **Christelle Wauthier**, The Pennsylvania State University; **Freysteinn Sigmundsson**, University of Iceland; **Federico Galetto**, Istituto Nazionale di Geofisica e Vulcanologia

1867071 *A Compilation of Volcanic Deformation and Geodetic Source Models Across the Aleutian Arc:* **Y Cheng**, R Grapenthin

1922862 *Analysis of Ground Deformation Preceding the December 2020 – May 2021 Summit Eruption at Kilauea Volcano, Hawai'i:* **W K Lo**, C Wauthier, Y C Kim

1922039 *Characterizing and Modeling Opposing Deformation at Westdahl Volcano and Fisher Caldera on Unimak Island, Alaska from 1992 to 2009:* **I Twomey**, R M Parameswaran, M Angarita, R Grapenthin

1867678 *Deformation processes at Masaya Volcano, Nicaragua from 2018 to 2024, analyzed using InSAR time-series and geodetic modeling:* **E Johnson**, Y C Kim, C Wauthier

1924825 *Deformation Timeseries from Spaceborne InSAR Observations for Global Volcano Monitoring: Developing, Testing, and Scaling the Processing Workflow:* **A Shkreli**, F F Williams, K S Pepin, K Kristenson, F J Meyer, H A Zebker

1862876 *dMODELS: an Open-Source MATLAB Software Package for Modeling Crustal Deformation:* **D S Stamps, PhD**, M Battaglia, M Béjar Pizarro, K Pesola

1926722 *Dynamic Models of Magma Storage Within a Damaging and Softening Crust and their Application to Sierra-Negra's Pre-Eruptive Inflation Pattern:* **D Walwer**, P Lundgren

2004549 *Recent slow down in ice mass loss of the Greenland and Antarctic Ice Sheets.:* **I Velicogna**, G A, T C Sutterley, C C Liang

1941102 *Spatiotemporal variability of groundwater storage in Poland using downscaled GRACE data with consideration of hydrodynamic conditions:* **J Śliwińska-Bronowicz**, T Solovey, R Janica, A Stradczuk, A Brzezińska

1995658 *Evolution of the 2011-12 Puyehue-Cordón Caulle shallow silicic intrusion – constrained from gravity and deformation.:* **D A Lobos Lillo, PhD**, F Delgado, P Ruprecht, L Cordova, C B Kratt, S Sayyadi, F Aron, C A Miller, P León, L Godoy, M E Pritchard

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1952343 *Investigating Flank Instability Using InSAR Time Series at Pacaya Volcano in Guatemala:* **L Miller**, C Wauthier, Y C Kim

1952016 *Mitigating Atmospheric Noise in InSAR Time-Series with a Convolutional Neural Network:* **R Bussard**, C Wauthier

1894685 *Post-Collapse Flank Instability at Anak Krakatau Revealed by InSAR Time-Series:* **Y C Kim**, C Wauthier, T R Walter, S Husrin, H Darmawan, D Müller

1926201 *Reversal in Deformation Signal at Aniakchak Volcano in Alaska following the 2021 Mw 8.2 Chignik earthquake:* **A Brant**, R M Parameswaran, M Angarita, R Grapenthin

1926166 *Short-term and decadal effects of topography and glacial loads on Westdahl volcano, Alaska:* **R M Parameswaran**, R Grapenthin

1925479 *Tectonic and morphological responses to magma source pressurization during the 2023 Shishaldin eruption:* **M Angarita**, R Grapenthin, R M Parameswaran

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GNSS for a Changing Planet: Advancing Science and Resilience with IGS Products *(joint with A, GC, NS, SY)*

Conveners: **Camille Martire**, Jet Propulsion Laboratory/California Institute of Technology; **Rolf Dach**, University of Bern; **Elisabetta D'Anastasio**, GNS Science Te Pū Ao; **Thomas Herring**, Massachusetts Institute of Technology; **Camille Martire**, Jet Propulsion Laboratory/California Institute of Technology

1864853 *The Impact of Ambiguity Resolution on Coordinate Noise in Multi-GNSS Precise Point Positioning Using Non-JPL Products in GipsyX/RTGx:* **D Basil**, A Susnik, N T Penna, P J Clarke

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Conveners: **Surui Xie**, Scripps Institution of Oceanography; **Makan Karegar**, University of Bonn; **Dongju Peng**, Nanyang Technological University; **Jihye Park**, Oregon State University; **Surui Xie**, Scripps Institution of Oceanography

1927648 *Global Navigation Satellite Systems Interferometric Reflectometry (GNSS-IR) Studies in the Great Lakes and Greenland:* **K F Tiampo**, A Alfaro, K Huckleby, R Cassotto, H Fasullo, M Willis

1936226 *GNSS-IR for Coastal Water Level Monitoring in Alaska's Challenging Environments:* **N Wardwell**, J Mitchell, R Robinson

1866086 *GNSS-IR monitoring of coastal and river water levels in Cameroon for Sentinel and SWOT Altimetry validation:* **M Karegar**, L Yap, J Chen, J Kusche, A Nasser Ngouh, C Ngouanet, L H Kandé, J Kamguia

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1972735 *Monitoring water level and land fast Ice in Alaska using GNSS-IR:* **J Park**, A Azeez, J Bohn

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1940572 *Geodetic and seismic evidence for complex fault interactions and slow slip in the Palghar intraplate swarm, western India:* **R Bhagat**, K M Sreejith, P Bhattacharya, H Bhat, C Satriano, V K Gahalaut

1883837 *How Can Fault Slip Inversions Be Reliable? Insights from Bayesian Analysis of the 2019 Ridgecrest Earthquakes and Afterslip:* **X Zhao**, J Jiang

1918521 *Identification of Previously Unmapped Faults using Phase Gradient Interferometry Nearby Major Earthquakes.:* **R Garcia**, D T Sandwell, Y Bock

1907904 *Linking coseismic stress change and afterslip: A mechanics-based study of the 2016 Central Tottori earthquake, Japan:* **A Meneses-Gutierrez**, T Saito

1907506 *Localized Crustal Deformation Along the Hida Mountain Range Following the 2024 Noto Peninsula Earthquake Detected by Dense Geodetic Observations:* **S Nagaoka**, Y Takada, T Nishimura, T Sagiya, Y Ohta

1972324 *Mature fault mechanics revealed by the highly efficient 2025 Mandalay earthquake:* **E O Lindsey**, Y Wang, Y T Kuo, M Thant, T Z Htet Tin

1890157 *Near Instantaneously Triggered Mw 5.9 Aftershock During the 2025 Mw 7.1 Dingri Earthquake Revealed by Radar Interferometry:* **X Wang**, J Zhu, D Li, X Xu, Z Li, D T Sandwell, D Hao, C LIU, R Fang

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Illuminating Complex Earthquake Rupture Processes with Coseismic Geodesy *(joint with NH, S, T)*

Conveners: **Eric Lindsey**, Earth Observatory of Singapore; **Anne Socquet**, University Joseph Fourier Grenoble; **Yu Wang**, National Taiwan University; **Nadine Reitman**, U.S. Geological Survey; **Dara Goldberg**, Scripps Institution of Oceanography

1906068 *Constraining On- and Off-Fault Nonlinear Dynamic Rupture Parameters via the First Hierarchical Bayesian Inversion of GNSS and Satellite Data for the 2019 M_w 7.1 Ridgecrest Earthquake:* **A A Gabriel**, Z Niu, M Kruse, L Seelinger, N Schliwa, H Igel

1895125 *Coseismic and Early Postseismic Deformation due to the 2025 Mw 7.1 Tingri (South Tibet) Earthquake: Insights from Space Geodetic Observations and Inverse Models:* **X Zou**, Y A Fialko

2001219 *Displacement Gradients and Distributed Deformation from PlanetScope Imagery of the 6 February 2023 Mw 7.8 Pazarcık–Kahramanmaraş Earthquake:* **T Casteel**, C Dai

1932736 *Rupture Geometry and Slip Distribution of the 2025 Mw 7.8 Myanmar Earthquake Constrained by Sentinel-1A/2 and ALOS-2 Satellite Data:* **Y A Fialko**, T Ulrich, X Zou, N Schliwa, M Marchandon, F Tan, A A Gabriel, W Fan, P M Shearer

1890029 *Seismic Source Investigation of the 2025 Southern Tibetan Plateau and Central Myanmar Earthquakes Using SAR-based Observations and Analytical Modeling:* **S Puliero**, V Ruocco, S Atzori, M Polcari, C Tolomei, A Antonioli, M Albano, M Moro, S Stramondo, M Saroli, P Striano, F Monterroso, M Bonano, F Casu, C De Luca, R Lanari

1982219 *Simulating GNSS-derived TEC to uncover the rupture complexity of the 2024 Mw7.5 Noto earthquake:* **Y Kaneko**, P Inchin, M D Zettergren, J B Snively, R Enomoto

1879925 *Strengths and limitations of high-resolution satellite optical geodesy for illuminating earthquake deformation:* **C Hanagan**, S DeLong, N G Reitman, A E Hatem, J Thompson Jobe, J Vermeer

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Illuminating Human- Hydrosphere Interactions Investigated with Hydrogeodesy *(joint with H)*

Conveners: **Diana Carolina Hurtado Pulido**, Tulane University; **Zachary Young**, Deapartment of Geosciences, University of Montana; **Grace Carlson**, Virginia Polytechnic Institute and State University; **Karen Luttrell**, Louisiana State University and Agricultural & Mechanical College; **Diana Carolina Hurtado Pulido**, Tulane University

249953
Measurements and Modeling of the Earth's Response to Surface Mass Variability

Conveners: **Yuning Fu**, Jet Propulsion Laboratory; **Shfaqat Khan**, DTU National Space Institute; **Christopher Johnson**, Univ California Berkeley; **Surendra Adhikari**, Caltech-Seismological Lab; **Esther Oyedele**, NASA Jet Propulsion Laboratory, California Institute of Technology

1957928 *A New Perspective on the Mantle Rheology of West Antarctica through GIA Modeling with 3D Viscosity Constrained by Geodetic Observations:* **D dePolo**, T Yuan, S Zhong, M A King

1939342 *A Soil Temperature-Driven Layered Model Reveals Diurnal Thermoelastic Deformation in GNSS Height Time Series:* **R Lu**, Z Li, Y Feng, L Ye, M Zhang, W Jiang

1893160 *Surface rupture and slip distribution of the 2025 M7.7 Mandalay earthquake: Implications for length scaling of supershear earthquakes:* **N G Reitman**, Y Wang, Y T Kuo, C Hanagan, A Hatem, C B DuRoss, C C Chen, D E Goldberg, H Z Yin, R W Briggs, J Thompson Jobe, S R Nicovich, PhD, E M Lynch, PhD, R G Schmitt, J Powell, W D Barnhart

1875473 *The 2025 M_w7.7 Mandalay, Myanmar, earthquake reveals complex earthquake cycle on the Sagaing fault:* **S L Antoine**, R Shrestha, C Milliner, K IM, C Rollins, K Wang, K Chen, J P Avouac

1917323 *Three-Dimensional Coseismic Deformation and Fault Kinematics of the 2025 M7.7 Myanmar Earthquake: Implications for Crustal Flow around the Eastern Himalayan Syntaxis:* **L Shen**, M S Steckler

1958681 *Unveiling Complex Rupture Dynamics of the 2025 Myanmar Earthquake through Integrated Field and Satellite Observations:* **F Canaslan Comut**, Ş Gürboğa, S Lyu, M Motagh, K S Thu, M Karadağlar

1876247 *Assessing Groundwater Depletion in the Colorado River Basin: Identifying Key Controlling Factors:* **K Abdelmohsen**, J S Famiglietti

1957601 *Land level to water level from Interferometric Synthetic Aperture Radar (InSAR) for relative sea level hazard and water resources:* **S F Sherpa**

1944963 *Mapping Land deformation using Sentinel-1 InSAR in Rapidly Urbanized Guwahati City, Assam, India:* **A J Gogoi**, J Dutta, R Choudhury

1865319 *Threats of relative sea level rise in coastal communities: InSAR approach for the long-term vertical land motion trends north of Lake Pontchartrain.:* **D C Hurtado Pulido**, A Donnellan, T McGirt

1881064 *An evaluation of models of global deformation from ongoing ice mass changes and long-term GIA:* **K Vance**, J T Freymueller, S Coulson

1862068 *Assessing Vertical Displacement Predictions from GIA Models in the Great Lakes Region Using Geodetic Observations:* **H L Guerra Neto**, J T Freymueller

1945787 *Attributing vertical land motion in the Western U.S.: Comparing SOPAC and JPL GNSS-derived displacements against GFZ loading models and GRACE:* **R Hohensinn**, Y Bock, L Ferreira, L Jensen, R Dill, A Moore, D F Argus, Z Liu, H R Martens

1988726 *Changes in gravitational energy of the Earth associated with global surface mass transport derived from GRACE and GRACE-FO:* **C C Xu**, Y She, H Tang

1987373 *Estimates of Groundwater Variations in the Great Lakes Basin Combining Geodetic and Hydrological Datasets:* **Y Fu**, H L Guerra Neto, J T Freymueller

1984516 *Evaluating the consistency betweenmodels of atmosphere, ocean, and continental water withgeodetic observations of Earth's mass center:* **D F Argus**, B J Haines, M B Heflin, K Gaastra, A Peidou, F W Landerer, D N Wiese, C Kreemer, G Blewitt, W C Hammond, M Swarr, H R Martens, Z Young, N Lau, A A Borsa, R Hohensinn, Y Bock, A W Moore

1975977 *Hydrologic Loading and Its Effect on the GNSS Vertical Component in the Bengal Basin:* **M Z A Razzak**, D R Mondal, A H Bhuiyan, S H Akhter, A N Mayeesha, E O Lindsey

1895045 *Impact of 3D Earth Structure on Load-Induced Surface Displacement and Inferred Terrestrial Water Storage Change:* **M Swarr**, D F Argus, H R Martens, Y Fu, L Xue, W P Gardner

246880
Plate Motion, Continental Deformation, and Interseismic Strain Accumulation *(joint with H, NH, S, T)*

Conveners: **Donald Argus**, Jet Propulsion Laboratory, California Institute of Technology; **Jeffrey Freymueller**, University of Alaska Fairbanks; **D. Sarah Stamps**, Virginia Tech; **Rui Fernandes**, Instituto Dom Luiz (IDL) - Universidade da Beira Interior

1956929 *Characterizing GPS Noise for Improved Velocity and Strain Estimates in the New Madrid Seismic Zone:* **H Heydarizadeh Shali**, R Smalley Jr, D Gomez, E C Kendrick

1946737 *Decadal Deformation reveal South-Westward Escape of the Rif Block Along the Nekor Fault, Northern Morocco.:* **H Ouammou**, A Tahayt, H Wang, A Aoudia

1882606 *Disentangling on-fault and off-fault contributions to geodetic strain rates:* **N Castro Perdomo**, K M Johnson

1917927 *Estimating Along-Fault Slip Rate Variations from GPS Data Using Geometrical Interpolation and Physics-Informed Neural Networks:* **P Boymond**, C Muller

1906273 *Evidence of strong plate coupling in the Uttarakhand Himalayas: Constrained from GNSS and ALOS-2 InSAR observations:* **M Yadav**, D Panda, E O Lindsey, S R Gangumalla

1931663 *Fine-Scale Interseismic Strain Rate Fields in Japan from an Ultra-Dense GNSS Network:* **M Ohtate**, Y Ohta, M Ohzono, H Takahashi

1983042 *GEMMA Project: Geodynamic Insights from GNSS and Modelling in Macaronesia:* **R M S Fernandes**, J Duarte, R Ramalho, P J González, J Almeida, F M Rosas

1885422 *InSAR Times Series Reveal Groundwater-Induced Subsidence Shaped by Thrust-Controlled Diapir in Guercif Basin, Northeastern Morocco.:* **H Ouammou**, A Tahayt

1887154 *Resolving groundwater storage changes using integrated geodetic approaches:* **G Carlson**, S Werth, M Shirzaei, M Girotto, C Massari, S Modanesi, M Dionigi

1991976 *Simulated Evaluation of Kalman-Based TWSC Inversion Using GRACE, GNSS, and NLDAS over the Continental United States.:* **Y R LAI**, W L Ke

1893559 *Transient Earth Rheology Temporarily Slows West Antarctic Ice Retreat in Future Climate Projections:* **A Coonin**, B Parazin, H C P Lau, N A Gomez

1963995 *Glacial Isostatic Adjustment Modeling in the Coast Mountains, British Columbia, Canada:* **C Brierley-Green**, T S James, A J Schaeffer, B Menounos, K Wang, J He

1882467 *Global plate motions across seismic cycles and their rheological underpinnings:* **J Fang**, M Gurnis, M Heldman, J Rudi, G Stadler, N Lapusta, R Mallick

1907425 *High-resolution Interseismic Crustal Deformation Mapping in Strain Concentration Zone within the Volcanic Arc Using L-band InSAR and Ultra-dense GNSS Network:* **S Nagaoka**, Y Takada, T Nishimura, T Sagiya, Y Ohta

1855674 *Inferring tectonic plate rotations from InSAR time series:* **Y K Liu**, Z Yunjun, M Simons

1916292 *InSAR Monitoring of Interseismic Deformation Along the Caribbean-South America Transform Boundary:* **S Barrows**, M Higgins, S Wdowinski, T Little

1906071 *Interactions of Aseismic and Seismic Slips of the Philippines Fault on Leyte Island Revealed by InSAR and GNSS Time-Series:* **Y Okur**, Y Fukushima, K E Ching, Y Sharma

1911123 *Interseismic and Postseismic Deformation of 2023 Kahramanmaraş Earthquakes from Subswath and Burst Overlap Interferometry (SBOI):* **M Nergizci**, T J Wright, A J Hooper, M Lazecky, Z Li, S Ergintav, Z Çakır

1918424 *Interseismic Locking on the Main Himalayan Thrust with Physical Constraints and Viscous Flow in Lower Crust:* **D Acharya**, K M Johnson

1870658 *Investigating Surface Motions of the African Continent Using GNSS Data and Kinematic Modeling:* **A Pryor**, D S Stamps, PhD, E Saria, T Little

1907458 *Leveraging Ultra-Dense GNSS Networks for High-Resolution Crustal Deformation Monitoring in Japan:* **Y Ohta**

1927068 *New capabilities and applications for tectonic block models:* **E L Evans**, J Sellars, A C Travers, M Diaz, J Loveless

1935499 *New Intra-Frame Deformation Model for the Western U.S.:* **A Bennett**, Y Bock, L Ferreira, P Fang, D T Sandwell, Z Liu, A Moore, J T Roberts, R Hohensinn

1910654 *Present-day to Millennial Timescale Kinematics of Mountain Building Across Taiwan:* **P C Chiang**, K M Johnson, K E Ching, B J Yanites, R Y Chuang

1877946 *Resolving active tectonic force fields and strain rates in Japan using a physics-based approach:* **L M Wallace**, T Nishimura, A J Haines, E Sherrill

1948326 *Resolving Present-Day Tectonic Deformation in Indonesia Using GPS Geodesy.:* **Y A Rahmawan**, Y Jiang, E Nissen

1928608 *Strain Rate Distribution and Tectonic Deformation Analysis in the Rif Belt from GNSS Data:* **H Akka**, A Tahayt, A Fadil, P Vernant, T Mourabit, A Rigo, S Mazzotti, J Chery, A Koulali, R Reilinger

1971455 *Sudden Megathrust Locking Accelerations at theEdge of a Mature Seismic Gap in Chile:* **J C C Baez Sr**, M S M Switt, S Ruiz, B Potin, E Klein, S Barra, A Socquet, J Hormazabal, D González Sr

1952122 *Surface Creep and Fault Geometry of the Enriquillo-Plantain Garden Fault in Haiti from InSAR Timeseries:* **R Dutta**, J Maurer, Y C Lee

1980073 *Tectonic Readjustment, Not Rift Failure: A Re-evaluation of the Dynamics of Suez Rift, Egypt:* **A T Mohammad**, M Sultan, S L Forman, M K Emil, A Z A Farag, M S Elhebiry

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Prediction and Variability of Earth Rotation Parameters: Influence of Climate and Geophysical Fluids

Conveners: **Jolanta Nastula**, Space Research Centre of the Polish Academy of Sciences; **Richard Gross**, NASA Jet Propulsion Laboratory; **Alberto Escapa**, University of León; **Justyna Śliwińska-Bronowicz**, Space Research Centre, Polish Academy of Sciences

1945771 *Angular Velocity Perturbations in a Two-Layer Earth Model with Dissipative Coupling:* **Z Zerifi**, J M Ferrandiz, M C Martínez-Belda, A Escapa, J F Navarro

1906786 *Assessing long-term variability in polar motion excitation using C21, S21 coefficients from hybrid SLR+DORIS solutions and hydrological models:* **J Nastula**, J Śliwińska-Bronowicz, M Wińska, A Löcher, J Kusche, H Gerdener

1845556 *Direct Construction of Polar Motion from Excitation Time Series:* **S H Na**, Y Yi

2004504 *The Angular Velocities of the Platesand the Velocity of Earth's Center:* **D F Argus**, C Kreemer, M Figueroa Berroca, K Gaastra, G Cheng, R G Gordon

1906756 *The discrepancies among locking depths estimated from Geodesy, Seismology, and Thermally-Constrained Rate-and-State Friction Simulation:* **X Zhao**, X Xu, H Weng, D Wang

2001284 *The Earthquake Cycle on the Nazca–South America Subduction Margin from the Pacific to the Atlantic: insights from the Central Andes GPS Project:* **R Smalley Jr**, M Figueroa Berroca, D Gomez, M G Bevis, E C Kendrick

1958656 *The Interim GSRM: A New Geodetic Plate Motion and Global Strain Rate Model:* **G Cheng**, C Kreemer, E C Klein, D F Argus, G Blewitt

1984428 *Thermochronologic Constraints on the Transition Between the Marlborough Fault System and the North Canterbury Fold and Thrust Belt, South Island, Aotearoa New Zealand:* **M S Huising**, N A Niemi

2005125 *Toward Independently Measuring Global Tectonic Deformation with L-band Satellite InSAR Time Series:* **C Liang**, X Li, Y Wang, Z Liu, M Simons, E J Fielding, Y K Liu, S H Yun

1997036 *Updated and improved Sentinel-1 InSAR measurements in the Earth reference frame towards surface strain rate mapping:* **M Lazecky**, A J Hooper, M Nergizci, P Piromthong

1884376 *Viscoelastic Models Yield Physically More Reasonable Geodetic Locking Depth: the Altyn Tagh Fault Example:* **Y Zhu**, L Shen, E Nissen, K Wang

1923792 *EOP Prediction Using Deep Learning With Diverse Input Datasets:* **S Guessoum**, S Belda-Palazón, S Modiri, J M Ferrandiz, M Karbon, D Thaller

1945687 *On the Status of the Necessary Updating of Precession and Nutation Theories and Models:* **J M Ferrandiz**, A Escapa, M Karbon, S Belda-Palazón, T Baenas

1922277 *Six-year Modulation of Annual Polar Motion Excitation and Its Relationship to the Chandler Wobble:* **S Wang**, C R Wilson, J Chen, K W Seo, Y Fu, W Kuang

1856451 *Summary of the first year of activities within the comparison campaign dedicated to ML-based EOP prediction approaches:* **J Śliwińska-Bronowicz**, J Nastula, A Partyka, M Michalczak, M Wińska

1890772 *The impact of reference series selection in evaluating celestial pole offset predictions:* **A Partyka**, J Śliwińska-Bronowicz, J Nastula, M Wińska, M Michalczak

1945483 *Toward a Next-Generation Celestial Pole Offset: Bridging Nutation Theory, Reference Frames, and Observational Demands:* **M Karbon**, J M Ferrandiz, S Belda, A Escapa

1955211 *Upcoming UT1-UTC Prediction Improvements for the IERS RS/PC:* **J Page**, N Stamatakos, D McCarthy, M L Psiaki, D Salstein

247695
Recent Advances in SAR and InSAR Processing, Big Data Analysis and Earth Science Applications *(joint with C, H, NH, NS)*

Conveners: **Yujie Zheng**, Stanford Earth Sciences; **Heresh Fattahi**, Jet Propulsion Laboratory; **Kathryn Materna**, United States Geological Survey; **Molly Zebker**, Scripps Institution of Oceanography; **Harriet Zoe Yin**, USGS Geologic Hazards Science Center

1909706 *Development of an Operational InSAR Ground Motion Service for Svalbard:* **T R Lauknes**, H Hindberg, Y Larsen, L Rouyet, M Bredal, J Dehls

1915482 *A Global Archive of Analysis-Ready Coseismic Displacement Products from SAR and Optical Data for Earthquake Science and Disaster Response Applications:* **C M Speed**, M G Bato, R W Zinke, S Sangha, C Marshak, J H Kennedy, D Melgar, M M Solares, D P Bekaert, E J Fielding, F J Calef III, T K Soliman, P Ramirez

1893823 *ASF DISPLACEMENT PORTAL: ENHANCING ACCESS TO THE OPERA-DISP DATASET:* **F Williams**, D P Bekaert, R A Anderson, M G Bato, T Chase, K Fairbanks, C Fleming, M Govorcin, A L Handwerger, J Herrmann, W B Horn, A Johnston, S Mirzaee, H Kristenson, K Kristenson, A Player, S Sangha, G Short, C Showalter, J Smale, S J Staniewicz, Y Villafenez

1906435 *Assessing the impact of using dense GNSS network data for InSAR atmospheric delay mitigation:* **Y Kinoshita**

1894711 *Bistatic SAR imaging and SAR interferometry with FMCW L-band SAR systems from two multicopter UAVs:* **O Frey**, C L Werner, S Leinss, T Batt, E J Deeb, A LeWinter, D L Filiano, C Wagner, D C Finnegan, T H Dixon, T Sadeghi Chorsi

1958507 *Change pattern analysis in urbanizing areas using time-series SAR imagery:* **B Lee**, Y K Lee, S W Kim

1947322 *Characteristics of the Hungarian InSAR Ground Motion Service and Application: InSAR.Hungary:* **A Kenyeres**, B Magyar, I Hajdu

1911712 *Characterizing Soil Moisture Impacts on InSAR with Tomographic Methods:* **R Biessel**, R B Lohman

1865241 *Coastal Bathymetry Measurement from High-Resolution Long-Dwell Spotlight SAR Subaperture Imagery:* **S Beninati**, S Frasier

1934735 *Correcting for Precipitation Signatures in InSAR Time Series Analysis:* **R B Lohman**, L Urtecho

1848469 *Crustal Deformation and Strain Accumulation Across the Walker Lane from Large-Scale InSAR Observations:* **Y Jiang**, J Chen, D T Trugman

1880875 *Decadal Sentinel-1 InSAR Analysis of Anthropogenic Land Deformation in the Delaware Basin (2016–2025):* **S Asgari**, F Deng

1985885 *Deep learning on InSAR point cloud:* **K Liang**, Z Lu, J W Kim

1944986 *Denoising of InSAR Time Series through Hybrid Self-Supervised Spatiotemporal Deep Learning:* **G Costantino**, R Jolivet

1879365 *Detection of Sinkhole Precursory Signals in Florida Using InSAR:* **S Mudiyanselage**, C Dai

1883942 *Diagnosing Acute and Chronic Landslide Behaviors Using SAR and Remote Sensing:* **X Hu**, Y Lin, Y Zhou, Y Song

1998757 *Early Challenges and Lessons Learned from Science Data Processing of NISAR:* **C Cheng**, H Hua, J Pon, G Manipon, H Mortensen, M Cayanan, N Malarout, A Torres, L B Dang, D Garay, L Rodriguez

1959328 *Early results from NISAR SAR interferometry: Palos Verdes landslide complex, California:* **E J Fielding**, R Bürgmann, A L Handwerger, M Simons, D P Bekaert, K M Sreejith, J Jung

1908739 *Fault control on landslides a century after the 1920 Haiyuan earthquake revealed by InSAR observations:* **C Song**, Y Chen, C Yu, Z Li

1906863 *Geomorphic Characterization of Korea's Tidal Flats Using Multitemporal Sentinel-1 SAR Backscatter:* **H A Park**, H C Jung, Y S Lee, J CHOI, H Jeong, S J Lee

1947531 *Global Major Structural Failures in the Past Decade: Is Land Deformation to Blame?:* **X Yu**, X Hu

1885592 *Groundwater volume Loss and Land subsidence in the North China Plain investigated using Wide-Area InSAR Survey and Mechanical Modeling:* **X Zhang**, J Hu

1927055 *How to do Uncertainty Quantification for InSAR:* **Z Hurewitz**, A A Borsa

1928014 *Immersive Exploration of InSAR Synthetic Interferograms through Virtual Reality:* **G Holly**, C Kyriakopoulos, T Little

1889034 *InSAR Phase Errors due to Range Misregistrations:* **F Yang**, C Liang, Y Wang

1991093 *InSAR Time Series Analysis in Changing Urban Environments? A Case Study in Miami with Temporarily Coherent Scatterers:* **M Motagh**, A Piter, M Haghighi, F Amelung

1964392 *InSAR-Based Analysis of the 2016 Slow Slip Event in Central Cascadia:* **E Mishra**, Y Zheng, X Jian

1959669 *Integrating InSAR and GNSS to Overcome Sparse Geodetic Networks in Tectonically Active Regions: A case study from Hispaniola:* **Y C Lee**, J Maurer, R Dutta

1962799 *Investigating Landslide Monitoring using InSAR and Displacement Prediction with LSTM over Rudraprayag, India:* **P Dhayal**, S Sarkar, D R Rajak, S Banerjee, B Raman

1956733 *Large-Scale Characterisation and Correction of the InSAR Phase Bias: Insights from Nationwide Analysis in Italy:* **Y Maghsoudi**, A J Hooper, T J Wright, M Pinheiro

1914282 *Measuring the Effect of the Solar Cycle on SAR Ionospheric Delay via Ground Reflectors and Collocated GPS:* **M Brandin**, D T Sandwell, M Zebker, A Bennett

1871031 *Multi-Class Vessel Detection System Using Multi-Satellite SAR Data:* **H Sim**, O Jung, Y Jung, N H Seong, Y KIM, S H Kim, M H Jeong

1987738 *Multi-Temporal InSAR Time-Series Classification for Detecting Surface Deformation Patterns and Triggering Factors:* **H Y You**, J H Lee, Y K Lee, S W Kim

1897402 *Multisquint InSAR for Joint Retrieval of Deformation and Tropospheric Delay: Results from a Feasibility Study using Ultra-High-Resolution Spotlight Mode Data:* **S Huang**, S Chan, S Oveisgharan, X Wu, C Stringham, N Yague-Martinez, G Farquharson

2001085 *NISAR Geocoded Single Look Complex (GSLC) Product: Initial Assessment of Geometric and Interferometric Accuracy:* **S Jeong**, H Fattahi, H Ghaemi, B Hawkins, T Hudson, V Brancato, X Pi, S Krishnamoorthy

1894715 *Nisar InSAR Sensitivity And Performance: Comparison Of Radar Interferograms From Nisar And Sentinel-1:* **H A Zebker**, P Rosen

1926485 *NISAR On-Demand Workflows for Generating Ecosystem L3 Science Products:* **A Christensen**, B Chapman, K Cushman, B Downs, J Kellndorfer, M Lavalle, J Martinez, K C McDonald, A Peacock, N Pinto, N Ramachandran, P Rosen, D S Saatchi, L Sethares, P Siqueira, M Zhan

247997
Reference Frames: Determination, Usage, and Application

Conveners: **Zuheir Altamimi**, IGN Institut National de l'Information Géographique et Forestière; **Frank Lemoine**, NASA Goddard Space Flight Center; **Jake Griffiths**, US Naval Research Laboratory; **Richard Gross**, NASA Jet Propulsion Laboratory

2000479 *NISAR Quality Assurance in Action: Assessing Operational L-Band Level-1 and Level-2 Science Products:* **S C Niemoeller**, G Gunter, H Fattahi, V Brancato, R Burns, H Ghaemi, B Hawkins, X Huang, T Hudson, S Jeong, J Shimada, G H X Shiroma

1852742 *On the Origin of An Apparent Bias in InSAR Time Series:* **E Wig**, R J Michaelides, H A Zebker

1998676 *SAFED-POL - Synthetic aperture radar interferometry for Sub-regional Analysis of Fluctuance post-Exploitation Deformation in POLand:* **W Milczarek**, N Bugajska-Jędraszek, A Kopeć, A Łańduch, M Tympalski, M Sompolski

1999402 *SAR interferometric investigation of the Myanmar earthquake of 2025:* **A Dawn**, S Ghosh, S Kour, A Chowdhury, U Sarkar

1852276 *Small-scale heterogeneity in stability and displacement rates - effects on complex coherence, phase closure and other operations involving spatial averaging, and prospects for mitigation:* **R B Lohman**, O C Paschall, R Biessel

1985728 *The Alaska Satellite Facility: Enabling Global Access to NISAR Data for All:* **F J Meyer**, W Albright, G Short, K Hogenson

1854583 *The NASA-ISRO SAR Mission – Results from Commissioning and Early Science Operations:* **P A Rosen**, H Fattahi, M Lavalle, G Bawden

1911235 *The Supremacy of L-band in InSAR Time Series Analysis:* **K Chen**, C Liang

1921136 *To Normalize (by Backscatter Intensity) or Not to Normalize: Examples of InSAR Coherence Dependencies on Normalization Over Western North America:* **L Marone**, O C Paschall, K Devlin, R B Lohman

1930467 *Unveiling the Critical Scenarios of Sinking Towns and Cities in the Indian Himalayan Region with Multi-Temporal SAR Interferometry:* **S Awasthi**, A K Krishnankutty Ambika, K Jain, A Goswami, D C Srivastava, D Lu

1983635 *User-Driven Expansion of NASA's Earthdata Sentinel-1 Synthetic Aperture Radar (SAR) Level-2 Product Archive:* **H Kristenson**, F F Williams, A Johnston, J Herrmann, W B Horn, J Smale, K Kristenson

1982267 *Alignment and Monitoring of GNSS Reference Station Networks using PPP and Relative Positioning Techniques:* **H Mitchell**, B Weaver, C Simpson

1904962 *Assessment of GPS-Derived Plate Motion Using Global Station and Comparison with IGS20 Reference Frame:* **J Gim**, J Ha, K D PARK

1946631 *Continental Scale Reference Velocity Modeling: Case Study for Introducing Non-rigidity in Reference Frame Transformations:* **A Kenyeres**, B Magyar, S Tóth, R Horvath

1874522 *Estimating local tie vectors by co-observation of GNSS satellites with the Very Long Baseline Array and GNSS antennas:* **J Skeens**, J York, L Petrov, K Herrity, R Ji-Cathriner, S V Bettadpur

1921518 *Impact of Time-dependent Atmospheric Turbulence on Geodetic VLBI Precision:* **A Mohn**, D R Mondal, P Elosegui, C A Ruszczyk, J Barrett, D Hoak

1921283 *On Atmospheric Water-Vapor Delays in Space Geodesy: VLBI Radiometry:* **K Shaw**, C A Ruszczyk, D R Mondal, S The, J Barrett, D Hoak, S Paine, P Elosegui

1883096 *Overview of the DORIS processing improvements for the next ITRF realization:* **G Moreaux**, F G Lemoine, H Capdeville, P Stepanek, S Nahmani, M Otten, A Pollet, P Schreiner

248176
Satellite Gravimetry: Mission Concepts, Algorithms, and New Applications

Conveners: **Athina Peidou**, Jet Propulsion Laboratory, California Institute of Technology; **Michael Croteau**, University of Colorado Boulder; **Khosro Ghobadi-Far**, Virginia Tech; **Chaoyang Zhang**, University of Texas at Austin

1973833 *Deriving Water Cycle Trends using GRACE-FO and Elastic Displacements Measured by GPS:* **A Olitt**, A Peidou, F W Landerer, D F Argus, K Gaastra

1982611 *Development of a Compact Triaxial Optomechanical Accelerometer for Earth and Planetary Science:* **D George**, R Miranda Espino, J D H Rivero, M Mehmet, J Sanjuan, F Guzman

1980115 *Earthquakes and gravity changes in light of GRACE, GRACE Follow-On, and MAGIC satellite missions:* **S C Han**, J M Sauber

1987207 *GRACE/GRACE-FO RL07 Re-processing Results from CSR:* **H Save**, C Zhang, B D Tapley, S V Bettadpur, N Childress, P B Nagel, Z Kang, N Pie, B Krichman, G Jacob, M E Tamisiea, S R Poole, J C Ries

1965087 *Ground-Based Accelerometer Characterization for Gravitational Reference Sensor Technology:* **Z Forrester**, E Butz, C Perkins, J Siu, P J Wass, J W Conklin

1920565 *Improved Detection of Mass Change Signals in Greenland and Antarctica Using GRACE-FO Laser Ranging Instrument:* **E Wilson**, K Ghobadi-Far, R S Nerem

1891486 *Towards a Reliable Determination of Geocenter Motion: A Comparison of GNSS-based Approaches and Preliminary Combination Results:* **A Nowak**, T Kur, R Zajdel, K J Sosnica

1845409 *Transitioning Saudi Arabia's National Spatial Reference System from Static to Temporal: Concept and Initial Investigations:* **U AlRubaia**, S Alshahrani, R Grebenitcharsky, I Golubinka, E Rangelova

1951193 *Tropospheric constraints with optimal uncertainties to improve the accuracy of geodetic parameter estimates:* **D R Mondal**, P Elosegui, C A Ruszczyk

1877376 *Uncertainty evaluation of the ITRF2020 Updates:* **Z Altamimi**, P Rebischung, X Collilieux, L Metivier, J Barneoud, M de La Serve, K Chanard

1924915 *Update on the activities of the NASA GSFC/JCET ILRS Analysis Center.:* **M Kuzmicz-Cieslak**, K D Evans, A Belli, F G Lemoine

1890502 *Integrating Spatio-temporal Energy Localization in GRACE/GRACE-FO Processing: The STPC Filter for Basin-scale Hydrological, Cryospheric, and Oceanographic Insights:* **Z Ma**, R Tenzer, J Chen, H S Fok

1964308 *Mass-Change Signal Recovery from Satellite Gravity Estimation: Effect of Parameterization, Regularization, and Constraint design:* **G Jacob**, S V Bettadpur, H Save

1877915 *Navigation Instruments uses to enhance science return from high accuracy formation flying space missions:* **F E Jørgensen**, J L Joergensen, M Benn, T Denver, P S S Jorgensen, D Serrano, R Rougeot

1968008 *ODIN – Optomechanical-Distributed Instrument for Inertial Sensing and Navigation:* **J Stoddart**, M Warrayat, J Dahn, R Miranda Espino, F Guzman, M Dovale, J Sanjuan Munoz

1943622 *ONERA ACCELEROMETERS NGGM MISSION AND INSIGHT ON FUTURE GRAVITY MISSIONS B. Christophe, K. Maquaire, F. Liorzou, V. Lebat, D. Boulanger, M. Dalin, T. Hervieux, G. Pique, M. Rodrigues, M. Rodriguez-Beignet. (Department of Physics, Instrumentation, Environment and Space, ONERA the French Aerospace Lab, France):* **M Rodriguez-Beignet**

1950975 *Optimizing the orbital inclination of future SLR satellites for determining gravity field: insights from the Kaula theorem:* **J Najder**, K J Sosnica

1959719 *Quantum Pathways Institute (QPI): Status and progress towards high-precision spaceborne inertial sensing and gradiometry.:* **S V Bettadpur**, U Topcu, S Bank, D Wasserman, M Holland, D Anderson, M Nicotra, P Axelrad, M M Watkins, D Blumenthal, M Stephens

1897389 *Recent Ocean Tide Models Comparison from GRACE Perspective:* **C Zhang**, S V Bettadpur, N Childress, M E Tamisiea, H Save, B D Tapley

1974409 *Simulation and Modeling of GRATTIS Test Mass Dynamics for Earth-Orbiting Geodesy Applications:* **K TenBarge**, P J Wass, J W Conklin

1963835 *Structural Design and Performance Evaluation of the GRATTIS Payload Mounting to Support Sensor Performance:* **E Butz**, S Apple, J Gleason, J W Conklin

248256
Seafloor Geodesy: Recent Technology Development and Research Advances *(joint with NH, OS, S, T)*

Conveners: **Surui Xie**, Scripps Institution of Oceanography; **Shun-ichi Watanabe**, Japan Coast Guard; **Andrew Newman**, Georgia Tech; **Lingchao He**, University of Rhode Island

1867789 *Assessing the Use of a Cabled Bottom Pressure Recorder as a New Reference Site for Mobile Pressure Recorder Surveys at Axial Seamount:* **C Sullivan**, S L Nooner, W Chadwick Jr, G S Sasagawa, M J Cook, J Beeson

1889177 *Bathymetry Monitoring to Detect Seafloor Crustal Deformation Using Autonomous Underwater and Surface Vehicles:* **T Iinuma**, E Araki, K Watari, T Shimura, Y Machida, T Fujiwara

1851440 *Can Less Be More? Assessing the Potential of Sparse ICESat-2 Data for Accurate Coastal Bathymetry Mapping:* **H J Hsu**, J Moortgat

1917093 *Deep-water Steep-gradient GNSS-Acoustic Experiment Along the Rupture Area of the 1946 Aleutian Tsunami Earthquake:* **A V Newman**, S Xie, M A Zumberge, N Chavarria, G S Sasagawa, D Rimington, D Price

1906525 *Detecting Long-Term Crustal Deformation from Continuous Seafloor Pressure Records in the Nankai Trough:* **Y Machida**, S Nishida, H Matsumoto, E Araki

1906361 *Development of a Fiber-Optic Strain Observation Network across the Nankai Trough Megathrust Seismogenic Zone:* **E Araki**, T Yokobiki, M A Zumberge, Y Yamamoto, Y Machida, H Matsumoto, S Tsuji, S Nishida

1938564 *Evaluation of Long-Term Stability of Pressure Gauges for Seafloor Deformation Measurement in the Nankai Trough, Japan:* **H Matsumoto**, E Araki, S Nishida, K Ariyoshi, Y Machida

1866488 *Evaluation of Self-Calibrating Pressure Gauges for Seafloor Geodesy: Instrument Comparisons at Axial Seamount:* **Y Dobashi**, W S D Wilcock, D Manalang, K Smith, L Dentoni, G S Sasagawa, M A Zumberge, M J Cook, W Chadwick Jr, J Beeson, S L Nooner

1999339 *Torsion micropendula for chipscale gravimetry:* **J R Pratt**, C Condos, J Manley, S Schlamminger, D Wilson

1921245 *Validating the Error of Global Static Gravity Field Models using GRACE Follow-On Laser Ranging Interferometer Observations:* **V Thirumullaivoyal Santhanakumar**, K Ghobadi-Far

1988229 *First Results from the IDOOS Offshore Geodetic Experiment Reveal Near-Trench Interplate Coupling in Northern Chile:* **M Moreno**, D Lange, O Pizarro, O Ulloa, J C C Baez Sr, J L Diaz-Naveas, D Melnick, V Cortes-Rivas, N Ramirez, I Urrutia, A Warwel, F Ortega-Culaciati, M Wei, E K Fredrickson, H Kopp, S Xie

1878198 *Implementation plan and prior capability assessment of quick GNSS-A for urgent observations:* **S I Watanabe**, K Imuta, T Ishikawa, Y Yokota

1930894 *Insights into the Recent Inflation of Axial Seamount from Horizontal Seafloor Geodesy:* **M Kidiwela**, W S D Wilcock, D Manalang

1927953 *Laboratory Evaluations of an A-0-A Calibrated Pressure Instrument for the Cascadia Offshore Subduction Zone Observatory:* **L Dentoni**, Y Dobashi, D Manalang, K Smith, W S D Wilcock

1981857 *Monitoring the North Anatolian Fault beneath the Sea of Marmara at the west of Central High using acoustic extensometers:* **M Kido**, N Takahashi, Y Yamamoto, D Kalafat, H Ozener, Y Kaneda

1926507 *Research of high-precision and high-frequency GNSS-A technology using new UAVs and USVs:* **Y Yokota**

1944607 *Seafloor geodetic measurements of deformation of Kīlauea's submarine flank:* **J H Foster**, B R Smith-Konter, M A Zumberge, G Umhoefer, K M Johnson, G S Sasagawa

1899915 *Seafloor Velocities in Alaskan Subduction Zone: Initial Results From GNSS-A:* **S Xie**, J B DeSanto, N M Jackson, A V Newman, G S Sasagawa, D A Schmidt, S C Webb, M A Zumberge

1940173 *Time-lapse Microgravity for Tracking Fluid Accumulation and Release at Slow Earthquake Hotspots on the Nankai Trough Plate Interface:* **S Vassvåg**, T Fujiwara, S Nishida, F J Halpaap

1903859 *Transient Tilt Variations Observed by Borehole Tiltmeters Installed in the Nankai Trough, Japan:* **S Tsuji**, E Araki, Y Machida, T Iinuma

1890447 *What is the origin of the slight shortening across the Kuril trench off Nemuro observed by Acoustic Distance Meter:* **S Matsumoto**, M Kido, Y Ohta, R Hino

252042
Subduction Zone Deformation Throughout the Earthquake Cycle: Observations and Models

(joint with S, T)

Conveners: **Kaj Johnson**, Indiana University; **Kelin Wang**, Geological Survey of Canada; **Camilla Cattania**, Deutsches GeoForschungsZentrum GFZ; **Diego Melgar**, University of California Berkeley; **Nicolás Castro Perdomo**, Indiana University Bloomington

1883493 *3D Simulations of Subduction Zones Earthquakes: Understanding the Mechanisms of Giant Earthquakes:* **J Tao**, F A Capitanio, P G Betts

1930864 *Active Protothrusts and Fluid Highways: Seismic Noise Reveals Hidden Subduction Dynamics in Cascadia:* **M Kidiwela**, M Denolle, W S D Wilcock, K F Feng

1896371 *Bridging the gap between subduction dynamics and the long-term strength of the Sunda megathrust:* **F A Capitanio**, T Gollapalli, J C Graciosa, R Munukutla, L Dal Zilio, A Beall, M Zuhair

1875933 *Creep on the Precordillera-Agrio Décollement During the 2010 Maule, Chile, Earthquake:* **M Figueroa Berroca**, D Gomez, M G Bevis, A Folguera, W A Griffith, R Smalley Jr, S L Spagnotto, B Kellmayer, P Smith, D Caccamise, E C Kendrick

1924246 *Deep Seamount Subduction Beneath Coastal Ecuador Revealed by High-Resolution Seismic Tomography: Dual Role in Rupture Initiation and Rupture Barrier:* **G Ponce**, A Meltzer, A Wickham-Piotrowski, S Beck, M C Ruiz, S Hernandez, M Segovia

1903104 *Dynamic modeling of the 2010 M_w 7.8 Mentawai tsunami earthquake with wedge inelasticity:* **R J Hung**, S Ma

1906821 *Exploring the Impact of Heterogeneous Earth Structure on Surface Deformation Caused by the 2011 Tohoku Earthquake:* **L Langer**, K Materna

1882173 *From Lima to Santiago, Mapping and Bayesian Inference of Interseismic Loading Along the Peru-Chile Megathrust:* **Y K Liu**, R Mallick, L Pereiaslov, M Simons

1946181 *How Seamounts Subduct And Affect Seismicity:* **Y van Dinther**, M Fonteijn, E van Rijsingen

1858064 *Implications of Rheological Structure and Afterslip on Aftershock Evolution from Postseismic Deformation of the 2015 Mw 8.3 Illapel Earthquake:* **Z Wang**, Y Hu

1972371 *Improving geodetic constraints on subduction zone coupling using accurate physics-based models with variable elastic properties:* **J H Chong**, E O Lindsey

1997272 *Integrating Structural Geology, Advanced Meshing, and Underworld3 for Realistic Fault Modeling in Geodynamics and Resource Exploration:* **T Gollapalli**, L Moresi, J C Graciosa

1994142 *Investigating evidence of precursors of recent great subduction earthquakes from satellite gravity observations:* **L Wang**, D Weerasinghe, R Bürgmann, S Alojaiman

1992514 *Large Earthquakes along Subducting Plates: A Geodynamics Study of Elastic Energy Storage in 3D Subduction Systems:* **L Suchoy**, S D B Goes, F A Capitanio, L Moresi

1856018 *Legacy Geodetic Data Uncovers Shallow Rupture of the 1946 Mw 7.3 Vancouver Island Earthquake and Its Implications to Forearc Tectonic Settings:* **J Yang**, Y Jiang

1940266 *Locked but not Loaded? A Global Analysis of Megathrust Coupling and Earthquake Slip:* **B Oryan**, A A Gabriel

2001118 *Non-stationary Asperities and Megathrust Earthquake Potential:* **K M Johnson**, D Acharya, E Sherrill, N Castro Perdomo, L M Wallace

1949727 *Observed Variations in Coseismic Subsidence Across Multiple Cascadia Megathrust Earthquakes:* **D Bruce**, T Dura, R C Witter, H M Kelsey, E Hemphill-Haley

1858907 *Postseismic Deformation Following the 2011 Mw=9 Tohoku Earthquake Over 13 Years: Observations and Modelling:* **T Sun**, F Tomita, J He, T Iinuma, M Kido, Y Ohta, R Hino, K Wang

1948717 *Reconstructing spatial and temporal rupture history using stratigraphy and microfossils at Sitkinak Island, AK:* **T Nowak**, T Dura, S Engelhart, R W Briggs, R C Witter, R D Koehler, P J Haeussler

1951441 *Reexamining Slip Estimates Throughout the Earthquake Cycle at Nankai Using 3D Heterogeneous Viscoelastic Models:* **E M Sherrill**, K M Johnson

1934736 *Rheological Properties of the Southern Sumatra Subduction Zone Inferred from the 2007 Mw8.4 Bengkulu Earthquake:* **S Yang**, Y Hu, J Lin

1931868 *Sliver Tectonics, Insights from Three-Dimensional Oblique Deformation Models:* **N Chavarria**, A V Newman, K D Morell, C Muller, P Boymond, M Protti

1933024 *The 2024 M7.1 Earthquake in the Nankai Trough Induced by Ridge Subduction:* **W Gu**, Z Jia, R Chu, S Ni, M Sheng

1968019 *The Distribution of Fault Locking on the Kamchatka Subduction Zone and Its Relationship to the 2025 M8.8 Earthquake:* **A Periollat**, G Funning

1910018 *The importance of realistic elastic properties in the inversion of onshore and offshore geodetic data for interseismic coupling at subduction zones:* **L M Wallace**, C A Williams Jr

1899478 *The Search for Time-Dependent Coupling Changes on the Plate Interface following the Great Earthquakes of Chile:* **A Roy**, N M Jackson

1932658 *The state of stress in the forearc mantle wedge corner and the overriding crust:* **V Sharma**, I Wada

1862244 *The transition from flat to dipping subduction in south Peru and its impact on seismicity and deformation:* **A Socquet**, C Chalumeau, S Chevrot, B Lovery, M Chlieh, M Radiguet, J C Villegas Lanza, J Münchmeyer, E Norabuena, H Tavera, M P Doin, H Sanchez Reyes, V Monteiller, L Y Kan

1963279 *Using Episodic Tremor and Slip to Characterize Segmentation Boundaries in Northern Cascadia:* **A Custard**, N J (Bartlow)

253290
William Bowie Lecture

Conveners: **Laura Wallace**, University of Texas; **Anne Socquet**, University Joseph Fourier Grenoble

260010
Geodesy Student and Early Career GeoBurst Session

Conveners: **Eric Lindsey**, Earth Observatory of Singapore; **Walter Szeliga**, Central Washington University

249161
Remote Sensing of Rivers, Lakes, Reservoirs, and Wetlands *(joint with EP, G, GC, NH)*

Conveners: **Ethan Shavers**, Organization Not Listed; **George Allen**, Virginia Tech; **Jérôme Benveniste**, European Space Research Institute; **Jessica Fayne**, University of Michigan Ann Arbor; **Ann Scheliga**, University of California Berkeley

1874955 *A Novel Approach Integrating Satellite Data and Geometry-Based Hypsometric Relationships to Enhance Reservoir Storage Estimates:* **N T Nguyen**, H Lee, T L T Du, H Y Li, D D Bui, H C Jung

1852998 *Analysis of the Mechanisms Involved in Glacial Lake Outburst Flooding in Nyalam, Southern Tibet, in 2018 Based on Multi-Source Data:* **W Jiang**

1946485 *Analyzing Coastline Variations in Taiwan Using Multi-Temporal SAR Data:* **T Y Lai**, K H Tseng

1909489 *Assessing Freshwater Lake Decline in Pakistan Using Multi-Temporal Remote Sensing and Hydrological Data:* **N Saddique**, I Khan, A R Islam, M Aleem, S M S Abbas, S Aftab, M Ahmad, H Arshad

1924382 *Assessment of Sediment Dynamics in Lake Powell, Glen Canyon Dam Colorado using Remote Sensing:* **R Haiju**, S Rupper, R R Forster

1908685 *Automated and Accurate Surface Water Delineation: Dynamic Threshold Discovery via Iterative Random Forest and Spectral Indices:* **M Hosseinipoor**, A M Kafi, F Ghaffari, M Tajrishy

1941007 *Intra-Frame Deformation Model: Improving the spatial resolution of vertical land motions through InSAR/GNSS integration:* **L Ferreira**, Y Bock, D T Sandwell

1902583 *Seamounts from SWOT: Expanding the Global Catalogue and Revealing Their Interactions with Ocean Currents:* **Y Yu**, D T Sandwell, S T Gille, M Hawks

1892134 *Bridging the Data Gap: Global Mapping of Small Water Reservoirs and Estimating their Storage Capacity:* **S Govindaiah Narayanaswamy**, M Aminzadeh, K Madani, N Shokri

1871047 *Constructing a High-Resolution Reservoir Dataset Across the Contiguous United States Using Sentinel-1 SAR Imagery:* **S Wang**, H Liu, Y Pu, H Su, L Wang, S Shu, D Tian, J Seo, M C LaFevor

1858138 *Daily CYGNSS Water Maps Reveal Inland Water Hot Spots and Hot Moments, from Wetlands to Floodplains:* **T Pu**, C Gerlein-Safdi, K Stephens, Q Euler

1883133 *Declassified and historical Remote Sensing data for reconstructing fluvial landscapes submerged by dams in climate-sensitive regions:* **R S Azzoni**, L Forti, A Brenna, A Zerboni

1985656 *Derivation of Full-Depth Velocity Profiles across River Channels by using Drone-based Particle Imagining Velocimetry and Entry-based Velocity Distribution Model:* **L Wang**, H Liu, J Seo, D Tian, S Shu, S Cohen

1897350 *Detecting and Mapping Alpine Peatlands with Satellite Remote Sensing:* **S Silvestri**, Q Li, A Pollo, E Tomassone, R Di Paolo, M C Siniscalco

1938031 *Development of a Reservoir Operation Module Integrating Optical Satellite Imagery from Google Earth Engine with a Watershed Model:* **Y Cho, PhD**, Y G Park, J Yi

1894594 *Does drought intensify algal blooms in global lakes?:* **T Kim**, H Lee, S Yang, Y Cha

1978985 *Estimating Lake Storage Variations using a Fusion of SWOT and Dynamic Surface Water Extent (DSWx):* **M Tom**, M Bonnema

2002106 *Evaluating Evaporation Data Products Over Colombian Reservoirs for Improved Water Balance Assessments:* **J V Fayne**, A M Gomez

1922575 *Evaluating the Accuracy and Consistency of Satellite-Derived Lake Surface Water Temperature Across Multiple Missions:* **S Zhang**, D Shah, C H Huang, H Gao

1915247 *Exploring Atmospheric Correction Methods for PACE-Based HAB Retrieval:* **N Tesfayi**, A Kumar, C Maniyar, I Fiorentino, D R Mishra

1955018 *Flood Inundation Mapping from Space: Overview of a Novel Approach for Tracking River Inundation Extent Over Time:* **N Pasley**, A Whaling

1994069 *Global Large River Observatory: What River Geomorphic Dynamics Could Be Monitored Today, but Still Aren't:* **S Bizzi**, N Surian, E Bozzolan, A Brenna, M Cecchetto, E Taffetani, E Matteligh, F Vanzani, P Carbonneau

1898598 *Global Patterns of Post-Drought Recovery Times in Lakes and Reservoirs:* **C H Huang**, D Shah, H Gao

1954191 *Global Stream Roughness Coefficient Dataset:* **E J Shavers**, M Harlan, D M Bjerklie, G Md Iftakher Morshed

1927986 *Hydrological Assessment of Transboundary Water Resources Dynamics in the Rio Grande River Basin Using Google Earth Engine:* **D Dayal**, S S Palmate, R Sanchez

1970213 *Identifying and characterizing lake ecosystem tipping points with ESA's Climate Change Initiative (CCI) satellite data products:* **A Scheliga**, D Odermatt, E Calamita, C Binding, I Woolway

1928309 *Impact of optical satellite imagery spatial scale on methane emission estimates from small water bodies:* **M Gaines**, M G Tulbure, M Ardon, V Perin, V Tiwari, R Composto, J Caineta

1962404 *Impact of Urbanization and Precipitation Change on Discharge in Bangkok, Thailand:* **G Bowen**, J Fayne

1882911 *Integrating SLAM and UAV-LiDAR to Establish a Tree Height–DBH Power law model and UAV - Based Carbon Stock Estimation for Willow Stands in a abandoned paddy wetlands:* **G Jekal**, Y Yang, S Lee, Y Song

1884307 *Integrating UAV-Based Remote Sensing and In-Situ Monitoring for High-Resolution Water Quality Assessment in North River and Lake Tuscaloosa:* **G Sunday**, A Premsagar, E Miliutina, G J Tapat, B Gutierrez, J Seo, H Liu

1894474 *INTEGRATION OF MULTI-SENSOR REMOTE SENSING FOR ENVIRONMENTAL MONITORING: ASSESSMENT OF WETLAND DEGRADATION IN SEMI-ARID ECOSYSTEMS:* **R W Aslam**, I Naz, Z Afzal

1879814 *Investigating Lake Ice Phenology in Arctic Wetlands using Planet and Sentinel-2 Imagery:* **N Jacobs**, S W Cooley

1934066 *Long-term trends of surface temperature and evaporation in the largest South America lakes revealed by remote sensing:* **J B Rossi**, A S Fleischmann, L Laipelt, B C C de Andrade, J B Fisher, I Woolway, R S do Vale, R A S D Santana, J Tota, A Ruhoff

1960507 *Monitoring Chlorophyll-a Dynamics in the Tennessee River Through Spatio-Temporal Analysis with Google Earth Engine:* **A Sherrill**, A A A Hossain

1860236 *Monitoring Dynamic Shifts in Dissolved Organic Matter (DOM) Using Satellite Remote Sensing at a Large River Confluence:* **Y Lu**, H Liu, S Chen, E Miliutina, A Premsagar, M Xu, H Su, J Men

1883330 *Monitoring Inland Water Bodies from Old and New Generation of Satellite Radar Altimetry Missions:* **S Roohi**, S Dinardo, J I Oliva, Y T Song

2003267 *Monitoring monthly groundwater level variation in the Nebraska Sandhills using remote sensing:* **N Shrestha**, T Gilmore, A Mittelstet, A Young, M Joeckel R

2001001 *Morphometric Analysis and Geomorphic Indices of Active Tectonics in the Wabash Valley Seismic Zone:* **S Parajuli**, R Counts, A Bhandari

1951844 *Multi-Decadal Aquatic Vegetation Dynamics in a Regulated River System Using Remote Sensing Records:* **C Hansen**, K Stewart, P Matson

1957037 *Multitemporal Variations in River Width Distributions and Hydraulic Geometry in the Platte River Basin:* **D Go**, G H Allen

1998462 *Near Daily Ice Cover Records from 100,000 Lakes Using Optical Satellite Imagery:* **A N Thellman**, T Pavelsky, X Yang

1940289 *Quantitative analysis of the impact of drought onreservoir operations at the Global Scale:* **N K Biswas**, S V Kumar

2001072 *Recent Updates on ICESat-2 Inland Water Products of Global Lakes, Reservoirs, Rivers and Coastal Waters:* **M F Jasinski**

1846996 *Reducing Error in Image-Based River Velocity Estimation: The Role of Ground Control Point Positioning and Camera Orientation:* **S Mandipe**, P Rameshwaran, A Wade, N Everard

2004874 *Remote sensing data for peatland monitoring: applications of multi-temporal SAR interferometry for surface motion analysis:* **C Bignami**, C Tolomei, L Beccaro, S Salvi, G Lopez Saldana, M Bechtold, K Tansey

1921716 *Remote Sensing Derived Spring Ice-Jam Flood Extents to Inform Environmental Flow Assessments for the Peace-Athabasca Delta Ecosystem in Western Canada:* **D L Peters, PhD**, N Van Nieuwenhuizen, S Beltaos, G Siles

1997709 *Remote Sensing of Carotenoid Pigments in Transient Hypersaline Lakes in Western Australia as an Indicator of Environmental Change Through Time:* **T Plattner**, B Schmidt, P Lange, S M Som, B Klempay, E R Paris, M M Weng, J S Bowman, N M M Fernandez, E Skoog, H T Jamison, E D Ingall, P T Doran, M Birmingham, J Weber, A T Schartup, S Buessecker, E Quartini, L Fisher, C Sephus, C Pozarycki, A Odenheimer, M Towner

1988815 *Remote Sensing of Discharge through Critical Flow Theory: Sensitivity Analysis:* **I Bae**, E Yager, B Fasth, D White, C Leonard, G E Grant

1959138 *Remote Sensing of Inland Water Quality for the Contiguous United States:* **T King**, S Ducar, D Avouris, K Wnuk, T Stagnitta, B Wakefield, M F Meyer, W Salls, J Eggleston, J A Hansen, T Bergamaschi, J Marshall

1937142 *RiverScope: High-Resolution River Masking Dataset:* **R Daroya**, T Rowley, J A Flores, E Friedmann, F Bennitt, H An, T T Simmons, M J Hughes, C Kluetmeier, S Kica, J D Velez, S Esenther, T Howard, Y Ye, A Turcotte, C J Gleason, S Maji

1945205 *Sedimentation and Storage Capacity Assessment of Reservoirs Using Remote Sensing Techniques:* **A Tiwari**, A Mishra, K Kothari

1873878 *Shrinking lakes, Shifting color: Long-Term Surface Reflectance Trends Linked to Lake Shrinkage in Great Basin Saline Lakes:* **H Meier**, M F Meyer, B Steele, N Taylor, J A Wang

247547
Transforming Groundwater Science and Management with Remote Sensing and Geophysics *(joint with G, H)*

Conveners: **John Lane**, USGS Hydrogeophysics Branch; **Susanna Werth**, Arizona State University; **Ryan Smith**, Missouri University of Science and Technology; **Meredith Goebel**, Stanford University

2002339 *An Integrated ML and Remote Sensing Framework for Groundwater Potential Zones Mapping and Subsidence Monitoring in Haryana, India:* **S Bhagat**, C Ojha

1969317 *SWOT Reveals a Spectrum of Seasonal Backwater Dynamics on Large, Coastal Rivers:* **J H Gearon**, T Pavelsky, J Wang

1882231 *Temporal bias in the Landsat-derived surface water record:* **E Webb**, S W Cooley, E Levenson

1967264 *The Case for Calibration: A Remote Sensing Tool for Wetland Monitoring in the Prairie Pothole Region:* **M Church**, K Kemink, S Gowravaram, T Riecke, J L O'Connell

1880462 *The Influence of Flow Regime and Channel Planform on Natural Floodplain Heterogeneity in the U.S.:* **E Iskin**, E Wohl

1895555 *The Mercurial Bay: A Remote Sensing Assessment of Dynamic Surface Water Mercury Concentrations after Atmospheric Rivers in San Francisco Bay:* **N Taylor**, K B Byrd, M C Marvin-DiPasquale, J Fleck, B A Bergamaschi, J Agee, E T Richardson, C W Cheang, E Kakouros, N Wilson

1893847 *Tracking River Flow Dynamics Using LSPIV: Insights from July 16, 2024, Flood in Black Creek, Toronto, Canada:* **A Olusola**

2000445 *Using Remote Sensing to map the presence and abundance of Manoomin (Wild Rice) in the Great Lakes region:* **K A Cherkauer**, A Adepeju

1971631 *Using Sentinel-1 data to assess the impact of hydroclimatic extremes on water reservoirs:* **N Wielgocka**, P Bogusławski, D Teodorczyk, Z Cai, R Stodolak

1944319 *Using the SWOT Satellite to Assess Global Models of Individual Rivers:* **C J Gleason**, P D Bates

1956244 *Validating SWOT River Observations in Remote and Ungaged Basins Using In Situ and ADCP Measurements:* **M Harlan**, D M Bjerklie, D Feng, J A Andriambeloson, M Mukendoyi

1958254 *Water Color Variation in Texas Reservoirs Across Wet and Dry Years: Linking Remote Sensing with Public Water Data:* **M Macleod**, L Pinheiro-Silva, X Yang, S M Powers

1954585 *Assessing the Performance of Reanalysis and Satellite Precipitation Products in a Data-Scarce Semi-Arid Basin in Morocco:* **A EL Azhari**, I Karaoui, Y Ait Brahim, M Azhar, L Bouchaou

1894443 *Bedrock Aquifer Storage and Hydraulic Diffusivity Constrained by Space Geodesy:* **M Swarr**, D F Argus, H R Martens, Z H Hoylman, Z Young, A A Borsa, N Lau, W P Gardner

1905245 *Downscaled GRACE/GARCE-FO revealed rapid groundwater storage decline driven by irrigation expansion in the Upper Red River Basin, United States:* **A Arshad**, A Mirchi, M U Akbar, J M Sadler, S Datta Dr, H Basagaoglu, A AghaKouchak

2003694 *Electrical Resistivity Tomography at Frozen Lake: Investigating Water Availability for Mount Rainier National Park in an Alpine Environment:* **D Dunn**, T Gilkerson, T Kenyon

1878456 *Fault-Aquifer Interaction in the Salt Lake Valley of Utah Inferred from Multitemporal InSAR Deformation and Poroelastic Models:* **Z Kang**, J Jiang

1863453 *Geodetic insights into water-driven poro-elastic response, aquifer flow and land deformation dynamics in Delhi NCR, India:* **P Dalal**, S Sahoo, M Hari, D K Tiwari, PhD, B Kundu, V M Tiwari

1903752 *Groundwater Trapping and Surface Uplift Controlled by Faulting within Greater Osaka:* **S Fukunishi**, J Kearse, Y Kaneko, S Barbot

1976487 *Hybrid Deep Learning for 3D Interpolation of Lithologic and Geophysical Resistivity Data:* **D Rastad**, R Smith, K Bratzler, S Nozari

1905355 *Improving Subsidence Estimates from Groundwater Extraction by 3D Poromechanical Deformation Modeling of Clay Interbeds:* **Y Yu**, E M Dunham

1902203 *Integrated Aquifer Characterization in the Parowan Valley with Drillers' Logs and a Towed Transient Electromagnetic System:* **K Bratzler**, R Smith

1864274 *Integrated GIS and Machine Learning Approach for Groundwater Potential Mapping in an Arid Region of Morocco:* **A Zbiri**, A Kchikach, J Moustadraf, H Ibouh

1935075 *Integrating GRACE downscaling and hydrologic modeling to improve groundwater assessments in Bolivia:* **M R L Mautner**, Z Cao

1922213 *Integrating InSAR-Derived Land Subsidence with Groundwater Level Trends Across Utah:* **T Shreve**, P Inkenbrandt, MS, T Knudsen, K Ladig, G Gavin, S Bowman

251576
Discoveries from the SWOT Mission: Insights into Ocean Dynamics, Marine Gravity, the Cryosphere, Deltas, and Estuaries *(joint with C, G, H)*

Conveners: **J. Thomas Farrar**, Woods Hole Oceanographic Inst; **Sahra Kacimi**, NASA Jet Propulsion Laboratory; **Ole Andersen**, Technical University of Denmark - Space; **Yao Yu**, Scripps Institution of Oceanography

1908149 *Analysis of Sea Level Variability and Spatial Characteristics in the East, Yellow, and South Seas of the Korean Peninsula Using Sentinel-3A, Sentinel-3B, and SWOT Satellite Data:* **D Hwang**, H C Jung, K Shin, K H Tseng, H Lee

1865199 *Integrating Long-term InSAR monitoring into Local Groundwater Management: Insights from the Hollywood Basin, California:* **Y Zheng**, M Simons

1927393 *Leveraging Remote Sensing Data and National Hydrologic Models to Enhance Groundwater Models:* **S Nozari**, R Smith, D Rastad, E R Mueller, R T Bailey

1963034 *Monitor Old Works groundwater flow with Anisotropic and 3-deminsional electrical geophysical method:* **Y Gao**

1976016 *Monitoring Ground and Aquifer Water Using Gravimetry and Gravity Gradiometry on the Path to Quantum Sensing:* **A Sgarabotto**, N Metje, D Sedlak, M Holynski, A Faramarzi, X Xia, D M Hannah, PhD, S Krause, D Boddice, P B Wilkinson, B Dashwood

1960185 *Quantifying Past and Present Groundwater Changes in the Central Valley, CA Using InSAR Time Series and a Viscoelastic Groundwater Model:* **M Zebker**, D T Sandwell, A A Borsa, Y Bock

1845377 *The Essential Role of Modern Geophysical Methods in Developing Rural Groundwater Supplies in Africa:* **P Bauman**, L Woods, C Miazga, E Ernst, E Johnson, M Layton

1856974 *Tracking baseflow supply dynamics using SWOT data from small groundwater dominated lakes in permeable terrain:* **M A Briggs**, M Harlan, D Rey, D R LeBlanc, D Hare, D F Boutt, M N Gooseff, J Marshall

2000672 *Using InSAR to Quantify Groundwater Storage Changes in the San Gabriel Valley in Response to Atmospheric Rivers:* **X Jian**, Y Zheng, E Mishra

1940284 *Water for Wafers: Groundwater Extraction at a Semiconductor Plant Leads to a Decade of Surface Deflation Observed with Multi-Track InSAR:* **Z Hurewitz**, A A Borsa, T M van Dam

1928137 *Chaotic spreading detected in SWOT gravity records Pacific plate reorganization:* **J Joergensen**, M Seton, D Müller

1997775 *Characterizing Submesoscale Ocean Dynamics from SWOT with the Scattering Transform:* **J Skinner**, A Lawrence, J Callies

1925746 *Evaluation of SWOT Performance and Accuracy in Estuaries and Deltas:* **A Christensen**, M Simard, M W Denbina, P Matte, D Purnell, N Rabenkogo, E Mambela

1858339 *High-Resolution Eddy Dynamics in the Gulf of Mexico: Insights from SWOT and PACE:* **S Bulusu**

1981105 *Illuminating Arctic Sea Ice Dynamics with SWOT and ICESat-2:* **R Fischer**, S L L Farrell, K Duncan, K Lange

1985871 *Influence of Sea Level Rise and Tidal Dynamics on Estuarine and Upstream Flooding as Observed by the Surface Water and Ocean Topography (SWOT) Satellite Mission:* **M R Kolster**, R S Nerem, J T Minear

1978772 *SWOT in the Cryosphere: Promise, Progress, and Challenges:* **T Snow**, C Stuurman, S Fleury, M Dabboor, L Padman, S L Howard, Z Katz, S F Sherpa, E Abrahams, M Siegfried, I Garlick, R Willatt, F L Müller, A Bonaduce, A F Thompson, C Kluetmeier, P Rampal, S Kacimi, J T Minear, K Bakhtiari Asl

GEOMAGNETISM, PALEOMAGNETISM AND ELECTROMAGNETISM

250233

Advances in Mineral and Rock Magnetism: Fundamentals, Imaging, and AI (cosponsored by LATINMAG: Asociacion Latinoamericana de Paleomagnetismo y Geomagnetismo,MSA: Mineralogical Society of America) *(joint with MR, NS, T, V)*

Conveners: **Joshua Feinberg**, University of Minnesota; **Richard Harrison**, University of Cambridge

1885014 *Experimental search for unstable grains in the single-domain to single-vortex transition regime:* **R R Fu**

1910911 *Integrating QDM and SEM-EDS to Identify Remanence Carriers:* **L Gallo**, M Domeier, R A de Boer, B de Groot, L V de Groot

1994649 *Investigating Magnetic Anisotropy in Hematite Across the Morin Transition:* **Y Kim**, J M Feinberg, P Solheid, F Martin-Hernandez, A Hirt

1934178 *Micromagnetic Simulations of Chemical Remanent Magnetization Acquisition of Single-vortex Magnetite Particles:* **S Chen**, L Chang, W Williams

248461

Down to Earth with Space Weather: Magnetic Storm–Induced Geoelectric Fields, Currents, and Impacts (cosponsored by AMS: American Meteorological Society) *(joint with NH, SA, SM)*

Conveners: **Jeffrey Love**, USGS Geologic Hazards Science Center; **Chigomezyo Ngwira**, Catholic University of America

1963309 *Assessing the Economic Benefits of Space Weather Mitigation Investment Decisions: Evidence from Aotearoa New Zealand:* **E Oughton**, A Renton, D H Mac Manus, D Bor, C J Rodger

1945309 *The DTU25MSS Mean Sea Surface and the Effect of the SWOT Diamond-shaped Observation gaps:* **O B Andersen**, B Nilsson, P Knudsen

1879315 *The SWOT Revolution in River Deltas and Estuaries Has Begun:* **M Simard**, A Christensen, A R Payandeh, P Matte

1941852 *Multi-dimensional, multi-scale, multi-modal microscopy and machine learning of magnetic minerals in meteorites:* **R J Harrison**, P Y Tung, T Ginnis, E Mansbach

1909037 *Resolving the Domain Structure of Cloudy Zone Tetrataenite via Magnetic Contrast Ptychography:* **E Mansbach**, R J Harrison, S Finizio, T Butcher, S V Molina, T Ginnis

1942499 *Rock Magnetic and Magnetic Fabric Analysis of Archaeological Potsherds from Deccan region of the Indian Subcontinent:* **S P Singh**, B Phartiyal

1982663 *Rock Magnetic Characterization of Natural and Synthetic Schreibersite:* **T M Chaffee**, S Tikoo, H Couvy, M J Krawczynski

1936144 *The mechanism and timing of chemical remanence acquisition in red beds from the Sangdanlin section, southern Tibet:* **W Huang**

1910137 *Unraveling Remagnetization Sources using Statistical Learning:* **L Gallo**, M Domeier, F Sapienza, P Antonio, E Font, T Adatte, A Rapalini, R I Trindade, P Silkoset, L Warren, F Temporim, J Tonti-Filippini

1969741 *Viscous Remanent Magnetization (VRM) Authentication Method for Archaeological Artifacts:* **Y Vaknin**, L Tauxe, B Cych

1851916 *Assessing Transformer Risk from Geomagnetically Induced Currents in Spain Using Extreme Value Analysis:* **J M Torta**, S Marsal

1969985 *Brace for Impact: A Review of Mitigation Decisions of Critical Infrastructure Operators During the 2024 Solar Maximum:* **L Wilkerson**

1972591 *Brace for Impact: A Review of Mitigation Decisions of Critical Infrastructure Operators During the Gannon Storm and the 2024 Solar Maximum:* **C LaNeve**, E Oughton, N Rivera, S Blumenthal, L Wilkerson, R S Weigel, T Gaunt, D Thomas

1982598 *Comparing solar wind drivers of large geomagnetically induced currents in Alberta, Canada during the intense May and October geomagnetic storms of 2024:* **H G Parry**, D Cordell, I R Mann, R MacMullin

1955568 *Comparison between Complex Image Method, Magnetotelluric Impedances, and Finite-Difference Time-Domain Methods- Predicted Geoelectric fields:* **P Sharma Paneru**, D R Cordell, J J Simpson, M B Moldwin

1907722 *Evaluation of Geomagnetically Induced Currents during the SSC of the October 2024 in Europe.:* **M Piersanti**, S Zurzolo

1993005 *Examining the Quantitative Connection Between Field-Aligned Current and Geomagnetic Field Variability Using Swarm and SuperMAG Data:* **S Thaller**, C Nasr, J Hughes, C M Ngwira, J M Weygand, PhD

1959042 *Extreme geomagnetically induced currents due to 1-in-100 year geoelectric fields in Alberta, Canada:* **D R Cordell**, I R Mann, H G Parry, S Dimitrakoudis

252119
Electromagnetic Imaging and Monitoring of Volcanic Systems *(joint with V)*

Conveners: **Jade Crosbie**, USGS Crustal Geophysics and Geochemistry Science Center Denver; **Ninfa Bennington**, University of Wisconsin Madison; **Jared Peacock**, U.S. Geological Survey; **Jae Deok Kim**, University of Houston

1925292 *Deep Learning-based Probabilistic Imaging of Yellowstone's Hydrothermal System from AEM Data:* **C Zhou**, S Wu, J Sun, J Chen, Y Huang

1961926 *Imaging Submarine Hydrothermal Venting and Subsurface Pathways Offshore Whakaari Island Using Surface-Towed Controlled Source Electromagnetic Methods:* **R King**, C A Miller, S Constable

246883
Environmental Magnetism *(joint with B, EP, GC, PP)*

Conveners: **Robert Hatfield**, Oregon State University; **Sarah Slotznick**, California Institute of Tech.; **Myriam Kars**, University of Plymouth; **Brendan Reilly**, Lamont-Doherty Earth Observatory, Columbia University

1927278 *Evidence of iron mineralization in the cap rocks of the Atlantis Massif, recovered during Expedition 357 :* **C M Verhagen**, I Lascu

1966031 *GIC--Related Observations During the May 2024 Geomagnetic Storm in the United States:* **L Wilkerson**, R S Weigel, D Thomas, D Bor, E Oughton, T Gaunt, C C Balch, M J Wiltberger, A A Pulkkinen

1960699 *The Effect of SWMF Configuration on Ground Magnetometer Power Spectra Predictions:* **P M Dredger**, D T Welling, M Burleigh, A Mukhopadhyay, T I Pulkkinen

1917606 *Validating SCUBAS Forecasts of GIC in Submarine Cables Using Legacy Superstorm Observations:* **S Chakraborty, PhD**, M Hartinger, D H Boteler, X Shi, J B H Baker, E Lawrence, M Macalester

1855379 *What drove the Carrington event? An analysis of currents and geospace regions:* **D Thomas**, R S Weigel, A A Pulkkinen, P W Schuck, C M Ngwira, D T Welling

1931795 *Joint Inversion of Magnetotelluric and P-Wave Travel Time Data at Mount St. Helens Volcano Using a Variation of Information Constraint:* **K Maetschke**, M Moorkamp, G Hill, L J Heagy

1981794 *Monitoring a Dynamic Vapor-Dominated Geothermal System: A CSEM Study at Inferno Crater Lake, New Zealand:* **N Kitaoka**, Y Ogawa, T G Caldwell, K Ishizu, T Minami, A Kirkby

1906849 *Multiphysics Imaging of Volcanic Hydrothermal Systems - Application to Uturuncu Volcano (Bolivia):* **F Manara**, M Comeau

1879277 *What can we learn about volcanoes with electromagnetic geophysics?:* **G Hill**, M Moorkamp, P Bedrosian, Y Avram, C Cimarelli, A Schultz, Y Ogawa, J Kamm, D Kiyan, M Comeau, L Caricchi

1933944 *A Multi-Proxy Investigation of High and Ultra-High Resolution Sediment Records from the Surveyor Fan in the Gulf of Alaska over the Last 50 Ka: Capturing Sediment, Ice, and Oceanographic Dynamics from International Ocean Discovery Program (IODP) Exp. 341:* **D Dwyer**, J S Stoner, M Walczak, B Reilly, G St-Onge, J Velle

1896959 *Addressing the Greigite Problem: Towards Isolating Primary Remanence in Sediments from International Ocean Discovery Program (IODP) Expedition 403:* **B Redman**, B Reilly, Y Suganuma, Y Zhong, O Libman-Roshal, L Monito, R Lucchi, K K St John, T Ronge

1949477 *Characterizing Magnetotactic Bacteria from Acid Mine Drainage Sites in Northeast Ohio:* **B Stoltz**, C Wagner, D Singer, M Gao

1877678 *Evidence for thermal event during cataclastic flow: pyrite breakdown and oxidation in a fossil seismogenic fault:* **T Uchida**, H Oda, H Kawabata, N Fukuyo, Y Hashimoto

1879387 *Identifying Pyrogenic Magnetic Enhancement from Background Processes in Late Glacial to Early Holocene Paleosols:* **L Claeys**, C Conneller, P Crombé, K Deforce, K Fenn, N Jordanova, M Moucheron, J Pollard, J Verhegge, G Warren, P De Smedt

1865940 *Investigation of Magnetic Properties of Aluminum Nickel and Chromium Doped Goethite:* **J Masterson**, K Hemmer, B Klause, A Middendorf, G Wyllie, T S Berquo

1968982 *Late Quaternary Paleo- and Environmental Magnetism of International Ocean Discovery Program (IODP) Site U1623, located on the Bellsund Drift, Offshore the Paleo-Svalbard-Barents Sea Ice Sheet (76.5 ^{0}N):* **S Khamitov**, B Reilly, Y Zhong, L Monito, O Libman-Roshal, R Lucchi, K K St John, T Ronge

1901154 *Magnetic and Geochemical Signatures of Urban Pollution in Baton Rouge (Louisiana) Soils:* **C Richter**, M Canezaro, L Day, W Schramm, D Taylor

248511
Frontiers in Electromagnetic (EM) Geophysics
(joint with MR, NS, T, V)

Conveners: **Kyle Ivey**, Scripps Institution of Oceanography; **Dallas Sherman**, IGPP/SIO/UCSD; **Lena Tokmakoff**, Oregon State University; **Lena Tokmakoff**, Oregon State University

1943185 *Are Short-Offset Controlled Source Electromagnetic Systems suitable for coastal groundwater investigations?:* **A Haroon**, A Lohrberg, P Kannberg

1914737 *Australia's Shallow Subsurface Revealed: Fast Continental-Scale Probabilistic Inversion of AusAEM Data via Deep Learning:* **S Wu**, J Sun, J Chen

2002976 *Case Studies Comparing 3D MT and Seismic Data in Hydrocarbon and Geothermal Exploration:* **A Vetrov**, E Erdogan

1901193 *Characterizing and Mitigating Noise in a Wideband Magnetotelluric Survey on the U.S. Eastern Seaboard with Applications to Space-Weather Hazards:* **J W Crosbie**, D E Peterson, P Bedrosian, K Getty, P Koenig, M Loya, C Williams, G Wilson

2002942 *Currents in the Ocean: Navigating the Noise in Marine Electromagnetic Surveys:* **R Delaney**, P Kannberg, R King, J Perez, B Fluegel, M Alvarez

1884594 *Data- and model-space investigations from the United States Magnetotelluric Array:* **P Bedrosian**, A Kelbert, A Schultz, G D Egbert, J J Love, A Frassetto, D E Peterson

1990249 *Magnetotactic Bacteria in Brazil's Early Cretaceous Pre-Salt: Redox and Productivity Signals:* **M Candido**, P Jaqueto, D R Franco, N Rodrigues Hispagnol Sr, J Willy Lopes Afonso Dr, R M Rocha, N B dos Santos, G Fazio, C G Leandro, A Wiermann Dr, J Alejandro Moreno Alfonzo Dr, K Nascimento de Ávila Sr, L Henrique da Silva, J F Savian, R I Trindade, J Cagliari, A N Gomes Rodrigues

1931012 *Quantifying Magnetofossil Contributions to Magnetic Records and Sediment Provenance Reconstruction: a case from the Bengal Fan:* **R Huang**

1985572 *Towards Calibrating for Bottom Water Oxygenation Using Magnetofossils: New Insights From Southeast Atlantic and Northeast Pacific Surface Sediments:* **P Xue**, L Chang, R Huang, B Hoogakker, L Yi

1944182 *UAV-Based Magnetic Survey of the Tunguska Event Epicenter Reveals Trajectory-Aligned Anomalies and Shallow Remanent Sources:* **G Kletetschka**, M Takac, R Kavkova, N Hasson

1860904 *Unraveling hydrothermal CRMs, an underexplored paleomagnetic archive:* **A R Brenner**, R R Fu, D A Evans

1984304 *Electromagnetic Investigation of Submarine Freshwater Offshore Hawai'i:* **P K Kannberg**, R King, B Fluegel

1875663 *Inversion of Coincident Electromagnetic Data Collected Across the Goban Spur Magma-poor Rifted Margin:* **K Ivey**, S Constable, G Bayrakci, PhD Eng, T A Minshull, Y Li, M Perez-Gussinye, J Garcia-Pintado, R Ram

1983978 *New Insights From 3D Inversion of a Legacy MT Dataset Collected at the Tres Virgenes Geothermal Field, Mexico:* **J Gonzalez-Garcia**, M J Unsworth, O Campos-Enríquez, Y Antayhua

1918944 *Physics-guided neural network for magnetotelluric inversion: investigating activation, loss, uncertainty, and application to highly conductive layer:* **L Xiao**, P K Mishra, H Qiao, J Kamm

1897250 *Quantifying the origin of Haxby Lineaments using a combination of magnetotelluric, gravity, and bathymetry data:* **J Joergensen**, S Constable, D T Sandwell

1876078 *Randomized Blocky Occam for Generating 2D Resistivity Models with Sharp Contrasts from Electromagnetic Data:* **E Vargas Huitzil**, M Morzfeld, S Constable

1966382 *Searching for Unmarked Burials at the Historic Evergreen Cemetery, Houston, Texas using Ground-penetrating Radar and Magnetic Methods:* **M U Shahriar**, O Ojelabi, R R Stewart

250309
Frontiers in Paleogeography *(joint with T, V)*

Conveners: **Craig Martin**, University of Texas at Austin; **Jonny Wu**, University of Arizona; **Athena Eyster**, Tufts University; **Alec Brenner**, Yale University

2001701 *Disentangling Multiple Generations of Iron Oxides in Red Beds of the Mesoproterozoic Hakatai Shale, Grand Canyon Supergroup, Arizona:* **L A Zielinski**, S P Slotznick, K E Karlstrom

1909464 *Kinematics of Continental Blocks during Rifting: Evidence from the Alpine Tethys:* **G Frasca**, G Manatschal

1975355 *Paleomagnetism of Mesozoic and Eocene Rocks of the Black Hills of South Dakota and Wyoming, Implications for Apparent Polar Wander Paths for North America:* **B A Housen**

1860745 *Quantifying Polar Wander and its Impact on Reconstructions of Past Climates:* **B Vaes**, P Sternai, A Licht, E Pineau, P Maffre, Y Donnadieu

1906605 *Reconstructing the Spatiotemporal Evolution of Pacific/Panthalassa Mantle Domains since the Mesozoic:* **A Hoyle**, J T J Wu

1943062 *Revisiting the Kinematic Evolution of the West Philippine Basin: Insights from Non-Transform Discontiuities:* **H Shin**, H Choe, J Dyment, S M Lee

249622
General Contributions in Geomagnetism, Paleomagnetism, and Electromagnetism

Conveners: **Margaret Avery**, University of California San Diego; **Steven Constable**, University of California San Diego

1992163 *Take A Chance On Pics: a Visual Workflow for Archaeological Data Retrieval in Archaeomagnetism:* **J del Río**, A Palencia-Ortas, M Gómez-Paccard

1995984 *A geomagnetic record of the Lower Mammoth (ca. 3.314+/- 0.034 Ma) polarity transition recorded in the Icelandic and Rhyodacite Mauna Kuwale long volcanic sequence Wai'ane Volcano, Oahu, Hawaii:* **E Herrero-Bervera**, M A D A Moreira, B R Jicha

1868000 *Analysis of Magnetic Anomalies in the Area of the Nördlinger Ries and Steinheim Impact Craters in Germany:* **M Zawadzki**, N Godlewska, S Oryński

1953458 *Archaeomagnetic records of field strength variation in the southeastern United States over the last 4000 years:* **D Thallner**, C J Sprain, N Wallis

1943778 *Revisiting the opening of the Ulleung Basin: A new model of partitioned back-arc rifting from high-resolution marine magnetic anomalies:* **S Choi**, H Choe, J Dyment, C Kim

1909135 *Sensitivity of Phanerozoic Climate Simulations to Paleogeographic Reconstructions:* **N Werner**, F Franziskakis, A Merdith, C Vérard, M Brunetti, T Gerya, P J Tackley

1996221 *The International Association for Paleogeography (IAP) and its TimeMachine Platform: A New Paradigm for Collaborative and Reproducible Paleogeographic Research:* **C Vérard**, H Cheng, H Li, C Scotese

1940056 *The PANALESIS Atlas: a Series of Maps and Indicators Depicting the Earth Evolution During the Phanerozoic:* **F Franziskakis**, N Werner, C Vérard, J Kasparian, S Castelltort, G Giuliani

1935642 *TOMOPAC, a new class of circum-Pacific plate reconstructions for geodynamic and geologic studies:* **J Wu**, Y W Chen, C M Calvelage, L Colli, Y A Lin, S Fuston, T J Wu, M Rahimzadeh Bajgiran, E Clennett

1943603 *Uncertainties on Palæogeographic Reconstructions: Effects of Interpolation Methods:* **F Franziskakis**, C Vérard, G Giuliani, J Kasparian

1943048 *Uncertainties on Palæogeographic Reconstructions: Effects of Sea-Level Variation:* **C Vérard**, F Franziskakis, G Giuliani

1884728 *Using the Leithsville Formation to Infer Laurentia's Early Cambrian Paleoclimate and Latitude:* **N Gostey**, P LaPorta Jr, M LaPorta

1874014 *Archaeomagnetic Records of Geomagnetic Field Intensity Changes in India over the Last Three Millennia:* **P Mohite**, D K, B V Lakshmi, A Ambekar, M Rai, A P Dimri

1878351 *Controls of the Emplacement Environment on the Magnetic Properties of Basalts:* **P Phukon**, A Agarwal, E C Ferre, M Venkateshwarlu

1997889 *Improvements to Stanislaus Group Magnetostratigraphy Yield an Enhanced Vertical-Axis Rotation Model and Paleo-Riverchannel Delineation, Central Sierra Nevada and Walker Lane, CA:* **C J Pluhar**, J Shields

1919756 *Integrated and Efficient 3D EM Inversion for CSEM and MT:* **L Xiao**, C Patzer, J Kamm

1935445 *Magnetic Information Consortium (MagIC) 2025 Updates:* **N Jarboe**, N Swanson-Hysell, R Minnett, M C Brown, A A P Koppers, L Tauxe, J M Feinberg, P Solheid, C Constable, Y Zhang

1893976 *Magnetite particle size and spatial distribution may modulate neural oscillation in the human brain:* **G Kletetschka**, R Bazala

1871785 *New Archaeointensity Results from Iran Reveal Regional Geomagnetic Lows and Non-Dipole Variability over the Holocene.:* **W Song**, B Huang, M H Azizi Kharanaghi

1872015 *New evidence of the West Pacific Anomaly recurrence from archeointensity variations in East Asia from -600 to 1700 CE:* **Y Yoshimura**, H S Ahn, C Kato, Y Yamamoto, C Anai, Y Tajiri, T Hatakeyama, M Ohno

1975177 *Paleomagnetism of mafic intrusions predating the Mid-Continent Rift system in the Western Upper Peninsula of Michigan:* **G Ahrendt**, L Surovitskii, A V Smirnov

249698
Geomagnetic and planetary magnetic fields and their temporal and spatial variations *(joint with DI, P)*

Conveners: **Catherine Constable**, University of California San Diego; **Daniele Thallner**, University of Liverpool; **Alec Brenner**, Yale University; **Catherine Johnson**, Planetary Science Institute; **Nicole Clizzie**, Institute of Geophysics and Planetary Physics, Scripps Institution of Oceanography, University of California San Diego

1959781 *A Framework for Leveraging Clinkers as a Full-Vector Paleomagnetic Resource in Underrepresented Terrains:* **C J Sprain**, M Holliday, K E Bristol, D Thallner, R R Fu

1970532 *Amplitude of Paleosecular Variation Deduced from Intrusive Rocks of the Southern Paraná-Etendeka Igneous Province: Preliminary Results:* **E Frigo**, J F Savian, A G Baioco, F Temporim, C A Sommer, R I Trindade, S L Taborda, L M M Rossetti

1929735 *Comparing Jurassic Secular Variation in Southern Hemispheric Lavas and Intrusions:* **R Kepler**, V Yonce, P Selkin, J S Gee, C Constable

1859386 *Depth of Magnetic Sources of Terrestrial Planetary Bodies:* **A Plattner**, C Johnson, R Soltanabadi, R Kalski

1986516 *Does Earth's magnetic field ever converge to a stable average?:* **N Clizzie**, C Constable, S J Mason

1972699 *Geomagnetic field strength in the Cryogenian and its implications for Ediacaran animal radiation:* **J Schneider**, J Tarduno, M Ibañez Mejia, R D Cottrell

1880262 *Paleomagnetism of the Challis Volcanic Group to Assess Eocene Rotation in Central Idaho:* **J Condon**, B A Housen

1866954 *Tectono-Magmatic Controls on Polarity Reversals in the Narmada–Satpura–Tapi Dyke Swarms of the Deccan Traps:* **G Shukla**, B V Lakshmi, J Mallik

1941562 *Using Paleomagnetism to Determine the Amount and Timing of Rotation During Laramide Deformation in the Pioneer Batholith, Southwest Montana:* **E Meyer**, B A Housen

1890081 *Geomagnetic reversals and excursions as an outcome of non-equilibrium turbulence in the Earth's core:* **K Mizerski**

1985089 *Recent Geomagnetic Secular Acceleration and Early Assessment of WMM2025 and IGRF-14:* **A Chulliat**, M C Nair, S Califf

1972167 *Reconciling Real and Simulated Geomagnetic Field Behavior:* **C Constable**, C Davies, H Rogers

1883816 *The ESA Scout NanoMagSat Mission, a LEO Nanosatellite Constellation to Improve Geomagnetic Field and Ionospheric Environment Monitoring and Modeling: on Course for Launch End of 2027:* **G Hulot**, P Coïsson, J M Leger, T Jager, F Deconinck, L B N Clausen, J L Joergensen, J van den IJssel, L Chauvet, I Babkina, J Sadler, M Vallmitjana Tostado, J Pinazo, J Fayos, P Nieto, C Bang Stoltze, M Pastena, F Cipriani, J P Lejault

1870040 *The History of the Earth's Magnetic Field Strength Over the Last Three Million Years: An Updated Global View:* **L Tauxe**, B Cych, C J Sprain, G M Turner, J Hagstrum, R J Musgrave, A P Roberts, D Vella

1861656 *Title: Force Balances Characteristic of Different Dynamo Regimes:* **A Sarwar**, R Teed, R Simitev

1912958 *Transition in the Geomagnetic Secular Variation Time Scale Below the CMB:* **Y K Tsang**, C Jones

1917402 *Unraveling Ice Giant Magnetic Fields and Their Secular Variation with Dynamo Models:* **C Yan**, K M Soderlund, H Cao, J M Aurnou, A Masters, H Melin

1951324 *Using Legendre Polynomial Based Paleosecular Variation Models to Infer Dynamo Dipolarity:* **R K Bono**, C J Davies, B Gaddis, D Thallner, C J Sprain

252248

Frontiers in Comprehensive Geomagnetic Field Modeling and Uncertainty Assessment: Enhancing Advanced Applications Including Alternative Navigation *(joint with DI, SM)*

Conveners: **Regupathi Angappan**, Applied Physics Laboratory Johns Hopkins; **Richard Saltus**, University of Colorado Boulder; **Manoj Nair**, University of Colorado Boulder; **Aaron Nielsen**, Air Force Institute of Technology

2001508 *A Machine-Learning Prediction of Magnetic Anomaly Maps to Aid Alternative Positioning and Navigation (Alt PN):* **M Dasgupta**, M Nair, R Saltus

249009

Paleomagnetic Records and Their Stratigraphic, Geodynamo, and Earth System Implications

(joint with PP)

Conveners: **Samantha Cargill**, Oregon State University; **Deepa Dwyer**, Oregon State University; **Lindsey Monito**, University of Florida

1882598 *A whole rock-based, alteration-corrected paleointensity from 3.44 Ga:* **R R Fu**, A Brenner, S A Kingsbury-Lee, Z Gong, Q Luo, A J Biggin, P Blatchford

1993743 *Anomalous high geomagnetic reversal frequency at the end-Permian:* **Y Pan**, M Zhang, H Qin, C Deng, S Z Shen, R Zhu

1970788 *Assessing the Authenticity of Clay Artifacts Using Archaeomagnetic Intensity: A New Diagnostic Approach:* **Y Vaknin**, L Tauxe, E Ben-Yosef

1961208 *Axial Dipole Decay Linked to Meridional Geomagnetic Flux Migration during the Matuyama-Bruhnes Reversal:* **N Clizzie**, C Constable

1973429 *Comparing Holocene Relative Paleointensity Records from Pacific Northwest Marine and Terrestrial Sediment Cores:* **S K Cargill**, J S Stoner, B Reilly, M Walczak, R G Hatfield, M B Abbott, M S Finkenbinder, A L Hillman

1909319 *Complex Magnetic Records in Utah Concretions:* **G Kletetschka**, L Smrčinová

1997048 *First terrestrial geomagnetic record of the Norwegian-Greenland Sea excursion in the Kaupo ow, Koolau volcano, Oahu, Hawaii: Insights from 40Ar/39Ar, NRM and absolute paleointensity determinations:* **E Herrero-Bervera**, B R Jicha

2001608 *Crustal Fourier Analysis Driven Sensor Requirements for Magnetic Anomaly-aided Navigation:* **A Sosanya**, J Ouellet, R Angappan, A McNeil, S Thoram, P Sengupta

1962048 *Downward Continuation of Magnetic Anomalies for Magnetic-Aided Navigation: An Overview of Methods, Challenges, and Equivalent Source Solutions:* **S Thoram**, R Angappan

1974738 *Magnetic Field Reference Information for Alternative Navigation: From Maps to Models:* **R Saltus**, A Chulliat

1999519 *Magnetic map-making for advanced applications: Quantitative comparison of frequency dependent features, errors, and uncertainties in gridded magnetic data:* **P Duff**, A Nielsen

1970987 *Median is All You Need: A Retrospective Analysis of IGRF-11 to IGRF-13 Secular Variation Models:* **M C Nair**, A Chulliat, S Califf

1933659 *GoAPSV50: A New 15-50 ka North Pacific PSV and RPI Reconstruction from the Gulf of Alaska using high-resolution sediments from International Ocean Discovery Program (IODP) Exp. 341:* **D Dwyer**, J S Stoner, B Reilly, M Walczak, G St-Onge, J Velle

1892321 *Holocene Sedimentary Records of Paleosecular Variation and Environmental Change from Lake Izabal, Guatemala:* **M Brosky**, R G Hatfield, J Obrist-Farner

1863434 *Is Mono at Mono? Revisiting the Mono Lake Excursion with High-Resolution Paleomagnetic Records:* **B J L Jensen**, D E Ibarra, A V Reyes, S Buryak, M Evans, V A Kravchinsky

1936636 *Late Permian core, surface and magnetosphere conditions revealed by single crystal paleointensities from the Emeishan large igneous province:* **W Huang**, J Tarduno, Z Yang, R K Bono, W Tang, L Ding

1997489 *Magnetobiostratigraphy of the Aptian-Albian interval from Araripe Basin, northeastern Brazil: Preliminary results:* **J F Savian**, J Ramos Sr, D R Franco, C Azzolini Pontel, M Figueiredo PhD, R Gewehr de Mello, C Trindade Lopes, R Pereira Dr, J Kuchle, J Lacerda, R Souza, S Nascimento, G Rofrigues Sra, C G Leandro, E Frigo

1931753 *Magnetostratigraphy study of the Karoo Large Igneous Province (LIP), at the Carlislehoekspruit Pass, Eastern Cape Province, South Africa.:* **M W Tareke**, A Chiles, S Brownlee, J W Geissman, T Kidane

1970152 *New Paleomagnetic Records to Constrain Geodynamo Activity During the Emplacement of the British and Irish Paleogene Igneous Province:* **J S Marsh**, A R Muxworthy, C Mac Niocaill, B O'Driscoll, S Sprague, S Deng, Y Zhang, B Kugabalan, C Yonge

1950577 *Obtaining paleomagnetic time-series records from corals.:* **C Martin**, L Lavier, F W Taylor, C Borlina

1978091 *Paleomagnetic Secular Variation and Radiocarbon from the Last Glacial Maximum through the Initiation of Deglaciation: Building a New High-Resolution, Well-Dated Template for the Greenland Region from the Labrador Sea (AR2307-8JC, BADEX):* **J S Stoner**, A E Jennings, M Walczak, L Monito, K Stelling, A C Mix, M Harbury, C Fritz, B Reilly, S Klotsko, R G Hatfield

1977698 *Paleomagnetism of the Portage Lake Volcanics (PLV) in the Ottawa National Forest near Bergland, Upper Peninsula, Michigan:* **A Chiles**, T Kidane, M W Tareke, B Jicha, T O Rooney, S Brownlee

2001681 *Plate tectonics commenced after formation of juvenile Paleoarchean to Mesoarchean continental crust:* **J A Tarduno**, R K Bono, R D Cottrell, W Huang

1867640 *PLIOSTACK-4500: A Pliocene Stack of Relative Paleointensity Since 4.5 Ma:* **R G Hatfield**, H Dang, J S Stoner

1956693 *Relative Dating of Icelandic Subglacial Volcanoes: A Paleomagnetic Approach in Support of Constraining Ancient Ice Thickness:* **M Anderson**, J A Bowles, B I Cameron

1906858 *Relative magnetic field intensity in sediments: A way forward with anisotropy of magnetic remanence:* **S A Gilder**, F Ostermeier, M R Wack, J Jezek, D Finn

1890334 *Rock Magnetic and Paleomagnetic Study of Target Rocks and Impactites from the Dhala Impact Structure, India:* **A K Pandey**, A Agarwal, S J Sangode

1849055 *Unraveling the Eruption History of Malwa Deccan Basalts, Central India: Palaeomagnetic and Rock Magnetic Inferences:* **S P Singh**

1913999 *Using Sedimentology to Inform Paleomagnetic Secular Variation Correlations in Deglacial Records of the western Greenland Ice Sheet:* **L Monito**, R G Hatfield, N Lambert, K Stelling, J S Stoner, B Reilly, A E Jennings, G St-Onge, S Klotsko, A C Mix, M Walczak

253305
The Bullard Lecture and GPE Awards

Conveners: **Steven Constable**, University of California San Diego; **Steven Constable**, University of California San Diego; **Julie Bowles**, University of Wisconsin Milwaukee

247933
Current System throughout Geospace: Its Drivers, Dynamics, and Coupling *(joint with GP, SM)*

Conveners: **Astrid Maute**, National Center for Atmospheric Research; **Patrick Alken**, NOAA National Centers for Environmental Information; **Karl Laundal**, University of Bergen; **Yukitoshi Nishimura**, University of California Los Angeles; **Sneha Yadav**, UCLA

1909394 *Atmosphere-ionosphere coupling in the equatorial electrojet:* **Y Yamazaki**

1921434 *Day and Night Variations of Electric and Magnetic Fields in the Equatorial Ionosphere During Major Geomagnetic Storms of 2024:* **J Rodriguez-Zuluaga**, Y Zou

2000286 *Detecting Spatial Early Warning Signals of Substorms in Ionospheric Current Systems:* **R M McGranaghan**, O P Verkhoglyadova, J W Gjerloev

1865565 *Five extreme storm time auroral electrojet events: Testing our understanding.:* **J W Gjerloev**, S Ohtani, Y Zou

1965212 *Global Ionospheric Electrodynamics During Geomagnetic Storms: Combined Effects of Wind-Driven Dynamo, Magnetospheric Field-Aligned Currents and Energetic Particle Precipitation:* **H Wu**, A I Maute, W Wang, V G Merkin, D Lin, A D Richmond, K Sorathia, J W Gjerloev, H Liu, J M McInerney, F Vitt

1955744 *In situ Hall and Pedersen Conductivity During a Weak, Pre-midnight Auroral Arc: The ACES-II Twin Rocket Campaign:* **C Feltman**, S R Bounds, S R Kaeppler, K Greene, R Roglans, J W Bonnell, M Lessard

1895796 *Kinetic Simulations of Farley-Buneman Waves within a Vertically Structured High-Latitude Ionosphere Shows Coupling of Waves between Altitudes with Impacts on Measurements and Conductance:* **M M Oppenheim**, R Koontaweepunya, A Green, Y S Dimant

1966675 *Modeling Auroral-Like Forms: The Role of Parallel Electric Fields and Turbulent Conductivities:* **P R Vaggu**, M D Zettergren, L C Gasque, B J Harding, M Young, J M Diaz Pena

1886671 *Towards a physically constrained empirical model of climatological variations of ionospheric F-region magnetic field and electric currents:* **G Hulot**, M Fillion, P Alken

2002876 *Validation of ICON-Derived Ionospheric Currents Using Ohm's Law and Swarm Data: Assessing the Role of Conductivity:* **Y J Wu**, S B Mende, B J Harding, P Alken, A I Maute, C C Triplett, T J Immel, L C Gasque, C C J Salinas

MINERAL AND ROCK PHYSICS

248110
Advancing understanding of mountainous critical zones through observations, numerical experiments, and large-scale synthesis *(joint with B)*

Conveners: **Ravindra Dwivedi**, University of Arizona; **Hoori Ajami**, University of California, Riverside; **Dana Lapides**, USDA-ARS

1896433 *Constraining Deep Mountain Block Recharge in Integrated Hydrologic Models: Revisiting Depth-Decay Assumptions of Fractured Bedrock Hydraulic Properties:* **J S Acero Triana**, H Ajami, S Armengol Vall

1919411 *A Field-based, Hillslope-scale Numerical Modeling Approach to Identify Controls of Water Storage in Headwater Stream Catchments:* **S D'Arcy**, J Hyman, A Navarre-Sitchler

1983794 *Characterizing Seasonality of Mountain Block Recharge in the Missoula Valley, Montana:* **M Bollag-Miller**, P P Gardner

248537
AI Advances in Subsurface Hydrology and Energy (cosponsored by CGS: Chinese Geophysical Society,CGU: Canadian Geophysical Union,EGU: European Geosciences Union,GSA: Geological Society of America) *(joint with EP, NG, NS, S)*

Conveners: **Behzad Ghanbarian**, University of Texas at Arlington; **Maruti Mudunuru**, Pacific Northwest National Laboratory; **Alexandre Tartakovsky**, University of South Florida; **David Barajas-Solano**, Pacific Northwest National Laboratory

1911944 *An Intelligent Regression Method Integrating Geographical Context Similarity for Sparse Geothermal Parameter Prediction:* **J Zhu**, Z Zhang, S Wu, Z Du

1990013 *VLF Wave Generation as a plasma diagnostic:* **T Lindley**, H Burch

1862762 *Controls From Above and Below: Snow, Soil, and Steepness Drive Diverging Trends of Subsurface Water and Streamflow Dynamics:* **D Kerins**, A Knapp, F Liu, V Smykalov, M Berzonsky, A Vierbicher, K Sadayappan, B Stewart, E M Andrews, P L Sullivan, H R Barnard, J Seibert, L E McPhillips, K Singha, L Li

1964504 *Dynamic Water Storage Influences Soil CO_2 Production and Its Partitioning in Complex Mountain Terrain:* **A Bozza**, J F Knowles, S J Matiasek, P L Sullivan

1976999 *Quantifying Spatial and Temporal Variability of Mountain Aquifer Recharge Across the Western US:* **E Wineteer**, H Ajami

1982987 *Quantifying Water Budgets in Northern California's Cascades to Assess Climate Vulnerability of Major Springs:* **V Muenker**, E Grande, A Visser, J E Moran, L Tolley-Mann, D O'Ryan, J Harm, T Blaschak, D Goodman, J Lerback, R Nearhood, R Lusardi, N Corline, A Lukk

1943404 *Regional to hillslope-scale patterns of critical zone structure, topography, above ground biomass, and drought vulnerability in the Sierra Nevada, California:* **J A Whiting**, S T Allen, S Sayyadi, S Basant, C Richardson, G Boisrame, D Dralle, C B Kratt, B Flinchum, A Harpold

1978133 *Understanding Hydrologic Pathways in High Elevation Mountain Systems: A Study from the Central Himalayas:* **S Ramesh**, A J West, C M Chen, A Atwood, D Chamlagain

1972475 *When is a Pore a Bore and When is it More? Reconsidering Water Storage in the Montane Critical Zone:* **A A Harpold**, S Sayyadi, J A Whiting, B Flinchum, C B Kratt, S Basant, C Richardson

1990516 *Assessing shallow geothermal potential by spatiotemporal geostatistics: a case study in Hsinchu, Taiwan:* **H L Yu**, S C Hsu, J L Wang, H Tseng

1969773 *Combining neural operators and conservation laws for prediction of electrical transport properties in porous media:* **B Chang**, M Prodanovic

1888420 *Comparing MLP, GCN, and Residual-GCN PINNs for Groundwater Flow Modeling:* **T Nagasato**, K Tanaka

1912581 *Comparing Physics-Based and Machine Learning Approaches for Sustainable Aquifer Management in Emilia-Romagna (Italy):* **I Delfini**, D Zamrsky, A Montanari

1982205 *Differentiable Physics-constrained subsurface inversion with Latent Diffusion model:* **H Du**, Q He

1934429 *Discrete Spatial Diffusion Framework and Assessment Metrics for Rock Image Generation:* **Q Zhou**, J E Santos, A Marcato, M Prodanovic, M Pyrcz

1952874 *Geospatial Artificial Intelligence Analyses for Evaluating the Prospectivity of Geological Resources:* **V M V Vesselinov**, T L Kliphuis

1934865 *Integrating In-Situ Sensor Networks and AI for Real-Time Subsurface Hydrological Monitoring and Forecasting:* **H Zhao**, H M Wainwright

1982388 *Latent-Space Surrogate Model for Fast Time-Lapse ERT Inversion:* **Y Wang**, G E Hammond, T C Johnson, A M Tartakovsky

1996237 *Multiscale Inversion of Subsurface Heterogeneity Using Hierarchical Geostatistics and Deep Learning:* **F Moeini**, C Zhan, Z Dai, K C Carroll, R Soltanian

1939482 *Physics-informed machine learning for estimating permeability and dispersivity distributions in three-dimensional sandbox experiments:* **H Yoon**, J H Lee

1940373 *Physics-Informed Neural Networks for Watershed-Scale Groundwater Flow Modeling:* **Y Choi**, S Lee

1931807 *Resolution-invariant surrogate modeling for systems with spatially heterogeneous inputs via variational encoder-decoders:* **D A Barajas-Solano**, S Venkatasubramanian

252105
Compound, Concurrent, and Cascading Hazards in a Changing Climate: Identifying Drivers, Impacts, and Risk Implications *(joint with A, GC, NH)*

Conveners: **Vinnarasi Rajendran**, Indian Institute of Technology Roorkee; **C. T. Dhanya**, Indian Institute of Technology Delhi; **Shushobhit Chaudhary**, Indian Institute of Technology Dhanbad; **Usman Mohseni**, Visiting Researcher

1873676 *Uncovering Multi-Scale Drivers of Hydroclimatic Whiplash over India (1951-2020) using Machine Learning-Augmented Dynamic Causal Networks :* **D Bhattacharjee**, C T Dhanya

1854340 *Weather Jiu Jitsu: A 21st century paradigm to leverage nature's power to mitigate some Compound, Concurrent, and Cascading Weather Hazards in a Changing Climate:* **U Lall**, M Liu, Q Huang, H H Kwon, A Nayak, Y Kwon, M Zhang

1954887 *A Mile of Devastation: Documenting the June 2025 Beitel Creek Flood in San Antonio:* **A Bose**, E Eid, H O Sharif

1972204 *Are Coincidental Compound Extremes Escalating across the Himalayan Region under Climate Change?:* **A Singh, PhD**, S Barbhuiya, P J Sharma, V Gupta, A Sharma, PhD

1851568 *Sensitivity-Constrained Neural Operators for Forward and Inverse Problems in High-Dimensional PDEs:* **C Shen**, A Behroozi, D Kifer

1857004 *Simulator-in-the-Loop: Differentiable, Simulation-Driven Learning for Heterogeneous Storage Reservoir Characterization:* **H U Rashid**, A Pachalieva, D O'Malley

1878069 *The development of an AI-based tool for tracer selection and test design in geothermal energy applications:* **L Vucinic**, M I Freitas da Silva Vucinic, D O'Connell, H Mezali, S de Volder, A Poulain, F Ajia, C Coxon, L Gill, D Savic

1909598 *Transforming Subsurface Hydrocarbon Recovery Forecasting with AI: Case Study on Polymer-based Chemical Enhanced Oil Recovery:* **A Madhumaya**, S Maiti, S D Kulkarni, A Vyas

1873686 *Uncertainty-Aware Area of Review Assessment via Probabilistic Committee Machine Learning: Application to Large-Scale Carbon Storage Reservoirs:* **A Y Sun**, C Y Shih, H Siriwardane

1994511 *VAE-DNN: Energy-Efficient Trainable-by-Parts Surrogate Model for Groundwater Flow Modeling and Parameter Estimation:* **A M Tartakovsky**, Y Zong, Y Wang

1941248 *Changes in Compound Events under a CO2 Removal Scenario using CESM1:* **Y Shin**, K H Seo

1935567 *Compound Wildfire and Heatwave Events in the U.S. Under Climate Change:* **T R Dan**

1919746 *Compounding Effects of Climatic and Non-Climatic Events:* **A AghaKouchak**

1865052 *Global Emergence of Hot and Dry Compound Extremes and the Predictability of Mosquito Habitat Suitability in the CESM2-LE:* **A Dwyer**, E A Barnes, J W Hurrell

1903838 *Global Trends and Emerging Gaps in Multi-Hazard Flood Risk Research: A Bibliometric Synthesis (2010–2024):* **A N Geykli**, E Gul

1955069 *Modeling compound drought impacts on vegetation in the southeastern U.S. using vine copula:* **P Khedun**, S Dhamala, A K Mishra

1931385 *The Changing Characteristics of Extreme Heat Events and Their Effects:* **L Huning**, N Januario

1853825 *Unravelling Localized Hotspots and Spatiotemporal Patterns of Compound Dry and Hot Extremes in Maharashtra, India:* **S M Rajesh**, U Mohseni, A S

1920625 *When Day Meets Night: Unravelling the Hotspots of Compound Heat Stress in India:* **U Mohseni**, V R

249217
Interplay between Fault Architecture and Coupled Processes in Carbon Sequestration, Hydrogen Storage, and Geothermal Energy *(joint with GC, MR, S, V)*

Conveners: **Lluís Saló Salgado**, Massachusetts Institute of Technology; **Hannah Lu**, Stanford University; **Josimar Silva**, ExxonMobil Technology and Engineering Company; **Lydia Bailey**, University of Arizona; **Jimin Zhou**, ExxonMobil Technology and Engineering Company

1957251 *Analytical/Streamline Simulations for Enhanced Geothermal Systems:* **K L Kuhlman**, T LaForce, F T Good, R Leone, W M Kibikas

1948804 *Comparative Study of Pore Pressure Response to Earthquakes with and without Fault:* **S Horikawa**, T Sasaki, K Kusunose, T Hashimoto, R Hashimoto

1919984 *Constraining Reservoir Deformation and Stress Evolution in Brawley Geothermal Field Using Well Operation History, InSAR Observations, and Poroelastic Modeling:* **G O Shodunke**, J Jiang, S Bodunde

1917081 *Decoupling Hydraulic Communication and Flow Dimensionality in Well-Test Analysis:* **M Becker**, E Martinez

1991038 *Detecting Changes in Seismic Source and Fracture Network Morphology With Unsupervised Machine Learning on Synthetic Wavefields:* **A Barth**, B K Holtzman, E Beauce, T Mittal, S Saltiel

1846006 *Detecting Seismic Events in Continuous Waveform close to a Proposed Carbon Capture and Sequestration Site in Coastal Texas:* **S M Rinty**, A A Delorey, T Goebel

1887394 *Development of Carbon-Sequestering Permeable Blocks using CO_2 Micro-Nano Bubbles, Red Mud, and Cement:* **J C Joo, PhD**, D J Kim, I H Hwang, Y W Cho, S Kim, S C Kwon, J Park

1945834 *Dual Permeability Micromodels to Visualize Mechanical Displacement and Capillary Entry at Reservoir-Caprock Interfaces for Hydrogen Storage:* **I Beine**, G Zhang, A R Kovscek

1941114 *Effect of Phase Change of CO2 on Injection-Induced Fault Slip in Granite:* **Y Dong**, L Lin, G Zhang, X Yan, H Yu, Y Dong

1945679 *Energy Balance of Fluid-driven Frictional Rupture in Fractured Rocks:* **A K Sarma**, D Garagash, B T Lecampion

1905134 *Evaluating CO_2 Leakage Risks with THMC Software: A Multiphase Flow and Heat Transport Approach:* **Z Y Liao**, J S Chen, G T Yeh

1926462 *Failure Criterion Selection for Predicting Clay-Rich Fault Rupture in Geologic CO_2 Sequestration:* **M Cao**, Y Guglielmi, J Rutqvist, A Cihan, S Glubokovskikh, G Guo, M T Reagan, P D Jordan, J Birkholzer

1980245 *Finite volume discretization methods of capillary-dominated multiphase flow in highly heterogeneous and fractured porous media:* **A Alali**

1969954 *Fracture and its electrical signature in saturated Yates Amphibolite:* **T F Hager**, T Mandolini, W Zhu

1966599 *Fracture Mechanism Evolution of AE Signals in Laboratory Hydraulic Fracturing:* **Z Yuan**, C Gu, Y Zhong, P Wu

1913896 *Geology, Mechanics and Technology: The Three Dimensions of Subsurface Flow Modelling:* **T Manzocchi**

2002858 *Geospatial Web-Tools for Underground Hydrogen Storage Site Selection and Risk Mitigation:* **B Mendoza**, A H Kohli, A R Kovscek, S Saltzer

1955727 *Hot and Cold Water Mixing in Fault-Controlled Hydrothermal Systems:* **Z Zhang**, Q Niu

1938617 *Integrated Machine Learning and Seismic-Well Data Workflow for Lithofacies Prediction and Reservoir Risk Characterization at the Illinois Basin-Decatur Carbon Storage Site, USA.:* **T Khalifa**, X Chen, S C Williams-Stroud, A Chaveste

1998577 *Integrating Digital Rock Physics and Discrete Fracture Networks for Fracture Flow Upscaling:* **M Giakoumi**, H Almajed, B Chang, M Prodanovic

1885240 *Lessons from the field: Impact of CO_2-filled fault zones and multiphase flow effects on CO_2 plume flow patterns and reservoir pressure evolution:* **I Bukar**, A H Muggeridge, R E Bell, S C Krevor

1891733 *Linking Fracture Formation and Geometry to Structural and Seismic Anisotropy:* **K Han**, L Carleton, L J Pyrak-Nolte

1926207 *Modeling Slip on Rate-and-State Faults Induced by Off-Fault Fluid Injection:* **W E Chen**, N Lapusta, X Fu

1938368 *Monitoring of Fault Activation and Earthquake Rupture Experiment at Bedretto Underground Research Laboratory, Switzerland with Novel Three-dimensionnal/6 Component Strain/Stress/Displacement Sensors:* **F Soom**, Y Guglielmi, P J Cook, Y Tanaka, A Lambiase, M Hertrich, M A Meier

1847988 *Multiphysics processes in fractured geothermal reservoirs:* **I Berre**, J Both, O Duran, V Lipovac, M B Oguntola, E Keilegavlen

2002742 *Novel seismic imaging of subsurface faults and fractures and inference of fluid permeability in geothermal fields:* **Y Zheng**, L Huang

1910574 *Numerical modeling of the effect of permeability evolution induced by thermal decomposition from seismic slip on subsurface fluid storage stability:* **C H Jang**, B D So, K Lee, H N Kim

1868941 *Permeability tensor evolution by stress-induced crack geometry changes:* **R Moncada Lopez**, E Vitali

1943378 *Quantitative Modeling of Thermo-Hydraulic Transport in Geothermal Fractures: A Diffuse Interface Perspective:* **F Epp**, N Prajapati, M Reder, A Kumar, B Nestler

249821
Partially miscible interfaces in porous media
(joint with MR, NG, V)

Conveners: **Yashar Mehmani**, Pennsylvania State University Main Campus; **Benzhong Zhao**, McMaster University

1880977 *A theory for multicomponent Ostwald ripening in porous media:* **N Bueno**, L Ayala, Y Mehmani

247640
Reactive Transport and Chemo-Mechanical Processes in Porous Media (cosponsored by EGU: European Geosciences Union,GS: Geochemical Society,GSA: Geological Society of America) *(joint with MR)*

Conveners: **Vitalii Starchenko**, Oak Ridge National Laboratory; **Charlotte Garing**, University of Georgia; **Anne Menefee**, University of Michigan Ann Arbor; **Peter Kang**, Korea Institute of Science and Technology

1968975 *3D Identification and Quantification of Reactive Mineral Phases for Modeling Hydrogen-Induced Geochemical Evolution in Sandstone Reservoirs:* **P Asadi**, M Kariminasab, D Driba, L E Beckingham

1906084 *Beyond Empiricism: A Coupled $k–\tau–\phi$ Model for Predicting Acid Mine Drainage in Reactive Waste:* **W Cao**, M Edraki Prof, H Hofmann Asso, A Scheuermann Prof

1977732 *Characterization of Noble Gas Adsorption and Diffusion in Subsurface Geologic Materials:* **G Wang**, E Denis, A J Carman

1845869 *Chemical Transient Analysis for Fracture Characterization in Rocks:* **W M Kibikas**, J N Kruichak, B Seaburn

1992044 *Seismo-Acoustic Monitoring of Hydro-Thermal-Mechanical Processes in Fractured Rock Analogs:* **C Yuan**, S Saltiel, T Mittal, A Barth, E Beauce, B K Holtzman

1900226 *Sensitivity Analysis and Surrogate Modeling for Lithological Controls on Fault Permeability:* **H Lu**, L Saló Salgado, R Juanes

1848903 *Influence of Pore-Scale Convection on Sea Ice Melt Rate:* **X Fu**, J Liu

1881472 *Ostwald Ripening in Underground Gas Storage:* **B Zhao**, M Salehpour, T Lan, M Z I Laku, N Bueno, Y Mehmani

1881539 *Predictive modeling of Ostwald ripening in porous microstructures:* **M Z I Laku**, M Salehpour, T Lan, B Zhao, Y Mehmani

1902456 *Role of miscibility and heterogeneities in determining supercritical CO_2 invasion patterns in sandstone:* **A L Herring**, R Huang, A Sheppard, M Saadatfar

1956713 *Coupled hydrologic and reactive transport modeling reveal influences of porosity change and resulting geochemical distinctions across brine-to-freshwater transitions:* **S V McKnight**, L Munk, X Chen, G E Hammond, D F Boutt, M Winnick, Z Li, P Jiang, F T Zahura, B Li, T Ahmadullah, S Niroula, J Fan, Y Xiao

1958588 *Crystallization Pressure: Nucleation and Growth of Sodium Sulfate:* **L M Anovitz**, S Wong, L Lin, D Erdman III, M Martinez, A G Stack

1906038 *Effect of CO_2-water-rock interaction on andesite permeability revealed by hydrothermal flow-through experiments at 200 °C:* **N Nishiyama**, M Sorai, K Masuoka, M Shiga

1890515 *Effects of Pore Fluid Chemistry on Cataclastic Compaction of Porous Rocks.:* **F Lazari**, G Meyer, A Pluymakers, M Violay

1887740 *Estimating Mineral Reactive Surface Areas Using Combined XCT, SEM, and BET Data:* **M Kariminasab**, M Abbaspour, M F F Salek, H K Senthil Kumar, A A Nahian, N Lopez Rivera, O Williams, J Newsome, L E Beckingham

1976177 *Ex-Situ CO_2 Mineralization in a Flow-Through Reactor with Mafic Mine Wastes:* **E Chowdhury**, R M Pollyea, P Chanda

1994779 *Experimental Evaluation of the Influence of Geochemistry and Mineralogy on Permeability Evolution during Geologic CO_2 Storage:* **J Hughes**, A H Menefee

1861213 *Imaging Fluid Mixing and Precipitation in Rocks Using Neutron and X-ray Facilities:* **F Renard**, B Cordonnier, T Le Borgne, J Mathiesen, G Linga, A Pluymakers, A Kaestner, P Shafabakhsh

1857357 *Impact of hydrochemical conditions on the efficiency of mineral replacement: insights from a pore network model:* **T Szawełło**, P Szymczak

1908568 *Impact of Mineral Coating Structure on the Rates of Coupled Dissolution-Precipitation Reactions in Hydrogeological Systems:* **S Emmanuel**, M Eliyahu

1974991 *Impact of Mineral Dissolution on Sandstone Reservoir Properties:* **R Aderoju**, C Garing

1995319 *Impact of Mineral Spatial Distribution on CO_2 Dissolution Rates in Multimineral Carbonate Rocks:* **O Adedipe**, Y Al-Khulaifi, S Foroughi, Q Lin, M J Blunt, B Bijeljic

1885994 *Influence of Geochemical Reactions on Fracture Permeability Using an Intermediate-scale Field Experiment and Reactive Transport Simulations:* **A Kirshen**, K Swager, J A Burghardt, J Hyman, A Navarre-Sitchler

1966902 *Localization of reaction-induced fracture and hydration due to reaction softening: insights from numerical simulations:* **J McElwee**, I Wada, K Yoshida, H Shimizu, A Okamoto

1980993 *Measurement of Calcite-calcite Interface Evolution as a Result of Pressure Solution using in-situ X-ray Nanotomography:* **A Bhattacharjee**, H Lisabeth

1985527 *Microfluidic Experiments for the Selective Crystallization of Salts from Multicomponent Saline Brines:* **K Green**, I Battiato

1973092 *Mineral dissolution in two-phase flow condition: Insights from core-flooding experiments and X-ray micro-CT imaging:* **L Olawale**, C Garing

1969763 *Modeling surface heterogeneity effects on nucleation:* **V Starchenko**, S Wong, K Yuan, A G Stack

1969738 *Multi-scale neutron imaging: from the fm to the cm:* **D S Hussey**, J LaManna, M C Daugherty, E Baltic, D L Jacobson, K Yuan, R Zhang, L M Anovitz

1907362 *Multiscale Dynamics of Partially Miscible Gas/Brine Flow in Heterogeneous Porous Media:* **M Boon**

1878605 *Optical Thermometry for Dynamic Imaging of Heat Transport in Analog Porous Media:* **A Rashed**, B Fond, S Borisov, Y Méheust, M Klepikova

1901609 *Oscillatory Flow Leads to Sustained and Enhanced Mixing-Induced Mineral Precipitation in Porous Media:* **W Yang**, T Szawełło, C Neil, P Szymczak, P K Kang

1918102 *Pattern Formation in Karstic Solution Pipes: Insights From Australia and the Mediterranean:* **D Wos**, P Szymczak, M Lipar, M Waligórska, M Kurek

1938795 *Pore scale analysis of reactive transport in a natural limestone:* **H Yoon**

1926029 *Pore-Scale Heterogeneity and Its Impact on Porosity–Permeability Relationships in the Lower Tuscaloosa Formation for CO_2 Sequestration:* **A A Nahian**, N Lopez Rivera, J Huff, L E Beckingham

1900651 *Quantifying Uncertainties of Radionuclide Sorption in Argillaceous Formations – A Global Sensitivity Analysis for the Example of Uranium in the Opalinus Clay:* **T Hennig**, J Birkholzer, L Zheng

1926388 *Quantitative Evaluation of Calcite Accessibility in 3D-Printed Reactive Rock Analogs Using Image-Based Analysis:* **J Huff**, A A Nahian, L E Beckingham

1933978 *Radiocesium sorption onto weathered mafic minerals: Implications for the migration of nuclear waste:* **H Hagiwara**, Y Watanabe, H Konishi, H Funaki, T Nakanishi, K Fujiwara, K Iijima

1868656 *Reaction-driven crack propagation in carbon mineralization:* **R Feng**, J W Rudnicki, P Asem, E Detournay

1910925 *Temperature and pH Effects on Gypsum Dissolution Kinetics in the Context of Geologic Carbon Sequestration:* **Z Shi**, J Newsome, L E Beckingham

1966144 *Timelapse CT Flow-Through Experiments for Studying the Effects of Carbonate Mineralization on the Physical Properties of Mafic Rocks:* **J Simpson**, M Pec, H O OGhaffari, PhD, J Elkhoury

1855461 *Unraveling Elemental Mobilization and Mineral Transformation in Lateritic Weathering: Insights from Experiments, Spectroscopy, and Reactive Transport Modeling:* **D Harbola**, G Mathew

252162
Reactive Transport in Subsurface Systems: Recent Advances in Experiment, Simulation and Theory

Conveners: **Yaofa Li**, Montana State University; **Hang Deng**, Princeton University; **Bowen Ling**, Institute of Mechanics, Chinese Academy of Sciences; **Ran Hu**, Earth Science Divission, Lawrence Berkeley National Laboratory

1933889 *A coupled fluid flow and reactive transport model to study the role of geometry and flow variation on mineral precipitation in fractures:* **M F F Salek**, L E Beckingham

1994926 *A Novel Sigmoid Dispersivity Model for Multispecies Reactive Transport in Porous Media:* **K Rishabh Gupta**, P K Sharma

1927163 *Calcite Dissolution Rates Across Experimental Parameters: Implications for Upscaling:* **K Swager**, A Navarre-Sitchler

1886583 *Characterizing the effects of fracture-mediated flows on the formation of mixing-driven reaction hotspots:* **L J Perez**, J Hyman

1913048 *Determination of Stress-Dependent Kozeny-Carman constant of Low-Permeability, clastic sedimentary rocks:* **J J Dong**

1938067 *Diffusioosmosis in a reactive microchannel:* **T Ladd**, S Zhang, H Chu

2003277 *In-Situ Capillary Pressure Measurement in Porous Media Using Multiplex Microfluidic Pressure Sensors:* **N Raventhiran**, P Garcia, E Johnson, Y Li

1968754 *Influence of Diffusion-Induced Local pH Gradients on Carbonate Precipitation in Water-scCO2 Systems: A Microfluidic Study:* **R Krasnoff**, T Shen, E Nienhuis, C H Stanfield, T Schaef, S Kelly

250231
Advanced Experimental Analytical Approaches in Exploring Planetary Interiors *(joint with DI)*

Conveners: **Lisa Liu**, Organization Not Listed; **Arthur Haozhe Liu**, Center for High Pressure Science and Technology Advanced Research; **Ricardo Donizeth dos Reis**, SIRIUS, LNLS; **Saori Kawaguchi-Imada**, DECTRIS Ltd.

1877779 *In-situ synthesis and structure studies for hydrides under high-pressure conditions:* **L L Liu**, A H Liu

2003785 *Advancing High-Repetition-Rate Laser Shock Experiments with Slurry Targets: New Insights into Melting Behavior of Brittle Materials at Extreme Conditions:* **N W Pulver**, C McGuire, A Kavner

1906233 *Interpretation of groundwater pathways around low permeable rocks from drill core analysis:* **T Hennig**, M Kühn, M Bonitz, A M Schleicher

1963624 *Mineral precipitation in fractures: From high-resolution simulations to a scalable continuum model:* **R L Detwiler**, R Chen, M J Abdolhosseini Qomi

1901647 *Multi-scale reactive transport in fracture rock: challenges and advancements for predictive modeling in subsurface energy systems:* **A Navarre-Sitchler**, J Hyman, K Swager, A Kirshen, G E Hammond

1888446 *Preferential Flow and Nutrient Release from Floodplains under Distinct Drivers of Inundation: Insights from Field Experiments and Reactive Transport Simulations:* **Z Perzan**, K Boye, J Bargar, K Maher

1966771 *Quantifying Interactions of Drying and Pore Flow in Dual-Porosity Micromodels Using Micro-PIV:* **M A Habib**, Y Li, B Guo

1967169 *Quantifying Pore-Scale Mineral Dissolution Using Calcite-Based Porous Micromodels:* **Y Li**, G Blois, F Kazemifar, M Kim

1846990 *Regulation of Fluid Flow Behavior in Porous Media Based on Particle Migration:* **P Yan**

1913873 *Toward Transformation-Enabled Hybrid Models for Multiscale Contaminant Transport in Porous Media:* **M Tripathi**, A Köhler, A R Khan, P K Yadav, R Liedl, P Grathwohl, P Dietrich

1945911 *Trapping CO_2 in Deccan Basalts: insights from reactive transport modelling from the Killari-1 Borehole:* **S Adak**, S Sarkar, J Mallik

1982375 *Wettability Alteration of PDMS Surfaces via Carbonate Compound Integration for Reactive Fluid Transport in Porous Media:* **M Kim**, A Ratanpara, D Guerrero, Y Li

1927452 *APS 6BM-B Beamline: A Workhorse for Rock and Mineral Deformation:* **H Chen**, M Whitaker, K Baldwin, D Weidner, M L Rivers

1952221 *Cohering a workflow for thermal conductivity measurements of diverse materials at extreme conditions:* **V V Dobrosavljevic**, Z M Geballe, E Edmund, C Barker, T Perez, R Tappero, A F Goncharov

1891708 *Diamond Anvil Cell Program at GSECARS after APS-U:* **M L Rivers**, V B Prakapenka, S Chariton, Y J Ryu, D Zhang

1953378 *Expanding Nuclear Resonant Scattering Capabilities to Extreme Conditions: A New Laser Heating Diamond Anvil Cell System at 3-ID, APS:* **C Zhou**, B Lavina, T Toellner, V Prakapenka, S Chariton, D Zhang, M L Rivers, W Sturhahn, J M Jackson, J Zhao

1853248 *Experimental and Theoretical Investigation of the Interaction between Rock Minerals and Drilling Fluids and Their Impact on Breakdown Pressure:* **C Liu**, D Phan, M AlTammar, T Almani, O Hamid

1942435 *Measuring Highly Siderophile Elements Using Wavelength Dispersive X-Ray Spectrometry:* **J Sheehan**, R A Fischer

1912607 *Phase engineering by high-pressure and high-temperature method to design novel high-performance thermoelectric materials:* **A H Liu**, Z Bi, Y Li, L L Liu

1943905 *PILATUS4 CdTe Hybrid Photon Counting Detectors: Enabling High-Resolution High-Energy Diffraction for Planetary Interior Studies:* **S Kawaguchi-Imada**, T Donath, M Cardona, P Hofer

1906174 *Polymerization of carbonic acid (H_2CO_3) at elevated pressures:* **D Spahr**, L Bayarjargal, E Bykova, M Bykov, V Milman, B Winkler

1886679 *SEES : New Opportunities and Developments in Synchrotron Earth and Environmental Science:* **M L Rivers**, A Campbell

251000
Crustal deformation and heterogeneity from laboratory experiments to large earthquakes
(joint with T)

Conveners: **Thomas Goebel**, California Institute of Technology; **Yihe Huang**, Earth and Environmental Sciences Department, University of Michigan; **Semechah K. Y. Lui**, University of Toronto at Mississauga; **Sylvain Barbot**, Earth Observatory of Singapore; **Navin Thapa**, University of Memphis

1998043 *Development of a 1D Mechanical Earth Model and Fracture Analysis at the HFTS-1 Site, Midland Basin:* **B Sasmaz**, C M Sayers, Y Zheng

1940264 *A rock-centric framework for earthquake dynamics:* **M Liu**, B Wang, B Wu, S Guvercin, L Zhang, Z Yang, C Seyler, J P Platt, S Barbot

1970604 *Analog Modeling of Fault Roughness to Test the Zone of Influence Hypothesis:* **R Perrin**, R M Lauer

1995853 *Chemical Bonding as a Mechanism of Frictional Aging in Microscopic Quartz-Quartz Contacts:* **D L Goldsby**, N Badt

1973925 *Differences in Spatial Localization of Acoustic Emissions During Stick-Slip and Stable-Sliding on Laboratory Fault Gouge:* **R Koirala**, N Thapa, T Goebel

1932517 *Direct Evidence from Experiments on the Dependence of Critical Nucleation Length on Static Stress Drop:* **Y Matsumoto**, K Okubo, F Yamashita, E Fukuyama

1998115 *Shock-ramp compression of MgO up to 400 GPa on the Z machine:* **S D Jacobsen**, H Bausch, J P Townsend, J P Davis, S Duwal, C T Seagle, T Abbott, A N Clark

1906252 *Single crystal microdiffraction to determine novel high pressure carbonates: from H_2CO_3 to $U_2(CO_3)_3$:* **B Winkler**, D Spahr, L Bayarjargal, E Bykova, V Milman

1933566 *Synthesis of a Novel Eight-Coordinated Phase of Mg_2SiO_4 at Pressures of Deep Exoplanetary Interiors:* **R Dutta**, S Han, A Jenei, R Smith, S Koizumi, M Gorman, I K Ocampo, S Hamel, S Soderlind, S Rocioppi, J Eggert, T S Duffy, D Braun, P Das, E Zurek, A Krygier

1908804 *Synthesis Of Bulk Hexagonal Diamond With Two Bond Lengths:* **W Yang**, L Yang, H Mao

1849369 *Tetrahedral-hexahedral-octahedral transition of GeO_2 glass at high pressure:* **X Hong**

1945364 *The stabilities of SiC polytypes at high pressure and temperature: Implications for the interior of the carbon-rich planets:* **K Kobayashi**, R Sinmyo, T Ishii, S Maitani

1845670 *Insights into the Structure of Carbonate Glass at High Pressure from Time-resolved Laser Fluorescence:* **A Kalugina**, S Lobanov, A Nikolenko

1975426 *Effect of joint roughness on propagation of shear waves: Comparative analysis of laboratory tests and DEM simulations with CS and CY models:* **K SAHA**, R Sebastian Sr

1922286 *Effects of Contact Stress Distribution on Slip Stability in Experimental Faults:* **J Baumgarte**, L Yakuden, J D Kirkpatrick

1940644 *Fracture Energy as a Governing Parameter from Rupture Nucleation to Propagation on a 6-Meter-Long Laboratory Fault:* **K Okubo**, F Yamashita, Y Matsumoto, E Fukuyama

1948816 *Frictional Behavior of the East Anatolian Fault Rocks: Effects of Mineral Composition:* **J Swearingen**, H Kitajima, H Kondo, S Özalp, E Özdemir, H Elmaci, C Güven, E Tsukuda

1935949 *Frictional Variations Control Rupture Segmentation and Seismic Super-Cycles on Slowly Slipping Faults:* **Z Li**, S Barbot, T Wang

1997982 *From barriers to conduits: How true triaxial stresses shape fluid pathways in the crust:* **T M Mitchell**, A Stanton-Yonge, P G Meredith, D Healy, J Browning, F Adamus

2004521 *Multimodal Deep Clustering for Detecting Foreshock Patterns in Laboratory Earthquakes:* **O Moradian**

1865723 *Neural operator accelerated earthquake sequence simulations with evolving elastic heterogeneities:* **T Wang**, M Abdelmeguid, Z E Ross, C Cattania

1872865 *Numerical model of a meter-scale labquake in the presence of granular gouge: a heterogeneity-aided supershear transition:* **G Mollon**, N Casas

1939956 *Numerical Modeling of Rupture Interactions Across Multiple Asperities: Comparison with Laboratory Earthquake Cycles:* **Y Sun**, J Y Song, C Cattania, G C Mclaskey

1896703 *Observations of and physical basis for off-fault variations in elastic properties during the seismic cycle in laboratory stick-slip experiments:* **K Poku-Agyemang**, S Shreedharan, C Marone, J Riviere

1954387 *Pore Pressure Evolution in Water-Saturated Fault Gouge During Stick-Slips Using the Energy Controlled Rotary (ECoR) Apparatus:* **V Pena**, N Tisato

1906696 *Pre-slip Detection with Crustal Deformation Data by Correlation Analysis: Long-term Assessment Focused on Epicentral Distance Scaling:* **S Ikeda**, K Umeno

1907249 *Quantifying Experimentally the Impact of Structured Fault Damage Zones on Earthquake Rupture Dynamics:* **S Ghosh**, Y Tal

247804
Exploring Planetary Materials through Computational Simulations and Machine Learning *(joint with DI)*

Conveners: **Jie Deng**, Princeton University; **Bijaya Karki**, Louisiana State University; **Mainak Mookherjee**, Florida State University

1990893 *Machine Learning Potential for Serpentines:* **H Wang**, C Luo, R Wentzcovitch

1953718 *Ab initio calculations of equilibrium chromium isotope fractionation during magma evolution:* **Y Zhao**

1887841 *Ab initio electrical conductivity of Fe-bearing post-perovskite:* **Y Peng**, Y Zhang, X Wu, S Zhang, C Luo, D Zheng, J Deng

1931177 *Behavior of hydrogen and nitrogen in molten bulk Earth system from neural network potentials simulations:* **B B Karki**, A Shakya

1902959 *DFT study on the transport properties of B2 phase Fe-Si-H at Earth's core-mantle boundary:* **Y Yin**, C Liu, S Zhai, Y Liu, Y Fei

1958741 *Diamond Formation from CH-Hydrocarbons in Ice Giant Mantle Conditions Elucidated from Large-Scale Simulations:* **M Ghosh**, S Zhang, S Hu, A E Gleason, A Bergermann, S Glenzer

1994305 *Elasticity and Stability of MgO in Giant Planetary Interiors:* **D James**, L P Stixrude

1926025 *Should you trust spectral estimates of earthquake (or Acoustic Emission) Stress Drop? Implications from an International Community Collaborative Study:* **R E Abercrombie**, A Baltay, R Catchings

2003835 *Simulating Earthquake Cycles Using Lab-constrained, Physics-based Friction with Multiple Thermally Activated Mechanisms:* **B Wang**, M Liu, S Barbot

1949056 *Strain Localization Increases Repeating Earthquakes: Perspective from Laboratory Seismicity:* **K Pandey**, N Thapa, G Dresen, T Goebel

1849633 *The Role of Heterogeneity in Earthquake Rupture Dynamics: Insights from Friction Experiments on a 1-meter Laboratory Fault:* **A Aguilar**, C Bolton, S Shreedharan

1957201 *The Three Controls on b-Value Variations: A Study Combining Laboratory Experiments and EGS-Induced Seismicity to Assess Stress, Pore Pressure, and Fault Damage:* **N Thapa**, G Dresen, T Goebel

1975405 *Thermal pressurization is suppressed in experiments on rough laboratory faults:* **M R Barbery**, T E Tullis

1902747 *Transient strain and electrical conductivity due to fault formation in laboratory stepovers:* **S B L Cebry**, T Jeppson, D A Lockner, S Detweiler

1981422 *Ferroelastic hysteresis, shear modulus softening, and the tetragonal↔cubic transition in davemaoite:* **T Wan**, C Luo, Z Zhang, Y Sun, R Wentzcovitch

1973915 *Fe–S Phase Diagram at High Pressures: Implications for Core Crystallization in Earth, Mars, and Beyond:* **F Gonzalez Cataldo**, B Militzer

1969169 *Hydrogen Superionicity in Dilute Ammonium Hydrides at Ice Giant Interior Conditions:* **K de Villa**, E Zurek, X Wang, B Militzer

1896693 *Insights into mobility of magma in the Solid Earth from First Principles Molecular Dynamics Simulations:* **M Mookherjee**, A W Ashley, S K Bajgain

1910995 *Machine Learning is a Tool that Accurately Breaks the Time and Distance Barriers:* **R E Cohen**, X Deng, C Liu

1938518 *Phase transitions, stability, and thermodynamic properties of $Mg_{0.5}Fe_{0.5}O$ under super-Earth conditions:* **C Luo**, Y Peng, R Wentzcovitch, J Deng

1960165 *Scalable Machine Learning Approach for Phase Segmentation in Molecular Dynamics Simulations of Complex Melts:* **A Shakya**, B B Karki

2000804 *The Fe-Si-O system at Terapascal pressures:* **R Wentzcovitch**, Y Sun, N Huang, Z Wu, F Zhang, S Wu

1961382 *Thermodynamic Consistent Neural Networks for Constitutive Modeling:* **K Li**, T Mittal, S Saltiel, B K Holtzman

1930326 *Thermoelasticity of Geologically Relevant Silica Phases (SiO_2) Using Machine Learning Potentials:* **J Santos Rego**, C Luo, C Rodrigues Miranda, R Wentzcovitch

248925
Fundamentals of Geological Storage: Geochemistry, Geomechanics, Fluid Dynamics, and Caprock Integrity *(joint with EP, GC)*

Conveners: **Yun Yang**, Los Alamos National Laboratory; **Shimin Liu**, The Pennsylvania State University; **Chelsea Neil**, Los Alamos National Laboratory; **Min Wang**, Los Alamos National Laboratory; **Shaowen Mao**, Los Alamos National Laboratory

1878322 *A Unified Constitutive Model for Salt Rocks Under Triaxial Loading Conditions:* **F Yang**

1872552 *A Universal Analytical Prediction Model for the Time-Space Creep Field of Surrounding Rock in Salt Cavern Gas Storage:* **Y Zhang**, T Wang

1877894 *Annulus pressure variation to consider approaches for gas leakage rate prediction of salt cavern hydrogen storage:* **Y Liao**, T Wang

1890969 *Assessment of CO_2 Storage Potential in Post-Messinian Yafo Sand Member Reservoir in the Eastern Mediterranean Sea:* **O Makinde**, N Waldmann, O Eruteya

1953797 *Carbonate Attenuation Characterization using Ultrasonic Datasets and Cracked Isotropic Rock Analytical Model:* **S Adeosho**, F Bouchaala, M S Jouini, J Matsushima

1877983 *Development and application of a large-scale salt cavern energy storage physical model experimental device:* **T Wang**, C Yang

1919197 *Evaluation of caprock integrity during underground hydrogen storage in aquifers with different formation characteristics:* **M Zamehrian**, I Gupta

1884005 *Evolution in Pore Structure and Wettability of Layered Salt Rocks Under Prolonged Exposure to Gas/Brine/Salt-Rock Systems: Implications for Underground Hydrogen Storage:* **Y Li**

1856035 *Experimental Study on Mechanical Properties of Layered Salt Rock in a Wide Temperature and Pressure Range:* **J Wang**

1872031 *Experimental study on mechanical properties of rock salt under hydrogen corrosion:* **T Wang**, X Ma

1871487 *Experimental study on the influence of different cavity diameters on the stability of deep salt cavern gas storage under multi-cycle injection-production:* **T Yang**, T Jiang, Y Zhang, H Chen, J Wang

1863612 *Vacancies in Mg_2SiO_4 body-centred-tetragonal phase at 1TPa ultrahigh pressure : a DFT study:* **P Carrez**, C Traisnel, T Tsuchiya, P Cordier

1964104 *Geochemical Characterization of Caprocks for Feasibility of Geologic Hydrogen Storage in the Central Valley of California:* **T Garza**, M Izumi, M Tarpley, L Song, B Gilbert

1999627 *Hydrological Response of Sandstone to CO_2-Enriched Brine with Variable Salinity and Temperature:* **M Foroutan**, E Ghazanfari

1895166 *Imaging and Analysis of Mineral Concentrations Around Pore Structures in Carbonates:* **R Rivera**, L E Beckingham

1871111 *Innovative Multi-stage Cavity-building Process for Enhancing Efficiency and Long-term Stability in Underground Hydrogen Storage Salt Caverns用于提升地下氢气储存盐穴效率和长期稳定性的创新多阶段腔室构建工艺用于提升地下氢气储存盐穴效率和长期稳定性的创新多阶段腔室构建工艺:* **Z Ding**, T Wang

1934104 *Integrated Reservoir Modeling for CO_2 Injection at Tomboy (TMB) Field, Niger Delta:* **T Ude-Akpeh**, A Okpara, A Amosu, M Sanni, W Ampomah, N Sibaweihi

1866817 *Integrating Laboratory Studies and Geochemical Models for Analyzing Monitoring of Carbon Capture Storage Management in Fusselman Formation: Insights from the Permian Basin Core Samples:* **M N Khan**, S Siddiqui, S Prakash, G C Thakur

1883660 *Interactions of H_2 with rocks during underground storage: Insights from adsorption tests on shales, coals and clay minerals:* **X Li**, T Zhang

1938602 *Laboratory Study of H_2-Brine-Rock Interaction: Implication for H_2 Storage in Depleted Hydrocarbon Reservoir in New Zealand:* **R Feng**, L Adam, L Esteban, J Sarout, M Sari, L Monmusson

1963677 *Metal Mobilization During CO_2 Storage in Baffle-Reservoir Systems: Experimental Case Study of Hulett Member Sandstone, Powder River Basin, Wyoming, USA:* **A Mensch**, J P Kaszuba, J Dewey, A Eakin

1939034 *Microstructure of Shale: A Quantitative Case Study in Gondwana Region India:* **P Sarkar**

1873440 *Mineralogical Controls on H_2 Diffusion in North American Shales:* **Y Yang**, U Iyare, C Neil, M R Gross

1870754 *Modeling the Optimal Strategy for CO_2 Injection and Storage in Non-Structural Reservoirs:* **Y Kano**, M Sorai

1891541 *Multi-Scale Imaging and Mineralogical Analysis of Carbonate Rocks to Evaluate CO_2 Storage Potential in the Cassville Reservoir:* **S Mariano**, L E Beckingham

1883437 *Multiphysics Simulation of Insoluble Mineral Behavior During Salt Cavern Leaching via COMSOL:* **M Luan**

1891544 *Must We Account for Wellbore Effects during Simulations of CO_2 Sequestration in a Saline Aquifer?:* **U Ajugwe**, J A Cunningham

1871992 *Nanoscale Mechanical Properties of Impurity Salt Rock Studied by Combined Nanoindentation and SEM-EDS-XRD Techniques:* **H Tan**, T Wang

1965917 *Nanostructural Assessment of Shale Caprocks for Underground Hydrogen Storage:* **J Rubalcaba**, A Bhattacharjee, H Lisabeth, L Song, B Gilbert, T Garza, M Tarpley

1876717 *Numerical Simulation of Caprock Integrity for Hydrogen Storage in Bedded Salt Formations:* **C Liu**, T Wang

1883180 *Numerical Simulation Study of Dynamic Response of Salt Cavern Gas Storage Under High-Speed Penetration:* **W Liu**

1957342 *Pore-Scale Dynamical Effects in CO_2 and Hydrogen Geological Storage:* **Y Zhang**, A Taghavinejad, A J Amabogha

1861731 *Quantifying Dissolution Kinetics of Olivine in Water-Saturated free-phase CO_2: A Novel Experimental Approach for Subsurface Carbon Mineralisation.:* **M Saleh**, N Darraj, M P Ryan, J P M Trusler, S C Krevor

1950942 *Relative Importance of Heterogeneity, Anisotropy, and Permeability-Saturation-Pressure Constitutive Relations on the Behavior of CO_2 During Geologic Storage in Deep Saline Aquifers:* **M Torof**, J A Cunningham

1878596 *Research on The Assessment of Compressed Air Energy Storage Capacity In Abandoned Coal Mine Underground Roadways and Coordinated Planning With The Power Grid:* **P Guo**

1998207 *Simulating Hydrogen Flow in Subsurface Rocks:* **G Marquez**, L Song, H Lisabeth, T Acharya, J Rubalcaba, A Bhattacharjee

248059
Natural Hydrogen (H_2): Unlocking its Potential for Generation and Recovery *(joint with NS, V)*

Conveners: **Qingwang Yuan**, Texas Tech University; **Tapan Mukerji**, Stanford Earth Sciences; **Catherine Peters**, Princeton University; **James Andrew Leong**, Miami University Oxford; **Omar Maiga**, Texas Tech University

2005105 *Solubility and Residual Trapping as Governing Mechanisms for Long-Term Geological CO_2 Storage in Unconventional Reservoirs:* **A Larbi**

1894152 *Study on Adsorption Characteristics of Hydrogen and Methane in Shale: Implications for Underground Hydrogen Storage (UHS):* **C Xu**, J Zhou, Y Peng

1882728 *Study on dissolution rate of rock salt during leaching of underground gas storage salt cavern:* **D Xie**, T Jiang, Y Liao, T He

1876493 *Study on the shape prediction of water-soluble cavern in bedded rock salt:* **T He**, T Wang

1924943 *Subsurface Characterization of U.S. Underground Natural Gas Storage Reservoirs: A Nationwide Framework for Future Developments and Repurposing for Hydrogen Storage:* **A Mirzaei Paiaman**

1921303 *The Geological Heterogeneity of UK North Sea Aquifers and Its Impact on CO_2 Injection and 4D Seismic Signal:* **B Kopydlowska**, C MacBeth

1883117 *The Microscopic Mechanical Properties Of Rock Salt Based On Molecular Simulation:* **P Wen**

1883188 *Theoretical Model And Early Warning Of Dynamic Gas Outflow Through Coal Tunnel Based On Damage-Seepage Coupling:* **T Jiafeng**

1872690 *Theory and mathematical representation of salt rock permeability prediction:* **H Chen**, T Jiang, T Yang, Y Zhang, J Wang

1949262 *Thermal performance in salt cavern gas storage coupled with water phase transition: Field experiment and modeling approach:* **P Sun**, T Wang, Y Liao

1911416 *Thermodynamic analysis of hydrogen storage in salt caverns by integrated wellbore-cavern coupling model:* **W Li**

1887910 *Toward More Comprehensive Geomechanical Assessment of Geologic Storage Systems: Capturing Spatial Heterogeneity with Scratch Test:* **N V Zakharova**, B Kim, C Treece, A Burns, A Haagsma, A Conner

1883332 *Triaxial Rheological Mechanical Behavior of Salt Cavern Surrounding Rock:* **J Fan**

1990108 *A Field-Deployable, Fast, Sensitive Hydrogen Instrument:* **E Lunny**, J Budney, C Daube, J R Roscioli, R Wehr, J H Shorter, S C Herndon, D D Nelson

1956133 *A Higher-Order Finite Element Simulator for Natural and Stimulated Hydrogen Reservoirs:* **J Moortgat**, P Galis

1983109 *Advancing Geologic Hydrogen (GeoH_2) through the Association of Geological Hydrogen: Building a Global Ecosystem for Natural and Stimulated GeoH_2:* **Q Yuan**, E Miller, B Gooch, O Maiga

2004273 *Applications of Inverse theory to isotopic data in order to elucidate reaction dynamics: Principles and application to simple gas phase systems:* **J Olah**, F McCann, A E Hofmann, N Lotem, J M Eiler

1909364 *Boosting Natural Hydrogen Generation via Hydraulic Fracturing: True Triaxial Experiments and Reactive Flow Simulations:* **J Dai**, Y Yue, Z Ma, S Tian, B Ding, G Li

1961762 *Bridging the gap in natural hydrogen exploration: advancing with geochemical modeling and real-time mud gas analysis:* **V Zgonnik**, J Allard, D Lévy, F Schneider, M Verdier-Paoletti

1865853 *Comparison of Mineralogy Variability and Major, Minor, Trace Element Compositions in Dunite and Peridotite Rock Samples with Use of Chemical, Optical and Spectroscopic Methods:* **R Czarnota**, N Yuan, G Davila, B Jha

1984798 *Controlling Silica Activity and pH for Enhanced Geologic Hydrogen Production:* **P Chacon**, B R Ellis

1929945 *Dolerite-Mediated Hydrogen Generation: Beyond Reservoir Trapping in the Bourakebougou Natural Hydrogen Field, Mali:* **O Maiga**, D D Reible

1997909 *Electric Reservoir Stimulation (ERS) in Ultramafic Formations - Experimental, Numerical and Field Investigations:* **R Villamor Lora**, J Toupal, C Nau-Hix, S Aertker, A Moure, M R Hansford, A S Templeton

1922517 *Enabling Geological Hydrogen Generation and Critical Mineral Extraction from Olivine-Rich Ultramafic Rocks:* **K Yan**, K Krishnan, N Lahiri, Q R Miller, C H Stanfield, T Schaef, B Edwards

1939461 *Enhanced H_2 Production at Low Temperature during Serpentinization of Peridotite via Organic Acid Stimulation:* **H Ma**, R Pan, W Liao, G Davila, M M Smith

1967666 *Evaluating Hydrate-Based Separation of Geological Hydrogen: Thermodynamic Constraints and Insights from Promoter Systems:* **R Santos**, E A Elmustafa

1964658 *Evaluation of Geologic Hydrogen Generation Potential in Peridotite Using Electron Probe Microanalyzer through spot analyses and elemental mapping:* **Z Chen**, S Liu

1862989 *Experimental Characterisation of Natural Hydrogen Generation Through Fluid-Olivine Interactions Under High-Pressure High-Temperature Conditions:* **L Zeng**, S Salimzadeh, N Lupton, R Sander

1898017 *Experimental Investigation on the Influence of Time, Temperature, and Water/Rock Ratio to Natural Hydrogen Generation:* **P Srinivasan**, W Yan, E Endara Arguello, C Sandu, R Goteti, Y AlZayer, B Ghassal

1920107 *Experimental serpentinization of dunite rock cores:* **G Coon**, H O OGhaffari, PhD, R Kuehn, M Pec

1938942 *Functionalization of Micromodels Using Olivine Sand for Investigation of Geologic Hydrogen Production from Serpentinization:* **E Li**, A R Kovscek

1915925 *Geochemical Modeling for Natural Hydrogen Generation in Open and Closed Systems.:* **C Nwanwe**, A Kaiser, M Mehana, Q Yuan

1988256 *Geophysical Characterization of Natural Hydrogen Reservoirs : lessons from the Bourakebougou natural hydrogen field, Mali.:* **O Maiga**, E Deville, M Adelinet

1977396 *Hydrogen stimulated biofilm formation on carbonate mineral surfaces:* **Y Qi**, C Zamora, Z Hao, B Gilbert

1936913 *Hydrogen Wettability of Peridotite under Various Brine Compositions and Temperatures: Implications for Natural Hydrogen Accumulation at 400-430 K:* **B Ding**, J Dai, D Chen, R Zhou, S Tian, H Wang

1976531 *Hyperspectral Imaging for Geologic Hydrogen Exploration: A State-of-the-Art Review:* **R Rajabi Toostani**, M Stuefer

1865328 *Impact of Sulfate-Reducing Biofilm Activity on Sandstone Hydrogen Storage:* **M Chen**, S Glubokovskikh, S Nakagawa, H Lisabeth, L Song, R Chakraborty

1962733 *In-situ generation of hydrogen and carbon mineral storage by injecting H_2S or H_2S-CO_2 mixtures into Fe^{3+}-rich sandstones:* **S Arkadakskiy**, S Stewart, M Cancelliere, E Oelkers

1962095 *Integrating Source Rock Mineralogy and Concurrent Generating Mechanisms in Basin Modeling Technique for Geological Hydrogen Systems:* **A Andaru**, T Mukerji

1977476 *Large-scale Aqueous Speciation Modeling with Eleanor:* **D Moore**, T Ely, C Mathis

1865968 *Life Cycle Analysis of Geologic Hydrogen Production:* **H Cai**, Y Gan, Z Zhang, A R Brandt, G Ellis, A Elgowainy, M Wang

1950039 *Mineralogical Characterization of Mid-continent Rift Mafic Rocks and Its Implication on Geologic Hydrogen Production Potential:* **S Fu**, S Liu

1871010 *Modeling the Cost and Emissions of Natural Hydrogen Production:* **H Ma**, E Holubnyak

1899609 *Modeling the Effect of CO_2-rich Fluids on H_2 Generation: Insights for Combined Natural H_2 Production and Carbon Mineralization:* **J A M Leong**, T Ely, N Park, E Shock, P B Kelemen

1923314 *Natural H_2 Generation and Mineral Alteration in Porous Media: Insights on Physiochemical Controls from Geochemical Simulations:* **C Yi**, D R Cole, C A Peters

1853892 *Numerical geodynamic modelling shows mountain ranges to be potential natural H_2 hotspots:* **F Zwaan**, S Brune, A Glerum, D Vasey, J B Naliboff, G Manatschal, E C Gaucher

1858500 *Prediction of Geologic Basement Lithologies for Natural Hydrogen and Helium Exploration: A Geophysical Approach:* **S Saleh**, R C Arasada, S Bhattacharya, E Horne, E Rodriguez Calzado, C N Schuba, E Ukar

1943623 *Quantifying Hydrogen Productivity from Basaltic Rocks: Experimental Insights into ferrous iron Oxidation and Mineral Transformations:* **S Jeong**, M Yang

1970873 *Remote Geophysical Analysis of Geologic Hydrogen Transport Pathways in the Biwabik Iron Formation:* **E Erskine**, L A Brengman, N Chai, A Hirsch, A Eyster

1872856 *Seismic Evidence for Sustained Gas Migration in a Serpentinizing Aquifer:* **T Liu**, C Liang, J M Aiken, W Wu, P B Kelemen, R A Sohn

1935386 *Seismic modeling for serpentinization and geological hydrogen detection:* **Y Mathur**, T Mukerji

1979872 *Serpentinization of Olivine Under Natural and Synthetic Hydrothermal Conditions:* **G Xu**, A Johnson, F Hasiuk, K A King, T A Ho, J D Sugar, R Czarnota, N C Bartelt, F El Gabaly Marquez, V Stavila, M Witman, M D Allendorf

1978418 *Study of Microbial Activity and Sulfide Toxicity in Underground Hydrogen Storage: Effects on Mineral Dissolution and Hydrogen Consumption:* **A Esfandiari**, C J Werth, A Clara Saracho

250643
New Technology to Create, Process, Manufacture, and Recycle Resilient Electroactive Materials for Lithium-Ion Batteries *(joint with GC, SY, V)*

Conveners: **Edith Wilson**, Thriving Earth Exchange; **Cooper Yerby**, Department of Energy Washington DC; **Yang Qiu**, Pacific Northwest National Laboratory, Joint Global Change Research Institute

1982914 *Comparative Techno-Economic Analysis of Lithium Extraction from Mine and Brine:* **M R Mojid**, K J Lee

249327
Physical Properties of Earth Materials (PPEM): From Transient to Steady-State Deformation *(joint with C, P, T)*

Conveners: **Andrew Cross**, Woods Hole Oceanographic Institution; **Tamara Jeppson**, University of Wisconsin Madison; **Leif Tokle**, Structural Geology & Tectonics Group, Dept. of Earth & Planetary Sciences; **David Wallis**, University of Cambridge; **Jessica McBeck**, Norwegian University of Science and Technology

1922435 *Surface Seeps in the Delaware Basin : Insights into the Natural Hydrogen and Helium Potential of Texas:* **G Pasquet**, J O Thompson, V Mow, D Kasperczyk, J Markov, E Rodriguez Calzado, A Martinez-Doñate, C N Schuba, L G Moscardelli, S Saleh

1962796 *Techno-Economic Analysis of Geologic Hydrogen:* **W Zhao**, Q Yuan, S Mao

1985816 *Thermodynamic Thresholds Governing Hydrogenotrophic Microbial Community Dynamics in Subsurface Halite Reservoirs:* **J Barkelew**, C J Werth, A Clara Saracho

1935025 *U.S. DOE National Laboratory Collaboration and RD&D Strategies on Geologic Hydrogen Technologies:* **X Pu**, J King, L A Brengman, R Ihly, M Thornton, K Wipke

1913663 *Unlocking the Earth's Potential for Geologic Hydrogen:* **D D Reible**, M A Ifticene, Q Yuan

1961217 *Using Alteration Minerals to Determine if Serpentinizing Systems are Primed to Produce Hydrogen.:* **T Ely**, D Moore

1876697 *Water-rock Interaction Simulation of Hydrogen Production via Serpentinization of Ultramafic Rocks: Chemical Reactions Network and Data Sensitivity:* **A J Park**, R Czarnota

1901785 *Current and future environmental impacts for sodium-ion batteries:* **R Peer**, F Astorga-Mendoza, C Baur, G Leverick, J Haas

1862458 *Establishing Sustainable Supply Chains for Green Graphite in the United States:* **Y Yao**, H Wang, B Zhang

1886042 *First-Principles Investigation of Li Adsorption on N-, S-, and Te-Doped Graphene for Recyclable and Sustainable Energy Storage Materials:* **S Uprety**

1965191 *Understanding Lithium-ion Battery Degradation and Lifecycle Sorting with Simultaneous Neutron and X-ray Tomography:* **J LaManna**, D S Hussey, E Baltic, D L Jacobson

1849562 *A new microphysical model for dislocation-based attenuation in the upper mantle at seismic to tidal frequencies:* **D Hein**, T Breithaupt, L N Hansen, D Wallis

1949894 *A record of transient (200-300 year) quartz-vein induced weakening and non-steady state strength recovery, 96 Mile Shear Zone, Grand Canyon:* **N Roberts**, Y Contreras-Joya

1946209 *A Semibrittle Flow Law for Olivine: Predicting Both the Transient and Steady-State Strength of the Oceanic Lithosphere:* **T Breithaupt**, L N Hansen, A Nehring, D Wallis

1951297 *Characterizing acoustic emissions during differential stress-driven and pore-pressure-driven failure in thermally cracked granite:* **M Pec**, H O OGhaffari, PhD, U Mok, J E Elkhoury, N Nakata, Z Bi

1999879 *Comparative Analysis of Rock Failure Processes under Creep and Fatigue Via Deep Unsupervised Learning:* **R Solis Vega**, O Moradian

1888363 *Depth-Dependent Variation in Sediment Physical Properties in the Ulleung Basin, East Sea:* **G Y Kim**, K PARK, G S Lee, B Yi, D G Yoo

1909484 *Dislocation structures from conventional EBSD maps of experimentally deformed olivine:* **U Faul**

1985495 *Experimental Constraints on Low-Temperature Plasticity in Polycrystalline and Single-Crystal Plagioclase:* **E Ela**, L N Hansen, T Breithaupt, H Chen, J White, D Hein, A Nehring, C Seyler, A J Cross, R Goddard

1871276 *Frictional Behavior of the Milun Fault Zone During Experimental Multiple Seismic Slip-Rate Pulses:* **M C Lee**, L W Kuo, T T Nguyen, Y Y Ling, K MA, C C Hung

1941945 *High-strain deformation experiments on olivine aggregates under high pressure condition using the rotational diamond anvil cell:* **K Okazaki**, S Azuma, S Yagi, M Yasutake, B Natsui, K Uesugi

1947492 *Microstructural evolution of Carrara marble in the semi-brittle regime:* **H Wilkinson**, A J Cross, E Rybacki, J B Evans, M Pec

1923096 *Microstructural Evolution of Carrara Marble with Complex Strain Histories:* **J Qidiao**, P A Skemer

1923722 *Mineralogical and Nanostructural Signatures of Amazonian Dark Earths Revealed by XRD, FTIR and Raman Spectroscopy:* **J Caland**, J Gomes, R Corrêa, M Sousa

1885215 *Quantifying Dislocation Interactions in Blueschists via Nanoindentation of Sodic Amphibole and Epidote:* **J White**, C Seyler, T Breithaupt, N Badt, D L Goldsby

249968
Physics of Fluids in Unconventional Reservoir Rocks (cosponsored by CGS: Chinese Geophysical Society,CGU: Canadian Geophysical Union,MSA: Mineralogical Society of America,SEG: Society of Exploration Geophysicists) *(joint with H)*

Conveners: **Behzad Ghanbarian**, University of Texas at Arlington; **Feng Liang**, Aramco Services Company; **Saman Aryana**, University of Wyoming; **Shaina Kelly**, Columbia University

1990467 *Apparent Permeability of CO_2 in Tight Shales: Experimental Methodologies and Impacts of Sorption:* **Y Lyu**, S M Althaus, S Eichmann, K Jessen

1880265 *Role of Quartz Grain Size on Fault Friction and Seismogenesis:* **S Regmi**, S Shreedharan

1931107 *Seeing and hearing frictional interfaces: using total internal reflection imaging and acoustic methods to explore contact dynamics:* **C McCarthy**, C Bate, M Madajewicz, S Saltiel, W Steinhardt

1849782 *Some studies on the engineering properties of laterites in Sri Lanka:* **U D S Jayawardena**

1967778 *Spontaneous crack healing in calcite: Strain evolution, dislocation dynamics and surface chemistry:* **H P Lisabeth**, M Devoe, S Nakagawa, Z Hao, N Tamura, H R Wenk

1881528 *Steady-State Fabric Development in Granular Materials Revealed by X-Ray Micro-Computed Tomography:* **H Yang**, F E Garcia

1957153 *Strong asperities nucleate earthquakes in experiments on creeping, bimaterial laboratory faults:* **M R Barbery**, G Hirth, T E Tullis

1994919 *Testing the Role of Plasticity on the Frictional Strength of Calcite Gouge with Increasing Normal Stress:* **S Wright**, K Okamoto, O Wickenhaeuser, H Wiesman, A M Dillman, L N Hansen

1949508 *The evolution of crystallographic preferred orientations in ice under changing deformation kinematics:* **Q Wang**, M Fleming, S Fan, M Palmer, D J Prior, C QI

1956105 *The interplay between fault fabric and frictional healing in serpentinite-rich fault gouge:* **E Armstrong**, M R Barbery, A K Ault, G Hirth, S Shreedharan, A MacDonald

1945414 *Transient to Steady-State Olivine Crystallographic Preferred Orientation During Diffusion Creep: Deformation Experiments on Olivine Aggregate with Pre-existing Fabric:* **T Hiraga**, S Yoshimatsu, N KIM

2001647 *Carbon mineralization pathways in interfacial adsorbed water nanofilms:* **M J Abdolhosseini Qomi**, Q R Miller, K M Rosso, T Schaef, S Zare, M Youzi, J Stapper

1989329 *Mineralogical, Petrophysical and Geomechanical Properties of Limestones from Kansas:* **N Osorio**, W Dontoh, R Ghahfarokhi, C Jones, B Ghanbarian

1978354 *Multi-Scale Spatial Texture Characterization in Earth Systems using Topological Data Analysis and Bayesian Hierarchical Modeling:* **S Baugh**, T Mittal, B Roycraft, P Tanikella

2000598 *Pore Scale Investigations on Fluid Flow in Anisotropic Porous Media And Its Impacts on Macroscopic Properties:* **R Guo**, H WANG, S A Hosseini

2002634 *Pore-Scale Processes Driving Critical Mineral Recovery and Carbon Storage in Reactive Reservoirs:* **N Lahiri**, Q R Miller, C H Stanfield, E Nienhuis, T Schaef

1966727 *Pores, Pixels, and Pulses: Integrating Digital Rock Insights and Laboratory Measured Ultrasonic Velocity for Detailed Characterization of Shaly–Sandstone Reservoirs in the Damodar Valley Basin of India:* **V D Jamwal**, R Sharma, S Modi, N Vedanti

1948352 *Predicting Fracture Geometry and Fluid Flow based on Rock Mineralogy:* **L J Pyrak-Nolte**, K Han, J Hyman

2005055 *Pressure-Dependent CO_2 Transport and Storage Mechanisms in Low-Permeability Reservoir Rocks: A Bakken Formation Case Study:* **A Larbi**

249671
Pre-, co- and post-rupture processes across multiple scales *(joint with G, S, T)*

Conveners: **Sergio Vinciguerra**, University of Turin; **Roland Bürgmann**, University of California Berkeley; **François Renard**, University of Oslo; **Wenlu Zhu**, University of Maryland College Park

1885132 *Aseismic fault slip and earthquake ruptures along the Main Marmara Fault:* **P Martínez-Garzón**, X Chen, D Becker, S Nunez, J Jara, R F Kartal, G Dresen, E Tuerker, F Cotton, Y Ben-Zion, M Bohnhoff, F T Kadirioglu, T Kilic

1860420 *Evaluation of mechanical properties in fractured rock masses based on discontinuum simulation and representative elementary volume analysis:* **Y R Wu**, S J Wang, J J Dong, Y C Lu

1896520 *Experimental and Microstructural Analyses of Extension-shear Mixed-mode Fractures in Carrara Marble and Westerly Granite: Effects of Pore Fluid Pressure:* **C Tilley**, H Kitajima, M Pettes, C Neil, J Tristan, D Worley, D Donovan

1879682 *Experimental Study of Fault Healing and Cohesion under SSE Conditions:* **U Fatema**, J Watkins, A Thomas, N M Beeler

1925419 *Fluid-Controlled Earthquake Nucleation on Active Faults: Insights from the Irpinia Fault System (Southern Italy):* **G M Adinolfi**, F Guinez-Rivas, J A Campos, R De Matteis

1853172 *Simulation of Fluid Transport and Inter-Porosity Fluid Exchange in Dual-Porosity Dual-Permeability Shale Pore Network:* **C Liu**, D Phan

1933199 *Surface Reaction of CO_2 with Basaltic Minerals and its Influence on the Metal Ion Dissolution: Effect of Temperature and Nanoconfinement:* **Y Liang**, Z Shao, G Jo, K Nakamura, T Tsuji

1851490 *Unveiling microscale in-situ shale oil occurrence and pore-fracture artifacts in saline lacustrine reservoirs via Cryo-FIB-SEM:* **Y Cao**, Z Jin, L Dong, R Zhu Sr

1958288 *Frictional behavior of partially water-saturated phyllosilicate-bearing gouge of mixed composition:* **S Barbot**

1909955 *Insights from Aseismic Transients and Seismic Triggering During Rock Fracture Using Integrated Monitoring Systems:* **P A Selvadurai**, H Chen, P Bianchi, A F Salazar Vásquez, S Michail, C Madonna, D Giardini, S Wiemer

1863523 *Mechanical stratigraphy-goverened sequential fracturing in an isotropic shale:* **Q Meng**, T Li, Z He

1970661 *Microvoids within cohesive sediments document multi-step yielding during slip along the southern San Andreas fault:* **J Dasent**, M Chang, V D Wright, K M Scharer, R Kilburn, M Manga

1872194 *On the role of pre-existing microcrack geometry in fracture formation and propagation during elastic deformation: a FEM-based numerical approach:* **L Manna**, M Maino, L Casini, M Dabrowski

1867723 *Synchrotron Imaging of Shear Faulting and Gouge Production in Granite:* **F Renard**, M L Doan, V Ambikadevi Rajasekharan Nair, J Hollingsworth, B Cordonnier

1858114 *The Linked Complexity of Coseismic and Postseismic Faulting Revealed by Seismo-Geodetic Dynamic Inversion of the 2004 Parkfield Earthquake:* **N Schliwa**, A A Gabriel, J Premus, F Gallovic

1900099 *Unravelling Precursory Rockfall Seismic Signatures via Multiscale Clustering Analysis:* **S Vinciguerra**, G M Adinolfi, C Comina

1846272 *Effects of Pore Pressure on Extension-shear Mixed-mode Fracture in Indiana Limestone:* **J Tristan**, C Tilley, D Worley, H Kitajima

249339
Subsurface Processes for Energy Production and Storage, Carbon Mitigation, and Waste Disposal (cosponsored by GSA: Geological Society of America,JpGU: Japan Geoscience Union,MSA: Mineralogical Society of America,SEG: Society of Exploration Geophysicists) *(joint with H, NG, NS)*

Conveners: **Behzad Ghanbarian**, University of Texas at Arlington; **Cheng Chen**, Stevens Institute of Technology; **Bo Guo**, University of Arizona

1870405 *Application of 3D-printing technologies in the construction of well-controlled heterogenous permeability fields to study their role on solute dispersion in porous media:* **B Adeyemi**, C Chen, M Esmaeilpour, R Guo

1864184 *Characterisation of solute transport and retention properties in the crystalline bedrock in north-east of Taiwan:* **P Trinchero**, F Grandia, M Löpez, G Roman-Ross, J Sammaljärvi, M Siitari-Kauppi, J Y Shen, P Y Chuang, C C Ke

1991555 *Characterization of potentially permeable intervals in a highly fractured granitic rock mass using wireline logs:* **Y Jo, PhD**, M Kim, C Lee

1929942 *Chemical Characterization for the Cooperation in Cement Degradation Research for Geological Disposal:* **C M Lopez**, A C Sanchez

1939548 *Effects of Hydrothermal Alteration on the Long-Term Performance of Natural Barriers in Mesozoic Granite from South Korea:* **S Jung**, N K Kim, J M Choi, K W Park

1955643 *Evaluating the impact of spatial variability on uranium diffusion in the three main facies of the Opalinus Clay at Mont Terri (CH):* **T Hennig**, M De Lucia, M Fabbri

1985659 *Fundamentals of Particulate Amendment Transport in Artificially-Induced Hydraulic Fractures for Effective Remediation in Low-Permeability Clay:* **O Elagab**, Z Ding, D Fan, N Durant, A Danko, C J Werth, C Chen

250515
Synergizing Across Scales and Methods: Collaborative Advances in High-Pressure Earth and Planetary Science *(joint with DI, P)*

Conveners: **Sibo Chen**, Arizona State University; **Ian Szumila**, Carnegie Institution for Science; **Joseph Gonzalez**,

1862905 *Diamond Formation Timescales from Hydrocarbon Demixing in Icy Planetary Interiors:* **M Frost**

1941438 *Hydrogeochemical Assessment for Deep Geological Disposal of Radioactive Waste in Granitic Formation: A Preliminary Case Study:* **H Choi**, H R Kim, S Park, H Kim, Y B Jung

1885564 *Laboratory Investigation of the Performance of Electrically Conductive Proppants under High-Temperature and High-Pressure Conditions in Enhanced Geothermal Systems:* **S Wang**, C Chen

1906834 *Pore Water or Groundwater Chemistry: What Governs Uranium Migration in Opalinus Clay?:* **T Hennig**, T Schöne

1872816 *Predicting mineral reaction rates in subsurface energy systems:* **L E Beckingham**

1998247 *Rethinking Carbon Sequestration Plume Stability and Trapping in the Context of Heterogeneous Formations and Directional Multiphase Flow Properties:* **R Larson**, S M Benson, Director Precourt Institute, and Professor, Stanford University

1950264 *Simulations of CO_2 storage in selected structures of the Negev Jurassic aquifer:* **R Rosenzweig**, P Kumar, Y Sagy, O Bar, R Calvo

1870595 *Stress- and Temperature-Regulated Pressure Solution and Ion Exchange in Bentonite-Carbonate Mixtures: Implications for Geological Disposal of Nuclear Waste:* **M Goli**, Y Wang, C Chen

1873500 *Temperature-regulated Element Leaching and Hydrogen Generation During Basalt–CO_2–Brine Reactions:* **M Zeng**, M Ji, Y Cheng, C Chen

1942275 *Transient permeability in ductile rocks: the competition between deformation and healing:* **M Violay**, G Meyer, F Lazari

1901637 *What Does Control Neptunium Migration in Opalinus Clay? A Step-wise Approach Using Reactive Transport Simulations:* **T Hennig**, M Stockmann, C Joseph, V Brendler, T Reich, M Kühn

1846167 *MXene–Graphene Hybrid Films as Tunable Smart Materials for Subsurface Environmental Sensing:* **C Abuoudah**, M KM

1912118 *EoSAlign: An Open-Source Software for Calculating and Comparing Pressure Under Extreme Conditions:* **A M Pease**, H Krauss, S H D Shim

1868674 *High Pressure Phases Unite Mineral Physics and Materials Science:* **A Navrotsky**

1856834 *Laser-Driven Shock Compression on FeOOH: Implications for Fe-O-H Interaction in a Magma Ocean:* **Y Zhang**, K Bali, C Dorn, M Andronaco, A Ravasio, H Yang, S Pandolfi, A Chen, X Wei, L Libon, D Zheng, E Boulard, C Prescher, A Benuzzi-Mounaix, H J Lee, E Galtier, N Czapla, R Caracas, R Alonso-Mori, A E Gleason, S H D Shim, G Morard, W L Mao

1848846 *Mantle Phase Equilibria Between Experiment and Simulation:* **J Dong**, L P Stixrude

1899884 *Robust Uncertainty Estimates in Diamond Anvil Cell Thermal Conductivity Experiments with Markov Chain Monte Carlo and Gaussian Process Surrogate Modelling:* **C Barker**, T Perez, V V Dobrosavljevic, A F Goncharov

1913151 *Shock Compression of [001] Calcite ($CaCO_3$) to 140 GPa: Hugoniot States and Initial Sound Speed Measurements:* **N Pempena**, J M Winey, T S Duffy

252126
Recent Advances in Near-Surface Geophysics (General Contributions) *(joint with B, H, MR, NG)*

Conveners: **Raymond J. Hess**, Rutgers University; **Elnaz Pezeshki**, Organization Not Listed; **Emmanuel Oladeji**, University of California Davis; **Klaudio Peshtani**, Pacific Northwest National Laboratory; **Siena Oswald**, University of California Santa Cruz

1889252 *3D Joint Inversion of Multispacing Magnetic Data:* **G Kim**, H Rim

1932858 *Characterizing Hanford Vadose Zone Sediments Using Nuclear Magnetic Resonance:* **C Caro Cano**, M Figueroa, K Keating, J Robinson

1941598 *A new small coil transient electromagnetic (TEM) instrument and cases imaging the critical zone:* **E Auken**, P Maurya

1943737 *Archaeo-geophysical area survey in the Amazon rainforest of Bolivia:* **J Fassbinder**, L Lambers, S Hahn, R Torrico, C James Betancourt

2001746 *Assessing Effectiveness of Modern Smartphone Magnetometers for Mapping Buried Utilities:* **M Ahmed**, A Innes

1884706 *Closed-form Expressions of Gravity and Magnetic Responses due to an Elliptical Cylinder:* **H Rim**, G Kim

1869132 *Delineating Groundwater-Surface Water Interactions in a Flow-Through Glacial Lake Down-Gradient of Crude Oil Spill Plumes:* **H Moore**, L D Slater, N Terry, B A Bekins, J F Devlin, I Cozzarelli, D Ntarlagiannis

1986777 *Sound Speeds of Shock-Compressed Single-Crystal Quartz:* **J Gay**, J M Winey, T S Duffy

1982678 *Three New Methods to Experimentally Measure the Viscosity of Minerals at Deep Mantle Conditions:* **T Perez**, S Dick, R Smith, P M Celliers, J Eggert, S Ali, E Johnsen, S J Tracy, J K Wicks

1864066 *Enhance Near-Surface Imaging Accuracy with Kernel FCM Clustering-Constrained Inversion of Ambient Noise Surface Wave Data:* **Z Shi**, X He

1896400 *Evaluating a novel electromagnetic induction array for high-resolution magnetic susceptibility mapping in igneous environments.:* **P De Smedt**, B Dousteyssier, J Guillemoteau, F X Simon, V Van Parys, A Vauthier, L Claeys

1911043 *Interpreting Subsurface Disturbances Using Ground Penetrating Radar and Modeling of a Historic Urban Setting in Austin, Texas:* **L Lemmons**, S Hernandez, M Gowens, R Dees, M E Everett

1969533 *Near-Surface Seismic Analysis of the Bliss Creek Lineament, West-Central Mississippi:* **R Failing**, J B Harris

1891647 *Scale Analysis of Atmospheric Flow over Vegetation Canopy:a Wind Tunnel Study:* **G Chen**, C H Liu, F Li

1852137 *The Kimal Converter Substation - The Challenges of Geoelectric Modelling in a Desert Environment:* **P F Freire**, B Abarca, N Meqbel, B Sergio, J Calderon, F Adaro, T Wei, W Jianzhong

1893364 *Towards a more quantitative comparison of electromagnetic induction surveys for regional nutrient loss assessments of agricultural fields:* **J Thompson**, D Ntarlagiannis, A R Buda, L D Slater

1856786 *Using Near-Surface Geophysics to Estimate Water Storage From a Porosity Model of the Hillslopes in a High-Altitude Andean Watershed:* **J Cambeiro**, K Keating, J Oshun, J L Hayes, M Lang, O Walbert

SEISMOLOGY

251653
Understanding Distributed Sensing Instruments for Scientific Discovery: A Guided Tour through the Tools of Earth Science *(joint with A, IN, NS, S)*

Conveners: **Haokai Zhao**, Massachusetts Institute of Technology; **Cian Dawson**, US Geological Survey; **Vidya Samadi**, University of South Carolina

249502
Advances in Understanding Fault Systems through Scientific Drilling *(joint with MR, S, T, V)*

Conveners: **Chris Carr**, Los Alamos National Laboratory; **Jennifer Wilson**, Sandia National Laboratories; **Brett Carpenter**, University of Oklahoma Norman Campus; **Brandon Crawford**, Los Alamos National Laboratory

1852465 *Advancing Deep Borehole Seismic Source Characterization Using a 2-km Vertical Hybrid DAS/DTS/Geophone System Deployed in an Active Fault Zone:* **C Stanciu**, R W Porritt, PhD, J Harding, T Luckie, M Bodmer, R E Abbott, R Turley, J Pine, K Passmore

1943993 *An abnormal temperature depth profile in a scientific-drilling borehole in the volcanic region surrounding the Aso Volcano, Japan:* **W Lin**, S Shibutani, S Feng, N Kamiya, K Ishitsuka, Y Shigemitsu, X Yang, K Sado

1925695 *Challenges, Successes, and Lessons Learned: Deep Core Drilling in a Previously Unconstrained Fault:* **A Miller**, J Pine, C Freimuth, I Whittaker, K Gaynor, W R Walter, C M Snelson, R E Abbott, J Falliner, E Alger, D Smith, C Jewell, C Callahan

1902125 *Comparing Borehole Breakout Directions to Local Stratigraphy: Implications for Stresses Near the San Andreas Fault System in Central California:* **H Hackenmueller**, J R Davis, S Titus

1849256 *Effect of in-situ stresses on seismic sources of the RV/DC events:* **C S Larmat**, B Euser, Z Lei, R Modrak

1964745 *Forward Modeling of Fracture-Induced Elastic Anisotropy with Image Log in the Damaged Rockmass Around the Alpine Fault, New Zealand:* **D Schmitt**, O Zhang

1876784 *SkyMapper: A Global, Decentralized Network for Planetary and Atmospheric Science:* **F Marchis**, T Esposito, G Cid, S Vervaet, S Pilorz, A Graykowski, J Hanus, R Lambert

1969266 *Techniques to compare and cross-calibrate DAS and seismometer data:* **G S Bainbridge**, S Karimi, Y Li, N Pelyk

1934275 *Wired, Winged, and Walking: Multi-modal Distributed Sensing Capabilities for Energy and Environmental Systems:* **Y Wu**, L Luo, J Wang, C Chou, H Chen

1845086 *Geomechanical Parameters for Characterizing Seismic Sources in Rock Valley:* **W M Kibikas**, J E Wilson, C Downs, S Broome, J Jaramillo

1946796 *Integrated Xscan-CT Workflow for Characterizing Intrinsic Physical Properties of Gulf of Cádiz and Alborán Basin Sediments:* **X Xu**, Y Sakai, K Ishitsuka, W Lin

1902101 *Preliminary Analysis of the Cenozoic Section from Core Drilled in the Rock Valley Fault Zone, Nevada National Security Site:* **M Dietel**, C Freimuth, N Downs, A Miller, J Larotonda, H Montano, D Smith, J E Wilson, E Swanson

1926588 *Preliminary Observations from Corehole Drilling in an Active Fault Zone in Rock Valley, Nevada:* **C Freimuth**, M Dietel, N Downs, A Miller, M Aittama, C Carr, J E Wilson, G Datlof, E Swanson

1852573 *Single-Borehole 3D Full-Waveform Tomography of SPT-Generated Seismic Wavefields:* **K Tran**, B Yang

1909069 *Structural characteristics of the Upper Prism in the Japan Trench suggested by physical and magnetic properties:* **N Kamiya**, Y Hamada, H Okuda, K Nakamoto, T Uchida, H Hosono, Y Hashimoto, T Toki, Y Kubo

1921631 *The Development of the Rock Valley Direct Comparison (RV/DC) Testbed:* **C M Snelson**, E Alger, W R Walter, R E Abbott, I Whittaker

1929443 *The Rock Valley Direct Comparison - An Experiment to Improve Explosion Versus Earthquake Identification:* **W R Walter**, C M Snelson, R E Abbott, I Whittaker, M L Pyle, C Carr, M Bodmer, J Pine, E Alger, J A Kintner, J Falliner, M E Scalise

251504
Advances in Seismic Source Estimation: Methods, Data, and Uncertainty Quantification

Conveners: **Evans Onyango**, Air Force Research Laboratory; **Celso Alvizuri**, NORSAR; **Andrea Chiang**, Berkeley Seismological Laboratory, UC Berkeley; **Aurélie Guilhem Trilla**, CEA-DAM; **Thanh-Son Pham**, Australian National University

1917294 *Can you trust your uncertainties? Improving Bayesian earthquake source inversions using machine learning.:* **A Saoulis**, D Piras, A Spurio Mancini, B Joachimi, A M Ferreira

1879908 *Bayesian inference for the seismic moment tensor using a data-derived distribution of velocity models and source locations:* **S R Ford**, A Chiang, M Pasyanos, PhD, N A Simmons

1863740 *Characterization of Earthquake Source Parameters with Distributed Acoustic Sensing: Results, Challenges, and Perspectives.:* **C Strumia**, A Trabattoni, M Supino, A Scala, F Scotto Di Uccio, A Suresh, D Rivet, G Festa

1944312 *Characterizing Complex Earthquakes as Multiple Centroid Moment Tensors via Derivative-free, Ensemble-based Optimization:* **J W C Wong**, W Fan, M Morzfeld, A A Gabriel

1875282 *Comparing Moment Tensor Inversions using 1D and 3D Wavespeed Models: Synthetic Experiment in the Middle East:* **C Doody**, N A Simmons, A Chiang, A J Rodgers, PhD

1961709 *Correcting Near-field Radiated Energy Results for Early Earthquake Energy Information:* **E Cohen**, H Kunwer, A V Newman

1935595 *Data-Driven Modeling of Low-Frequency Tremors with Stochastic Differential Equations: From Non-Parametric Estimation to Physics-Informed Learning:* **T Kusui**, H Nagao, S I Ito, S Katoh, T Tokuda

2005913 *Discriminating Volcanic and Tectonic Events in Western El Salvador based on Spectral Characteristics:* **E S Delgado Andino**, T Goebel, D Figueroa

1882383 *Distinguishing Spatial Variations in California Earthquake Dynamics Using a High- to Low-Frequency Spectral Ratio:* **I Vandevert**, P M Shearer, W Fan

1889562 *Earthquake Source Inversion by Integrated Fiber-Optic Sensing Based on Optical Noise Cancellation:* **N Müller**, S Noe, D Husmann, J Morel, A Fichtner

1909814 *Enhancement in the Seismic Catalog Of The Gargano Promontory (Southern Italy) After A Decade Of Seismic Monitoring By The OTRIONS Local Network:* **M Filippucci**, A P Ferreri, A Romeo, R Giannuzzi, T Ninivaggi, G Cecere, L Falco, M Michele, G Selvaggi, A Tallarico

1990956 *Estimation of source parameters using site-corrected source spectra for the 2019 Ridgecrest earthquake sequence in Southern California:* **B S Ahn**, T S Kang

1895067 *From Waves to Yields: AI-Powered Insights into Explosion Source Parameters:* **B Moyer**, V Lekic, N C Schmerr, A Pitarka, K Kim, S M Ezzedine

1878928 *Full Moment Tensor Solutions for the DPRK Announced Nuclear Tests and Earthquakes in the Surrounding Region:* **C Ogden**, N Selby, S E J Nippress, R Heyburn

1854740 *Generalized inversion of source, site and attenuation parameters using the radiative transfer theory: a focus on uncertainty reduction:* **G Heller**, O Sèbe, L Margerin, P Traversa, J Mayor, M Calvet

1871912 *Improving Seismic Source Characterization of Moderate Magnitude Events at Regional Distance With Seismic and InSAR Data:* **A Guilhem Trilla**, H De Boever, B Pinel-Puysségur, G Burgos

1943937 *Integrated Subsurface Interpretation for Hydrocarbon Exploration and quantifying the future co2 storage sites using Geological and Geophysical (G&G) datasets.:* **A Jaiswal**

1964212 *Investigating the Effects of Frequency Bandwidth on Earthquake Source Parameters Using Joint Spectral Ratio Inversion:* **H Guo**, C H Thurber

1916206 *Investigating Uncertainties of Single-Station Marsquake Moment Tensor Inversions:* **C Moore**, R Maguire, D Kim, R Parry, D Malytskyy

1942072 *Joint inversion of the tsunami, GNSS, and SAR datasets for finite fault modeling: optimizing data weights using Akaike's Bayesian Information Criterion (ABIC):* **A Mizutani**, B Adriano, E Mas, Y Ohta, S Koshimura

1865980 *Modeling Seismic Response to Faults that Rupture Through Discontinuities:* **Y Geng**, M Ishii

1950144 *Open-Source Python Scripts for Relative Magnitude Estimation:* **S L Gable**, Y Huang, F Burkett

1959519 *P-wave First-Motion Polarity Determination Using Order Statistics and Entropy Theory (POSE) with Applications to Southeastern Tibetan Plateau:* **Y Zhou**, L Wang, H Meng, W Pei, S Zhou

1939808 *Probabilistic classification with seismic moment tensors:* **C R Alvizuri**

1932862 *Quantitative Characteristics of the Earthquake Radiation Processes of Deep-Low Frequency Earthquakes in Japan:* **M Orimo**, K Yoshida

1894948 *Resolving Volumetric Components in Intermediate and Deep Earthquakes Using Geodetic Observations of Co-Seismic Displacements:* **S Chen**, S Park

1906411 *Robust Extraction of Earthquake Source-Time Functions Using Deep Generative Modeling:* **P Bharadwaj**

1930946 *Shallow and Normal Depth Earthquake Discrimination from Explosions - The Source Physics Experiments:* **W R Walter**, M L Pyle, C Pennington, R Gok, A Patton, D T Trugman

1882884 *Source Mechanism of Small Earthquakes in the Changning Region, China, Using A Dense Array Dataset:* **J Zhang**, Y Jiang, J Zi, H Yang

249023
Advances in Seismoacoustics *(joint with A, NH, V)*

Conveners: **Jelle Assink**, Royal Netherlands Meteorological Institute; **Anna Perttu**, Earth Observatory of Singapore; **Junghyun Park**, Southern Methodist University; **Efrem Vitali**, Lawrence Livermore National Laboratory; **Nora Wynn**, Sandia National Laboratories

1889864 *Listening for Fireballs: A Trial of Seismo-acoustics and Optical Observations of Meteors Over Perth, Australia:* **I Hamama**, E Sansom, M Cupak, M Towner, H Devillepoix, H Elbehiri, I Clemente, B Hartig, M Y Yamamoto

1933064 *Acoustic Wave Signatures of Earthquake Rupture Dynamics in the Upper Atmosphere:* **Y Kaneko**, P Inchin, Y Nozuka, R Sabatini, R Enomoto, J B Snively

1873811 *Advances in Seismoacoustic and Infrasound Data Analysis for Improved Detection and Location in the Korean Peninsula:* **J Park**, J Reiter, S Arrowsmith, C Hayward, I Y Che, K Goddard, T VanDeMark

1874409 *Air-Ground Coupling from SpaceX Starship Launch Signals:* **J Villagomez**, J McNease, Z Zhang, M A Murphy, Y Zheng

1924657 *Analyzing Wind Noise – Correlations with Topography to Support Site Selection and Local Wind Noise Mapping:* **C Jesus**, R Waxler, L D Yarbrough, C H Hetzer, C L Talmadge, H Buchanan, N Thirunilath

1928606 *Application of a Statistical Method for Analyzing Wind Noise Levels for Infrasound Sensor Site Selection:* **R Waxler**, C H Hetzer, C Jesus, C L Talmadge

1905755 *Atmospheric Wave Propagation in Multi-Component Atmospheres: The Role of Species Diffusion:* **B Pineyro**, R Sabatini, J B Snively

1946228 *Source Parameters of Background Seismicity (2013-2020) on the Reykjanes Peninsula: A Baseline for the Recent Volcanic Unrest:* **D Konrádová**, L Cataldi, V Poggi, J Doubravova, J Burjanek

1858949 *Toward New Magnitude Conversion Relations for the Stable Continental Regions of Canada:* **A L Bent**

1895119 *Using Fourier Neural Operator for Seismic Source Inversion:* **C Doody**, Q Kong, J T Lin, L Vazquez, C Zou, Y Choi, Z E Ross, K Azizzadenesheli, A J Rodgers, PhD, R W Clayton

1874965 *W-phase Source Inversion from GNSS Velocities:* **J DeGrande**, B Crowell

1910411 *Waveform-Based Localization of Deep Low-Frequency Events Without Arrival-Time Picking Using Fourier Neural Operator:* **S Katoh**, Z E Ross, H Nagao

1998367 *Deep Clustering for Infrasound Phase Identification:* **M Ronac Giannone**, S Arrowsmith, G Averbuch

1898719 *Deep Learning-based Method for Near Real-time Estimation of Infrasound Transmission Losses in the Middle Atmosphere:* **A Janela Cameijo**, Y Sklab, S Arib, A LE Pichon, S Aknine, Q Brissaud, S P Näsholm

1894245 *DL-G2S: A Deep Learning Ground-to-Space Model for Infrasound Propagation:* **S Albert**, E A Silber, J Sakamoto, M Cho

1978489 *Estimating explosion yield from single-channel infrasound recordings at regional distances with random forests:* **S Awender**, D Fee, A J Witsil

1882291 *Estimating mass eruption rate from Shishaldin Volcano, Alaska, with near-source acoustic-gravity waves:* **M M Haney**, D Fee, J J Lyons

1933534 *Geoacoustic Inversion of the San Diego Shallow Water Subsurface Using Active Acoustics Data:* **C Fagan**, A Istanbullu, W Hodgkiss

1880222 *Identification of Subtle Seismoacoustic Signals and Noise through Network-based Coherence:* **L Scamfer**, D Fee, D Tan

1995082 *Identification of Tornado Seismic Signals in the Central United States:* **S Thompson**, N S Carpenter, Y Soni, Z Wang, E W Woolery

1935252 *Infra-N2N: denoising infrasound array data using machine learning:* **D Fee**, J R Colwell

1887317 *Infrasound Analysis and Waveform Simulation of PE1-A: Investigating Depth of Burial and Topographic Effects:* **S Wang**, D Fee, K Kim

1875418 *Infrasound Directivity from Equivalent Acoustic and Ground-Surface Reflected Sources:* **R S Matoza**, A M Iezzi, E Opper, K Kim, J Parrish

1983027 *Infrasound from the 2024 Surprise Inlet Landslides: Complex Propagation in Steep Fjords:* **J J Lyons**, A M Iezzi, L Toney, E Karasozen

1959675 *Locating Infrasound Sources in a Prescribed Rangeland Fire:* **M Hunt**, J Anderson

1942157 *Long-range Infrasound Detections of SpaceX Starship Failures: Implications on Source Parameter Uncertainties for Global Monitoring:* **B Walsh**, B Fernando

1867635 *Modeling Infrasound from Combustion Sources:* **I Bauer**, O Marcillo, K M Yedinak, J M Lees

1910764 *Numerical developments to estimate the sensitivity of infrasound travel times to atmospheric parameters in the presence of wind:* **S Gérier**, R Martin, R F Garcia

1928683 *OSIRIS-REx re-entry: Infrasound weak-shock analysis:* **E A Silber, PhD**, V Sawal

1955599 *Possible Impacts of Small-Scale Atmospheric Perturbation on Infrasound Propagation:* **K Kim**

1954143 *Radiosonde-2-Space (R2S): Observation-based atmospheric specifications for infrasound propagation modeling:* **L Schaible**, E A Silber

1872957 *Recent Advances in Infrasound Localization – Refined Celerity Models and Event-Specific Methods:* **P S Blom**, J W Bishop

1847524 *Resolving seasonal variations in infrasonic travel times with ambient noise from long-time series:* **L G Evers**

1980122 *Revisiting the Pressure Signals from the 18 May 1980 eruption of Mount St. Helens:* **A B Perttu**, K F McKee, PhD, J B Johnson, G Lube

1862734 *Routine Seismoacoustic Data Ingestion Using Apache Airflow:* **C N L Gammans**, B Spears, M McClurg, J MacCarthy

247024
Advances in Understanding and Mitigating Induced Seismicity in Geo-Energy Systems *(joint with H, MR, NH, T)*

Conveners: **No'am Dvory**, University of Utah; **Katie Smye**, University of Texas at Austin; **Yves Guglielmi**, University of California Berkeley; **Ryan Schultz**, ETH Zürich

1845690 *An Extended Uenishi and Rice Criterion for the Onset of Depletion-Induced or Cooling-Induced Seismicity in Slip-Weakening Faults With Interacting Peaked Shear Stresses:* **J D Jansen**, B Meulenbroek

1867955 *Basin Architecture and Rock Mechanical Properties Govern Depth and Magnitude of Induced Seismicity:* **M B Magnani**, G Volpe, M Mauro, M M Scuderi, C Collettini

1915972 *Basin-Scale Simulation of Pore-Pressure Evolution in the Delaware Mountain Group and Implications for Induced Seismicity:* **J Leng**, J P Nicot, J Ge, A Calle, D Hoffman, K M Smye, P Hennings

1998549 *Scalable Modeling of Infrasound Propagation in Realistic Environments from Surface to Exobase:* **J B Snively**, D Calhoun, S Aiton, C Burstedde, H Brandt, T Griesbach, B Pineyro, P Inchin, R Sabatini, M Hirsch, M D Zettergren

1887773 *Seasonal effects on infrasound signatures from controlled multi-yield explosions:* **E A Silber**, D C Bowman, K Kim, E A Silber, PhD

1858349 *Seismo-acoustic Analysis of Explosions at the 2024 Toropets, Russia Depot:* **M Pasyanos, PhD**, K Kim, A Price

1872329 *Signal Subspace Methods in Infrasound Array Processing:* **J W Bishop**, P S Blom, J D Webster, J Carmichael

1968278 *Simulating Thunder Generated Acoustic to Seismic Wave Propagations:* **G Kline**, D Kim, T Zhu

1941644 *Statistical Analysis of Large-N Infrasound Array Data from the OSIRIS-REx Reentry Capsule:* **N Wynn**, E A Silber, D C Bowman

1914091 *Stratospheric Balloon Observations of the December 2021 to January 2022 Hunga Eruptive Sequence:* **P Hardy**, A Podglajen, A LE Pichon

1892058 *The use of modal group velocities for infrasound celerity modeling:* **J D Assink**

1861937 *Waveform-Envelope-Based Machine Learning Detection and Characterization of Small Events:* **R Tibi**

1948152 *Comparative study of earthquake detection and location methods based on phase identification and waveform stacking: Taking injection-induced earthquake in Lu County, Sichuan as an example:* **W Tian**, H Yu, F Tan, G Jiang

1929361 *Coupled flow and geomechanics modeling of ground deformation and fault stability at the Wilmington Field, CA, 1936-2020:* **L Saló Salgado**, J Silva, A Plesch, J H Shaw, R Juanes

1957648 *Cycled Fluid Injection Limits Maximum Earthquake Size by Controlling the Cadence of Seismic Moment Release:* **Z Geng**, D Elsworth, B Liu

1979759 *Deep Learning-Enhanced Catalogue of Induced Microseismicity at Preston New Road-1z, UK: New Insights into Spatio-Temporal Patterns and Structural Control:* **C Lim**, S Lapins, G Rodriguez Pradilla, J Holmgren, J Verdon, A Butcher, M Segou, M J Werner

1905802 *Enhanced Detection of Fluid-Triggered Seismicity Using Combined Array Beamforming and Machine Learning Techniques: Application to Oklahoma Dense Nodal Arrays.:* **R Asirifi**, T Chen, X Chen, K Gao

1939841 *Fault Reactivation Potential in the Californië Area, Netherlands: Implications for Seismic Hazard Assessment.:* **S Akter**, M Kruszewski

1874345 *Fault Stability Under Reservoir Loading: Coupled Effects of Cyclic Loading and cohesion loss in Pumped Hydro Systems.:* **E Parastatidis**, O Chowns, M Hildyard, S Pytharouli

1974988 *Forward-Looking Red-Light Thresholds to Manage Hydraulic Fracturing Induced Seismicity Risk: A Case Study from Middle Magdalena Valley, Colombia:* **M Weingarten, PhD**, S Diacono-Losada, R Schultz

1943086 *Fracture Mechanics Model for the Maximum Magnitude of Depletion-Induced Earthquakes in the Groningen Gas Field:* **Q Shi**, K IM, A Sáez, J P Avouac

1876410 *Gutenberg–Richter or Safer? On the Magnitude–Frequency Distributions of Induced Seismicity:* **L Li**, K IM, J P Avouac

1879238 *Hawkes Point Process and Generalized Nearest-Neighbor Distance Modeling Applied to Induced Seismicity:* **R Shcherbakov**, M Sedghizadeh

1893958 *High-Resolution Induced Seismicity Risk Heatmap of the Permian Basin: An Automated Workflow:* **S Dutta**, S A Hussenoeder, W J Curry, R Cornell

1906811 *How injection rate modulates fault slip behavior with implications to hazard mitigation of induced seismicity:* **C Wang**, P Wang, K Xia, P Bhattacharya, H S Bhat, A Schubnel

1899742 *How to Explain Induced Seismicity on Non-Optimally Oriented Faults:* **C Mei**, P Segall, A Aguilar Suarez

1945966 *Hydraulic Fracturing-Induced Shallow Seismicity and Its Potential for Triggering Deep Fault reactivation in Shale Gas Field of Western Hubei, China:* **Z Jiang**, R Chu, M Sheng

1894038 *Improving Microseismic Event Detection, phase Picking, and Moment Tensor Inversion Using a Fine-Tuned PhaseNet Model:* **Q Liu**, M H Khosravi, G Grasselli

1886994 *In-depth analysis of induced seismicity, excess pore-fluid pressure, and velocity structure in the Xingwen shale gas block using waveform cross-correlation data:* **U Anyiam**, H Zhang, J Qian, Y Tan

1879432 *Induced Seismicity in Southeastern New Mexico, USA:* **J L Rubinstein**, J U Woo, S Detweiler

1990876 *Insights into Earthquake Nucleation Driven by Diurnal Stress from Earth Tides and Seasonal Stress from Gas Production at The Geysers, California:* **H Guo**, G Wang, J Cheng, J P Avouac, Z E Ross

1914944 *Integrated Deep Learning and Failure Criterion Approaches for Fault Slip Assessment in Enhanced Geothermal Systems:* **X Zhang**, N Z Dvory

1919344 *Integrating Geologic Mapping and Stress Data to Mitigate Induced Seismicity in Enhanced Geothermal Systems:* **J E Lundstern**, J Birdwell, J B Workman, S Johnstone

1869915 *Investigating the impact of operational controls on induced seismic sequences:* **K Kroll**, E S Cochran

1868683 *Laboratory Investigation of Shear Fault Reactivation under Fluid Injection with Injection Rates and Viscosity:* **J Y Song**, L Liu, C Arson, G C Mclaskey

1976634 *Mitigating post-injection induced seismicity in Enhanced Geothermal Systems (EGS): Influence of pressure-dependent hydraulic diffusivity in stimulated fractures:* **Y Tian**, R N Horne

1893118 *Modeling Fluid-Induced Earthquake Swarm-to-Mainshock Transition at the St. Gallen Geothermal Site:* **S Jeong**, J Jiang

1984024 *Modeling the Evolution of Pore Pressure from Shallow Wastewater Injection in the Midland Basin, Texas:* **J Ge**, J P Nicot, D Hoffman, J Leng, K M Smye, A Calle

1928836 *Nucleation and rupture of induced earthquakes in Groningen confined to the gas reservoir due to lithological variations:* **Y van Dinther**, M Li, A Niemeijer, F C Vossepoel

1895301 *On the partition between elastic and inelastic deformation in compacting reservoirs: Geodetic detection and modeling.:* **M Acosta**, Y Li, K Sirorattanakul, J P Avouac

1913124 *Picking-free microseismic event location with downhole DAS and geophones:* **A Lellouch**, E Shimony, U Wygodny, X Zhang, N Dvory

1983265 *Probabilistic Forecasting of Induced Seismicity Rates and Frequency-Magnitude Distributions with an Interpretable Deep Learning Model:* **Z Bi**, N Nakata, R Nakata, C Varadharajan, M Mahoney

1943307 *Rapid Seismic Response to Hydraulic Fracturing at Intermediate and Long Distances: A Case Study from Luzhou, China:* **D Zha**, H Yu, D Li, B Wang, J Xu, S Zhou

2000261 *Seismic Characterization and Innovation for Geothermal Exploration in El Paso County, TX:* **S Ayala Cortez**, A A Velasco, H Sun, M S Karplus

1982932 *Seismicity Analysis, Fracture Characterization and Stress Communication during Enhanced Geothermal System development at the Cape Modern Geothermal Field, Utah:* **N Nakata**, H Chang, Z Bi, F Soom, C Hopp, A Nayak, A Titov, S Dadi

1894373 *Separating the physical mechanisms driving seismicity in the Salton Sea Geothermal Field:* **R Abrar**, M Acosta

1875093 *Simulating Injection-Induced Seismicity in Enhanced Geothermal Systems Using Models of Fluid-Induced Seismic Slip with Permeability Enhancement and Rate-and-State Friction:* **N Berrios-Rivera**, S Ozawa, E M Dunham

1913254 *Slip and Fluid Flow: Seismic Source Analysis to Assess Role of Multiple Slip Patches in Fault Permeability:* **M E M Nurshal**, J Wang, P Yu, T Mittal, D Elsworth

1969614 *Spatiotemporal evolution of fault slip prior to injection-induced earthquakes:* **X Cui**, C Cattania

1934512 *Stress Interactions Across Scales: A Physics-Based Model of the 2016 Pawnee Earthquake Sequence:* **S K Y Lui**, R Mandal

1952718 *Temporal Smoothing and Hysteresis in Fluid-Induced Seismicity: Insights From Numerical and Analytical Studies in the Peace River Region, Alberta, Canada:* **K Akitaya**, D W S Eaton, R O Salvage, H Gilbert

2002065 *The importance of small earthquake magnitude accuracy in regional networks:* **J I Walter**, P Ogwari

250834
Advancing Theoretical and Computational Seismology

Conveners: **Carene Larmat**, Los Alamos National Laboratory; **Monica Maceira**, Oak Ridge National Laboratory; **Andreas Fichtner**, ETH Zurich; **Bryant Chow**, LMU Munich; **Bryant Chow**, LMU Munich

1938925 *A Global-scale Database of Seismic Phases from Cloud-based Picking at Petabyte Scale:* **Y Ni**, M Denolle, A Thomas, A Hamilton, J Münchmeyer, Y Wang, L Bachelot, C Trabant, D Mencin

1905268 *A New Crustal Velocity Model for North-Western Himalayas and Siwalik Basin using Kriging Interpolation:* **V Sharma**, M Gade, J Dhanya

1920477 *A transdimensional framework for array-based seismic phase detection and characterization:* **Z Zhang**, V Lekic, J C E Irving, D Kim, R Maguire, N C Schmerr

1940271 *Advancing 2.5D Frequency-Domain Full Waveform Inversion in Viscoelastic Anisotropic Media for VSP Applications:* **S Rouxel**, F Bouchaala

1848854 *Ambient Noise Full Waveform Inversion with Neural Operators:* **Z E Ross**, C Zou, K Azizzadenesheli, R Clayton, F C Lin

1865305 *Bayesian Inversion with Competing Assumptions:* **M Sambridge**, A P Valentine, J Hauser

1895820 *Bayesian Time-lapse Full-Waveform Inversion Informed by Fluid Flow Priors:* **H Li**, N Wang, L J Durlofsky, B L Biondi

1996314 *Title: Enhanced Nodal Array Detection of Induced Seismicity in the Southern Midcontinent Using Fine-Tuned Machine Learning Models:* **H Xiao**, J I Walter, P Ogwari

1972968 *Tracking the Decline of Reported Seismicity Near Cornell's Earth Source Heat Site using Machine Learning Tools:* **D Kuzovkova**, H Zhu, C D M Friedman Alvarez, G A Abers, A N Ferris, J O Gustafson

1989952 *Triggering Mechanisms of Earthquake Swarms in the Alberta Oil Sands Regions: Insights from a Local Seismic Array:* **S Palmers**, W Sun, Y J Gu

1895327 *Turnkey Hydromechanical Modeling for Fault Slip Risk in CO_2 Storage:* **X Zhang**, R Dupree, C Cagle, N Z Dvory

1988293 *Usefulness of the cost and time-friendly techniques to assess the seismic hazard of the Kathmandu Valley, Nepal, for future scenario earthquake:* **J Bahadur Chand**, P Gaire, L B Adhikari

1849329 *What is the State of Stress on my Fault?:* **D R Schmitt**

1937383 *Beyond 1Hz global high-frequency elastic seismic wavefield modeling in heterogeneous Earth on a single computer:* **H Hu**, Y Zhang, Y Zheng

1922689 *CoFI - A Common Framework for Inference.:* **M Sambridge**, J He, J Hauser, F Magrini, A Marignier, A P Valentine, M Koch

1976422 *Distinguishing sub-Moho earthquakes at low frequencies using the Sn/Lg method:* **E Zheng**, X Song, S L Klemperer, J Gong

1968285 *Elastic wavefield modelling on a discontinuous staggered grid with a variable time step:* **S Adari**, T Naskar

1961395 *Enhancing the Accuracy and Stability of Seismic Wave Simulation Using a Genetic Algorithm Based Optimized Staggered Grid Finite Difference Method:* **M Vanga**, M Ojha

1889427 *Enhancing the Quality of Ambient-Noise Empirical Green's Function Using the Adaptive Progressive Denoising Method:* **K Yu**, Y Jidong

1917113 *Imaging the crust and upper mantle of the greater Alpine area from the dense AlpArray seismic network using teleseismic full waveform inversion: theoretical, numerical and practical considerations:* **S Operto**, N Mohammadi, S Beller, V Monteiller, A Paul

1908524 *Incorporating Topography and Finite-Frequency Effects into Ambient Noise Tomography for Complex Terrains:* **P L Su**, H H Huang, H Y Yen

1931715 *Increasing the Spatial Resolution in Physics-Based Site Term Estimates: Results from Southern San Andreas Ruptures:* **J Rekoske**, D May, A A Gabriel, S Callaghan

1846494 *Joint Inversion of Seismic and Gravity Data to Image Seismic Velocity in the Iran Region:* **J Caylor**, E M Syracuse

1882749 *Large-Scale Ambient Noise Cross-Correlation Across California using Cloud Computing:* **C Lin**, W Zhu, T Taira

1908389 *Leveraging Multi-Component Full Waveform Inversion: A Tour of Polarization-Based Strategies:* **S Sambolian**, R Brossier, L Metivier, A Górszczyk

1961697 *Magmatic system of Axial seamount revealed by high resolution hybrid optimization based full waveform inversion:* **Z Zhao**, Y Jidong, H Zhu, S Han, J Hua, M K Sen, A F Arnulf, C Gong

1879363 *Optimizing Seismic Velocity Model Resolution for Frequency-Dependent Applications:* **E Parastatidis**, A Savvaidis

1976466 *Population-based diffusion methods for full waveform inversion and uncertainty estimation:* **M K Sen**, S Hu, Z Zhao

1953308 *Robust Clustering of Ambient Noise Correlations Using Symmetric Variational Autoencoders for Enhanced Surface-Wave Imaging:* **S Bajad**, P Bharadwaj

1901078 *Seismic Tomography using Automatic Differentiation: Application to the San Francisco Bay Region:* **Z Zhao**, L Xia, W Zhu, C Yu

253355
Beno Gutenberg Lecture

Conveners: **Rachel Abercrombie**, Boston University; **Rachel Abercrombie**, Boston University; **Edward Garnero**, Arizona State University

251479
Collective behaviors in seismology: models and observations for complexity in seismicity, crustal mechanics and faulting *(joint with MR, NG, T)*

Conveners: **Eric Beauce**, Massachusetts Institute of Technology; **Gaspard Farge**, École normale supérieure de Paris; **Leila Mizrahi**, ETH Zurich; **Kelian Dascher-Cousineau**, University of California Santa Cruz; **Davide Zaccagnino**, Southern University of Science and Technology

2000055 *Aftershock Dynamics of the 2020 to 2025 Shumagin Islands, Alaska, Sequence:* **H L McFarlin**, M E West, A Holland, D Gossett

1984322 *Simulating Seismic Wavefields using Generative Artificial Intelligence:* **N Nakata**, R Nakata, P Ren, Z Bi, M Lacour, N B Erichson, M Mahoney

1967622 *Stochastic Seismic Response Analysis of Soil-Fault-Tunnel Systems Using the Modified Domain Reduction Method:* **B Banjare**, G R Dodagoudar Dr

1985733 *Structural Health Monitoring of Buildings Using Machine Learning:* **C Zou**, R W Clayton, M D Kohler, Z E Ross

1924846 *Synthetic Rayleigh Wave Tomography of the Northern Appalachian Mantle Anomaly:* **E Cullen**, W H Menke, A Lloyd

1972516 *Tandem - A 2D/3D HPC-Enabled Volumetric Software for Sequences of Earthquakes and Aseismic Slip (SEAS) Across Complex Fault Systems:* **J Yun**, D May, P Karki, Y Magen, B Oryan, T Ulrich, A A Gabriel

1947768 *The Incompleteness of the Normal Mode Basis – An Assessment of the Error in Normal Mode Coupling and Its Resolution:* **A Myhill**, D Al-Attar

1955174 *Triple-Difference Travel Time Adjoint Tomography: the Application of Apparent Anisotropy Observables:* **Q Zeng**, F C Lin, V C Tsai

1969625 *Uncertainty quantification of ground motions and wave radiation patterns from a chemical explosion in highly faulted testbed: Applications to the Nevada Rock Valley Source Physics Experiment:* **S M Ezzedine**, O Vorobiev

1919914 *Characterizing Decadal Seismicity Patterns of Fault Patches in the Mexico Subduction Zone via Template Matching:* **M Khalkhali**, M Brudzinski, W Ventura-Valentin

1961635 *Crustal-Scale Heterogeneity across Bhutan Himalayas: Insights from Local Earthquake Shear-wave Splitting:* **N Jana**, M Uthaman

1967653 *Dense nodal array reveals variable faulting processes and rupture mechanics for fluid-induced seismicity in Cushing, Oklahoma:* **X Chen**, B Hoefer, R E Abercrombie

1998007 *Depth Distributions of Deep Earthquakes in Global Subducting Slabs and Their Causes:* **A okayli Masaryk**, Y Zheng

1920609 *Experimental Study of Acoustic Wave Amplitude Change During Normal Stress Perturbations in Ice:* **M Madajewicz**, C McCarthy

1929617 *Favorable tidal stress triggers more tremors with higher energies:* **S Zhang**, H Houston, S Huang, B Wang

1893007 *Finite element modelling of the Dead Sea Basin to investigate the effect of lake level variations on earthquake clustering frequency:* **M Uthaman**, S Wdowinski, M Higgins, S Marco

1931317 *Geological Insights Into the Controls on the Recurrence of Large Earthquakes Within Mechanically Integrated Fault Systems: Earthquake Clustering, Multi-Earthquake Accelerations and Decelerations of Fault Slip, and Temporally Variable Elastic Strain Accumulation Rates:* **J F Dolan**, J Gauriau, T Cawood, E Rhodes, R J Van Dissen, R W Zinke, A E Hatem, D M Fougere, S F McGill, L Gordon

1987174 *Geometric analysis of subduction zone earthquake productivity:* **R O Bendick**, O Chau, Y Jung, G Choi, L Mahadevan

1902834 *Larger Earthquakes happen sooner: non-separability of magnitude and time distributions of aftershocks:* **N van der Elst**

1912126 *Measuring and modeling the occupation probability to characterize the intermittence and burstiness of seismic sequences:* **E Beauce**

1956967 *Non-Interacting Seismicity in the San Jacinto Fault Zone from a 15-year Catalog: Insights from Temporal Pattern Modeling and Earthquake Cycle Simulations:* **V Villa**, Z E Ross, N Lapusta

1898506 *Probing Seismicity Secrets with Five Nodal Arrays around the San Jacinto Fault:* **T Morioka**, F Brenguier, E S Cochran, W Fan, Q Higueret, D Hollis, P M Shearer, F Vernon, J E Vidale, R Wang, H Zhang

1907787 *Resolving Fault Geometry and Stress Field from Low-Magnitude Earthquakes: Insights from Short-Term Dense Array Deployments in Complex Tectonic Environments:* **F Scotto Di Uccio**, G Festa, T Muzellec, P Martínez-Garzón, G C Beroza, G De Landro, G Camanni, R De Matteis, M A Meier, M Picozzi, A Scala, C Strumia, A Zollo

1968164 *Spatial-Temporal Modes of Strain Release in the Tanganyika-Ruwka Rift, East Africa, Using a Machine-Learning-Enhanced Earthquake Catalog:* **M Colet**, F Kolawole, R Ajala, F Waldhauser, K Wang

1957019 *Spatio-temporal Evolution of Earthquake Swarms in the Northern Apennines: Insights from a High-Resolution Earthquake Catalog:* **G Poggiali**, L Chiaraluce, M Sugan, A Vuan, Z E Ross, C Marone

1916585 *Spatiotemporal Distribution of Volcanic Earthquakes off Izu Oshima:* **H Arakawa**, N Aso

1949803 *The Role of Fault Complexity in Temporal b-Value Variability and Seismic Hazard Across California Fault Systems:* **S L Gable**, Y Huang

1972122 *The time clustering of earthquakes:* **W B Frank**, J Münchmeyer, N M Shapiro

1898500 *Variability in the Recurrence Interval of Full Ruptures on a Planar, Homogeneous 2D Fault:* **R Shrestha**, J P Avouac

1927837 *Variations in mechanical properties control segmentation of oceanic transform faults:* **F Tan**, W Fan, P M Shearer, M D Behn, J J McGuire, J M Warren, J A Collins, M S Boettcher

1890684 *Interactions of interplate-intraslab seismicity and of intraslab-intraslab seismicity at the downdip side of the 2011 Tohoku-Oki earthquake:* **R Osawa**, R Hino, K Yoshida, M Ohtate, Y Ohta

1885202 *Analyzing the recent major earthquakes in Southern Alaska:* **V G Kossobokov**, A Nekrasova

1879653 *Emergent Complexity in Crustal Deformation and Fault Slip in Central Italy: Linking Observations to Seismic Hazard:* **M M C Carafa**, C Di Lorenzo Dr, D Di Naccio Dr, V Kastelic Dr

1876619 *Fault Intersections Control the Extremely Shallow 2020 Mw 5.1 Sparta, North Carolina Earthquake Sequence:* **K Huang**, S Ni, J Xie, X He, W Gu

1883132 *High-Resolution Source and Structure Imaging of the 2025 June 5 M 5.0 Eryuan, Yunnan Earthquake:* **X Han**, Z Li, S Wang, J Zhu, H Yao, J Li, M Zhang

1890212 *Illuminating Hidden Seismicity With a Dense, Long-Term Array of 300 Seismic Sensors Along the San Jacinto Fault:* **Q Higueret**, F Brenguier, A Mordret, Y Sheng, F Vernon, D Hollis, C Aubert, Y Ben-Zion

1883031 *Learning Complex Fault Structures from Hypocenter Distributions via Point Cloud Segmentation:* **Y Hu**, G C Beroza

1880027 *Modeling Earthquake Swarms on Frictionally Heterogeneous Faults: Are Swarms Driven by Fluid or Aseismic Slip?:* **D Adhis**, S K Y Lui, Y Huang

1866131 *Modeling long-term in GNSS time series: a comparative study with exponential, power-law, and stretched exponential decay:* **C Doglioni**, D Zaccagnino, M M C Carafa

1876221 *Moderate-size and Large Earthquake Nucleation at Intraplate Paleotectonic Structures Around the Korean Peninsula:* **T K Hong**, J Lee, S Park, B Kim, J Lee, D G KIM

1876090 *Pervasive Anti-repeating Earthquakes at Intermediate Depth in Colombia:* **A Aguilar Suarez**, G C Beroza, G Monsalve, P Pedraza, G A Prieto, L S Wagner

1872396 *Probing the organization of stress in the slow-slipping megathrust:* **G Farge**, E Brodsky, A Kato

1876295 *Testing Magnitude Distributions Near Faults in Modern PSHA Models:* **M T Page**, K Milner

1852963 *Tidal Modulation of Microseismicity at The Geysers Revealed by a Deep-Learning Based Seismic Catalog:* **H Guo**, Z E Ross, J Wilding

248362
Earthquake Early Warning Systems: Performance, New Developments, and Future Plans *(joint with G, NH)*

Conveners: **Natalia Ruppert**, Univ Alaska Fairbanks; **Angela Lux**, Berkeley Seismological Laboratory; **Jessie Saunders**, Caltech Seismological Laboratory; **Jessica Murray**, USGS California Water Science Center Menlo Park; **Sydney Dybing**, University of Washington

1930029 *dEPIC: Integrating Fiber-Optic Seismic Arrays into EEW Networks:* **Y Gou**, R N Nof, R M Allen, B Pardini, I H Henson, A Lux, W Zhu, T Taira, J Marty

1968729 *A Different Approach to the Earthquakes Mechanisms and Hazards:* **D N Andrei**

1916551 *A Novel Approach for EEW System Evaluation: Analyzing X (Twitter) Posts with Large Language Models:* **H Wang**, S M Mousavi

1848583 *A Study on the Prediction of Peak Ground Acceleration in the Southeast Region of Korea Using Characteristic Data.:* **S Yoo**

1864579 *Advancing Automatic Earthquake Monitoring: A Benchmark Earthquake Phase Association Dataset (BEPAD):* **E Castillo**, R White, N Igonin

1930018 *Application of Estimation Techniques for Structural and Ground-Based Seismic Intensity using Domestic Earthquake Data in South Korea:* **K J Seo**, J Lee, S C Park

1926054 *Assessing Distributed Acoustic Sensing Ground Motion Estimation with Co-located Seismometer Network for Earthquake Early Warning:* **L Hanson**, J K Saunders, A L Husker, Z Zhan, E Biondi

1943222 *Data-Driven Deep Learning Model for Identifying Ionospheric Electric Field Perturbations and Seismic Correlation.:* **M Babu**

1927649 *Evaluating GFAST-PGD's Contributions to ShakeAlert® System Performance for Simulated Cascadia Subduction Zone Earthquakes:* **S Dybing**, C W Ulberg, A Dunham, J R Murray, M Thompson, Z Krauss, J R Hartog

1931516 *Expecting the less expected: testing the EPIC earthquake early warning algorithm across diverse tectonic environments on the US west coast and Alaska:* **A L Williamson**, A Lux, I H Henson, R M Allen

1896461 *From fire to fault: Public reactions to the 2025 Los Angeles wildfire alerting as a model for aftershock earthquake early warning response.:* **A L Husker**, S Vaiciulyte, J K Saunders, L Hulse

1871128 *Unraveling the 2016 Mw 6.9 Fukushima Earthquake Sequence: Insights into Foreshock-Mainshock Dynamics:* **H L Pun**, S K Y Lui, A Kato

1848565 *Hybrid earthquake alert system integrating EEWS and local PGA for critical infrastructure:* **Y W Yun**

1926651 *Improving Detections by Reducing Problematic Triggers in the EPIC Earthquake Early Warning Algorithm:* **A I Lux**, I H Henson, A Akimov, R N Nof, R M Allen

1859932 *Improving Earthquake Early Warning with Real-Time Deep Learning Predictions of Structural Responses:* **E Shokrgozaryatimdar**, P Chen

1919041 *Introducing a new toolkit for uncovering the (in)visible benefits of earthquake early warning:* **Y C Lin**, S K McBride, S Stanley

1901092 *Leveraging Existing Offshore Infrastructure for Earthquake Early Warning in the Pacific Northwest:* **Z Krauss**, M Thompson, A Dunham, S Dybing, J R Hartog

1902174 *Locating Out-of-Network Earthquakes on Short DAS Cable Subsegments for Earthquake Early Warning:* **T Sawi**, J J McGuire, A J Barbour, C E Yoon, J Atterholt, S Detweiler

1870126 *Mitigating the Effect of Spurious Displacements on Magnitudes Estimated from Peak Ground Displacement Measured with Real-time Global Positioning System Data:* **J R Murray**, A Manaster, R C Turner

1901796 *Modeling Nonergodic Ground Motions Using a Graph Neural Network:* **E Arzabala**, K Withers, M P Moschetti, T Clements, I W McBrearty

1923088 *Recent Advances in Rapid Earthquake Magnitude Estimation for Early Warning Systems using Seismogeodesy:* **J Glehman**, Y Bock, B F Hirshorn, A Nance, J R Weiss, S Weinstein, D Golriz

1901999 *Recent updates to the Attenuated Propagation of Local Earthquake Shaking (APPLES) ground-motion-based earthquake early warning algorithm for the U.S. ShakeAlert System:* **J K Saunders**, E S Cochran, J Bunn

1880793 *Reducing Real-Time GPS Position Noise to Improve Geodetic Magnitude Estimates in the ShakeAlert Earthquake Early Warning System:* **A Manaster**, J R Murray, V M Santillan, C Scrivner, C W Ulberg, M H Murray, T I Melbourne, W M Szeliga, R C Turner

1906054 *Regional Ground Motion Simulations of Alpine Fault (New Zealand) earthquakes using Ambient Seismic Noise toward Earthquake Early Warning.:* **M K Savage**, I Juarez-Garfias, C Francois-Holden, J Townend, C J Chamberlain, M Denolle

1865945 *Retrospective Analysis of ShakeAlert® Performance During the 2023 Kahramanmaraş Earthquake Sequence, Türkiye:* **J K Saunders**, M Böse, C W Ulberg, J Bunn, S Dybing, A Lux, S Ceylan, J R Murray, J J McGuire, C Felizardo, S Jha, B Crowell

1888407 *SAVANT: A Deep Learning Framework for Dual Ground Motion Prediction in Earthquake Early Warning Systems:* **Y H Chen**, C H Chan, C C Chang, K F Ma

252197
Environmental Seismology *(joint with C, H, NH, NS)*

Conveners: **Bradley Lipovsky**, University of Washington Seattle; **Richard Aster**, Colorado State University; **Danica Roth**, University of Colorado Boulder; **Yifei Cui**, Tsinghua University; **John McLaughlin**, New Mexico Institute of Mining and Technology, Earth and Environmental Science

1897204 *Advancing volcanic dynamics monitoring through geometric phase sensing using seismic waves at Kīlauea:* **B Luo**, S Beck, D Pierre, K Runge, E Kiser, P Moitra, F Huettmann, S Missoum, M Latypov, E Whitney, J Wang, S Schabib

1951154 *Ambient Noise Characteristics and Cross-Correlation at Western Rift 4 in the Ross Ice Shelf, Antarctica:* **K Dapre**, K Udell-Lopez, Z Schlossnagle, M H Huang, N C Schmerr, T Hurford Jr

1943961 *Artius: a Revolutionary Broadband Node to Enable Environmental Seismology:* **N Watkiss**, J Lindsey, F Restelli, P Hill

1982804 *Basal icequake detection at eastern shear margin of Thwaites Glacier, Antarctica:* **D Fleenor**, J I Walter, E C Smith, M S Karplus, L F Gonzalez

2001071 *Beamforming applied to Antarctic arrays to detect Amundsen Sea ice-ocean interface seismicity:* **J I Walter**

1926087 *DAS Observations of Infragravity Waves Across the Oregon Shelf:* **E F Williams**, B P Lipovsky, J Thomson

1910902 *Detecting Ice-Sheet and Subglacial Variations in Antarctica Using Ps Receiver Functions:* **S Brown**, N Valencia, K M Fischer

1980636 *Detecting Regional Seismicity Across Sparsely Instrumented Regions of Antarctica:* **P Matulka**, D Wiens, A Aguilar Suarez, G C Beroza

1862413 *Detection of Space Weather Across the Alaska Regional Seismic Network:* **S Green**, A T Ringler, E J Rigler, D Wilson, C Tape

1890570 *Glacial Earthquakes in Thwaites Glacier, West Antarctica, Detected by Short-Period Surface Waves:* **T S Pham**

1999227 *Seismic Ground Motion Simulation Using Real-time Borehole Data in Ulaanbaatar Basin:* **T Tsamba**

1991807 *Source Localization Based on Electromagnetic Signals Generated from Rock Fracture - A Method for Early Earthquake Warning:* **Y Cheng**, D Song

1871907 *The potential of prompt elasto-gravity signals and graph neural networks for earthquake and tsunami early warning:* **Q Bletery**, C Hourcade, K Juhel, G Arias, P Jarrin, A Licciardi, J P Ampuero, M Vallée, A Inza

1858733 *Global Primary and Secondary Microseism Multi-Decade Geographic Variation, Secular Intensification, and Period Lengthening:* **R C Aster**, F J Simons, T A Lee, A T Ringler, R E Anthony

1993273 *Identification of idling heavy-duty trucks based on geophone data:* **J Wang**, Y S Li, V Lang, D E Horton, S van der Lee

1895914 *Imaging and Monitoring the Yellowstone Magma Reservoir using Waterfall Noise and Teleseismic Coda Waves:* **H Kim**, F C Lin, J M Farrell, B Schmandt

1929517 *Imaging the seasonal evolution of the subglacial hydrological system in west Greenland:* **Y Yang**, W Fan, M D Behn, S B Das, J McGuire

1996724 *Linking Seismic Velocity and Crystal Fabric in Glacier Shear Margins:* **A Williams**, M S Karplus, L F Gonzalez, D F May, G Kaip, J I Walter, N Nakata, A D Booth, S M Tulaczyk, T J Young

1955017 *Microseismic Noise Source Characterization in Hispaniola: Impacts of Regional Ocean-Atmospheric Dynamics:* **Y Soni**, J Pulliam

1847632 *Monitoring Greenland ice sheet mass and basal conditions using ambient noise interferometry:* **Z Shenshen**, B Luo, G Wang, S Zhang, H Wu, J Chen, X Liang, J Ran, H Zhu

1919839 *Monitoring Pre and Post-flood Soil Moisture Using Ambient Seismic Noise:* **J M McLaughlin**, S L Bilek, D D Cadol, J B Laronne

1896824 *Monitoring Seismic Velocity Changes in West Antarctica Using Ambient Noise:* **C Liu**, S Mao, S Zhang

1942966 *Monitoring spatio-temporal groundwater level changes on a volcanic island using seismic velocity variations, and evaluating climatic and hydrological influences:* **S Lee**, S Kim

1983055 *Multi-Year DAS Observations of Sea Ice Collisions with Landfast Ice and Their Implications for Arctic Sea Ice Properties:* **T Zhu**, G Rocha dos Santos, D Zhou

1918315 *Near-surface seismic velocity variations driven by earthquakes in Alaska:* **T Lee**, B Schmandt

1920818 *Observations of Rainfall and Runoff Generation with Distributed Acoustic Sensing (DAS):* **J M McLaughlin**, S L Bilek, C M Calvelage, D D Cadol, G Karslioglu

1994577 *Precision in Seismic Detection of Bedload Transport: Visualizing Array Geometry for Optimal Source Localization:* **A Padmadas**, J B Laronne, F Walter, S L Bilek, J M Turowski

1992427 *Predicting Seismic Ambient Noise from Urban Environmental Data: A Machine Learning Approach Using Dense Observations in Tokyo:* **T Hayashida**

1860035 *Quantifying Subglacial Water Flow Using Glaciohydraulic Tremor: A Multi-glacier Analysis:* **K Beausoleil**, T C Bartholomaus, A Criscitiello, E L Mittelstaedt

1974184 *Seasonality of sea ice extent and microbarom amplitude at high-latitude IMS infrasound stations:* **L Schaible**, S Albert, J Frederick, E L Roesler, M G L Brown

1895895 *Seismic Constraints on Subglacial Sediments and Crustal Properties Beneath the Southern Flank of Dome A, East Antarctica:* **D Li**, M Kerr, D D Blankenship, W Shen, J M Manos, D A Young

251196
Fault Zone Complexity and Earthquake Rupture Dynamics: From Nucleation to Arrest *(joint with G, T)*

Conveners: **Patricia Martínez-Garzón**, Organization Not Listed; **Chas Bolton**, University of Texas at Austin; **Camilla Cattania**, Deutsches GeoForschungsZentrum GFZ; **Evan Marschall**, Organization Not Listed; **Evan Marschall**, Organization Not Listed

1905588 *Aftershock Evolutions of Lushan Events (2013 Mw6.6 and 2022 Mw5.8) in Southeast Tibet based on Seismicity Detection with Machine Learning:* **J Wu**, X Gao, J Zhuang, M Wei

1949062 *Anisotropic kilometer-scale structures facilitate earthquakes on the subduction zone plate interface:* **Y Huang**, S Ide, A Kato, K Yoshida, C Jiang, P Zhai

1878334 *Bridging the Gap Between Millions of Years and Milliseconds: Modeling Earthquake Sequences, Slow Slip, and Splay Fault Rupture in Subduction Zones:* **A Koelzer**, M de Vos, T Gerya, Y van Dinther

1901606 *Can the Complex Dynamic Rupture Behaviour of the 2025 Myanmar Earthquake be Predicted from its Static Slip Distribution Alone?:* **A A Gabriel**, T Ulrich, X Zou, N Schliwa, M Marchandon, F Tan, W Fan, P M Shearer, Y A Fialko

1916369 *Direct Estimation of Earthquake Source Properties from a Single CCTV Camera:* **F Passelegue**, M Lebihain, H Bhat, Q Bletery, K Hudnut, S Latour, C Twardzik, B Fryer

1905913 *Separating and Detecting Landslide Events from Continuous Seismic Recordings: Potential Early Warning via a Deep Learning:* **J Wen**, H Li, L Meng

1919923 *Source Study of Ice-quakes in a Ross Ice Shelf Rift:* **F Aziz Zanjani**, D Wiens, M E Wysession

1905491 *Study of Background Seismic Noise in the Mount Everest Region:* **P Dhami**, S Subedi, F Pettenati, G Hetényi, M P Plasencia

1866298 *Tracking crustal velocity change through ambient noise interferometry and seismicity variations during the monsoon in Bangladesh:* **S I Bin Abdul Rahman**, K Emoto, K Lythgoe, A E Foster, S Wei, J Hubbard, S H Akhter

1896870 *Transportable Array for atmospheric sciences: Detecting gravity waves with surface barographs:* **Q Ji**, E M Dunham

1993186 *Untangling Hydrological and Volcanic Contributions to Seismic Velocity Changes at Aso Volcano Using Ambient Noise Interferometry:* **Y Kakiuchi**, T Tsuji

1979725 *Widespread Seismic Tremor in Greenland's Fjords:* **E Lucas**, Y Liu, N A Gomez

1910477 *Dynamic Instability of In-plane Slipping at Non-planar Dissimilar Material Interfaces:* **S Kumar**, R Kunnath

1971074 *Dynamic models of branching faults and surface rupture in the Signal Hill Stepover on the Newport-Inglewood Fault, Southern California:* **D D Oglesby**, N Toghramadjian, A Plesch, J H Shaw, W Zhang

1888723 *Dynamics of Rupture Nucleation and Propagation of the 2015 Mw7.8 Gorkha, Nepal, Earthquake:* **J He**, Y Zhao, W Wang

1867621 *Effects of Plate Interface Roughness and Frictional Heterogeneities on Earthquake Cycle Dynamics in Subduction Zones:* **S Ray**, A Ghosh, B Kundu, B Senapati

1864466 *Evidence of fault valving on a meter-scale laboratory fault:* **C Graham**, D C Bolton, T Little

1890280 *Experimental observations of the effects of fault roughness on the dynamics and seismic signals of earthquake ruptures:* **T Gabrieli**, Y Tal

1957794 *Factors That can Influence the Activation of Complex Fault Structures: Insights from Two Contrasting Induced-Earthquake Sequences in Oklahoma:* **R E Abercrombie**, X Chen

1909903 *Geodetic Evidence of Granular Fault-zone Deformation in the 2025 Mw7.7 Myanmar Earthquake:* **D Zhao**, H Weng, X Jia, X Qiao, Q Wang

1962076 *Mechanisms of dynamic Segmentation along the Sagaing fault:* **M Liu**, B Wang, S Guvercin, Z Li, T Wang, C Liu, L Ji, S Barbot

1884819 *On the use of Discrete Fault Network simulations for time-dependent seismic hazard assessment, application to the Sagaing fault:* **K IM**, J P Avouac

1888000 *Revealing the fault zone damage and healing in the 2019 Ridgecrest aftershock sequence using repeating earthquake clusters.:* **L Xuyang**

1941833 *Rupture dynamics of fluid-induced microearthquakes controlled by 3D fault roughness:* **F Mosconi**, E Tinti, A A Gabriel, T Ulrich, E Casarotti, A Pio Rinaldi, M Cocco

1882541 *Seismicity Properties in Subsurface Intraplate Faults in the Korean Peninsula:* **J Lee**, T K Hong, S Park, B Kim, J Lee, D G KIM

1848340 *Spatial relations between pre-event interseismic fault coupling and coseismic fault slip associated with the 2023 Turkey-Syria Earthquake sequence.:* **E Carrero Mustelier**, B J Meade

1949802 *Spectral Corrections and Their Impact on Stress Drop Estimation in Complex Fault Zones: Insights from the 2016 M_w 6.0 Amatrice Earthquake:* **G Calderoni**, A Akinci, S Gabrielli

1958215 *Stress Drop Variability and Slip Complexity in Central Apennine Fault Zones: Implications for Rupture Dynamics and Ground Motion Prediction:* **G Calderoni**, A Akinci, A Cirella

1863121 *Strong Ground Motions from Large Earthquakes on the creeping Hayward, Rodgers Creek, and Calaveras Faults, California:* **R Harris**, M Barall, G A Parker, E Hirakawa, S Detweiler

251444
Fluids, Faulting and Earthquakes: The role of fluids in seismogenesis *(joint with MR, NH, T, V)*

Conveners: **Thomas Heinze**, Ruhr-University Bochum; **Stefan Wiemer**, ETH Zurich; **Rachel Abercrombie**, Boston University; **Giulio Di Toro**, University of Padova; **Thanushika Gunatilake**, University of Neuchâtel

2003514 *Fluid flow along fault zones including leak-off into host rocks: implications for injection-induced fault slip and pore pressure distribution at depth along plate-boundary faults:* **A Sáez**, N Lapusta, J P Avouac

1985419 *Global Coupling Processes Among Physical Events in Both Micro and Macro scales: Water based hazardous and seismic activities:* **T Sengor**

2003374 *Poroelastic Bulk Controls on Shear Localization in Fluid-Saturated Fault Gouge During Earthquake Rupture:* **Y Wang**, E R Heimisson

1931424 *The complex rupture dynamics of an oceanic transform fault: supershear rupture and deep slip during the 2024 M_w7.0 Cape Mendocino Earthquake:* **Y Magen**, T Ulrich, A A Gabriel

1962281 *The Effects of Bulk Friction and Cohesion in 2D Dynamic Models of the 1971 San Fernando Earthquake:* **G Bravo**, D D Oglesby, É Gaudreau, G Funning, E Nissen, J Hollingsworth

1953153 *The Generation of Large and Small Earthquakes due to Weak Fault Zone Deformation:* **P Zhai**, Y Huang, J P Ampuero

1956569 *The influence of inelastic yielding on dynamic rupture termination and ground deformation at fault bends:* **E Marschall**, R Douilly, A A Gabriel

1927378 *The influence of pre-existing fault structure and stress heterogeneity on rupture complexity: from strike-slip to subduction systems:* **Z Jia**, W Gu, D Liu, H Han, J Chen, R Chu, S Ni, Y Jiang, A A Gabriel, W Fan

1897083 *Tidally triggered seismicity along the Quebrada-Discovery-Gofar oceanic transform fault system:* **V V Ingale**, R E Parnell-Turner, W Fan

1946354 *Transient Slip Rates as a Key Control on Laboratory- and Natural-Earthquake Nucleation:* **B Fryer**, D Garagash, M Lebihain, F Passelegue

1890832 *Unraveling the run-up to the 2023 M_W 7.8 Kahramanmaraş earthquake in Türkiye: Insights from a high-resolution microseismicity catalog:* **S Nunez**, P Martínez-Garzón, F Scotto Di Uccio, G Dresen, G Kwiatek, Y Ben-Zion, D Becker, D Bindi, F Cotton, M Bohnhoff

1924708 *4D tomography in the Ecuadorian forearc evidencing fluid migration before and after a large megathrust earthquake:* **A Wickham-Piotrowski**, A Meltzer, G Ponce, S Beck, M C Ruiz, S Hernandez, S W Roecker, M Segovia

1961681 *Can pseudotachylytes form via fracture-induced decompression melting under hydrous conditions?:* **M Pistone**, V Toy, E Formo, M Robyr

1890142 *Evidence for Near-Surface Liquid Water on Mars from Seasonal Marsquakes:* **J Li**, J Shi, H Meng, C Qi, L Pan

1869172 *Evolution of frictional strength and fluid flow in shear fractures in granitic rock under hydrothermal conditions:* **T Jeppson**, D A Lockner, J Taron, N M Beeler, S H Hickman, D E Moore, B D Kilgore, S Detweiler

1964185 *Fault Slip induced by Fluid Pressurization in Axisymmetric Compression Tests: Experiments and Rate and State Friction Simulations:* **M Mercuri**, L Wang, G Dresen, J Rudnicki

1948388 *Fault stability modulated by fluid-activated cohesive strengthening:* **R A Affinito**, G Volpe, T Mittal, C Marone

1948395 *Fluid-Driven Rupture Processes in the 2010–2014 Pollino Seismic Swarm (Southern Italy): Insights from Moment Tensor and Savage-Wood Radiation Efficiency Analysis:* **G Calderoni**, M Ponte JR, M La Rocca, R Di Giovambattista

1970558 *Fluid-Induced Earthquakes: Insights from meter-scale experiments and numerical models:* **D C Bolton**, L Lavier

1980487 *Fracture-Mediated Water Level Changes at a Groundwater Well in Virginia (2008-2025):* **J Gribbins**, J Maynard, S Thompson, R J Hung, N G Randolph-Flagg

1910591 *How fluid-induced thermal stress changes impact fault slip in a fault network in a porous geothermal reservoir.:* **M de Vos**, Y van Dinther, L Buijze, J D Van Wees

1937412 *Hydro-Mechanical Modeling of Accretionary Wedge Deformation and Fluid Flow Controls on Megathrust Slip Behavior:* **C H Lin**, E Tan

1927755 *Inelastic dilatancy as a mechanism for coseismic fluid depressurization of a shallow fault zone:* **R J Hung**, M Weingarten, PhD, S Ma, S M Day

1970097 *Interpreting induced seismicity evolution using Explainable AI at BedrettoLab:* **L Laurenti**, M A Meier, S Wiemer

247860
From task specific Machine Learning to Foundation Models in Seismology and Geodesy

Conveners: **Laura Laurenti**, ETH Swiss Federal Institute of Technology Zurich; **Christopher Johnson**, Univ California Berkeley

1908427 *A Geologically-Informed Regularizer for Enhanced Seismic Fault Detection in the Indian Krishna Godavari Basin:* **T Ghosh**, S Kumar Singh, M Jenamani, A Routray

1981208 *A Purely Data-driven Generative Model for Seismic Waveform Synthesis with Minimal Conditional Information:* **D Lee**, J Jung, J Lee, C H Jung, H Kim, B Jung, J Han, S Kim

1984992 *A State-Space Foundation Model for Raw Seismic Waveforms:* **D Liu**, L Laurenti, C W Johnson, B Kulis

1991668 *AI-Driven Full-Waveform Inversion with Earthquake Data:* **H Sun**

1941777 *BiLSTM-Based Low-Frequency Extrapolation: Generalizing from Synthetic Training to Field Airgun Data:* **I Deiana**, G Roncoroni, B L Biondi, S Ronen

1857422 *Near-Field Fluid Pressure Responses to Earthquakes in the Svartsengi Geothermal Field, Iceland:* **K Materna**, A J Barbour, S E Minson, S H Hickman, E A Roeloffs, L Þorvaldsson, G Bjornsson, L Magnúsdóttir, R C Turner

1876203 *Potential Seismic Signatures of Pore Fluid Reequilibration in Aftershock Sequences:* **Y Yu**, G C Beroza

1938982 *Seismicity and Fault-Fluid Interactions Near the Brittle–Ductile Transition in a Geothermal Field:* **T Tsuji**, R D Andajani, S Abe, M Katou, H Kuo-Chen, A Hara, Z K Guan, N Aoki, W F Sun, K Kitamura, J Nishijima, H Inagaki, S Y Pan, Y H Liu

1975648 *Tectonic Provenance of Basal Layer Zircons Records Evolution of Frictional Strength and Fluid-Mediated Slip During Catastrophic Emplacement of the Sevier Gravity Slide, Utah:* **M J Braunagel**, D H Malone, W A Griffith, D B Hacker, T A Rivera, R F Biek

1973266 *The Role of Water in Intermediate Depth Seismicity from Observations of Colombia's Cauca Cluster:* **B Bishop**, L M Warren, S Cho, P Aravena, R E Abercrombie, I Wada, G A Prieto, P Pedraza, V Dionicio

1904511 *Thermomechanical Modeling Reveals Slab Dehydration and Temperature Controls on Megathrust and Intraslab Earthquakes in El Salvador:* **N Suenaga**, S Yoshioka, V C Manea, M Manea, E Moreno, Y Ji

1924497 *Comparison of the Earthworm real-time associator binder and PhaseNet+GaMMA for small scale seismic arrays:* **P A Friberg**, S John, A Dzubay, J Stachnik, S Fertig

1895047 *EQNet2: A Multi-Station Transformer Model for End-To-End Earthquake Monitoring:* **H Wang**, W Zhu

1967074 *Exploring Earthquake Rupture Scenarios at the San Andreas-Garlock Fault Junction: A Simulation-Driven Machine Learning Approach:* **A Ghosh**, S Niyogi, E Marschall, R Douilly, D D Oglesby

2003727 *Foundation Models and Earth: Toward Universal Representations for Understanding Seismicity:* **I Dokmanić**, T Tianlin, M V De Hoop, C Marone, L Laurenti, J Münchmeyer, E Chaves

1946008 *Fractal-Based Assessment of Earthquake Clustering in California Using Support Vector Machines:* **H C**, P Nath Singha Roy

1999389 *From Pacific Northwest to Global: A Generalizable Deep Learning Framework for Seismic Event Classification and Detection:* **A Kharita**, M Denolle, A Hutko

1962214 *Generalization Gap in Seismic Deep Learning: Limits of Earthquake Detection and Phase Picking:* **M Rehem**, N Arora

1877590 *High-Rate GNSS Seismic Waveforms: Extraction, Denoising, and Application in Seismology:* **C Zhang**, S Ni, A Guo, L Jiang

1910533 *Is Regional or Global Model Acceptable for Local Discriminations of Microearthquakes and Quarry Blast?:* **E Lee**, K H Kim, H T Jou

2002684 *Machine Learning-Based Quality Control and Categorizations for Seismic Receiver Functions:* **S Dong**, H Wu, A Kumar, V Schulte-Pelkum, W Shen

1852083 *Rapid Estimation of Earthquake Location and Magnitude Using a Large Language Model:* **A Bassani**, D Trappolini, G Poggiali, E Tinti, F Galasso, A Michelini, C Marone

250861
Geophysical Advances with Distributed Fiber-Optic Sensing in Natural Systems *(joint with C, H, OS, V)*

Conveners: **Jiaxuan Li**, Los Alamos National Laboratory; **Qibin Shi**, Rice University; **Ethan Williams**, California Institute of Technology; **Qiushi Zhai**, California Institute of Technology; **Yan Yang**, University of California San Diego

1894670 *A Fiber Install of EPIC Proportion: DAS in a Semi-Arid Environment:* **C M Calvelage**, G Karslioglu, G Chavez, K Arnell, C King

1888032 *Activation of shallow tremors near the Nankai Trough after the M 7.6 Noto Peninsula earthquake observed by distributed acoustic sensing:* **S Baba**, E Araki, T Hori

1854284 *Analysis of High-Resolution Seismic Scattering in the Lunar Near-Surface Using Distributed Acoustic Sensing Synthetics and Observational Analogs:* **Y Tamama**, Q Zhai, E Biondi, A L Husker, Z Zhan, F Civilini, J M Jackson

1984235 *Automated Mine-blast Detection Using Distributed Acoustic Sensing (DAS) and Deep Learning:* **J Miller**, P Yu, T Zhu

1983677 *Beyond geophysics: A roadmap of Distributed Acoustic Sensing for marine mammal monitoring:* **L Bouffaut**, H Klinck

1914868 *Characterizing Ambient Noise Levels for Distributed Acoustic Sensing Deployments: Developing a New DAS Noise Model:* **F Yin**, J Ajo-Franklin, A Nayak

1942165 *Characterizing Fault Zone Architecture with Borehole Fiber-Optic Acoustic and Thermal Measurements:* **K MA**, H T Lai, L Hsiao

1917807 *Constraining the Internal Structures of Los Angeles Basin with DAS:* **M Liu**, Y Yang, E Bird, E Biondi, T Liu, J Li, Z Zhan

1939129 *Reconstruction of Seismic Wavefields using Shallow Recurrent Decoder: Examples on Simulated Wavefields:* **Y Ni**, M Denolle, M Gao, N Kutz

1991661 *Repurposing Vision Foundation Models for Multi-Modal Earth System Analysis:* **Z Bi**, X Wu, X Xu, N Nakata

1978293 *Toward Real-Time Seismic Imaging: Efficient Learning-Based Inference of Subsurface Models:* **M Wendels**, Y Ni, M Denolle, N Kutz

1896066 *Towards Fast and Generalizable Focal Mechanism Inversion with Neural Operators: A GINO-Based Approach:* **J Li**, Z Jia

1967273 *Controlled Distributed Acoustic Sensing Experiments in Laboratory Ocean Environments:* **F Kutschera**, C C Chien, Y Yang, B Wu, R Craft, S Constable, M A Zumberge, A A Gabriel

1942017 *DAS-Driven Seismic Event Detection and Phase picking: An End-to-End Pipeline Combining CATS and PhaseNet:* **I Kurosawa**, S Grubas

1884759 *DASNet: A Multi-Class Deep Learning Framework for DAS Signal Detection and Characterization:* **C Zhang**, W Zhu, B A Romanowicz, R M Allen, K Soga, Y Wu

1909554 *Deep Learning Denoising for Real-Time Dike Intrusion Imaging with Low-Frequency DAS Measurements:* **H Liao**, W Zhu, E Biondi, J Li

1942781 *Depth-Dependent Co-seismic Velocity Changes During the M_w 7.4 2024 Hualien, Taiwan Earthquake Revealed by Distributed Acoustic Sensing:* **C Rattanavetchasit**, H H Huang, Y M Wu

1906793 *Development of an LLM-based model for earthquake detection in Distributed Acoustic Sensing measurements.:* **G M Mendo Pérez**, H Nagao, S Katoh, M Shinohara

1979728 *Distributed Acoustic Sensing for Real-Time Urban Monitoring and Subsurface Response Analysis:* **L Arthur**, X Chen, H Cai, H Tian

1889113 *Distributed acoustic sensing observation for seismic activity in westernmost Nankai trough region using N-net offshore system:* **M Shinohara**, S Aoi, T Takeda, T Kunugi, K Uehira, M Mochizuki

1986719 *Earthquake Detection and Location Using Machine Learning on Integrated Offshore Distributed Acoustic Sensing and Seismic Arrays:* **Q Shi**, M Denolle, E F Williams, Y Ni, B P Lipovsky, W S D Wilcock

1898946 *Earthquake Focal Mechanisms with DAS-based Polarities and Amplitudes:* **T Yan**, Y Tian, J Li

1995555 *Earthquake spectral and source properties on the Kefalonia Transform Fault inferred from seismic and Distributed Fiber Optic Sensing (DFOS) data:* **R M Harrington**, G M Bocchini, M P Roth

1889847 *Enhancing Detection and Characterization of Microseismicity in the Marmara Sea Using Distributed Acoustic Sensing:* **J Zhang**, A Kato, A A Dindar, W Wang

1915429 *Feasibility of Distributed Fiber-Optic Sensing Networks for Detecting Earthquake Precursors:* **Y Li**, D Z Li, Y Zheng, L Huang

1922672 *Fiber-Imaged Supershear Dynamics in the 2024 M_w7 Mendocino Fault Earthquake:* **J Atterholt**, J J McGuire, A J Barbour, C Stewart, M P Moschetti

1983489 *Fine-tuning the DiTing Seismogram Foundation Model to DAS Data for Natural Earthquake Phase Picking and Association:* **Z Wu**, B Luo, X Zhuowei, Z Guo, S Chen

1919581 *Imaging the Near Surface Using DAS Ambient Noise Autocorrelation Functions in Central New Mexico:* **Y Zhang**, C M Calvelage, S L Bilek, D E Portner, J M McLaughlin, S S Wei

1846211 *Overcoming the Repeater-Induced Reach Limitation: High-Resolution Continuous DAS on Active Trans-Oceanic Cables:* **M Mazur**, N Fontaine, M H Karrenbach, V Kamalov, R Ryf, L Dallachiesa, D Winter, H Chen, D Neilson

1962615 *Resolving the Active Milun Fault Structure at Hualien, Taiwan using 3-D DAS Array with Local Earthquake Data:* **E S Wu**, H H Huang, J Y T Ko

247994
Integrating physical, statistical and AI-enhanced methods in seismic hazard -Towards real-time forecasting of natural and induced earthquakes *(joint with NG, NH, T, V)*

Conveners: **Davide Zaccagnino**, Southern University of Science and Technology; **Ilaria Spassiani**, INGV National Institute of Geophysics and Volcanology; **Robert Shcherbakov**, University of Western Ontario; **Jiancang Zhuang**, Institute of Statistical Mathematics; **Giuseppe Petrillo**, Institute of Statistical Mathematics

1883870 *3D Physics-Based Ground Motion Simulation and Near-Surface Structure Effects of the 2024 Feidong M4.7 Earthquake:* **G Zhou**, H Yao

1985878 *bEST – universal estimation of the Gutenberg-Richter b-value, with a MATLAB/Python toolbox:* **G Falcone**, M Taroni, D Zaccagnino, I Spassiani, G Petrillo, G Vitale, A Figlioli

1939879 *Revealing Meter-Scale Rupture Complexity in Small Earthquakes Using Distributed Acoustic Sensing:* **S Han**, J Ajo-Franklin, J Kim, A Nayak, Y Kim

1988049 *Revealing the Role of Soil Pore Structure in Seismic Responses Using Distributed Acoustic Sensing:* **Q Shi**, M Denolle, S Jeffery, D Montgomery, A L S Swann, J Collins, A Barrio, T Nissen-Meyer, P Misiewicz, E F Williams, N C Cristea, J Ajo-Franklin

1935283 *Seismo-Acoustic Observations of Yasur Volcano, Vanuatu with a For-Purpose Distributed Fiber-Optic Sensing Array Deployment, Containing Both Subsurface and Subaerial Components: Implications for Volcano Geohazard Monitoring.:* **P Hollands**, L Adam, K van Wijk, L Watson, R S Matoza, J J Niroa

1934081 *Seismologically Lossless Compression of Distributed Acoustic Sensing Data via Compressive Sensing: Taiwan MiDAS Case Study:* **Y Ma**, L Meng, Y Y Lin

1990849 *Spatial and Temporal Dynamics of Ocean Surface Gravity Waves, Infragravity Waves, and Secondary Microseisms: Insights from Seafloor Distributed Acoustic Sensing in Monterey Bay:* **L W Chen**, B A Romanowicz, T Taira, Y Gou

1928391 *Synthesizing phase-resolved ocean waves from SWOT (Surface Water and Ocean Topography) and DAS (Distributed Acoustic Sensing):* **S Zhang**, F Ardhuin, M Liu, F Nouguier, A Bohe, F Collard, J Callies, Z Zhan

1900932 *Toward Operational Earthquake Early Warning with DAS: Integrating Amplitude Measurements:* **Q Zhai**, J K Saunders, G Tepp, Z Zhan, A L Husker

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1985192 *Automated Detection of Mining-Induced Seismicity Using Back-Projection Imaging on Dense Underground DAS Array Data:* **A Ankamah**, J A Hole, A Tourei, E R Martin, D J Chambers, J Beale

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252394
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(joint with NG)

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1942738 *Seismic Discontinuities Across the Subduction–Collision Transition in Southern Taiwan Revealed by SALUTE Array Observations and Receiver Function CCP Stacking:* **S Shao**, S H Hung, L J Chen

1906984 *Seismic facies mapping of sediment input in Nankai Trough using cluster analysis of reflection amplitudes from 2D profiles:* **P C Flores**, G Fujie, K Shiraishi, Y Nakamura, G Kimura, R Agata, S Kodaira

1922152 *Seismic full-waveform inversion reveals Qs attenuation structures in the upper mantle beneath North America:* **Y Chen**, D E Lumley, H Zhu

1884012 *Seismic Structure of the Three Sisters Volcanic Complex using a Nodal Array:* **B Herr**, B Schmandt, Y Zhou, C Duan

1866645 *Seismic tomography and source properties of the seismogenic region of the 2010 Jiashian earthquake, Southwest Taiwan, from enhanced earthquake catalog:* **N C Nghia**, B S Huang, W C Chi, P F Chen, S Wen

1959053 *Shallow crustal structure of the igneous Duluth Complex and neighboring Animikie Basin revealed by nodal seismic arrays:* **D E Peterson**, S R James

1923239 *Sharp Structural Variability of the Gorda Slab Imaged by a Fiber Array:* **J Atterholt**, J J McGuire, A J Barbour, M P Moschetti

1935564 *Shear Velocity Imaging in the Southern Taiwan Subduction–Collision Transition Zone Using Multimode Ambient Noise Dispersion and Voronoi-Based Surface Wave Tomography:* **S H Hung**, W H Wu, C F Liao, Y N Chen

1931133 *Shear-Wave Velocity Characterization of the Atlantic Coastal Plain Sediments via HVSR Inversion and Ambient Noise Dispersion:* **B I Rotimi**, A García-Jerez, J B Russell

1866914 *Solving All Seismic Tomographic Problems using Deep Learning:* **X Zhang**

1958298 *SpecFWAT: A Flexible and High-Performance Full-waveform Adjoint Tomography Framework Based on Specfem3D:* **M Xu**, K Wang, N Du, T Liu, Q Liu

1935633 *Study on joint inversion of gravity and seismic data in the crust beneath the South China block and its constraint on deep mineralization:* **G Zhang**, G Jiang

258590
Seismology General Contributions

Conveners: **William Frank**, Massachusetts Institute of Technology; **Helen Janiszewski**, Columbia University of New York

1904468 *A Hybrid V_{S30} Model Based on Bayesian Updating Framework: Incorporating Geological Information into the SCK Model and Updating the V_{S30} Map for Mainland China:* **J Zhou**, L Li, X Tian

1906058 *Analysis of the aftershock activity of the 2023 Western Nepal ML 6.4 earthquake:* **S Subedi**, L B Adhikari, L Bollinger, G Hetényi, F Massin, T Besson, K Michailos, T Pokharel

1909782 *Analyzing the Causative Fault of the 2023 M_L 3.5 Jangsu Earthquake Using a Temporary Seismic Array:* **Y Cho**, K H Kim

1898471 *Apparent Large Seismic Velocity Variations Across the East Anatolian Fault, Turkiye:* **R Catchings**, M Goldman, M Celebi, R R Sickler, F Alver, O Kilicarslan

1975617 *Attenuation correction of P and S amplitudes for enhanced accuracy in focal mechanism solutions:* **J U Woo**, T Chen, A A Delorey

1915034 *Characteristics of Intermediate-Depth Earthquakes along the Tonga Subduction Zone Revealed by Cross-Correlation Earthquake Relocation:* **F Aziz Zanjani**, D Wiens, M E Wysession, S S Wei

1870818 *Temporal Vs Decrease at Shale Depth During Hydraulic Fracturing Revealed by Ambient Noise Tomography:* **D Zuo**, R Wang, Y Chen, Y Yang

1893476 *The Dense Array Toolkit (DAT): Integrating Array Processing and Receiver Function Workflows for Nodal Data:* **Y Chen**, P Zuo, Y A S I Oboue, Y Chen

1876722 *The stagnant Pacific slab in the lower mantle transition zone beneath the northeast Asia continental margin: Seismogenesis of a large deep outboard earthquake:* **Q Cui**

1918253 *Variable Slab Geometry and Mantle Wedge Structure Along the Central and Southern Andean Subduction Zone from Finite-Frequency Teleseismic Tomography:* **D E Portner**, E E Rodriguez, S L Beck, R C Porter, S W Roecker, E Kiser, G Ortiz, D Comte, M Saez, S Leon-Rios, A Maharaj, M Fernández, S Tauber, J Bradford, S Trad, S S Mahanti, A P Navarro-Aránguiz

1983354 *Velocity and Attenuation Models of the Entire Mississippi Embayment Sedimentary Column Using Controlled Explosive Sources:* **S M A Islam**

1915071 *Characteristics of the ambient Noise distribution recorded by the dense short-period seismic array in the Wajilitag Mine Area, Xinjiang, China:* **J Huang**, J Zehua

1985051 *Characterization of the 2024 Mw 4.8 Tewksbury, NJ Earthquake Fault Plane Geometry using Relocated Aftershocks:* **E Petschek**, J Ebel

1893319 *Characterizing Tremor-Like Signals in Southern California With a Dense, Long-Term Array of 300 Seismic Sensors:* **Q Higueret**, M Vignon--Livache, F Brenguier, A Mordret, Y Sheng, F Lavoué, F Vernon, D Hollis, C Aubert, Y Ben-Zion

1949864 *Combine Borehole and Surface Seismic Arrays to Improve the Robustness of Earthquake Hypocentral Location:* **D Huang**, E Sunday, C Barreiro, E Parastatidis, A Savvaidis

1845991 *Comparative Analysis of Background Seismicity Rate Estimates and their Uncertainties in Tectonic and Volcanic Environments:* **S M Rinty**, T Goebel

1962291 *Comparing and Combining Strong and Weak Motion to Optimize Data Quality:* **G S Bainbridge**, Y Li, M Perlin, T Somerville

1975175 *Crustal Structure of Georgia:* **T Godoladze**, J Nabelek, E A Sandvol, L Ratiani, R Grigalashvili, Z Javakhishvili, T Rostomashvili, S Kakhoberashvili

1907933 *Decoding Upper Mantle Architecture in the India–Asia Collision Zone through Sn Attenuation study:* **S Bose**, C Singh

1904182 *Detecting and Locating Volcanic Tremor During the 2014 Aso Eruption Using Cross-Correlation Analysis:* **T Choi**, J Rhie, W Kim

1949358 *Determining the Correlation Coefficient between Earthquake Energy Class K and Richter Magnitude ML Using Analog and Digital Earthquake Records.:* **T Rostomashvili**, T Godoladze, A Buzaladze, M Dzmanashvili, N Chikovani, I Khelashvili, M Zibzibadze, T Simonishvili, L Sokhadze, R Kutateladze, L Chanadiri, L Ratiani

1888302 *Development of a compact broadband seismometer for extreme environments and its automatically controlled leveling system:* **R Yamada**, K Asari, H Shiraishi

1929267 *Development of an Optimal MEMS Observation Network Configuration Based on Existing Observation Network Quality and Seismic Analysis Results:* **E Park**, J Lee, S C Park

1992449 *Earthquake Moment Tensor Solutions in Georgia Enhanced by the SNECCA Network:* **L Ratiani**, T Godoladze, D Dreger, A Chiang, A Buzaladze, I Gunia, S Kakhoberashvili, R Grigalashvili

1880736 *Evaluating temporal and spatial changes in seismic background noise in southeastern New Mexico:* **D Bond**, U Basu, T Little

1913273 *From 3D Printing to Wave Propagation Simulation: Calibrating Seismic Properties in 3D-Printed Metal Models:* **H Murphy**, N Lai, S Park

1925015 *Generalized coherence to detect and enhance earthquake signals in seismic or DAS arrays:* **G A Prieto**, B P Lipovsky, M Denolle

1992435 *GEORGIA'S SEISMIC NETWORK MODERNIZATION, STRONG MOTION EXPANSION, AND NOISE MONITORING:* **S Kakhoberashvili**, T Godoladze, A Chiang, R Gok, E A Sandvol, J Nabelek, R Grigalashvili, L Ratiani, T Onur, R Vardoshvili, E Lazariashvili, M Tserodze

1943148 *Güralp Stratis - a Commercial 6 Degree of Freedom Seismometer for Academic and Research Applications:* **J Lindsey**, P Hill, N Watkiss, F Restelli

1872220 *High Precision Relocations of Volcano Tectonic Seismicity at Mt. Etna (2000–2024): Clustering Shallow Structures and Deep Crustal Magmatic Processes:* **T Tuve**, A Lomax, E Giampiccolo, O Cocina

1938316 *Improvement on normal estimation and hypocenter clustering algorithm for unraveling intricate fault structures:* **Y Sawaki**, K Sagae, A Mpuang, H Horikawa, Y Sato, T Shiina, T Uchide

1873603 *Incorporating Surface Wave Event Detection at the U.S. Geological Survey National Earthquake Information Center using 'Phase Compaction':* **W L Yeck**, J Patton, R B Herrmann, H Benz, H Cole, P S Earle, A T Ringler

1893498 *Information leakage: The truth behind many observations in deep learning seismology:* **Y Park**, B Delbridge

1943926 *Integrated HVSR analysis using ambient noise and earthquake for site characterization in north Chhattisgarh, India:* **M -**, C Singh, A Singh

1947087 *Investigating subsurface structure in Beppu, Japan, using ambient seismic noise:* **N Yoshimitsu**, K Sawayama, I Doi

1969213 *Leveraging GNSS TEC Signals to unravel earthquake rupture processes:* **P Inchin**, Y Kaneko, M D Zettergren, J B Snively, N Schliwa, J W C Wong, T Ulrich, A A Gabriel

1909634 *Long Period Ground Motions in the Osaka, Kyoto, and Nara Basins and Its Surrounding Area in Japan during Recent Large Earthquakes:* **K Asano**

1975379 *Macroseismic Reassessment of the 1783 Calabria (Italy) Earthquakes:* **M Orlando**, A Tertulliani, L Graziani

1932082 *Mapping Deep Fault Geometries by Clustering of Hypocenter and Normal Vector Distributions in Hokkaido, Japan:* **A Mpuang**, T Shiina, Y Sawaki, A Tagami, T Uchide

1957985 *Migration of SAGE Data Services to the Cloud:* **C Trabant**, M Briggs, M Van Fossen, A Hamilton, K Subratie, S Wilson, R T Weekly, D Chen, J Swiatlowski, S Parafina, A Clark, R E Casey, J Carter, D Mencin

1932632 *Moment Tensor Inversion in the Midland Basin using Gisola:* **A K Vallejo Quiceno**, G C D Huang, A Savvaidis

1906129 *Monitoring Seismic Velocity Changes in the San Jacinto Fault Zone using Train-Generated Tremors Recorded by a Dense Nodal Array: Results from the FaultScan Experiment (2022 - 2024):* **F Lavoué**, Y Sheng, Q Higueret, M Vignon--Livache, A Mordret, F Brenguier

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1980155 *Near Surface S-wave Velocity Measurements at 46 Sites in the East San Francisco Bay and Sacramento Delta, California:* **M S Craig**, M Romero, K Hayashi

1927407 *Nodal Seismometer Recordings of Aftershocks of the 5 December 2024 Mw 7.0 Offshore Cape Mendocino Earthquake:* **M Goldman**, R Catchings, R R Sickler, J H Chan, C Criley, J E Erdem, T Sawi, R C McPherson, K Stockdale, R Catchings

1948254 *Passive-source Seismology in the Western Amazon Region of Brazil:* **J Julià**, M P Rocha, A Pinheiro, J Carvalho, R Luz

1980783 *Recovering Livermore Nevada Network Seismic Archives through Modern Digitization and Recovery Techniques:* **A Price**, R A Canizales Turcios

1961199 *Results from a Ultra Broad band Borehole seismometer with flat response over 5 decades of frequency is presented .Güralp CM, McGowanGaiacode Ltd, Dickers Farm, Bramley Road, Silchester, RG7 2LU United Kingdom.:* **C Guralp**

2001333 *Revisiting Stable Continental Seismicity: An Updated Earthquake Map and Statistical Reassessment Since 2003.:* **B Lafferty**, R Sunderland, V L Levin, K Karki, I Mitra, J Lane

1880056 *Seismological evidence of the Southern Churachandpur-Mao Fault, Indo-Burma Region:* **Z Ralte**, L Tlau, S Sailo, S Baruah

1901034 *Stress Evolution and Seismic Quiescence Prior to the 1978, Oaxaca, M7.8, Earthquake:* **F J Nuñez-Cornu**

1992699 *STRONG MOTION RECORD DATABASE OF GEORGIA:* **R Grigalashvili**, T Godoladze, T Onur, A Chiang, L Ratiani, A Buzaladze, S Kakhoberashvili

251430
Uncertainty Quantification in AI/ML applications for seismic monitoring

Conveners: **Maeva Pourpoint**, Air Force Research Laboratory Albuquerque; **Ian McBrearty**, Stanford University; **Jesse Williams**, GTC Analytics; **Weiqiang Zhu**, California Institute of Technology

1951615 *Benchmarking a Deep Learning Seismic Associator Across Synthetic and Real Global Datasets:* **H Kunwer**, C Ding, J Williams, J Pace, Z Peng, A V Newman

1952703 *A Comparative Analysis & Benchmarking between Seismic Phase Associators using the TexNet portable Seismic Station of the West Delaware Basin.:* **O Adeboboye**, C Chai, M Maceira, Q Kong, A Chatterjee, K Kroll, A Dzubay, J Leifer, S Fertig, P A Friberg, J Stachnik, Z Peng

1940073 *Advances in Seismic Monitoring with Neural Operators:* **H Sun**

1893880 *Calibrating the confidence of classification models for geophysical monitoring:* **Y Park**

1932489 *Comparative Robustness of CNN and Cross-Correlation for Seismic Splitting: Insights From Synthetic Data at Low SNR:* **A Tokuda**

1876229 *Empirical Rules for Quality Control of Deep Learning Enhanced Earthquake Catalogs:* **A Aguilar Suarez**, Y Park, W L Ellsworth, G C Beroza

1918558 *Testing the Multiple Lapse Time Window Analysis (MLTWA) Algorithm used to Estimate Intrinsic and Scattering Q - A Numerical Experiment:* **C Poppeliers**, C Saikia, D Herman

1867084 *Unveiling Intrinsic and Scattering Seismic Attenuation at the Cocos-Nazca-Caribbean-Panama Plate Conjunction:* **E Giampiccolo**, D K Sagel, J Prudencio Sonora, E Del Pezzo, T Tuve, E C Astigarrabìa, J Sanjur, N Luque, A Flores, J M Ibáñez

1861886 *Using Nonlinear Thresholding of Stockwell Transforms to Denoise Seismic Waveforms:* **R Tibi**

1981189 *Utilization of Shear-wave splitting to monitor the underground heterogeneity in the Oku-Aizu geothermal field, Japan:* **K Morimoto**, N Yoshimitsu, K Okamoto

1940339 *Verifying Extreme Ground Motion Records: A Field Investigation of the WTP Station During the 2025 Dapu, Taiwan Earthquake:* **C T Chen**, Y T Yen, C H Kuo, Y Y Lin, Y T Kuo, S Wen, L Che-Min

1866111 *Finding the limits of deep learning-based earthquake forecasts:* **K Dascher-Cousineau**

1911988 *How Not to Be Fooled by Seismicity Depth Distribution: Lessons from the 2023 Kahramanmaraş (SE Türkiye) Aftershock Sequence:* **H Ding**, Y Zhou, Z Ge

1949252 *Informative Ensemble Learning for Seismic Location and Association:* **S Ravela**

1910559 *Machine Learning-Based Event Detection And Earthquake Relocation For The Seismic Catalog Of The Gargano Promontory (Southern Italy):* **A Tallarico**, A P Ferreri, S Panebianco, C Satriano, M Filippucci, T A Stabile, G Cecere, V Serlenga, G Selvaggi

1907495 *Optimizing Seismological Objective Functions with Machine Learning: A Case Study with Focal Mechanism Determination:* **X Song**, M A Meier, W L Ellsworth, G C Beroza

1862931 *Quantifying Uncertainty in AI Models for Seismic Phase Picking:* **R Rael**, S Myren, N Parikh, E M Casleton

1926139 *Real-Time Classification of Induced Seismicity Events Using an Attention-Based U-Net Architecture:* **A Chatterjee**, Q Kong, K Kroll, C Chai, A Dzubay, J M Leifer, S Fertig, P A Friberg, J Stachnik

1933837 *Seismic detection based on unsupervised station-wise phase picks using deep learning and its application:* **H Nagao**, T Tokuda, S Sekine, S Abe, N Hirata

247965

Why do we Hear Silent Slip? Towards an Integrated Understanding of Slow Slip and its Seismic Manifestation *(joint with NG, NH)*

Conveners: **Giuseppe Costantino**, École Normale Supérieure, PSL Research University, CNRS UMR 8538; **Kate Chen**, Department of Earth Sciences; **Louise Maubant**, Earthquake Research Institute, University of Tokyo; **Gaspard Farge**, École normale supérieure de Paris

1862450 *A 20-year Continuous Catalog of Low-Frequency Earthquakes in Northern Cascadia: New Insights on Depth-Dependent Behavior and Migration Patterns:* **C Mouchon**, W B Frank, M G Bostock

1898376 *A Discrete-Element Elastic Model Reproducing Many of the Statistical Properties and Migration Patterns of Tremor:* **L Xia**, A M Rubin

1904257 *A New Fault Slip Mode Unveiled in the Regional Dynamic Triggering of the 2023 Turkey Earthquake Sequence:* **Y Zhou**, H Luo, Z Zhao, T Wang, H Yue

1903744 *Aseismic slip and seismic swarms leading up to the 2024 M7.3 Hualien earthquake:* **W Peng**, K H Chen, R Bürgmann, Y J Hsu, Y H Chen

1995523 *Depth-Dependent Controls on Aseismic Slip in the Collision Zone of Taiwan:* **K H Chen**, W Peng, Y C Hua, Y J Hsiao, S Ide, K Konstantinou

2002885 *Episodic hydraulic fracturing from slab dehydration as a driver of slow slip and tremors:* **A Sáez**, A Kato, D Garagash

1930208 *Episodic tremor and slow slip event behavior modulated by tectonic, hydrological and tidal stresses in Cascadia:* **Q Meng**, Z Liu, S Adhikari

1873284 *Frictional and Structural Heterogeneities control nucleation, propagation, and arrest of laboratory Slow Slip Events:* **G Volpe**, J Taddeucci, C Marone, M Cocco, C Collettini, G Pozzi

1929827 *Model-order reduction applied to rate-and-state friction slow slip cycle models: Uncovering the physics driving slow-slip events using scientific machine learning:* **Y Magen**, D May, A A Gabriel

1955575 *On the Mechanisms of Shallow Slow Slip Events: A Mechanistic Approach:* **A Silver**, F Ciardo

1877618 *Repeating Earthquakes in the Earthquake Swarm of the Noto Peninsula, Japan: Implications for Aseismic Slip on Crustal Faults:* **M Komatsu**, J Nakajima

1927518 *Seismicity Extends from the Creeping to the Locked Zones in the Southern Hikurangi Margin, New Zealand:* **M K Savage**, S Kwong, E Warren-Smith, K Jacobs, P Audet, K Mochizuki, Y Yamashita, L M Wallace, D Hobbis, D Murray

1868179 *Seismological Constraints on the Northern Hikurangi Margin: Links between Slow Slip Events, Seismicity, Seamounts and Seeps:* **I D Bastow**, A Woodward, R E Bell, M Paulatto, K Jacobs, S A Henrys, B Fry, T A Merry, V Lane, L Ville, L Broadley, P Houldsworth-Bianek

1907491 *Toward a comprehensive catalog of long-term slow slip events along the Nankai Trough using GNSS data:* **T Takahashi**, R Takagi, R Hino, Y Okada

1973844 *Tremorless Slow Slip in Alaska: Insights From Observations and Modeling:* **E M Golos**, E Ochoa, M Denolle, B P Lipovsky

2002545 *Use of Repeating Earthquakes to Discriminate Slow Earthquakes in the Central Pacific Subduction Zone of Costa Rica:* **N Campos**, E Chaves

STUDY OF EARTH'S DEEP INTERIOR

251915

Advances in Deep Mantle Structure and Dynamics from Computational, Experimental, and Observational Perspectives *(joint with MR, P, T, V)*

Conveners: **Qian Yuan**, Caltech; **Scott Burdick**, Wayne State Univeresity; **Cijin Zhou**, University of Science and Technology of China; **Andrea Giuliani**, ETH Zürich; **Mo Hu**, California Institute of Technology

1900054 *3D Geodynamic Modeling of Plume-Ridge Interaction with Non-Newtonian Rheology:* **P Kongpet**, G Ito, E E E Hooft, PhD, Y Shen, D R Toomey, K Autumn, R S Hufstetler, O Adeboye, M C Ruiz

1879340 *Africa's Whole Mantle Discontinuity Structure: Oceans, Cratons, and Rifts:* **J J Legre**, T M Olugboji

1939335 *Assessing the effects of heat-producing element enrichment and mantle thermal conductivity on the stability of primordial reservoirs:* **J M Guerrero**, F Deschamps, W P Hsieh, P Tackley

1968533 *Body Wave Investigation of Intrinsic Attenuation in Large Low-Velocity Provinces:* **D Cunion**, V Lekic

1883002 *Constraints on LLSVP Properties from Boundary Morphology and Seismic Anisotropy:* **M Hu**, M Gurnis, J M Jackson

1902208 *Crust in the way: how the crust skews measurements of the deep Earth:* **S Agrawal**, D A Frost, H P Crotwell

1864552 *Equilibrium Isotope Fractionation of Silicon among Minerals in Mantle Transition Zone by Force Constants Approach and First Principles Calculations:* **B Zhao**, D Zhang, B Chen

1890174 *Evidence for Weak Seismic Attenuation in Mars' Deep Mantle:* **J Li**, T Ferrand, J Hua, H Samuel, L Allibert

1875977 *Examining potential links between observed changes in spreading rate and plume melt production:* **E L Mittelstaedt**

1884670 *Global S-Wave Amplitude Analysis of Mantle Attenuation Structure Reveals a Thin Low-Velocity Layer Above the Core-Mantle Boundary:* **E P Irumhe**, S Sun, M Zhu, Y Zhou

1926734 *How Dense is Too Dense? A Cooling Earth Affects the Absolute Effective Density Contrast of Large Low-Velocity Province Structures:* **H Krauss**, A K McNamara

1932473 *Hydrogen Isotopic Fractionation upon Dehydration of SiO_2 in the Lower Mantle: Origin of Water in Plumes with Low D/H Ratios:* **M Semba**, N Sakamoto, K Hirose, S Mita, N Kurita, H Yurimoto

1889548 *Improving the Radial Structure of Seismic Attenuation using Major-Arc S-wave Amplitudes:* **Y Zhou**, M Zhu, S Sun, E P Irumhe

1947078 *Joint P and S long-wavelength global travel-time tomography using automated phase picking:* **J Su**, T Matsunaga, C T Houser, J Hernlund

1870938 *Linking Ocean Island Basalt Geochemistry with Mantle Plume Dynamics:* **S Jiang**, T Duvernay, M J Hoggard, R Hawkins, I H Campbell, R Davies

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Advances in Machine Learning for Solid Earth Geoscience *(joint with MR, S, T, V)*

Conveners: **Xiyuan Bao**, Harvard University; **Jie Deng**, Princeton University; **Karianne Bergen**, Harvard University; **Maurizio Petrelli**, University of Perugia; **Caifeng Zou**, CalTech Seismological Laboratory

1943951 *2D Seismic Datasets for Training Signal Processing Neural Networks: Fast Convolutional Synthetics for Ground-Truth Labels:* **G Roncoroni**, I Deiana, R G Clapp

1947732 *A Deep Learning-Based Joint Inversion Method for Multiphysics Data with Dual Constraints on Spatial Structures and Petrophysical Properties:* **B Xi**, Z Wang

1943413 *A novel robust seismic phase picker: EQMamba:* **C Wang**, W H Wang, H Y Lu

1908741 *Adapting Deep Learning Models using an Instance-Weighting Approach for Seismic Fault Detection:* **A Routray**, T Ghosh, M Jenamani, S Kumar Singh

1909577 *On the Consistency between Different Plate Reconstructions using Models of Mantle Convection:* **A Ghosh**, D Pal

1935839 *Performance Boosting of FEniCS Geodynamic Simulations with an Integrated GPU Platform:* **K Lee**, D K Jang, B D So

1878565 *Physics-based machine learning for mantle convection simulations:* **S Agarwal**, A C Bekar, C Hüttig, D Greenberg, N Tosi

1999966 *Plume Ponding in the Mid-Upper Mantle Beneath the South Pacific Superswell Revealed by X-Discontinuities:* **J Wang**, N C Schmerr, V Lekic, M Ballmer

1964432 *Predicted Sensitivity of Neutrino Oscillation Tomography to hydrogen in the Mantle:* **Y A Deniz Hernandez**, E L Mittelstaedt, J A B Coelho, S Durand, N Fuji, I Goos, R Pestes, V Van-Elewyck

1967289 *Seismic and Mineralogical Evidence for Iron-Rich Hawai'ian Mega Ultralow-Velocity Zone:* **V Lekic**, D Kim, J H Song, V V Dobrosavljevic

1921728 *Seismic imaging of a basaltic Lesser Antilles slab from ancient tectonics:* **X Yang**, Y Xie, C Rychert, N Harmon, S D B Goes, A Rietbrock, L Lynch

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1980546 *The Impact of the LLSVPs on the Rotational Behavior of Earth's Mantle:* **C Beattie**, R M Russo

1872549 *Whole Mantle Attenuation from Global Body Wave Measurements:* **S Sun**, Y R Ricard, S Durand, E Debayle

1933571 *ASPECT-GPT: LLM assisted AI agent for automating geodynamic simulation workflows:* **V Sharma**, A Patil

1891437 *Detecting Seismic PS Wave Arrivals in the Alaska Peninsula Through Machine Learning:* **N Turner**, A Birkey, Y Jie, S S Wei, T Little

1884897 *Generative Diffusion Modeling from Surface Observations: A Efficient Solution for 3D Porous Media Reconstruction:* **Y Meng**, G Gao, J Jiang, J Wu

1856565 *Geochemistry π (version 0.7.0): Machine Learning for Geochemists Who Don't Want to Code:* **J ZhangZhou**, J Zhao

1872367 *Intermediate-Depth Earthquakes Beneath East Antarctica Reveal Lithosphere-Asthenosphere Interactions Control Intraplate Deformation:* **L Ho**, J L Sánchez-Roldán, S Hansen, J I Walter

1851624 *Machine Learning Applied to Mantle Plume Geochemistry:* **W M White**

1992622 *Machine Learning based Extraction of Tau-p Curves and Inversion of Mantle Transition Zone Velocity Structure using Triplicated P waves:* **G Liu**, D Sun

1875416 *Machine Learning–Driven Acceleration of Integrated Geodynamic-Geochemical Models:* **Q Yuan**, P D Asimow, M Gurnis, P M Antoshechkina, J Dong

1907366 *Millennial-Scale Modeling of Ammonium-Nitrogen Enrichment and Transport in Groundwater: Coupling PHREEQC with Physics-Informed Neural Networks (PH-NPINNs):* **F Deng**, Y Meng, J Jiang, J Wu

1955478 *Neural Network Surrogate Models for High-Fidelity Stochastic Thermo-Hydro Modeling in Geobattery Systems:* **V Fakeye**, A Hamed, T Atkinson

1949268 *Opportunities, Epistemological Assessment, and Challenges of Machine Learning Applications in Igneous Petrology and Volcanology:* **M Petrelli**, M Ágreda López

1938671 *Optimizing earthquake phase association performance through semi-supervised calibration of synthetic training data generator:* **I W McBrearty**, G Dupuis, G C Beroza

1928747 *P-wave First-Motion Polarity Classification for Seafloor Microearthquakes Using Transfer Learning at Axial Seamount:* **M Zhang**, W S D Wilcock, M Denolle, F Waldhauser, K Wang, M Tolstoy, Y J Tan

251402
Bridging Boundaries in the Lithosphere-Asthenosphere System

Conveners: **Eva Golos**, University of Wisconsin-Madison; **Carolyn Tewksbury-Christle**, University of Texas at Austin; **Christine Chesley**, Scripps Institution of Oceanography

1909441 *CRUSTAL STRUCTURE OF THE EASTERN AFRICA PLATEAUS DERIVED FROM MOHO AND CURIE DEPTHS: IMPLICATIONS FOR MANTLE UPWELLING AND SEISMICITY BEHAVIOUR:* **O Akinrinade**, Z Guo, A G Osotuyi, M I Oladapo, C Jiajun

252325
Chemistry and Physics of Earth's Outer Core and its Boundaries *(joint with GP, MR)*

Conveners: **Sajin Satyal**, Geochemical Society; **Jianwei Wang**, Louisiana State University

1966856 *Carbon as an Essential Element for Explaining Density Gradients in Earth's Outer Core:* **J Wang**, S Satyal

1932894 *Effect of Light Elements on the Melting Behavior of Liquid Iron Alloys under Earth's Inner Core Boundary Conditions.:* **O Anisere**, J Wang, S Satyal

1952193 *Effect of topography on rotating convection:* **A Barik**, B Favier

1910405 *SaltSAM: Prompt-Driven Real-Time Salt Structure Segmentation vs. Pixel-Wise Deep Learning Baselines on Seismic Data.:* **G Oke**, M Falowo, A Raef

1854348 *The sub-arc mantle has remained oxidized since the Neoproterozoic Oxygenation: Insights from Machine Learning:* **J ZhangZhou**, C Liu, C Ye, Q Xia

1858110 *Three-dimensional Lithospheric Thermal Structure Study of the Tibetan Plateau Using Data-driven Methods:* **Z Zhang**, Z Du, S Wu, B Zhang, Q Xia

1908248 *Towards Physics-based Machine Learning Framework of Seismic Wavefield Modeling and Full-waveform Inversion:* **S Li**, Z Li, Z Mu, S Xin, Z Dai, K Leng, R Zhang, Y Zhu, X Song

1936018 *Transfer Learning-Driven Seismic Fault Detection: Unveiling Strike-Slip Structures in Karstified Ultra-Deep Carbonates of the Northern Tarim Basin:* **W Tian**, T Jiang, G Wu

1956214 *Origin and Evolution of the Northern Appalachian Anomaly: New Constraints from Dense Seismic Deployments in New England:* **M D Long**, K Espinal, M Bezada, J R Bourke, F Link, Y Luo

1934952 *Testing for North America cratonic lithosphere removal by reconstructing Farallon subduction history from mantle slabs:* **J Wu**, W McCraine

1988352 *The lithosphere-asthenosphere system beneath the West Philippine Basin, constrained from an anisotropic 1-D electrical resistivity structure:* **T Matsuno**, K Baba

1853710 *Viscosity Of Diopside Melts At Upper Mantle Conditions: Implications For Melt Mobility And Asthenosphere Dynamics:* **Q Chen**, T Yu, B Zhao, A W Ashley, Y Wang

1931441 *Helicity in Rotating Convection with Boundary Topography: Experimental Insights from ToRoCo and Implications for Core Dynamics:* **X Si**, M Abdelshafy, J S Cheng, D H Kelley

1968529 *Scenarios for Earth's Outer Core Composition Based on a Density Model of Multi-Component Iron-Rich Alloys:* **S Satyal**, J Wang

1913774 *Sm/Nd Partitioning During Core–Mantle Differentiation:First-Principles Constraints and Implications for radiogenic ^{142}Nd excess in Earth, Mars, and Early Planetesimals.:* **W Liu**, F Tissot, P D Asimow

1921575 *Testing the Limits of Outermost Core Low-velocity Layer Detection with SmKS Phases:* **Y Zhou**, B Schmandt, F Niu

1940445 *Thermal Buoyancy Stabilizes the Axial Dipole in Two-Component Convective Dynamos:* **D Majumder**, B Sreenivasan

247720
Connecting Planet Interior Modeling with Experiments and First-Principles Calculations
(joint with MR, P)

Conveners: **Yanyao Zhang**, University of Texas at Austin; **Caroline Dorn**, ETH Zürich; **Xuehui Wei**, Arizona State University; **William Palfey**, California Institute of Technology

1966062 *A new meta-analytical Gibbs energy equation of state for ice VII-X and implications for water-rich exoplanetary interiors:* **U Jones**, B Journaux, J M Brown, J A Hernandez, P Myint, T Gordon

1845905 *A review of LPO development in phyllosilicates: Insights from antigorite and chlorite:* **D Kim**, M Park

1907731 *Ab initio Structural Models and Infrared Spectra of Hydrous Bridgmanite of the Lower Mantle:* **J Tsuchiya**, K Inagaki, H Dekura, Y Zhang, J F Lin, S I Karato, J Kung, C Li

1911408 *Calcium chemistry in Earth's lower mantle:* **Q Hu**, L Gong

1961533 *Dynamical Stability and Phase Transitions of Mg-Peroxide Phases Near Earth's Mantle Conditions:* **M Ghosh**, C Chandler, A E Gleason, S Glenzer

1940006 *Effect of Cationic Substitutions on the Akimotoite - Bridgmanite Phase Transition:* **P Pandit**, G Shukla

1882364 *Equation of State of Mg_2FeH_6 Perovskite: Implications for Hydrogen Ingassing in Sub-Neptune Interiors:* **X Wei**, T Kim, S Chen, S Chariton, V B Prakapenka, S H D Shim

1911118 *Experimental Study on Elastic Wave Velocities and Thermal Transport Properties of Peridotites:* **X LI**, M MA, J Xu, H Guan, Y Bi

1985247 *Graphite Precipitation in Carbon-Rich Lava Worlds: Coupled Atmosphere and Interior Model:* **B Peng**, L Schaefer, D Valencia

1867869 *High P-T Sound Velocities of Fe-bearing Ringwoodite and Majorite: Implication for Martian Mantle Seismic Profiles:* **L Li**, J F Lin

1985826 *Turbulent core convection with core mantle boundary topography:* **T Oliver**, J A Tarduno, E Blackman, M A Calkins

1887677 *High-Temperature Iron Oxyhydroxides in the Deep Lower Mantle:* **H Yuan**, L Man, X Li, Q Hu, D J Frost, L S Dubrovinsky

1857639 *Hydrogen at the core-mantle boundary of Mars:* **S Chen**, T Kim, X Wei, M Bose, S Chariton, V Prakapenka, D Smith, R Hrubiak, S H D Shim

1930562 *Hydrogen Production and Storage in CaTiO3 Perovskite at Mantle-Related High Pressures:* **A Campbell**, S Fu, L Shteynman, S Chen, T Kim, S H D Shim

1868665 *Implementation strategy and benchmarking of multi-component, two-phase flow averaged equations:* **H Samuel**, C É Boukaré, K W Lim, J Badro

1994811 *Mass-radius Relation of Water-bearing Exoplanets:* **D Zheng**, C Rao, J Deng

1952074 *Modeling the Internal Structure and Thermal Evolution of Rocky Planets in the Solar System and Super-Earths with INTREPID:* **P E Driscoll**, F Miozzi

2002343 *Novel Dynamic Compression Techniques to Measure Thermal Conductivity and Viscosity of Liquid Iron at Outer Core Conditions:* **T Perez**, P LaChappelle, R Smith, J Eggert, J K Wicks

1848947 *Probing the Role of Water in Shaping Planetary Mantles with Dynamic Compression Experiments:* **I Carrillo**, A N Clark, J P Davis, A R Sarafian, S Duwal, J M Lane, C McCoy

1964243 *Role of Pressure- and Temperature-Dependent Viscosity and Thermal Diffusivity in Magma Ocean Convection:* **G Morra**, L Honarbakhsh, P Mora, B B Karki, C Jacson

1896005 *Secular Cooling of the Magma Ocean Controls Early Planetary Oxidation State:* **X Deng**, M J Walter, Z Wu, R E Cohen

1937218 *Sound velocities and structural transitions of endmember and Fe, Al, Mg, Ti-bearing $CaSiO_3$ glasses up to 100 GPa:* **W Su**, W Y Zhou, J Hu, M Hao, J Zhang

1955078 *The Single Crystal Elastic Properties of Fe-rich Diopside in Martian Mantle:* **J Hu**, W Y Zhou, W Su, J Zhang

1981454 *Thermal Transport and Evolution of Martian Interior:* **J F Lin**, L Li

248784
Formation, Structure, and Evolution of Planet Interiors *(joint with MR, P)*

Conveners: **Tanja Kovacevic**, University of California Berkeley; **Junjie Dong**, University of Michigan Ann Arbor; **Kyla de Villa**, University of California Berkeley; **Salma Ahmed**, University of California Berkeley

1990525 *Compositional changes in lowermost mantle driving surface evolution in the early Earth:* **K A O'Farrell**, S J Trim, S L Butler

1893208 *Constraints on the Delivery of Carbonaceous Materials to the Earth from Core Formation Modeling and Dynamical Simulations:* **S Wen**, R A Fischer, J T Gu, F Nimmo, S Mukhopadhyay

1962459 *Core Formation in Super-Earths Constrained by Large-scale Machine Learning Molecular Dynamics:* **H Luo**, J Deng

1850964 *Crystallizing Core Phases: Using Dynamic Compression to Understand the Fe-C Phase Diagram and Earth's Inner Core:* **I Szumila**, D Kim, R G Kraus, R Smith, F Coppari, S Takagi, M A Millot, S J Tracy, I Oleynik

250430
Geophysics in the Oceans: Observations, Modeling, and New Frontiers *(joint with S, T)*

Conveners: **Joshua Russell**, Syracuse University; **HyeJeong Kim**, Earthquake Research Institute, The University of Tokyo; **Tolulope Olugboji**, University of Rochester; **Samer Naif**, Georgia Institute of Technology

1922764 *"Leveraging Geochemical Proxies for Seafloor Sediment Models: Predicting Bulk Density and P-Wave Velocity Using XRF":* **K Ledezma**, T R Lee, D J Wallace, C Pederson

1924771 *A Multimethod Analysis of T-phases from the September 2023 Ruby Seamount Eruption Recorded by MERMAIDs:* **A Pacubas**, R S Matoza, J D Simon, M M Haney, C D de Groot-Hedlin

1957739 *A Study Toward Full-Waveform Tomography of Seismic Waves in the Ryukyu and Japan Trenches:* **T Okamoto**, H Takenaka, T Nakamura, M Komatsu

1912014 *Body-Wave Imaging in the Oceans: Plume vs. Plates:* **T M Olugboji**, Z Zhang

1940739 *Constraining Localized Diffractors in the Oceanic Upper Mantle using Novel Analyses of Surface Wave Arrival Angles:* **A Hariharan**, Z Eilon, G Laske

1950884 *Estimates of the Major and Minor Element Composition of Venus from N-body Simulations and Core Formation Modeling:* **C Chung-Halpern**, R A Fischer, J T Gu

1868355 *Insights into Ice Giant Interiors: High-Pressure C-N-H Phase:* **H Chen**, I Batyrev, A F Goncharov, V B Prakapenka, S Chariton, K Glazyrin, M Bykov, L Bruning, M Mohammad

1983695 *Iron partitioning in super-Earth mantles:* **F Dragulet**, L P Stixrude

2004371 *Mass Vortex Theory: A New Model for Planetary Formation:* **S Seaver**

1917886 *Phase Transitions Induce Changes in Mantle Convection During Planetary Secular Cooling:* **R Li**, J Dannberg, R Gassmoeller, C R Lithgow-Bertelloni, L P Stixrude

1991055 *Redox Architectures and Volatile Pathways: Linking Accretion, Core Formation, and Habitability:* **C Alvarado-Anderson**, L Schaefer

1855381 *Seismic Anisotropy Layering in the Martian Crust:* **C Beghein**, J Li

1867198 *Thermal and Magnetic Evolution of Super-Earths With Basal Magma Oceans:* **V Lherm**, M Nakajima, E Blackman

1866337 *Deep seafloor ambient seismic noise monitoring for oceanic and atmospheric pressure changes:* **B Luo**, S Zhang, N Takeuchi, D E Lumley, D Li, H Zhu, S Beck

1925583 *Downward Continuation Streamer Tomography and Reflection Imaging of the Northern Hikurangi Plateau:* **J R Harris**, A Gase, T Little

1856230 *Electrical Resistivity Distributions in Megathrust Earthquake Zones of the Japanese Island Arcs:* **H Ichihara**, H Nakamura, M Kuroda, T Kasaya, T N Goto

1910525 *Environmental Influences on HVSR Analysis from OBS Data:* **S Y Kang**, K H Kim, H J Lee

1851500 *Extracting Rayleigh-Wave Dispersion Curves From Microseism Noise Recorded at a Single Ocean Bottom Seismograph:* **H Deng**, C An, C CAI, J Tian

1917782 *From whale to plume: Charting the bio- and geosphere with UPFLOW data and beyond:* **A Saoulis**, A M Ferreira, M Tsekhmistrenko, A Loureiro, K Harris, M Witek, S J Chang, J M A Miranda

1960566 *Geophysical Constraints on the Lithosphere Beneath Plume-less Ocean Bathymetric Swells:* **W Frazer**, L S Wagner

1942907 *Güralp Ocean Bottom Monitoring Solutions: Autonomous Nodes, Cabled Observatories and SMART Cables:* **J Lindsey**, N Watkiss, F Restelli, P Hill

1888748 *Improved detection of mid-ocean ridge seismicity: global statistics, fault coupling, and earthquake triggering:* **S Wang**, Z Li, J Zhu, L Fang

1896825 *Joint V_P and V_S Tomography Using Converted Phases in Controlled-Source OBS Experiments: Application to the Ridge-to-Trench Dataset from the Juan de Fuca Plate:* **H Jian**, J P Canales

1985848 *Locating Submarine Events in the Pacific Ocean Based on T-waves:* **J Xie**, Y Zhou, S Ni, Z Shen

1884835 *Long-term Marine Seismic and Acoustic Monitoring using Distributed Acoustic Sensing and Deep Learning:* **C Zhang**, W Zhu, B A Romanowicz, R M Allen

1934574 *Pacific Upper Mantle at the NoMELT Site Characterized by Differential Body Wave Travel Time Measurements:* **R Hughes**, A Hariharan, Z Eilon, J B Russell, J B Gaherty

1911678 *Quantifying the Improvements in Earthquake Locations by Introducing OBS Observations:* **Y Sohn**, K H Kim

1901841 *Rayleigh Waves from the OHANA Project Indicate Low Mantle Velocities in the Northeast Pacific:* **G Laske**, J A Collins, D K Blackman

1991578 *Seismic Characterization of the Offshore Guerrero Seismic Gap Using Ocean Bottom Seismometers: Site Response, Attenuation, and Shallow Structure:* **R Plata Martinez**, Y Ito, A Jaramillo-Rivera, F J Sanchez-Sesma, A Ronquillo, V M Cruz-Atienza, J A Real

252484
Mantle Convection on Earth and Other Rocky Planets *(joint with P)*

Conveners: **Diogo Louro Lourenço**, ETH Zurich Swiss Federal Institute of Technology Zurich; **Shi Sim**, Georgia Institute of Technology; **Paul Tackley**, ETH Zurich

1961614 *A Tale of Dual Insulators – Exploring the Effects of Heat-Producing Elements Sequestered in the Continents and LLVPs on Earth's Mantle Dynamics and Thermal Evolution:* **A S Ross-Browning**, E L Mittelstaedt, C M Cooper, A Roy, PhD

1927559 *A Thin Shell's Last Gasp: An Endogenic Origin for Mercury's Northern Smooth Plains:* **A P Green**, S D King, M S Duncan, E Mallick

1895397 *Earth's Shifting Tectonic Modes: The Thermo-Rheological Legacy of a Depleting Mantle:* **F A Capitanio**, O Nebel, P A A Cawood, H Smithies

1971216 *Impact of Heat-Producing Elements in the Core on Super-Earth Evolution and Dynamics:* **D J Louro Lourenço**, P J Tackley

1868025 *Seismic structure and estimated composition of arc crust in the Andreanof segment of the Aleutian Arc from wide-angle refraction data:* **H F Mark**, D Lizarralde, D J Shillington, V Cortes-Rivas, M D Behn

1896630 *Spar Buoys for Seafloor Geodesy and Physical Oceanographic Observations on the Shallow Continental Shelf:* **T H Dixon**, Y Liu, J Law, R Russell, S Gilbert, W S D Wilcock, D A Schmidt, N Fraticelli, J Dennis

1883150 *Spreading rate control of ocean cooling subsidence, LAB depth in oceans, type of ocean margins, and hotspot distribution:* **I M M Artemieva**

1874270 *Strain Accumulation Associated with Locked Subduction Megathrusts Observed in Deep-Ocean Boreholes:* **T Sun**, E Davis

1889677 *T-phase picking via semi-supervised learning of global hydrophone data:* **S Wang**, H Zhu, Z Li, W Wu, M Xu, Y Zhou

1875474 *The waves within the waves: Improving global shear-wave splitting coverage through beamforming of OBS data:* **D A Frost**, J S Byrnes, J Wolf, J Phillips, A Hariharan, J B Gaherty, Z Eilon, D W Forsyth

1852886 *Underwater WiFi system for the long-term BBOBS data retrieval using the ROV:* **H Shiobara**, S Nishida, E Araki, A Ito

1939198 *Updates to and New Applications of the ATaCR Package for Tilt and Compliance Removal:* **H A Janiszewski**, J B Russell, P Audet, Y Wu

1877966 *What Causes Seafloor Flattening?:* **F Richards**, J Haley, L Broadley

1909859 *Impact-induced core heating has only short-term effects of planetary evolution:* **P J Tackley**

1930716 *Inertia-Corrected Equatorial Core-Mantle-Boundary Heat Flux Heterogeneities are correlated with reversal rates from 200 Ma:* **A Cucchiaro**, N E Flament, C J Davies, A Biggin, J Zhang

1879548 *Investigating the Cessation of Convection in Mercury's Mantle:* **C Jain**, S Solomatov

1858331 *Investigating the Dynamics of Laboratory-Generated Subducting Slabs Using Ludox Colloidal Suspensions:* **V Lherm**, H Remise-Charlot, A Aubertin, L Helfen, C Alba-Simionesco, A Davaille

1915989 *Local patches of negative core-mantle boundary heat flux revealed by simulations of thermo-chemical mantle convection:* **J Guerrero**, F Deschamps, H Amit, F Terra-Nova

1993196 *Modeling Iron Droplets Settling in a Compressible Magma ocean: Core Formation Timescales:* **J Yan**, L Noack

1944875 *Modeling the Lunar Magma Ocean Under Tidal Deformation at Close Proximity of Earth:* **D Astudillo**, P J Tackley, D J Louro Lourenço, A De Montserrat Navarro

1908334 *Modelling of Plate Boundary Dynamics from Earth to Venus:* **M Pons**, S V Sobolev, C Jain

1862940 *Primordial Origin of LLVPs as Continuous Layer Inconsistent with Archean Mantle Melting: Insights from Geodynamic Models:* **A Roy, PhD**, E L Mittelstaedt, C M Cooper

1948023 *Rheological Controls on the Plate-Mantle System: Self-Consistent vs. Kinematically Constrained Models:* **M Metternich**, P J Tackley, M Arnould, A Janin

1985046 *Rheological feedbacks and plate-like behavior in geodynamic models:* **C R Wilson**, P E van Keken, N Zhao, M Nakajima

248826
Mantle Phase Transitions and their Impact on Convection, Evolution, and Interior Structure *(joint with MR)*

Conveners: **Allison Pease**, Michigan State University; **Lars Stixrude**, University College London; **Arushi Saxena**, ; **Heidi Krauss**, Michigan State University

1979782 *Compressibility and Chemical Bonding in Al,Fe-bearing Phase H [$MgSiO_2(OH)_2$]:* **E C Thompson**, B Gulick, S Gréaux, Z Liu

252302
Multidisciplinary Investigations into Planetary Interiors in our Solar System and Beyond *(joint with EP, NS, P, S)*

Conveners: **Doyeon Kim**, Cornell University; **Ross Maguire**, University of Illinois Urbana-Champaign; **Ziqi Zhang**, University of Rochester; **Nicholas Schmerr**, NASA/GSFC

1981265 *High-Pressure Experiments Reveal Peak Siderophility of Phosphorus During Earth's Core Formation:* **E Mallick**, C Jackson, K Prissel, K Righter

1942148 *Highly Siderophile Elements as Chemical Tracers of Core Formation and Late Accretion:* **J Sheehan**, R A Fischer

1867332 *Inferring Mars' Internal Structure from a Probabilistic Inversion of Complementary Geophysical Data:* **M Drilleau**, H Samuel, O Verhoeven, A Rivoldini, M Collinet, R F Garcia, P H Lognonné

1958743 *Structure and Dynamics of the Subcontinental Lithospheric Mantle Over the Central and Eastern American Continent, Constrained by Numerical Modeling Based on Tomography Models:* **M Abeysinghe**, C Adam, B Lacroix

1994506 *Super-heated Core Shaped the Mantle's thermal evolution After Giant Impacts:* **Y Zhou**

1889291 *Tectonic Regimes Shaping the Thermal Evolution of Rocky Planets:* **V Auerbach**, D R Stegman

1978077 *The "Glass-ceiling" Convective Regime and the Plume-Thermal Dichotomy of Venus:* **M Kerr**, D R Stegman, S E Smrekar, A Adams

1979261 *The Distribution of Water in the Mantle and its Effect on Tectonic Transitions:* **M Al Asad**, H C P Lau, G Hirth

1849085 *Constraints on Lowermost Mantle Dynamics From a Massive Seismic Dataset:* **J Wolf**, B A Romanowicz, E Garnero, M Li, W Zhu, J D West

1939463 *Deformation of high-pressure hydrous phases and their contribution to seismic anisotropy in the Earth's mantle:* **A Kattemalavadi**, K Armstrong, H Krauss, A K McNamara, B A Romanowicz, C Tome, H R Wenk

1883896 *Elasticity of Fe,Al,Mg,Ti-bearing Davemaoite Explains Lower Mantle Seismic Heterogeneities:* **J Zhang**, W Y Zhou, M Hao, W Su, T Kim, S Chen, S H D Shim, P Nguyen, D Zhang, K Armstrong

1917898 *Modeling Phase Transitions in a Heterogeneous Mantle Using a Multi-Component Entropy Method:* **R Li**, J Dannberg, R Gassmoeller, R Myhill

1998336 *Insights into the fate of volatile species during the planetary life cycle from shock-release experiments:* **A N Clark**, C McCoy, J P Davis, J M Lane, J P Townsend, K Cochrane, A R Sarafian

1884016 *Lunar Impact's Seismic and Telescopes European Network for Flash (LISTEN-FLASH): integrating an international Earth telescops network and Lunar seismic network for multi-messenger impact science and seismology.:* **P H Lognonné**, M Delbo, S Abe, C Avdellidou, M Benna, V T Bickel, M Drilleau, M Froment, T Kawamura, A Lucas, K Miljkovic, M P Panning, H Samuel, N C Schmerr, D Sheward, J H Zhang

1999506 *The Lopsided Moon: Tidal Signals of a Heterogeneous Interior:* **N Wagner**, H C P Lau, A Berne

1894376 *The shaping of the terrestrial planet's interiors by late accretions:* **S Marchi**

1963696 *Towards Efficient Discrete-Event Simulation for Large-Scale Planetary Accretion Models:* **S Das**, D Pathak

251322
Multidisciplinary Views of the Core-Mantle Boundary Region *(joint with MR, S, V)*

Conveners: **Vedran Lekic**, University of Maryland; **Val Finlayson**, University of Maryland, College Park; **Vasilije V Dobrosavljevic**, Florida State University; **Doyeon Kim**, Cornell University

1865521 *Deciphering Lowermost Mantle Heterogeneities Through ε-FeOOH to Py-FeOOH Phase Transition:* **S Sharma**, G Shukla

1898602 *Deep volatile transport shaped by the long-term core-mantle interaction:* **J Deng**

1983918 *Effects of Water on the Post-perovskite Transition:* **T Kim**, Y Lee, S Chariton, V Prakapenka, E Greenberg, S H D Shim

1991741 *Energetically Expensive Dynamo Action in Earth's Basal Magma Ocean:* **J M Aurnou**, N Schaeffer, S Labrosse

1920233 *First-principles calculations of the Hf-W partitioning between molten iron and silicate melt and its implications for ^{182}W isotopes:* **K Suzuki**, T Tsuchiya

1867935 *Helium isotopes in mantle-derived magmas controlled by partial melting:* **A Giuliani**, S Oesch, F D Munch, R Cai, J Liu Prof, M D Kurz, P H Barry, L S Doucet, M J Walter

1894753 *Is It Core, Or Just Confusion?:* **R J Walker**

1951053 *Mantle solidification inevitably leads to a basal magma ocean on top of the core:* **J Badro**, H Samuel, C É Boukaré

1974564 *On the Viscosity of the Deep Mantle:* **A Valop**, S D King

1905708 *The Fate of Dense Accumulations as a Result of a Leaky Core:* **U Hansen**, C Stein

1935034 *Thermal conductivities of Earth's lowermost mantle and uppermost core:* **W P Hsieh**, F Deschamps, Y T Chiang, Y C Tsao, S Dorfman, D Ikuta, E Ohtani

1979452 *Thermoelectricity at Earth's core-mantle boundary:* **F Dragulet**, L P Stixrude

1900067 *Understanding Lower Mantle and Outer Core Structure- The Longer Way!:* **A Muhly**, D A Frost, E Garnero, J D West

246737
Seismic anisotropy from surface to core *(joint with MR, S, T)*

Conveners: **Jonathan Wolf**, Yale University; **Daniel Frost**, Arizona State University; **Vera Schulte-Pelkum**, University of Colorado at Boulder; **Thorsten Becker**, University of Texas at Austin

1954864 *A New Upper Mantle Flow Model for South China Based on Seismic Anisotropy Observations:* **Y Yu**, P Mao, Y J Chen, Z Ge, S Ning, J Ning

1955493 *A New Window into Lithospheric Deformation from High-Resolution Receiver Function Imaging and Probabilistic Anisotropic Inversion: Revealing Terrane Accretion Processes in Eastern Massachusetts:* **F Link**, M D Long, N Arolkar, Y D Kuiper

1998265 *Analysis of Shear Wave Splitting Patterns in Alaska: Evidence for Strong Intra-slab Anisotropy:* **Y Zheng**, S Appini, J Wu

1928758 *Analysis of Slab and Sub-Slab Seismic Anisotropy Beneath the Alaska-Aleutian Subduction Zone:* **S Gilbert**, C Lynner

1922199 *Best practices and new tools for modeling complex layered anisotropy through shear wave splitting:* **C Lynner**, A Birkey

1948763 *Characterizing Seismic Anisotropy and Sub-Crustal Deformation Beneath Northeast India Through Receiver Function Harmonic Decomposition:* **D K Singh**, M Agrawal, H Kasaundhan, O P Mishra, M K Sen

2001689 *Constraining Slab-Edge Driven Mantle Flow the Cascadia Subduction Zone:* **S Koller**, M A Jadamec, M D Long, C Kolke

1881792 *Crustal Anisotropy Monitoring at Kīlauea Volcano with Machine Learning Based Shear Wave Splitting Analyses:* **Q Zhao**, Y Zhang, K H Liu, S S Gao

1988834 *Crustal Deformation Across the Central Altyn Tagh Fault Constrained by a Dense Seismic Array:* **C Wu**, T Xu, Z Lu

1902045 *Data-Informed *KS-Splitting Classification and Parameter Estimation.:* **L Schirbel**, S van der Lee, E Sharman, Z Henke

1863301 *Distinct Lithospheric Anisotropic Fabrics Across Southwestern Australia and the Yilgarn Craton Revealed by Phase 1 of the WA Array:* **C M Eakin**, M Gauntlett, N Bishoyi, J P O'Donnell, R Murdie, M S Miller, R Pickle, P Zhang, R Ebrahimi

1907488 *How Anisotropy Biases Seismic Imaging at Volcanic Systems – Insights from Body-Wave Tomography at Mt. Etna:* **K van Helden**, B VanderBeek, G Del Piccolo, M Faccenda, R Lo Bue, E Giampiccolo, O Cocina, M Firetto Carlino

1852004 *Imaging fluids and stress at Etna volcano with probabilistic P-wave anisotropic travel-time tomography:* **G Del Piccolo**, B VanderBeek, M Faccenda, R Lo Bue, O Cocina, M Firetto Carlino, E Giampiccolo, L Scarfi, F Rappisi, T Gerya, A Morelli

1883026 *Influence of Subduction History and Mineral Deformation on Seismic Anisotropy in the Lower Mantle:* **M Hu**, M Gurnis, J M Jackson

1891913 *Investigating crustal anisotropy using local earthquake shear wave splitting in central and eastern Nepal:* **G Kumar**, M Uthaman, N Jana

1876412 *Lowermost mantle anisotropy beneath Eastern Asia from SKS-SKKS splitting intensity discrepancies and its implications for Earth's evolution:* **S Celis**, T K Hong, J Lee, S Park, B Kim, J Lee, D G KIM, Y Liu

1905142 *Mantle Flow and Fault Zone Related Seismic Anisotropy Revealed by a Dense Linear Broadband Array in Southeast Tibet:* **J Wu**, A Yinshuang, S S Gao, F Kong, J Song

1897202 *Mapping lithospheric fabric at continental scale: an example from western Canada:* **A W Frederiksen**

1997202 *Mineral Physics Insight on Deformation of Iron and the Origins of Inner Core Seismic Anisotropy:* **A Berlin**, B T Sturtevant, G Zeff, E Ledoux, H P Liermann, L M Miyagi

1894745 *Model-Predicted Shear-Wave-Splitting Parameters in NE Japan: Comparison with Observations:* **I Wada**, L M Kenyon, J Nakajima, N Uchida

1975913 *Navigating the Space of Seismic Anisotropy for Crystal and Whole-Earth Scales:* **A Gupta**, C Tape, J M Brown, T W Becker

1862688 *Rayleigh-Love Coupling Reconciles Observations of SKS Splitting Times with Uppermost Mantle Models of Anisotropy Determined from Surface Waves:* **X Liu**, M H Ritzwoller

252817
The Earth through time: exploring Earth's evolution on different scales

Conveners: **Keely O'Farrell**, University College London; **Mingming Li**, University of Colorado at Boulder; **Juliane Dannberg**, GEOMAR Helmholtz Centre for Ocean Research Kiel; **Yuping Wang**, University of Kentucky

1878170 *Resolving Two-Layer Seismic Anisotropy with Bayesian Inversion:* **B Y Kuo**, C C Peng, P C Wang

1941544 *Seismic anisotropy and subduction dynamics of the Northeast Japan arc:* **D Zhao**

1896451 *Seismic Azimuthal Anisotropy across the Anatolian Plate:* **C Liu**, T W Becker, V Schulte-Pelkum, F Link

1923421 *Shear Wave Splitting Across the Galápagos Hotspot and Western Galápagos Spreading Center from the Marine IGUANA Experiment:* **O Adeboye**, G Ito, V Sassard, E E E Hooft, PhD, Y Shen, D R Toomey, R S Hufstetler, K Autumn, P Kongpet, M C Ruiz

1982191 *Shear wave velocity and radial anisotropy in the crust and upper mantle of the Pacific Northwest from surface wave tomography:* **A Li**, R Ghimire

1988512 *SKS Splitting Analysis and Upper Mantle Anisotropy Beneath the South Pole:* **E Wang**, H Wu, A Kumar, W Shen

1862645 *The Implications of Rayleigh-Love Coupling for Seismic Anisotropy:* **X Liu**, M H Ritzwoller

1949215 *TVguide: Tensor Visualization Made Easy and Accessible:* **S J Brownlee**, V Schulte-Pelkum

1986081 *Understanding Seismic Anisotropy Observations in the Context of 3D Slab-Induced Flow in the Cascadia Subduction Zone:* **N Redick**, M I Billen

1980048 *Validation of a Tilted Transversely Isotropic Model of Alaska using 3D Seismic Wavefield Simulations:* **A Gupta**, C Tape, C Liu

1963321 *Variations of Olivine CPO in Mantle Xenoliths from South Victoria Land, West Antarctic Rift System, with Implications for Seismic Anisotropy:* **R E Bernard**, K M Fischer, G Hirth, A E Saal

1939681 *A rapid tectonic plate reorganization event driven by changes at subduction locations in a mantle convection model:* **J M Guerrero**, C Fairservice, P Javaheri, J P Lowman, P Tackley

1995289 *Field Study of the Pilbara Craton: A Comparison of Archean and Phanerozoic Suture Zones:* **L Wratchford**, P Byrne, K Crane

1963181 *Investigating the Relationship Between Kimberlites and Large-Low Shear Velocity Provinces Over the African Continent:* **V Nechi**, C Adam, P D Kempton

247751
The Fate of Terrestrial Planetary Cores: Interdisciplinary Perspectives on Structure, Dynamics, and Evolution *(joint with GP, MR, P, S)*

Conveners: **Guanning Pang**, Cornell University; **Wei Wang**, Chinese Academy of Sciences; **Lowell Miyagi**, University of Utahï¿½; **Ludovic Huguet**, University of Leeds; **Ruoyan Wang**, University of Southern California

1931692 *Nonharmonic Oscillation of Inner Core Differential Rotation in Recent Decades:* **R Wang**, J E Vidale, G Pang

1958326 *A Survey of How Undercooling Influences the Core Evolution of Midsized and Small Rocky Bodies:* **S Gutierrez**, S A Hauck II

1931189 *Dynamic Compression of Iron-Sulfur Alloys at the Earth's Core Conditions:* **A M Pease**, S Chen, I Szumila, S J Tracy, A Tipeev, I Oleynik, S H D Shim

1896497 *Effect of a Chemically Stratified F-layer in Rotating Spherical Shell Convection:* **C J Davies**, L Huguet, S Naskar, A Clarke, T Frasson, S J Mason

1926289 *Enhancing the Observability of Precritical PKiKP Phases with Polarization Filters and Incoherent Array Processing:* **J Geng**, K D Koper, J D West

1889995 *Fe-Ni Phase Diagram: Mineral Physics Implications for a Layered Inner Core:* **Y Sun**, L Wei, Z Wu, K M Ho, R Wentzcovitch

1946453 *Keeping Seismic Finger on the Pulse of the Earth's Heartbeat from the Inner Core:* **X Zhang**, L Wen

249600
Time-Dependency of Earth's Mechanical Behaviour: a Synthesis of Observational, Laboratory, and Theoretical Approaches *(joint with MR, S, T)*

Conveners: **Lars Hansen**, University of Oxford; **Colleen Dalton**, Brown University; **Maximiliano Bezada**, University of Minnesota Twin Cities; **Hatsuki Yamauchi**, Lamont Doherty Earth Observatory

1974945 *A high Qs structure in the uppermost lower mantle beneath Central America related to the Farallon Anomaly:* **F Wang**, M Liu, J Ritsema, Y Huang

1954609 *A Thermodynamic framework for development of constitutive models for non-linear deforming solids : Framework, Computational Tools, and Seismo-Acoustic analysis:* **T Mittal**, B K Holtzman

1936915 *Magnetic Field Generation in Coupled Core-Basal Magma Ocean Dynamo Models:* **K M Soderlund**, C Yan, D Liu, M Unlu, J G O'Rourke

1929114 *Nickel Partitioning between Solid and Liquid Iron in Cores of Terrestrial Planets:* **T Kovacevic**, P Myint, S Hamel, L X Benedict, B A Buffett, B Militzer

1963459 *Nitrogen partitioning between cohenite and S-bearing liquid alloy : Constraints on nitrogen evolution during crystallization of planetary cores:* **D Pathak**, R Dasgupta, K Plaza

1871934 *Onset of dynamo action: implication for the early magnetic field of proto-planets:* **L Huguet**, J E Mound, C Davies, J Bryson

1903608 *Pattern of inner-core differential rotation from long-term earthquake sequences:* **K Wu**, X Song, Y Yang

1912872 *Recent findings on the fine-scale structure of the Earth's inner core in space and time:* **G Pang**, K D Koper, W Wang, R Wang, J E Vidale, S M Wu

1958704 *Solidus and Phase Relations of $Fe_{0.8}Ni_{0.1}Si_{0.1}$ at Earth's Core conditions:* **C Zhou**, V V Dobrosavljevic, D Zhang, W Sturhahn, J Zhao, T Toellner, S Chariton, V Prakapenka, J M Jackson

1942306 *The Fe-S-H Liquidus Phase Diagram at Planetary Core Pressures:* **S Mita**, N Sakamoto, K Hirose, S Yokoo, S Miwa

1909724 *Thermochemical geodynamos with heterogeneous core-mantle boundary heat flux:* **S Naskar**, J E Mound, C J Davies, A Clarke

1913064 *Transient Variations in Earth's Outer Core From Observations of Nuclear-Test PKP Waves:* **Y Zhou**

1900177 *Applications of anelastic models to the mantle wedge beneath the Alaska Peninsula, insights into the along-strike variations in sub-arc melting.:* **Z Zhang**, S S Wei

1944907 *Constraining the Effect of Pressure on Transient Dislocation-Accommodated Deformation:* **T Breithaupt**, L N Hansen, J White, D Hein, E Ela, D Wallis

1981541 *Distinguishing between the roles of grain-boundary impurities and incipient melting in seismic wave attenuation and dispersion in synthetic dunite:* **U Faul**, H Kasaundhan, J Yang, T Qu, K Hayward, H Miller, K Marquardt, I Jackson

1860685 *Grain-scale models of transient diffusion creep:* **J F Rudge**

1925624 *Linear Rheology of the Deep Upper Mantle Revealed by Postseismic Deformation Following the 2018 M_w 8.2 Fiji Deep Earthquake:* **C Zhang**, S Park

1898991 *Rheological Heterogeneity and Dynamics of Oceanic Asthenosphere from Seismic Attenuation:* **J B Russell**, C A Dalton, C Havlin, B K Holtzman, Z Eilon, J B Gaherty, J Phillips, A Hariharan, D W Forsyth

1963689 *Structure of the Antarctic Uppermost Mantle: Regional-Scale Rayleigh Phase Velocity and Attenuation:* **H E Krueger**, C A Dalton, K M Fischer, J B Russell

TECTONOPHYSICS

250362
Beyond the Trenches: Intraplate Deformation in the Hinterland of Compressive Plate Boundaries *(joint with G, NH, S, V)*

Conveners: **William Levandowski**, Tetra Tech; **Sungho Lee**, Seoul National University; **Jongwon Han**, Korea Institute of Geoscience and Mineral Resources (KIGAM)

1871516 *A New Opportunity for Intraplate Studies: Automated Deep Learning-Driven Earthquake Characterization in the Southern Korean Peninsula:* **J Han**, S Kim, D H Sheen

1967683 *Comparison of Recent Moderate-sized Earthquakes in Eastern North America and the Korean Peninsula: New Paradigm 2.0 for Intraplate Earthquakes:* **W Y Kim**, W B Levandowski, E Beauce, D P Schaff

1962881 *Comprehensive Analysis of Microseismicity in South Carolina's Middleton Place–Summerville Seismic Zone from a 4-Year Temporary Seismic Deployment:* **O Adeboboye**, Z Peng, C Chai, M Maceira, M Neves, S C Jaume

1888995 *Deep slabs and Weak Subduction Boundaries Govern Crustal Stress in the Korean Peninsula:* **S Lee**, C Cho, Y Kim, Y Kwon, E Choi, PhD

248094
Characteristics of faults and fault zones and their influence on earthquake physics: observations, models, and experiments *(joint with MR, S)*

Conveners: **James Atterholt**, United States Geological Survey; **Travis Alongi**, USGS Earthquake Science Center; **Yihe Huang**, Earth and Environmental Sciences Department, University of Michigan; **Monica Barbery**, Texas A&M University

1921677 *Major strike-slip fault separating the Indian Shield and the Bengal Basin: Implications for seismic hazards:* **A Ahsan**, M A Uge, B Boston, W Hames, E L Chamberlain, F Hossain, A K Alam

1850380 *Active Tectonics of Eastern Tianshan and Their Role in Accommodating Deformation of the Tianshan Mountains in the Late Quaternary:* **C Li**, K Sun, G Ren Dr

1987957 *Using teleseismic body-wave attenuation and velocity tomography to infer the thermodynamic state of the upper mantle:* **C Salas**, Z Eilon

1971503 *Dynamics of Central and Eastern US: Interplay between Local and Far-Field Forces on Surface Deformation:* **A Saxena**, Y Jin, E Choi, PhD

1948542 *Far-field stress influences on intraplate fault slip potential in South Korea, Alaska, and the continental U.S.:* **W B Levandowski**, S Lee, J Han

2000191 *Geophysical Evaluations of Subtle Scarps on Young Geomorphic Surfaces Adjoining Southern Crowley's Ridge, New Madrid Seismic Zone, USA.:* **A Bhandari**, R Counts, S Parajuli

1991781 *Identification of subsurface fault planes of the Miryang Fault in the southeastern Korean Peninsula based on earthquake spatial distribution and focal mechanisms:* **D Heo**, T S Kang, S Kim, J Rhie

2000459 *Integrating geochronology and geophysics to understand Quaternary slip on the Adams Mill Fault: A hidden seismic hazard in Washington, D.C.?:* **R Counts**

2001086 *New insights into seismogenic structures and their driving mechanisms in Eastern North America using machine-learning-enhanced earthquake detection:* **E Beauce**, F Waldhauser, F Kolawole, D P Schaff, W Y Kim, K Wang, W Zhu

1904972 *Progressively younger remagnetizations record the advancing deformation of a subduction-related orogenic belt in South China:* **Y Zhang**, A R Muxworthy, D Jia

1876317 *Spatiotemporal Evolution of the Crustal Stress Field in the Korean Peninsula After the 2011 Mw 9.0 Tohoku-Oki Megathrust Earthquake:* **D G KIM**, T K Hong, J Lee, J Lee, S Park, H Yang

1898935 *Correlation Between Anisotropic Fabric Strength and Fault Creep Suggests Fault Behavior is Driven by Rock Type:* **V Schulte-Pelkum**, D L Kilb, T W Becker

1885724 *Detecting Urban Earthquakes with the San Fernando Valley Nodal Array and Machine Learning:* **J Omojola**, P Persaud

1897348 *Fingerprints of seismic rupture in the Elsinore fault damage zone: Coyote Mountains, Southern California:* **W A Griffith**, H Gaston, T K Rockwell, A Fullriede

1922532 *Frictional Behavior and Shear Localization in Experiments with Realistic Fault Roughness Bounding Gouge Layer:* **J Baumgarte**, O Wickenhaeuser, J D Kirkpatrick, K Okamoto, H M Savage

1866770 *Geometrical Properties of Seismicity and Fault Zone Structure of Strike-slip Faults in California:* **R Shrestha**, Z E Ross

1895735 *Ground Motion Variability Observed in the 2019 Ridgecrest Earthquake Sequence:* **E S Cochran**, G A Parker, S E Minson, A Baltay

1933363 *High-Resolution Atmospheric Methane Measurements from Vehicle-Based Surveys Reveal Fault Zone Fluid Pathways:* **M Shimo**, N Masakazu, H Yagi, S Yokoi Dr, T Tokunaga

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1877603 *Insights from a single-asperity lab-fault experiment:* **G Mollon**, A Clerc, A Ferrieux, L Lafarge, A Saulot

1969458 *Links Between Fault Mineralogy, Fabric, Friction, and Rupture Behavior of the M_W 7.6 Elbistan Earthquake, Türkiye:* **L Garcia**, A K Ault, A M Rodriguez Padilla, M Balkaya, C J Howlett, S Shreedharan, D L Newell, S O Akciz, C Zabcı, G Hirth

1984845 *Lithology or Geometry? Frictional properties of fault gouges in the northern transition region of the San Andreas Fault highlight the importance of local effective stress:* **J E Krogh**, H M Savage, E Brodsky, C Ulrich, Y Guglielmi, J Williams

1866374 *Microstructural analysis of deformation bands from the San Andreas fault damage zone near Parkfield, California:* **A Kroha**, S Titus

1933748 *Modeling Dynamic Responses of Precariously Balanced Rocks (PBRs) in Virtual Space:* **F E Garcia**, T L Pratt, E Palmer

1978468 *Numerical Investigation of Temporal Changes in Repeating Earthquake Behavior Before and After the 2011 Tohoku-Oki Earthquake:* **Y Watanabe**, Y Kaneko, K Yoshida

1917988 *Rate-state friction is insufficient to explain co and interseismic deformation associated with repeated caldera collapse earthquakes:* **R Ursu**, J Crozier, P Segall

251396
Continental to Oceanic Rifts: Formation and Evolution (cosponsored by JpGU: Japan Geoscience Union) *(joint with S, V)*

Conveners: **Jonathan Snow**, University of Houston; **Cynthia Ebinger**, Tulane University of Louisiana; **Wendy Nelson**, Towson University; **Martin Musila**, Tulane University of Louisiana; **Keneni Godana**, University of California Santa Barbara

1938312 *Reproducing the Spatial Variations of Surface Displacement for the Past Surface Rupturing Earthquake based on the Dynamic Rupture Simulation:* **K Tsuda**, J Miyakoshi, N Iwata, S Tane

1858378 *Seismic Anisotropy Tracks Fault Zone Response to Hydrological Loading:* **J T Bryan**, W B Frank, P Audet

1900193 *Shallow Geomaterial Properties Influence Shear Zone Width During Surface-Rupturing Strike-Slip Earthquakes:* **C W Baden**, J M Nevitt, F E Garcia, T L Ericksen, R C Turner

1946169 *Shear Heating as a Driver of Fluid Overpressure and Slip Potential in Shallow-Crustal Faults:* **S Bhuyan**, S Biswas, A Basak

1886002 *Slip-Pulses Drive Frictional Motion of Dissimilar Materials:* **Y Poles**, S Shi, J Fineberg

1864624 *Soil Gas as a Tracer of Subsurface Faults and Fluid Pathways: A Case Study from the Bojano Basin (Italy) within the MOSAICMO project:* **A Sciarra**, L Ruggiero, M D Barberio, L Pizzino, E Benà, L Scepi, G Ciotoli

1867051 *Stick-Slip Behavior of Fault under Variable Normal Stress: Insight from Laboratory Shear Test and Physical Friction Model:* **K Tao**, H Konietzky

1925844 *Stress fields near a heterogeneous laboratory fault and the implications for earthquake propagation and arrest:* **Y Yang**, G C Mclaskey

1939339 *Supershear Rupture Sustained Through a Thick Fault Zone in the 2025 M_w 7.8 Myanmar Earthquake:* **S Wei**, X WANG, H Zeng, C Li, F Z Ma, Y Huang, Q Shi, P Maung Maung, K M Oo, H Chen, Y M MIN Htwe, M Lv, L Dal Zilio, L Chen, J Liao, S Yang, Y Bai, J Zhang, X Shan

1930362 *Tracking Fault Zone Evolution across Seismic Cycles at the Gofar Transform Fault, East Pacific Rise:* **Y Yang**, W Fan, J McGuire, M D Behn, J M Warren, J A Collins, M S Boettcher

1889784 *Widespread Non-Double-Couple Earthquake Sources Reveal Fluid-Driven Rupture in the Western Tottori Region, Japan:* **J Zhang**, A Kato, W Wang, S Sakai, S Matsumoto, Y Ito

1893767 *A Two-Stage Model for Extension in the Northern Rio Grande Rift: From Localized Ductile Shear Coeval with Magmatism to Regional-Scale Brittle Faulting and Exhumation:* **S Malavarca**, J Singleton, M C Sitar, M Primus, J M Rahl, M Wong, H Broeder, D Frawley

1896727 *Active Source Seismic Data Reveals Syn-Rift Volcanic Variability in the Blake Plateau:* **C Brandl**, A Becel, H J Van Avendonk, N L Bangs

1994228 *Basement Inheritance Impact on Rift Evolution and Rifted Margin Formation.:* **C Castagné**, G Peron-Pinvidic, G Manatschal

1928601 *Continental breakup along the eastern United States margin and the limited role of CAMP magmatism:* **H J Van Avendonk**, B Shuck, C Brandl, L L Worthington, A Becel, M B Magnani, D J Shillington, D Lizarralde

1891400 *Crustal Structure and Hyperextension in the Porcupine Basin, Offshore Western Ireland: Insights from Multichannel Seismic Data:* **I M Yusuf**, S M Jones, T J Reston, T Funck, J R Hopper, B M O'Reilly

1934232 *Crustal Structure Around the Northern Western Branch of the East African Rift System from Receiver Function Analysis:* **A Kabanda**, S van der Lee, D S Stamps, PhD, E A Atekwana, R L Evans, M H Taylor, A B Katumwehe, E A Atekwana, E A Njinju, F Tugume, J M Kiberu, L Xue, P H Barry, F Kolawole, A Kwagalakwe, H Mwongyera, D Mongovin, J Nakajigo, J Nyago, L Kabenge, B Nagudi, O I Abbey, H Yip, S Fishwick, S A Halldorsson, G Rumpker

1977666 *Dike induced Coulomb stress triggers on intrabasinal faults: Kivu Rift, Africa.:* **C Kalugana**, C J Ebinger, P SARMA, MSc, C Wauthier, A Kyambikwa, A V Newman

1935652 *Geodynamic modeling of sedimentary basin formation during asymmetric continental rifting:* **J Chang**, M S Jang, B D So

1851559 *How Salt Deposits Affect Seismic Wave Behavior in Rift Basins:* **R Younis**, H Khalil

1883220 *Incipient ocean spreading beneath the Arabian shield:* **I M M Artemieva**, H Yang, H Thybo

1866486 *Influence of Pre-Existing Structures and Crustal Thickness Variations on the Evolution of the Northern Western Branch of the East African Rift:* **L Xue**, E A Atekwana, D S Stamps, PhD, S van der Lee, F Kolawole, R L Evans, A B Katumwehe, E A Njinju, A Kwagalakwe, A Kabanda

1890138 *Interplay of Early Rifting and Sedimentary Filling in the 250-Myr Evolution of the Levant Basin, a Tethyan Remnant:* **Y Sagy**, Z Gvirtzman

1871564 *Intrusions, Faults, and Fluid Flow in a Back-Arc Rift System: Seismic Constraints from the Yaeyama Rift, the Southern Okinawa Trough:* **R Arai**, A Misawa, M Otsubo, M Kinoshita, S Ishino, A Yamamoto

1890272 *Inversion by Intrusion: Magma-Driven Shortening in the Turkana Rift (East Africa):* **A A A Muluneh, PhD**, C Morley, S Brune, S Liu, A Glerum, R Gassmoeller, M Perez-Gussinye

1863168 *Investigating a Series of Propagation Features on the Kolbeinsey Ridge by Integrating Multiple Geophysical Datasets:* **E Stowell**, I Filina

1909745 *Linking Ophiolites to Rift and Oceanic Domains: the North Calabria Unit Test Case:* **G Frasca**, G Manatschal

1863172 *New Insights into Magma-Poor Rifting from the DRIAR Project: Dry Rifting in the Albertine-Rhino Graben, Uganda:* **D S Stamps, PhD**, E A Atekwana, S van der Lee, R L Evans, M H Taylor, A B Katumwehe, E A Atekwana, E A Njinju, F Tugume, J M Kiberu, L Xue, P H Barry, F Kolawole, A Kwagalakwe, H Mwongyera, D Mongovin, A Kabanda, J Nakajigo, J Nyago, L Kabenge, B Nagudi, O Abbey, H Yip, S Fishwick, S A Halldorsson, G Rumpker

1941802 *Numerical Modeling of the Antarctic-Australian Conjugate Rifted Margins: Tectono-Thermal Evolution and Breakup Mechanisms:* **Q Zhang**, M Perez-Gussinye

1944492 *Numerically modelling carbonated melting in an evolving continental rift:* **D J Neuharth**, S Brune, J Dannberg, A Glerum

1905116 *On the Mechanism of Sill Emplacement in Sedimented Rift Environments: Petrophysical Properties Constraints from the Guaymas Basin, Gulf of California:* **K Fuentes**, R Negrete-Aranda, J Contreras, F Neumann, I Yarbuh, M E Peña

1921162 *Plume-driven rifting around a craton without far-field extensional forces: Initiation and asymmetric development of double rifts:* **K C Silva**, E Choi, PhD

1896782 *Preliminary insights into faulting and fluid-rock interactions on the Iberia-Newfoundland margin using low-temperature thermochronology:* **E H H G Cooperdock**, R Tibbetts, M P Eddy, R Miller

1856723 *Rapid Crustal Transit of Magmas Beneath the Main Ethiopian Rift from Olivine Diffusion Chronometry:* **K Wong**, D J Morgan, M Edmonds, D J Ferguson, A Z Tadesse, G Yirgu, M Murphy Quinlan, T J Wright

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1972547 *Rift zone structures highly oblique to shallow mantle strain fabric delineated in mantle shear wave splitting patterns:* **C J Ebinger**, T Niyetegeka, A Kyambikwa

1951219 *Roles of Magmatic Modification and Lithospheric Heterogeneity in Rifting Processes:* **M Musila**, P Bedrosian, K Selway, C J Ebinger, F Civilini, I D Bastow, R Kounoudis, M Z Ruiz

1908491 *Seismostratigraphy Evidence Across Northwind Ridge Prior to the Opening Amerasia Basin, Arctic Ocean:* **W Priyanto**, B Coakley

1886401 *Similar Geometric and Volumetric Complexities for Ancient and Modern Rifts:* **C A Stein**, S Stein

1956782 *Simulation of 3D Magma Migration and Oceanic Curst Formation During Continental Rifting:* **C J Shyu**, L Lavier

1926037 *Spinel Zonation and Mantle Deformation During Oceanic Backarc Rift Initiation, Nankaido Megamullions:* **S Seale**, J E Snow, M P Loocke, Y Ohara

1969918 *Tectonic and Volcanic Controls on Seafloor Morphology from an Extensional Collapsing Mountain Belt to Back-arc Basin offshore NE Taiwan:* **C C Chung**, H H Hsu, J H Chang, T T Chen, A Mirza, E Y C Yang, S C Chen, Y J Lin, L Chen

1906181 *Tectonic Evolution of the Eastern Australia Margin: Integrating Cretaceous and Paleogene Extension in the Coral Sea:* **L Magri**, M Seton, R Carey, S Williams, J M Whittaker

1924528 *The Importance of Past Rifting in Large Igneous Province and Magmatic Rift Development: Evidence from the Turkana Depression:* **I D Bastow**, R Kounoudis, C J Ebinger, M Musila, S D B Goes, L Ville, A A Wondem, M S Miller, P Zhou, A Boyce

250202
Deciphering Fault Slip Dynamics and Earthquake Nucleation Mechanisms in Shallow Crustal Settings through a Physicochemical Perspective *(joint with NH, S, V)*

Conveners: **Piyal Halder**, Birbal Sahni Institute of Palaeosciences (DST, Govt. of India); **Francesca Cinti**, Istituto Nazionale di Geofisica e Vulcanologia; **Shreya Arora**, Bates College; **Anupam Sharma**, Birbal Sahni Institute of Palaeosciences (DST, Govt. of India)

1848629 *The Turkana Depression's Moho and Lithosphere-Asthenosphere Boundary from S-to-P Receiver Functions: Implications for the Development of Rifting and Magmatism in Pre-rifted Lithosphere:* **L Ville**, I D Bastow, M S Miller, B Renwick, R Kounoudis, C J Ebinger

1916854 *Tomographic Imaging of the Vøring Plateau and Vøring Spur: Appraising Crustal Interpretations:* **A N Mayeesha**, A Ashraf, I Filina

1965457 *Understanding Variability in Seismic Attenuation Across Iceland:* **B Shallon**, H A Ford, J S Byrnes, J Garcia, G Clark

1934366 *What Makes Marine Magnetic Anomalies during Back-Arc Basin Evolution?: Focus on Tonga-Kermadec Subduction Zone:* **M Kim**, N Seama, H Choe

1923852 *An EBSD Investigation of the Sanbagawa Schist: Deformation Mechanisms, Slip Systems, and Differential Stress at the Downdip Limit of the Seismogenic Zone:* **E Jakovac**, A Smye, D M Fisher

1853078 *STUDY OF A NEW CRUSTAL STRESS MEASUREMENT METHOD POSSIBLE IN A VERTICAL DOWNHOLE FOR SEDIMENTARY SOFT ROCKS (PART 2):* **T Yokoyama**

250034
Deep Earth Exploration: Structure, Composition, and Processes in the Lithosphere *(joint with DI, S)*

Conveners: **Shuwen Dong**, Nanjing University; **Larry Brown**, Cornell University; **Hans Thybo**, Chinese Academy of Geological Sciences; **Lijun Liu**, University of Illinois at Urbana Champaign; **Lijun Liu**, University of Illinois at Urbana Champaign

1988284 *A new generation of tomographic models the lithosphere and upper mantle of East Asia: model uncertainties and ways forward:* **X Song**, H Zhu

1947113 *A new model for the thickness and thermal structure of the African lithosphere: implications for the distributions of kimberlites, carbonatites and critical mineral deposits:* **S Sui**, Y Xu, S Lebedev, E Bowman, J Fullea, S A Gibson

1910492 *Assessing Basement Depth and Density Contrast in Sedimentary Basins via Bayesian Gravity Inversion:* **A R Bansal**, M S Chauhan

1905294 *Crustal Architecture and Seismicity of the Kachchh Rift Basin, North-western India: Insights from Wide-Angle Seismic Profiling:* **B Mandal**, L Kolli, V R Vaidya, K P, P Asssrs, S Chopra, P Kumar

1945167 *Crustal architecture of Northeast India based on the gravity gradient inversion approach:* **P Pathak**, J Ebbing, P Haas, W K Mohanty

1930117 *Crustal Domains and Lithospheric Nature of the Tyrrhenian Basin: Insights from Integrated Analysis of Seismic, Potential Fields and Scientific Drilling.:* **T Onyebum**, I Filina, F Loreto

1906002 *Crustal structure estimation in the Kumaun Himalayas using gravity modeling:* **S Yadav**, M S Chauhan, A R Bansal, B N Rao

1958714 *Deciphering Archean Crustal Growth with WA Array-Boosted Receiver Functions:* **H Yuan**

1920507 *Depth and Structure of the Los Angeles Basin Revealed by Gravity-Constrained Receiver Functions:* **V Villa**, R W Clayton

1933801 *Earth CT: Integrating Deep Earth Profiles to Make Big Cross-Continental Transects via Open Sciences and International Cooperation:* **Q Zhou**, S Dong, H Thybo, X Chen, L D Brown

1990559 *Enhanced Probabilistic Joint Inversion: Integrating Magnetotelluric Data with Multi-Geophysical Observations for Subsurface Structure Imaging:* **L Lei**, H Dong, J C Afonso, S Jin, W Wei

1955363 *Geodynamic Lessons From Ultra-Deep and Ultra-Hot Boreholes:* **J van Wijk**, P J Ball, E Schill, D D Coblentz, M Ma

1981848 *Geophysical investigations of deep hydrothermal systems and structure beneath the Toledo and Valles Calderas in northern New Mexico:* **X Mei**, A Cuomo, D Lukens, G Dempster, H Russo, M Bakhtalieva, J Peacock, T Earney, S Kelley

1998064 *Gravity Modeling of the Eastern Fold Belt of the Bengal Basin:* **J Hansenbury**, M I Alam, A Uddin

1864177 *Interpretation of 2D, 3D and borehole seismic data at the COSC-2 drill site, central Sweden, based upon geophysical logs and drill cores:* **C Juhlin**, L Bräunig, S Buske, R Giese, B S G Almqvist

1938284 *Investigating Continental Lithospheric Structure, Destabilization, and Deformation Mechanisms Using Multi-parameter Seismic Models: Insights from North America and Europe:* **H Zhu**

1871797 *Lithospheric Architecture and Subduction Processes in the Indo-Burma Region from Sp Receiver Function Imaging:* **B Sadler**, L Tlau, J Pulliam, Z Ralte, S Sailo

1912274 *Mantle Electrical Conductivity Structure of the European Continent Based on Diurnal Variation Signal from Ground Geomagnetic Observatories:* **Y Daolin**, X Shan, C Chaojian, X Hu

1956939 *Passive Array for Critical Minerals on the Island of Newfoundland (PACMIN):* **M D Long**, J K Welford, F A Darbyshire

249894
Deformation mechanisms in Earth's continental crust: Building on the contributions of Jan Tullis
(joint with MR)

Conveners: **Greg Hirth**, Brown University; **Caleb Holyoke**, Organization Not Listed; **Nicholas Beeler**, USGS Cascades Volcano Observatory; **Keishi Okazaki**, Brown University

1906253 *Amphibole Fabric Evolution in the Yeoncheon Amphibolites, South Korea: Implications for Amphibole Deformation Mechanisms:* **S Jung**, J Kim, H Jung

1959533 *Aspect Ratio of Recrystallized Quartz Grains as a Quantitative Strain Rate Indicator: Optical vs. EBSD-Based Characterization of Steady-State Microstructures:* **K Nakakoji**, I Shimizu, K Michibayashi

1918123 *Preliminary study on the East Asia convergence tectonic system with significant lithospheric change and shallow responses during the Mesozoic:* **X Chen**, S Dong, Y Zhang, W Shi, Q Zhou, W Ding, Y Wang, S Xu

1890270 *Role of Eclogites from Cratonisation to the Phanerozoic Explosion of Onshore Life:* **H Thybo**, B Xia, G Wang, I M M Artemieva

1970064 *Secular Evolution of Continental Crust, Archean to Present:* **W D Mooney**

1888238 *Solid-liquid two phase flow modeling to investigate the formation and propagation of deep crustal magma:* **Y Chen**, Z H Li, K Tang, Y Shi

1933423 *Structures and Leucogranites in the Eastern Himalayan Orogen from Reprocessed INDEPTH-I Deep Seismic Reflection Profile:* **H Li Sr**, R Gao, Z Lu, X Huang, R Carbonell

1999017 *Study of the deep structure of the eastern portion of the Amazonian Craton using seismological methods:* **M P Rocha**, E V C Tadeu, A V D S Nascimento, P A D Azevedo, G Affonso, C Trindade, M Assumpcao, R A Fuck, M An, M Feng

1949362 *Tectonic Origin of Yellowstone's Translithospheric Magma Plumbing System:* **Z Cao**, L Liu, B Wan, L Chen, C Lundstrom, Y Wang

1905011 *The funnel-shaped crustal architecture in central Tibet and its insights into the progression of lithospheric removal:* **Z Lu**, R Gao, X Guo, W LI, X Xu, Z Shi

1936025 *Thermal modeling of subduction zones with various slab geometries using Gmsh-Firedrake:* **M Seong**, K Lee, H S Kim, B D So

1919587 *Assessment of Flow Laws for Quartz-Rich Rocks at Conditions Near the Brittle-Plastic Transition.:* **G Hirth**, D M Fisher

1907596 *Characterizing quartz rheology through load-stepping experiments, from diffusion to dislocation creep:* **L Tokle**, G Hirth, W M Behr

1932165 *Classical molecular dynamics study of dislocation core, kinks, and jogs in α -quartz:* **I Funahashi**, R Kobayashi, O Satoshi, K Kawai

1940254 *Coupled crystal plastic and dissolution-precipitation deformation processes in amphibole (lower crust HT mylonite): integration of field mapping (Carg project), microstructural analysis, crystal preferred orientation (CPO) and rheological modelling:* **M Maino**, S Corvo, S Piazolo, L Casini, A Langone

1924879 *Crustal strength profiles, shear heating, and ductile shear zone width:* **N M Beeler**, H Shabtian, G Hirth, S Detweiler

1849464 *Crystal Plasticity of Perthitic K, Na Feldspar: Mechanical Anisotropy of Exsolved Single Crystals as Composites:* **A Prakash**, C Martin, M Ryan, A K Kronenberg

1848527 *Deformation Mechanism of Magnetite in a Tectonically Deformed BIF – A study of Nanostructures, Dislocation Density and Strain Based on SEM-EBSD and TEM Analyses:* **M A Mamtani**, A Kontny, C Hilgers

1985535 *Deformation Processes of Quartz During the Seismic Cycle at the Frictional-to-Viscous Transition in a Seismogenic Bimaterial Shear Zone:* **W J Song**, S Johnson, B R Song, W Sullivan, C C Gerbi

1852314 *Deformation-driven Distribution of OH at the Nanoscale:* **S Corvo**, Y S Chen, N Holmes, M Forster, G Yaxley, M Maino, A Langone, J Cairney, S Piazolo

1921389 *EBSD-Based Calibration of Differential Stress from Experimentally Deformed Quartz Using the Perimeter-Area Fractal Dimension:* **S Johnson**, W J Song, C C Gerbi, E Anderson, S Vel, D J Prior, M Stipp

1881423 *Evaluating the application of electron backscatter diffraction (EBSD) to calcite twin paleopiezometry:* **A J Cross**, H Wilkinson, E Rybacki, J B Evans, M Pec

1909426 *Evaluating the Role of Dauphiné Twin Boundaries in the Deformation Mechanisms of Quartz: Insights from Electron Backscatter Diffraction Analysis and Full-Field Numerical Simulations:* **S Dey**, A Griera, S Gupta

1974376 *Experimental Study of Chlorite Rheology at Subduction Zone Conditions:* **R Perazzo**, H Shabtian, G Hirth

1887567 *Frictional Behavior of Carbonate-Rich Gouges from the Hikurangi, Costa Rica, and Atacama Subduction Margins:* **O Wickenhaeuser**, H M Savage

1969974 *Frictional properties and stability of quartz gouge at elevated temperatures:* **H Wiesman**, L N Hansen, K Okamoto, H M Savage, A G Ryan

1909286 *Grain Growth and Creep in Bicontinuous Polycrystalline Rocks: Different Roles of Diffusion at Homo- and Hetero-phase Boundaries:* **S Jiang**, T Hiraga

246761
Earthquake Interaction and Static & Dynamic Coulomb Stress Triggering *(joint with G, NH, S)*

Conveners: **Ross Stein**, Temblor, Inc.; **Shinji Toda**, Tohoku University; **Jian Lin**, Woods Hole Oceanographic Institution; **Volkan Sevilgen**, Temblor, Inc.; **Chris Rollins**, California Institute of Technology

1888855 *Complex Multiplet Sequences Around the Explorer Microplate, Canada:* **L Yakuden**, E Nissen, H Kao

2003644 *Improved Stress Accuracy in Solid-Medium Deformation Experiments Using a Kumazawa-Type Apparatus and a New Glass Cell:* **I Shimizu**, T Nagai

1911765 *Initiated Weakening in High-Strain Rock Driven by Rheological Bridge Zone:* **H Feng**, C C Gerbi, S Johnson, A M Cruz-Uribe, M Yates

1895861 *Measuring Stress In High Pressure Deformation Experiments With High Speed Fiber-Optics:* **E Burdette**, G Hirth, S Detweiler

1969217 *Melt-Induced Strengthening of Quartzites Due to Dehydration of Quartz Grains:* **C W Holyoke III**, M Razo, K Wehner, K H Mahan

1924897 *Observation of Partial Melt-Induced Seismicity in Gneisses During Low Differential Stress Load Relaxation Experiments:* **H O OGhaffari, PhD**, C W Holyoke III, C Seltzer, M Pec

1974469 *Physical Properties and Microstructures of Plutonic Rocks from the Ashland Pluton, Klamath Mountains:* **D Mooney**, H Kitajima, R Hugo, A McNaughton

1861033 *Pressure Solution, Fluid Flow, and Healing of the Subduction Interface:* **D M Fisher**, J N Hooker, G Hirth, A Smye, L Youngquist

1967676 *Pressure-Sensitive Deformation in Phyllosilicates from High-Pressure Experiments:* **C Seyler**, L N Hansen

1933021 *Reading the record of calcic-amphibole textural data for deformation mechanisms:* **C Condit**, E Miranda, M Pec, J N Ott

1889651 *Rheological Properties of Pelitic Schists at High Temperature and Pressure in the Nankai Trough:* **S Yagi**, K Okazaki

1983667 *Strain Localization Mechanisms: Insights from the Santa Rosa Mylonite Zone in Southern California:* **A Arnold**, R Gottardi

1988004 *The Influence of Water-Related Processes on Natural Quartz Deformation:* **T Adams**, R Gottardi

1925551 *Weak Mechanical Anisotropy of Monoclinic Potassium Feldspar: Multiple Slip Systems of Sanidine and their Relative Lattice Resistances:* **M Ryan**, A Prakash, A K Kronenberg

1883106 *Coseismic deformation and seismic activities associated with 2025 Mw7.7 Myanmar earthquake:* **S Yang**, J Lin, K Wang, X Xu, X Wang

1984747 *Coseismic Stress Field Perturbations from the 1999 Chi-Chi and 2024 Hualien Earthquakes:* **R Wang**, H Houston, Y Hsu

1863260 *Dynamic triggering of earthquakes in Coso and Ridgecrest, California:* **Y Hsu**, X Meng, Y Ben-Zion

1976864 *Dynamic Triggering of Earthquakes in Costa Rica:* **S Hajaji**, E Chaves

1885351 *Introducing Coulomb 4.0: Enhanced graphic-rich stress interaction and deformation software for research and teaching of earthquakes and volcanoes:* **K Yoshizawa**, S Toda, R S Stein, V Sevilgen, J Lin, K Leptokaropoulos

1879354 *Statistical Properties of Early Aftershocks Following Moderate-size Earthquakes in the Central and Eastern United States:* **C Ding**, Z Peng, J Zhuang, X Si

1872962 *Stress-Mediated Multi-Fault Rupture Dynamics of the 2023 Kahramanmaraş Earthquake Sequence, Türkiye: Implications for Seismic Hazard in Complex Continental Fault Systems:* **S S Nalbant**, F Uzunca, I Main, M Utkucu, H Durmus

1905558 *Strong Fault Interaction in Double-Vergence Structure: Lessons From the 2022 Yuli Earthquake and the 2022 Chihshang Earthquake, Eastern Taiwan:* **Y Ishimaru**, Y Takada, K E Ching, W L Chang

253360
Francis Birch Lecture

Conveners: **Lisa McNeill**, University of Southampton; **Lisa McNeill**, University of Southampton; **Nadia Lapusta**, California Institute of Technology

251038
From fault blocks to exaflops: Earthquake slip from grain scale to plate boundaries *(joint with MR, NH, S)*

Conveners: **Thomas Mitchell**, University College London; **Rebecca Harrington**, McGill University; **Elizabeth Cochran**, Organization Not Listed; **Alice-Agnes Gabriel**, Ludwig-Maximilians-Universität München

1958069 *Combined Experimental and Numerical Study of Earthquake Rupture Induced by Fluid Injection: Effect of Fault Healing:* **M Abdelmeguid**, V Rubino, N Lapusta, A Rosakis

1889069 *Effects of Fault Geometrical Irregularity and Initial Damage on Fracture Energy of Earthquakes:* **A Sagy**, V Lyakhovsky, D Morad, Y H Hatzor, I Kurzon

1980791 *Elastic Contrast, Rupture Directivity, and Damage Asymmetry in an Anisotropic Bimaterial Strike-Slip Fault at Middle Crustal Depths:* **B R Song**, W J Song, S Johnson, C C Gerbi, S Vel

1938169 *Fracture energy of earthquakes scales linearly with slip across ten orders of magnitude:* **S Watanabe**, K Masuda, Y Kaneko

1979796 *The 2023 Herat, Afghanistan Quadruplet — Sequential Rupture of Four M6 Earthquakes Due to Fault Segmentation:* **J Braunmiller**, A Ghods

1889056 *Understanding the Fault Rupture Pattern Due to Stress Transfer from an Earthquake at the Puente Hills Fault in Southern California:* **A Olesh**, M I Alam

1895113 *Why are large earthquakes rarely overdue for faults globally?:* **V Mouslopoulou**, A Nicol Prof, A Howell, J Griffin

1856060 *Why Are the Ruptures Zones of Large Transform Earthquakes Longterm Seismicity Holes?:* **S Toda**, R S Stein

1847662 *Why Does the Solomon-Vanuatu Subduction Zone Host the Greatest Density of Earthquake Doublets and Tear Faults Worldwide?:* **Y Jiang**, R S Stein

1905852 *Influence of Hydrothermal Alteration on Coseismic Slip and Fault Zone Properties Within Distributed Fault Zones:* **Z D Smith**, R Yan, J M Nevitt, W A Griffith, K Materna, R Bürgmann, F Waligora

1899519 *Linking Fault Slip and Near-Surface Deformation on the Southern San Andreas Fault at Mecca Hills:* **A Kwagalakwe**, E L Evans, G Pantoja, A Gontz

1898850 *Off-Fault Deformation and Seismic Hazard: Insights into Variations Across Southern California's Strike-Slip Faults and Their Implications for Maximum Magnitude (Mmax):* **T K Rockwell**, W A Griffith, T M Mitchell

1976441 *Pseudo-Transient Solvers for Vertical Motions in Subduction Zone Earthquake Modelling:* **B van Amerongen**, A Koelzer, I Uralovich, Y van Dinther

1999891 *Stress Accumulation, Fault Slip, and Barrier-Controlled Earthquake Cycles at Gofar Transform Fault:* **J Gong**, W Fan, J McGuire, M D Behn, J M Warren, E C Roland, M S Boettcher, J A Collins, Y Liu

1984579 *Stress heterogeneity and seismicity patterns on geometrically complex faults:* **C Cattania**, Y Yin

1856142 *Understanding the Complexity of Fluid-Induced Microearthquake Ruptures: Insights from High-Resolution Observations and 3D Dynamic Modeling:* **E Tinti**, F Mosconi, M A Meier, G Poggiali, M Supino, V Gischig, A Pio Rinaldi, N Schliwa, A A Gabriel, F Massin, J F Clinton, L Scarabello, E Casarotti, F Amann, D Giardini, S Wiemer, M Cocco

249899
Geophysical Constraints on the Impacts of Fluids in Tectonic and Magmatic Processes in the Cascadia Subduction Zone *(joint with DI, G, S, V)*

Conveners: **Daniel Portner**, University of North Carolina at Chapel Hill; **Jonathan Delph**, University of Oregon; **Shuoshuo Han**, Lamont-Doherty Earth Observatory; **Michael Bostock**, The University of British Columbia

1879453 *Can magnetotelluric observations along subduction zone margins detect alterations of the fluid interconnection network in the mantle wedge near the slab interface due to pre-, syn- and post seismic event changes in the stress field?:* **A Schultz**, X Tu

1977682 *Effect of Confining Pressure on Reaction-Induced Fracture in the Mantle Wedge Corner:* **J McElwee**, I Wada, K Yoshida, H Shimizu, A Okamoto

247337
Lithospheric Structure and Evolution: Insights from High-Density Constraints and Multi-Dataset Approaches *(joint with P, S)*

Conveners: **Huaiyu Yuan**, Macquarie University; **Vadim Levin**, Rutgers University; **Klaus Gessner**, The University of Western Australia; **Liang Zhao**, Institute of Geology and Geophysics, Chinese Academy of Sciences

1876750 *Lithospheric Structure of the Southwestern Branch of the East African Rift: Implications for a Southwestward Transition from Mantle to Crustal Processes in Rifting:* **P O Konteh**, E A Njinju

1917173 *The 3D lithospheric structure of the North Tanzania Divergence from joint inversion of gravity and magnetic data with implications for decratonization of the Tanzanian Craton:* **E A Njinju**, E Ndip

1952687 *A billion years of tectonic activity recorded by the internal structure of the lithosphere in Southern Appalachians.:* **V L Levin**, A Mahanama, W Jackson

1905136 *A New Plate-Scale Model of the Conterminous US Reveals the Links Between Past and Present Tectonic Processes:* **Z Eilon**, B Brunsvik, A Hariharan, E M Golos, K M Fischer

1902775 *Building the Plate Boundary Structure of Northern California: Evidence and Implications of Transient Middle to Lower Crustal Flow:* **K A McKenzie**, K P Furlong, E Kirby, S Kummerfeldt

1992868 *Claimed lower-crustal and upper-mantle earthquakes in Tibet and California: where are they really?:* **A Gomez**, S L Klemperer, J Gong, K Zylstra

1974626 *Regional Seismic Attenuation Measurements from the Cascadia Subduction Zone:* **E Stipes**, H E Krueger

1847782 *Role of Pore Fluid Pressure in Affecting Megathrust Slip Behaviour: Relevance to Cascadia:* **K Wang**, J He, T Sun

1973822 *Structure of the Cascadia Margin Offshore Central Oregon from Multi-Scale Active-Source Seismic Imaging:* **H Jian**, J P Canales, N C Miller, S Han, B Boston, S M Carbotte

1983215 *The 2019-2023 Enhanced Earthquake Catalog: the Strategy to Achieve the Most Reliable Hypocenter for the Seismotectonics of the Mendocino Triple Junction:* **T T Y Lee**, J Gong

1918633 *The Seismic Structure of the Northern Cascadia Forearc from Ambient Noise Tomography and Radial Anisotropy..:* **M Hurtado**, J R Delph, B He, B Herr

1894896 *Complex deformation of India-Eurasia collision zone: Insights from Anisotropy, stress and strain rate:* **A Aashruti**, A Ghosh

1948782 *Controls on the Tibetan Plateau and lower-crustal eclogitization:* **S Cheng**, L Wen

1912026 *Crustal Composition Modeling from Seismic Observables for the Colorado Rocky Mountains:* **M Zheng, PhD**, V Schulte-Pelkum, A Sheehan, M Xu, Q Liu

1909322 *Crustal Density Structure of the Kohistan-Ladakh Arc Based on the Seismically Constrained Gravity Modelling:* **A Kumar Vishwakarma**, M Jakkampudi, S Rana, S R Gangumalla, V Kumar, R Munukutla

1915878 *Crustal Structure and Composition of East Cathaysia: Constraints from Fe-O-Hf Isotopes and Seismic Analyses.:* **C Zhu**, J Zhao, S Wu

2001939 *Density distribution in the crust and upper mantle of the Araçuaí Belt: insights from seismic, gravity, and magnetotelluric data:* **G S Marotta**, B Lima, M Queiroz

1937719 *Detachment Involved Deformation in the Santa Barbara System in NW Argentina Revealed by Seismicity and Receiver Functions:* **S S Mahanti**, J Bradford, E Kiser, S Beck, M Fernández, S Tauber, R C Porter, M Saez, G Ortiz, L Orosco, S Leon-Rios, V Reyes-Wagner, S W Roecker, D Comte

1890396 *Eclogite dripping and the origin of sub-Moho seismicity beneath southern Tibet.:* **X Song**, S L Klemperer, D Shi, X Liang, J Li

1999715 *Lg-wave Crustal Attenuation and Its Tectonic Implications for the Craton-Cordillera Transition:* **S Pankratz**, Y J Gu, Y Chen, W Sun

1861122 *Lg-Wave Transverse-Component High-Resolution Seismic Attenuation Tomography in Southeastern Margin of Tibetan Plateau:* **Q Cheng**, L Zhao, X B Xie, H Li, X He, Z X Yao

1953647 *Lithospheric Seismic Structure of the Anatolian Plate and its Implications for Plateau Uplift: Evidence From Multiple Geophysical Datasets:* **I D Bastow**, P Zhou, S D B Goes, R Kounoudis, C S S Ogden, Y Wang

1989956 *Lithospheric Strength and Thermal Structure of the East African Rift System: Implication for seismicity:* **R Mahatsente**, B Weise

1875412 *Lithospheric Structure Beneath the Cameroon Volcanic Line: Implications for the Melt Source:* **B C Ngu**, E A Njinju

1897970 *Lithospheric Structure of Southern Indian Shield with Special Emphasis on the Tectonic Evolution of the Western Ghats: Inference from an Integrated Geophysical Approach:* **Z N F K**, N P U, A Roy, A P

1992156 *On the deformation in the Tibetan Plateau:* **Y Tong**, X Wang, S Cheng, L Wen

1900963 *Rifting, Uplift and Volcanism in the Borborema Province of NE Brazil: Lessons From Passive-Source Imaging.:* **J Julià**, X Garcia

1878369 *Salt Extrusion Mechanisms and Subsurface Architecture of the Tazoult Diapir, High Atlas Morocco:* **G Hill**, C Castro, J D Martín-Martín, P Zavada, S Kovacikova, M El Getettafi, M Himi Benomar, J Mrlina, R Beranek, E Roots, F Amagar

1866524 *Seismic Attenuation Tomography and Lithosphere Rheology in the Eastern Margin of the Tibetan Plateau:* **L Zhao**, X B Xie, X He, R J Li, L Tong, L Zhong, Q Cheng, X Chang, Z X Yao

251496
New Horizons in Tectonics *(joint with DI, G, MR, S)*

Conveners: **Lisa McNeill**, University of Southampton; **Derek Neuharth**, ETH Zurich; **Alba Mar Rodriguez Padilla**, College of the Atlantic; **Sylvain Barbot**, Earth Observatory of Singapore; **Meritxell Colet**, Columbia University

1961062 *Complex Fault Architecture and Heterogeneous Stresses Profoundly Affect Earthquake Mechanics:* **G C Mclaskey**

1969242 *Does Fault Rheology Govern Shallow Slip Behavior in Continental Faults?:* **A K Ault**

1982003 *How does it happen? Integration of geophysics, modelling, and experiments with constraints from the real world - rocks - reveals subduction zone tectonic processes.:* **C B Condit**

1852643 *Seismic constraints on structural heterogeneity of the North American craton from margin to interior:* **X Yang**, H Li

1974094 *Seismic Evidence for Melt Infiltration in the Lower Lithosphere in the Southwestern United States:* **E M Golos**, K M Fischer, Z Eilon

1886546 *Surface Wave Constraints on Radial Anisotropy beneath Central Anatolia:* **K Gollamudi**, A Hariharan, Z Eilon

1860259 *Tectonic Deformation of the Northeastern Margin of the Tibetan Plateau Implied by Crustal Pg-wave Attenuation Tomography:* **L Zhong**, L Zhao, X B Xie, Z X Yao

1879109 *The 3D Crustal Structure of the Rio Grande Rift-Southern Basin & Range Transition and the Colorado Plateau from Joint Inversion of Gravity and Magnetic Data:* **D Agbamu**, E A Njinju

1947454 *The Tectonic Development of the Central African Plateau: New Insights from the Copper Basin Exploration Science (CuBES) Seismograph Network:* **R Kounoudis**, C S S Ogden, J M Kendall, C Chifwepa, S Fishwick, D Holwell, M C Daly

1860434 *Thermal Coupling and Decoupled between the Crust and Uppermost Mantle in SE Tibet Revealed by Pn-wave Attenuation Tomography:* **L Tong**, L Zhao, X B Xie, G Yang, Z X Yao

1846500 *Variations of Seismic Properties in the Continental Crust in Eastern North America:* **Z Cleghorn**, H Gao

1873852 *Pre-collisional Microplate Extension of the Bird's Head Peninsula, West Papua: Insights from 3D Analogue and 2D Numerical Modeling:* **N Mallia**, T N Santimano, E Gün, R Pysklywec

1873183 *Rheological Controls on Subduction Slab Tears and the Transient Surface Response:* **K Stevenson**, R Pysklywec, X Liu

1936078 *Tectonic pump as an upward elevator for microbes in the accretionary prism of subduction zones:* **Z Li**, S Barbot, K G Lloyd

1968621 *The long-term geodynamic legacy of continental rifting and breakup on Earth's surface and climate–biosphere system:* **T Gernon**, S Brune, T Hincks, J Braun, S M Jones, D Keir, A Glerum, A Cunningham

1980171 *Understanding Slow Slip : old questions, new observation tools, and emerging patterns:* **A Socquet**, M Radiguet, G Costantino, J Münchmeyer, Y Itoh, D Molina, D Marsan

1938274 *Who's in Charge Here? The Interdependent Relationship Between Lithosphere and Asthenosphere.:* **Z Eilon**, B Brunsvik, J B Russell, A Hariharan, C Salas, J B Gaherty, J Dannberg, R Gassmoeller, E M Golos, K M Fischer

247150
Orogenic Belts and Plateaus: Growth, Collapse, and Climate Interactions *(joint with EP, PP, S, V)*

Conveners: **Lin Li**, University of North Carolina at Charlotte; **Gilby Jepson**, University of Arizona; **John He**, University of Minnesota; **Eva Golos**, University of Wisconsin-Madison

1970995 *Calibration of Hydrogen Isotope Signatures in Surface Waters and Long-Chain n-Alkanes at the Drainage-Basin Scale: Case Studies from the Northern Tibetan Plateau:* **G Zhuang**

1888282 *Cenozoic lower crustal flow beneath the Qinling Orogen or not?:* **Y Zhang**

1895599 *Cenozoic Lower Crustal Viscosity Change and Its Role in Staged Uplift of Tibetan Plateau:* **X Xiong**, H Wu, Y Liu, N Xiong, K Wang

1997707 *Effects of Gravitational Collapse on High Topography and Laterally Varying Weak Lower Crust in the Western US:* **I Bromberg**, L M Flesch, W E Holt, A Bahadori, C M Calvelage

1966479 *Evolution of the South Tibetan Detachment System India (STDS) from Cambro–Ordovician Kurgiakh to Cenozoic Himalayan orogeny Dhauliganga Valley, NW Himalaya, India:* **G Deshmukh**, A K Jain, R Dixit, P K Mukherjee

1969633 *Extensional Collapse of the Wide Arizona Highland: A Mechanism for the Formation of Multiple MCCs:* **Y Wang**, W E Holt, T Rasbury, W Shen, H Wu, A Bahadori, C Seebeck

1980031 *Inboard Advance of Arc Magmatism Regulates Mountain Building in the Andes:* **T Capaldi**, B K Horton, F Fuentes, C Mackaman-Lofland, G Ortiz

1845014 *Middle Miocene (15–13 Ma) Onset of Strike-Slip Motion Along the Kunlun Fault and Implications for Stress Reorganization in the Tibetan Plateau:* **L Li**, P Gao, C Garzione, J Nie

1971267 *Paleogene uplift associated with Laramide crustal duplexing in southern Nevada and California, USA:* **M Odlum**, A V Zuza, T A Sihpol, T Lee, T Capaldi

1941313 *Pleistocene Accelerated Faulting and Orogeny in the Northern Red River Fault, Southeastern Tibetan Plateau: Evidence from Pseudotachylyte and U-Th Dating of Fault Rocks:* **Y Yan**, X Shi, K Zhu, X Liu, X Wang, Y Huang, R J Weldon

1975192 *Refinement of Continental Crust by an Orogenic Density Filter:* **B Z Klein**, A Smye

1961309 *Remagnetization of the Cretaceous Limestone in Northern Lhasa Block, Tibetan Plateau: the Result of Qiangtang–Lhasa or India–Asian Collision?:* **X Yang**, Y Zhang

1971474 *The Active Role of the Overriding Plate: How Internal Deformation Modulates Geodetic Observations and Controls Megathrust Hazard:* **E O Lindsey**, J H Chong, D Panda, B Oryan, M H Jaman, L Shen, M S Steckler

1868219 *The Effects of Flat Slab Removal on Continental Topography, Deformation, and Magmatism:* **A O'Keefe**, C A Currie

1897764 *The India-Asia Collision: Quantifying Outcrop and Thin-Section Crustal Shortening of the Eastern Tethyan Himalaya:* **K McFadden**, K Metcalf, D M Robinson, S Davis, Y Li, L Ding

1929585 *THE PRE-COLLISION CONFIGURATION OF NORTHERN GREATER INDIA AND POST-COLLISION CONTROLS ON HIMALAYAN DEFORMATION:* **D M Robinson**, Y Li, K Metcalf, L Ding

1890527 *Uplift of continental plateaux by crustal melting, underplating and eclogitization:* **H Thybo**, Z Zhou, G Wang, I M M Artemieva

1926263 *Using Stable Isotope and Clumped Isotope Analysis to Reconstruct Surface Uplift of the Altai Mountains.:* **G Sanchez Ortiz**, N Vaughan, R Bertoldo, D Meegan Kumar, G Bayasgalan, B Tsagaan, Z Sainbayar, G Baatarsuren, D E Ibarra, F J Pazzaglia, J K Caves Rugenstein

249930
Outstanding Problems in Caribbean and Central American Tectonics *(joint with G, NH, S)*

Conveners: **Jeremy Maurer**, Missouri University of Science and Technology; **Jonathan Obrist-Farner**, Missouri University of Science and Technology; **Machel Higgins**, Florida International University; **Grant Clark**, Missouri University of Science and Technology

1847343 *Characterizing Active Faults in Puerto Rico and the Northeastern Caribbean Plate Boundary Zone Using High-Resolution Topography:* **D A Laó-Dávila**

1945423 *Complex Lithospheric Structure Beneath Haiti from Anisotropy-aware Receiver Function Analysis:* **V Vilton**, J R Bourke, F Link, M D Long

1953671 *Deformation and earthquake potential on the North America – Caribbean – Cocos triple junction in Guatemala:* **J Maurer**, J Obrist-Farner, A Eckert, O Flores

247309
Really Useful Geophysical Data Tools and Apps *(joint with G, NH, S, V)*

Conveners: **Andrew Goodwillie**, Organization Not Listed; **Beth Pratt-Sitaula**, SIT Study Abroad; **Jessica Nation**, Cooperative Institute for Research in Environmental Sciences

1976169 *Accessible Tools for Seismic Visualization: Streamlining Sub-Bottom Profiler Data:* **T Mitroi**, J Schweizer, B Meyer, J D Varner

1985082 *Applications of Graph Theory to Simulate Compact Radiation Array Tracking and Interdiction (CRAFTI) in Traffic Networks:* **B Shea**

1968705 *Bridging Classroom and Research Skills: Teaching Data Analysis and Computational Modeling with Modern Earthquake Location Techniques Using the EQLocate Suite of Apps:* **D Okamoto**, J S Taber, J Gell, M Hubenthal, M Dordevic

1899529 *Coalescing data catalog ecosystem at NOAA-GFDL:* **C Blanton**, C Brown, J P Krasting, K Rand, A Radhakrishnan, E Zhou

1893955 *Distributed Acoustic Sensing Data Analysis Ecosystem: DASCore and related Python packages:* **E R Martin**, D Chambers, G Jin, A Tourei, A H Issah, A Lellouch, S Yuan, A J Girard, D Zhu, T Cullison, N Punithan, T Snyder, S Kim, N Danes, S Boltz, M Mendoza, P Li, Y Song

1927251 *Earthquake Explorer: A Web-Based Tool for Interactive Seismic Data Analysis in the Classroom:* **T K Bravo**, M Dordevic

1960398 *Estimating Slip Deficit Rates in Hispaniola from Surface Strain Rate Fields:* **Y C Lee**, J Maurer, R Dutta

1958718 *Exploring Subsurface Structure with High-Resolution Seismicity in The Santa Ana Volcanic Complex, El Salvador:* **C A Martinez Coto**, N Thapa, T Goebel

1972836 *New Insights Into Fault Reactivation from a High-Resolution Aftershock Catalog of the 2017 Tehuantepec Earthquake:* **M Garcia**, A L Husker, A A Velasco

1926096 *Spatial distribution of seismic b-values and its tectonic implications beneath the Puerto Rico microplate:* **R He**, S S Gao, K H Liu

1916473 *Tectonics and sliver motion in Costa Rica: modeling strain and ground velocities with GNSS data:* **P Boymond**, C Muller

1969413 *The Lake Izabal Seismic Array along the North American Caribbean Plate Boundary in Eastern Guatemala:* **G Clark**, S S Gao, J Obrist-Farner, J Maurer, O Flores

1881572 *EarthScope Data Visualizations: Geophysics Learning Through Animations, Online Tools, and Apps:* **B A Pratt-Sitaula**, T K Bravo, M Dordevic, D Okamoto, S E Olds, M Hubenthal

1907757 *Empowering Pacific Decision-Making through Climate and Hydrology Tools: Making Observations Useful in a Changing Climate:* **H Marley**, A Porteous, J Sturman, B Miville, L Kees, G Elley, L Wang, D Gerretzen

1916519 *GeoLab - Efficient Workflows for Cloud-Based Geophysical Data Access and Analysis:* **S Parafina**, A Hamilton, A Ashraf, S Wilson, R T Weekly, S Johnson, T K Bravo, J R Sweet, M Hubenthal, C Trabant

1935235 *GeoMapApp: A High-Impact Tool for Geophysical Research and Education:* **A M Goodwillie**, V L Ferrini, A Strong, R A Weissel, J J Morton

1984991 *Global Watersheds: Fast, Free Watershed Delineation for Anywhere on Earth:* **M Heberger**

1976476 *International Hydrographic Organization Data Centre for Digital Bathymetry - Bathymetric Data Discovery and Access Tools:* **J Nation**, J Jencks, J D Varner, M Bochain, K Lally

1887044 *Introducing Novices to Active-source Seismology via SeismicUnixGui:* **J M Lorenzo**, M Hubenthal, N Benton, E Vera

1939237 *Locked, Loaded, and Online: A Global Data Portal for Megathrust Coupling Models:* **B Oryan**, A A Gabriel

1905203 *Moraine: MOdern RAdar INterferometry Environment in the big data era:* **K Liang**, Z Lu, J W Kim

1927181 *Open-source, Cloud-based Tools for Community Models: Hosting, Exploring, Teaching, and Reusing with CRESCENT (Cascadia Region Earthquake Science Center):* **L Bachelot**, A Thomas, M Bahavar, W Marfo, R Styron

1973961 *Rapid Generation of Bathymetry-Embedded DEMs Using Segment-Tree-Based Mosaicking and Longitudinal Feature Retaining Bathymetry Cross Section Interpolation Algorithm:* **A Paudel**, S Mahat, B Devkota, D Li, N Fang

247781
Structural Evolution, Mechanics, and Hazards of Geometrically Complex and Multi-segment Fault Systems *(joint with G, MR, NH, S)*

Conveners: **James Biemiller**, University of Texas; **Alba Mar Rodriguez Padilla**, College of the Atlantic; **Alice-Agnes Gabriel**, Ludwig-Maximilians-Universität München; **Roland Bürgmann**, University of California Berkeley; **Jeena Yun**, Scripps Institution of Oceanography, University of California San Diego

1909913 *A Geometry-Driven Perspective on Earthquake Dynamics:* **J Lee**, V C Tsai, G Hirth, D T Trugman, A Chatterjee

1897922 *A Multidisciplinary Assessment of Reno Earthquake Hazard: Regional Ground Motion Analysis and Paleoseismology on Soil from the Mt. Rose Fault:* **C W Dills**, D T Trugman, R D Koehler, K Rodrigues, S G Wesnousky

1953361 *Characterization of Ridgecrest Mw 7.1 Earthquake Surface Ruptures by Hierarchical Clustering; Implications for Fault Mapping and Connectivity:* **I Rocamora**, J Hollingsworth, S Giffard-Roisin, L Pousse Beltran, Y Ben-Zion

1900893 *Characterizing Surface Expression of the Gofar Transform Fault Using High-Resolution Bathymetry Data:* **E Saltman**, M D Behn, E C Roland, P Koenig, J Gong, J M Warren, J J McGuire, M S Boettcher, W Fan

1946122 *Co-diking strain localization by fractures on the Reykjanes Peninsula, SW Iceland:* **N Wire**, H Geirsson, S Jonsson

1934402 *Conjugated Faulting during the July 25, 2023 Mw 5.5 Earthquake Sequence in Kozan, Southeastern Türkiye:* **P Mach**, Z Peng, X Si, O Adeboboye, E Zor, M Ergin, E A Sandvol

1980051 *Coseismic interactions between plate boundary structures and crustal faults:* **M W Herman**, K P Furlong, K A McKenzie

1858385 *Crustal stresses and damage evolve throughout the seismic cycle of the Ridgecrest fault zone:* **J T Bryan**, W B Frank, P Audet

1872268 *SHAppE: A MATLAB App for Time-Dependent Seismic Hazard Analysis and Visualization:* **K Leptokaropoulos**, A Redfearn

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(joint with DI, NH, S, V)

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Subduction Top to Bottom: Convergent Margin Processes Surrounding the Caribbean Plate and Analogous Global Settings *(joint with EP, NH, S, V)*

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The Cascadia Megathrust and Beyond: From Fundamental Scientific Processes to Societal Resilience *(joint with S)*

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1963827 *Detection of shallow slow slip at the base of the seismically locked zone in Cascadia using Seafloor Optical Fiber Strainmeters:* **N M Jackson**, M A Zumberge

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252202
The SZ4D Experiment: Comparing Subduction Zone Processes Across Three Margins

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1880831 *The CRESCENT Generation 0 Cascadia Community Velocity Model:* **B He**, J R Delph, S Wu, E E E Hooft, PhD, A Grant, V J Sahakian, P E Share, W J Stephenson, E A Wirth, B Herr, R Maguire, R Ajala, G Li

1969989 *The CRESCENT/SCEC/USGS Tsunami Benchmarks: 3D Fully Coupled Earthquake Dynamic Rupture and Tsunami Simulations with Varying Bathymetric Complexity:* **F Kutschera**, A A Gabriel, E M Dunham, R Harris, M Barall, L Bachelot, S Ma, D Schneller, W Zhang

1966312 *The Strength of the Sedimentary Wedge Along the Cascadia Subduction Zone:* **S Han**, J P Canales, S M Carbotte, D M Saffer, Z Zhao, H Jian, M E Mann, N C Miller, D Jiang, B Boston, H J Tobin, B Shuck, J W Beeson

1946891 *Validating Seismic Wave Speed Models of the Cascadia Region with Spectral-Element Simulations:* **R Maguire**, J R Delph, B He, A J Rodgers, PhD, R Ajala, B Fernando

1934799 *Bayesian Joint Inversion of Coseismic Slip and Afterslip for the 2020 Mw 7.8 Simeonof Earthquake:* **Z Zhuo**, J T Freymueller, J Fukuda, Z Xiao, J Elliott, R Grapenthin

1919195 *Comparing seismic attenuation structures of the Tonga and north-central Chile subduction zones:* **Y Zhang**, S S Wei

1928908 *Earthquake Source Characterization Using DAS at Cook Inlet, Alaska:* **V Gaete-Elgueta**, B P Lipovsky, G A Prieto

1888935 *Earthquake stress drops in the Alaska, north-central Chile, and Tonga subduction zones:* **S S Wei**, Y Zhang, D Tian

1972939 *Erosion dynamics and sediment distribution on the Mataquito River, Chile:* **G Long**, F Aron, G E Hilley

1910476 *Fault Failure Mechanisms and Slip Modes Along the Shallow Subduction Interface: Insights from an Exhumed Accretionary Complex in Alaska:* **W M Behr**, M Rast, C Madonna, S Guérin-Marthe

1886295 *Global Trench-Parallel Inner Forearc Deformation Dictated by Subduction Zone Obliquity:* **K D Morell**, K Gilroy, T Finley, N Harrichhausen

1999434 *Imaging the Alaskan Subduction Zone Using Love Wave Phase Velocity Tomography:* **C Ramirez**, A N Adams, J Wen

1954906 *Improved Slab Imaging in the Alaskan Peninsula Through Converted Wave Detection:* **A Birkey**, S S Wei, K A Daly, G A Abers

1987426 *Late Triggered Megathrust slip following the 2020 M_w7.6 Sand Point Alaska Strike-Slip Earthquake Could Explain its Tsunami:* **R M Parameswaran**, R Grapenthin, Z Xiao, D Nicolsky, S S Wei, J Elliott, J T Freymueller, G A Abers, H Zhu

1922681 *Near-surface processes during and after laccolith emplacement and volcanic eruption at Cordon Caulle, Chile - The CHILCO project:* **P Ruprecht**, A Amigo, F Aron, J Biasi, C Cardona Sr, L Córdova, F Delgado, T Giachetti, H M Gonnermann, C B Kratt, C Munoz-Saez, A Perez-Fodich, M E Pritchard, P Sanchez-Alfaro, J S Scheingross

1976144 *Offshore Observations Improve Earthquake Locations and Reveal Seismicity Near the Megathrust in the Alaska-Aleutian Subduction Zone:* **S Nolan**, G A Abers, G Barcheck, S W Roecker, D Wiens, E C Roland, P Matulka

249489
Underground salt storage systems *(joint with H, MR)*

Conveners: **Kyung Won Chang**, University of Texas at Austin; **Tonya Ross**, Organization Not Listed; **Byoung-Yoon Park**, Sandia National Laboratories; **Donald Conley**, Sandia National Laboratories; **Tonya Ross**, Organization Not Listed

1973997 *Experimental Investigation of the Mechanical Behavior of Avery Island Salt under Cyclic Extension-compression Loading at High Confining Pressure:* **O Iqbal**, H Kitajima, B Reedlunn, F M Chester, K W Chang

1932312 *Precursory Patterns Prior to the July 2020 Mw 7.8 Simeonof, Alaska Earthquake Revealed in an Enhanced Microseismicity Catalog:* **C D M Friedman Alvarez**, G Barcheck, S Nolan, G A Abers

1873463 *Rayleigh and Shear Wave Imaging of the Alaskan Subduction Margin:* **A N Adams**, C Ramirez, J Wen

1924038 *Seismic Tomography of the Alaska Subduction Zone Using Distributed Acoustic Sensing (DAS):* **A Mirchandani**, E Biondi, M Denolle, E M Golos, W S D Wilcock, B P Lipovsky, A Rose

1963999 *Shallow Aftershocks Beyond the Updip Coseismic Slip Limit Revealed by a Machine Learning Catalog from RAPID Response and Permanent Seismic Stations:* **H Zhu**, G Barcheck, G A Abers, J T Freymueller

1961474 *Structure of the megathrust: amphibious imaging the Kodiak segment of the M9.2 1964 rupture zone:* **G A Abers**, K A Daly, S Nolan, M E Mann

1932883 *The 2020-2025 Alaska Peninsula Earthquake Sequence and Implications for Megathrust Slip Budget and the Earthquake Cycle:* **J T Freymueller**, J Elliott, R Grapenthin, Y Jie, R M Parameswaran, S S Wei, Z Xiao, Z Zhuo

1959827 *Why do foreshocks occur where they do?:* **E E Brodsky**, J T De La Peña, A Maksymowicz, L Cabrera, D Ceroni, J Ojeda, B Potin, S Leon-Rios, T Alongi, S Ruiz

2005185 *Geotechnical Support for the U.S. Strategic Petroleum Reserve:* **T Ross**, D Hart, K W Chang, T Zeitler, B Y Park, A S Lord, H Maurer

1871480 *High-resolution Salt Interface Inversion in Salt-bearing Basins in the Central Segment of West African:* **Q Wang**, S Xiong, W Wang

1861715 *Low-stress creep mechanism under cyclic operations in salt dome caverns:* **K W Chang**, T Ross

1879975 *Multiscale Characterization and Effective Properties of Avery Island Rock Salt:* **Y R Kim**, I K Jeon, K W Chang

251198

Understanding geophysical processes that shape Earth's mid-ocean ridges: Insights into crustal deformation, magmatic-tectonic construction and geodynamics *(joint with G, GP, S, V)*

Conveners: **Vaibhav Vijay Ingale**, Institute of Geophysics and Planetary Physics, Scripps Institution of Oceanography, University of California San Diego; **Evan Anderson**, ; **Julie Bowles**, University of Wisconsin Milwaukee; **Evan Anderson**,

1897367 *A Comparison of Inflation and Seismicity Rates Before and Since the 2015 Eruption at Axial Seamount and Implications for Eruption Forecasting:* **W W Chadwick Jr**, W S D Wilcock, S L Nooner, J Beeson, M Zhang

1901491 *A modular framework for processing and interpreting magnetic field data collected by underwater vehicles along mid-ocean ridges:* **V V Ingale**, J S Gee, R Parnell-Turner

1925577 *A Paleomagnetic Piece to the Structural Puzzle: Demagnetization Behavior of Borehole Samples from the Atlantis Massif, Mid-Atlantic Ridge:* **E Lopes**, S Tikoo

1883762 *Abyssal peridotites: Robust probes of detachment extension at magma-starved ultraslow mid-ocean ridges:* **Z Zhen**, C Z Liu, M D Behn, Y Z Lin

1991931 *Changes in the physical properties of samples due to ageing, and the influence of sample shape on measurements taken during deep-seated rock drilling:* **N Abe**

1915908 *Distributed Deformation on a Late-Stage Oceanic Detachment Fault at Mount Dent, Mid-Cayman Spreading Center:* **E Anderson**, R Parnell-Turner, R A Sohn

1883530 *Dynamics of magma reservoir before and after volcanic eruptions at the Axial Volcano in the Eastern Pacific using time-lapse seismic imaging method:* **G M Kent**, Y Zhao, H D Carton, S C Singh, M Ardalan

1944656 *Evaluating the Impacts of Subaxial Melt Lenses on Seafloor Deformation at Axial Seamount:* **M Trotter**, S L Nooner, W Chadwick

247519

Understanding the seismic cycle and the role of transient deformation: a multidisciplinary approach *(joint with G, MR, S)*

Conveners: **Jared Bryan**, Utah State University; **Louise Maubant**, Earthquake Research Institute, University of Tokyo; **Matthew Tarling**, University of Otago; **Srisharan Shreedharan**, University of Texas, Institute for Geophysics; **Jared Bryan**, Utah State University

2000761 *Faulting Processes at the Ridge-Transform Intersection of the Fast-Slipping Gofar Transform Fault:* **J Gong**, W Fan, J McGuire, M D Behn, J M Warren, E C Roland, M S Boettcher, J A Collins, Y Liu

1986711 *Insights into Caldera-Ridge Interactions and Eruption Preparation at Axial Seamount from Machine-Learning Analysis of Cabled and Temporary OBS data:* **M Colet**, K Wang, F Waldhauser, W S D Wilcock, M Tolstoy, Y J Tan, D P Schaff

1932052 *Linkages between large-scale caldera collapse, voluminous eruptions and extensive hydrothermal vent fields along the southeast portion of the caldera beneath Axial volcano, NE Pacific:* **G M Kent**, S C Singh, H D Carton, Y Zhou, H Wu, W Xie, A F Arnulf, A J Harding, S L Nooner

1959259 *Microseismicity of the Atlantis Massif Oceanic Core Complex Revealed by Grid-Search and Cross-Correlation Relocation Methods:* **P Dewaelsche**, J Gong

1934676 *Modeling Dike Intrusion at the Beginning of the 2015 Eruption at Axial Seamount, Juan de Fuca Ridge:* **K Ward**, S L Nooner, W W Chadwick Jr

1921622 *Simulating Dynamic, Stress Dependent Diking at Mid-Ocean Ridges:* **D King**, E L Mittelstaedt, G Ito

1924601 *Structure and Evolution of the 25° S Oceanic Core Complex at the Central Indian Ridge based on Traveltime Tomography using Downward Continued 2D Streamer Data:* **H S Hilbert**, M Engels, M Schnabel, T Fridrich, B Schramm, U Barckhausen, I Heyde, S Ladage, R Lutz, A Dannowski, O H Lücke, A Jegen, I Grevemeyer

1981198 *Towards Quantifying Eruptive Timing and Volcanic Processes at 17°20' S on the Southern East Pacific Rise:* **J A Bowles**, J S Gee, V D Wanless, J Andrys, M Anderson, M Ferrell, V V Ingale, A Golub, T Johnson, M C Rapoza, D M Schwartz, C McLeod, J Sorsen, J N Wu, V Soltes, R Parnell-Turner

1956646 *Using Geomagnetic Paleointensity to Constrain Eruptive Timing and Size on the Southern East Pacific Rise:* **T Johnson**, J S Gee, J A Bowles, R Kepler, V D Wanless, J Sorsen, J Andrys

1904978 *A Multiphysics Simulation Framework for Coupled Seismic and Aseismic Slip and Fluid Pressure Evolution in Subduction Megathrusts:* **Z Tang**, B Duan, H Bordbar, Z Shang

1939693 *Diversity in Rupture Patterns of Nankai Trough Earthquakes Inferred from Historical Tsunami and Crustal Deformation Records:* **K Imai**, T Hori

1982367 *Generation of High-Permeability Splay Faults in Accretionary Wedges and Their Effect on Wedge Overpressure:* **G Lopez Campos**, M A Nikolinakou, P B Flemings, D M Saffer

1890054 *How does the chemico-mineralogical transition in fluid-mediated faults explain recurrences of low-to-moderate magnitude seismic tremors? - A case study from the Koyna-Warna Intraplate Region, Western India.:* **P Halder**, A Sharma

1917814 *Identifying Very Low Frequency Earthquakes in the Japan Subduction Zone from 2006 to 2016 using the Hi-net High-sensitivity Accelerometers:* **H Burnett**, W Fan, R Okuwaki, T Matsuzawa

1947251 *Influence of Medium Heterogeneity on Earthquake Nucleation Locations: Insights from Earthquake Cycle Modelling:* **X SUN**, Z Zhang

1998909 *InSAR Analysis on Mt. Etna: Preliminary Insights into the Mid-Term Active Faulting Dynamics:* **F Guglielmino**, R Azzaro, S J Brooks, R Bürgmann, F Sparacino

1901817 *Microstructural fingerprints of creep, slow slip and abrupt failure in experiments on granitoid fault rocks:* **D Ortega-Arroyo**, M Pec, H O OGhaffari, PhD

1882440 *Modeling multi-scale subduction zone dynamics: From long-term plate motions to great megathrust earthquakes:* **J Fang**, M Gurnis, N Lapusta

1969435 *Postseismic Deformation of the 2023 Kahramanmaraş Earthquake Sequence from cGNSS and InSAR Time Series: Initial Results from Türkiye:* **S Özarpaci**, A Gualandi

1989838 *Precursory slow transients on heterogeneous faults:* **C Cattania**, R Verwijs

1975329 *Shallow Aseismic Slip and Stress/Strain Budgets on the Creeping Faults in the Imperial Valley, California:* **K Materna**, R Bilham

1872571 *Slow-to-Fast or Fast-to-Slow Transitions along the Hikurangi Subduction Zone?:* **L Maubant**, L M Wallace, C A Williams Jr, S Michel, E Klein, W B Frank

VOLCANOLOGY, GEOCHEMISTRY AND PETROLOGY

252796
Geology-Ecology Interactions *(joint with A, GC, NH, V)*

Conveners: **Florian Max Schwandner**, Nanyang Technological University; **Joshua Fisher**, Chapman University

1878719 *Spatiotemporal Patterns and Predictability of Shallow Slow Slip Sequences on the Superstition Hills Fault:* **Z Kang**, J Jiang

1885397 *Studying the Aseismic Slip Cycle on the Creeping Fault in the Cerro Prieto Pull-Apart Basin:* **E Glowacka**, Q Gutierrez, A Nava

1971746 *The 2016 Mw 7.8 Kaikōura, New Zealand, Earthquake Triggers Slow Slip Events and Delays Megathrust Earthquakes in Rate-and-State Friction Simulations of the Hikurangi Subduction Zone:* **J Yun**, J W C Wong, Y A Fialko, A A Gabriel, D May, L M Wallace, C A Williams Jr

1905787 *The gap between the seismogenic zone and Episodic Tremor and Slip explained by fluid flow and permeability structures around the mantle wedge corner:* **S Ozawa**, E M Dunham, Y Yang, C Condit

1933292 *The influence of the 2011 Mw 9.1 Tohoku earthquake on the Boso slow slip sequence:* **L Lu**, Y Liu, S Ide

1927975 *The Role of Elastic Heterogeneity for Inferring Seismic Cycle Deformation at the Nicoya Peninsula, Costa Rica:* **C Song**, S Puel, D Liu, L M Wallace, T W Becker

1872441 *The seismic consequences of being a leaky fault:* **G Farge**, E Brodsky

1945299 *Transient Deformation During the 2016 Mw 6.4 Meinong Earthquake in Taiwan Revealed by Kalman Filtering of GNSS Time Series:* **W L Chang**, C Y Yang, C Y Chiu

1877956 *Triggered vs Spontaneous Slow Slip Events in the Hikurangi Subduction Zone:* **M Carlson**, L M Wallace, D M Saffer, C A Williams Jr

1879678 *Using Sentinel-1 InSAR time series to characterize postseismic motions around the 2021 Mw 5.3 Calipatria earthquake, Imperial Valley, CA:* **K A Guns**, K Materna, A J Barbour, R C Turner

1875982 *Did trees lower Late Paleozoic atmospheric carbon dioxide concentrations? Contesting the evidence from seawater Li isotope reconstruction:* **A Ghosh**, A J West, F A Corsetti, R Blankenship, R S Shapiro

1919305 *Elevated CO_2 effect and assimilation significantly stronger in dry than humid tropical rainforests:* **L Fu**, J B Fisher, M Jia, R Fisher, J A Holm, A L S Swann, A Liu, G Shirkey, C Terrer, M Camacho Umaña, G Yokoyama, C Doughty, C S O'Connell, C Zalman, A Agatep, H Hatch, G Dauber, K Nelson, C D Deering, F M Schwandner, G R Goldsmith

247656
The MacGyver Session: Novel, Exciting, Self-Made, Hacked, and/or Improvised Sensors, Data Acquisition, and Data Transmission Solutions to Understand the Geosphere (Poster) *(joint with IN, NH, NS, SA)*

Conveners: **Chet Udell**, Oregon State University; **Austin Madson**, University of Wyoming; **Rolf Hut**, Department of Water Management, Faculty of Civil Engineering and Geosciences, Delft University of Technology, Delft, the Netherlands; **Andrew Wickert**, University of Minnesota

1977678 *A Low-Cost and Rapid Deployment Flood Level Observation System:* **I Gul**, S Diaz, P Udenze, J Balthasar, L Davis, D Li, C Wilson, R R Lotspeich

1974431 *An Affordable and Open-Source PIV System for River Velocimetry Enabled for IoT and Designed for Citizen Science:* **S K Do**, K Corcoran, B Poudyal, R Johnson, L Pu, A Stokes, C Wilson, R R Lotspeich, V Lakshmi

1998706 *Colocated Testing of Low-Cost Open-Source and High-Cost Proprietary Environmental Sensing Systems:* **P Marchetto, PhD**, K Kuehl, S Selbe

1894210 *Development of an Integrated Underwater Imaging System for Real-Time Bubble Characterization and Flow Measurement:* **B Wang**, X Ying

1874403 *Evaporometer: A Low-Cost, Open-Source, Load-Cell-Based Device for Collecting Rainfall and Evaporation Data:* **D Nguyen**, E Hockert, M Muzaffarov, Z Vania, C Udell, J S Selker

2002353 *From Breadboard to Product: The Journey of an Environmental Sensing System from Finding Need to Purchasable Product:* **S Selbe**, J Lewallen, B Gawthrop, P Marchetto, PhD, L Starke, S Allen, K Kuehl, P Gupta

1857755 *High Precision Zero-friction Magnetic Dendrometer:* **N Le**, L Rasmussen, M Zamora Re, D Zheleva, J L M Van Haren, J S Selker, C Udell

248876
Advancements in Experimental and Analytical Techniques

Conveners: **Behnaz Hosseini**, Montana State University; **Heather Winslow**, University of Nevada Reno *now at USGS Hawaiian Volcano Observatory; **Jessie Bersson**, Smithsonian Institution; **Jade Bowers**, Oregon State University

1977957 *Advancing Volcanology: A New Method for Tracking Eruption Development and Plume Height:* **R Levendosky**

1862671 *Open Source Arduino Weather Station; Meet WeatherChimes:* **E Zimmer**, C Jacklyn, R Graham, S Thiruppathi Ahila, W Richards, A C Johnson, J S Selker, C Udell

1856827 *Openly Published Environmental Sensing (OPEnS) | Advancing Open Environmental Instrumentation:* **C Udell**, J S Selker

1891809 *Scalable Surface Water Monitoring Using a Low-cost Stilling Well with Embedded Sensors and LoRaWAN Integration:* **C Finney**, A K Manda, S M Moysey, B Dessimond

1874709 *SmartRock - Accurate and Low Cost Water Quality Monitoring Sensor Suite:* **T Slaght**, C Milford, B Truong, C Udell, J S Selker

1944153 *The Güralp Rapid Deployment Kit ("RDK") and Güralp Data Centre ("GDC") – a turnkey solution for seismic and geophysical data acquisition:* **N Watkiss**, J Lindsey, P Hill, F Restelli

1944479 *The Open Digital Environmental Lab:* **E Levintal**, T T Nguyan, E Freiman, D S Orozco, T Norman, R A Kahsu, A Altman

1895585 *The Portable Common Sensor Platform Prototype:* **C M Calvelage**, D Mann, M Staats, C Pyatt, A Scire, K Arnell, G Chavez, W W Gallaher, N Bayou, W Johnson, G Karslioglu, G S Mattioli, E Makarewicz

1968389 *Think Differently: Exploring Non-Proprietary Hardware Solutions for Remote Data Collection:* **E Morse**, S Cowan, A Vlahgiannis, M Evans, M O'Leary, R Lieblappen

1889106 *Three-globe thermometer for accurate air temperature measurements without radiation shield:* **A Maruyama**, K Kimura

1865643 *Wisp: Smoke Taint Sensor:* **S Emmons**, A Hosford, D Crocker Jr, A Chebrolu, J S Selker, C Udell, E Tomasino

1927638 *Combining natural melt inclusions with novel experimental and microanalytical techniques to investigate the role of oxygen fugacity on the behavior of iron during arc magma differentiation:* **J Andrys**, E Cottrell, K A Kelley, M L Coombs

1978793 *Deconvolving effusive silicic volcanism: Nested Micro-CT scans of obsidian flows, domes, and welded ash flows:* **K McCartney**, J E Hammer, T Shea, T Giachetti, D L Sahagian, F B Wadsworth

2004281 *Double Spike (^{207}Pb-^{204}Pb) Lead Isotope Ratio Measurements by Dynamic Multicollector Thermal Ionization Mass Spectrometry Using ATONA Capacitive Transimpedance Amplifiers:* **D M Schwartz**, M D Schmitz

1935678 *High Precision Measurement of Phosphate Oxygen Isotope for Single Conodont Using IC Orbitrap:* **Z Wang**, Y Peng

1959601 *High Precision Noble Gas Measurements using the Isotopx SIRIX Mass Spectrometer:* **D Tootell**, Z A Palacz

1977911 *Performance evaluation in uranium isotope measurements using the Neoma MS/MS MC-ICP-MS:* **H M Hu**, C C Shen, T Aze, S Hirabayashi, Y Yokoyama

1922581 *Solubilities of metallic melts in aqueous systems: overcoming experimental challenges:* **M Acosta**

1989104 *Three-Phase Lava Rheology Measurements Reveal the Importance of Bubbles in Facilitating Fast Flow Emplacement:* **A G Whittington**, B A Halverson, J Landolfi

1956302 *Uranium isotope ratio measurements with Atona Faraday detectors using a collision cell interfaced ICP multicollector mass spectrometer.:* **Z A Palacz**

1882692 *In-situ determination of C-O isotopes of individual CO_2 fluid inclusion with high precision via Raman Spectroscopy: method development and geological implications:* **W Wang**, W Lu, J Yamamoto

251588
Advancements in Geochronology and Thermochronology *(joint with EP, PP, T)*

Conveners: **Jennifer Kasbohm**, Princeton University; **Courtney Sprain**, University of Florida; **Scott Jess**, Washington State University; **Barra Peak**, University of Texas at Austin; **Barra Peak**, University of Texas at Austin

1894551 *^{40}K-based geochronology and the ^{40}K decay constants:* **J Carter**, C Hasler, A Fuentes, A Tholt, W Cassata, L E Morgan, P R Renne

1996856 *An Adaptive Monte Carlo Method for Analyzing Raw Multicollector Mass Spectrometer Data:* **S Burdick**, N McLean, J F Bowring

1934482 *Critical Evaluation of Reference Materials for In Situ Rb-Sr geochronology of Feldspars and Micas by LA-MC-ICP-MS/MS:* **A M Cruz-Uribe**, H Melton, T E Yap, F Tissot

1972048 *Dislocations in Apatite Trap Helium and Cause (U-Th)/He Date Overdispersion:* **J Stanley**, M M Tremblay, G Jepson, C Montejo, W Zhan

1900348 *Helium diffusion in highly radiation damaged zircon crystals: new insights for zircon (U-Th)/He thermochronology:* **W Guenthner**, R O Sigat, L Nasdala

1915172 *Intercalibration of Geochronometers:* **P R Renne**, J Carter, A Fuentes, C Hasler, B Jicha, C B Keller, N M McLean, L E Morgan, M D Schmitz, B Schoene, C J Sprain, A Tholt

1899498 *A Blast from the Past: Harnessing the Power of Legacy Experiments Using Machine Learning:* **A Goltz**, A Prabhu, M J Walter

1864465 *A unique AI/ML based approach for the semiquantitative analysis and calibration-free multielement screening of various terrestrial materials using ICP-OES:* **A Fornadel**, S Sengupta, T Stichel, G Craig, D Kutscher

1867698 *Incredible or Impossible? Defining the Limits of What is Possible for MC-ICP-MS/MS With the Neoma MS/MS MC-ICP-MS:* **M Tuthorn**, G Craig, M Pfeifer, C Bouman, N S Lloyd, T Cade

1858197 *Isotope ratio and concentration measurements of radioactive elements using Thermal Ionization Mass Spectrometry:* **H Vollstaedt**, N S Lloyd, D Tollstrup, T Cade, M Tuthorn

1873756 *Stable isotope dilution approach to measuring mineral replacement rates at high P-T conditions: Replacement of metamict zircon by hydrothermal zircon:* **J C Ayers**, P Hu, B M Wallrich, C Zhu

2000488 *K-Bearing Melt and Nanogranite Inclusions Enable Ar-Dating of K-Free Host Minerals:* **A J Schaen**, W O Nachlas, B Jicha

1970255 *Reassessment of Pb Isotope Composition of SRM 981 Resolves Discrepancies in U-Pb Geochronology:* **R B Ickert**, J Meija, S Tong, B Methven, L Yang

1942211 *Recent Volcanic Activity of the Submarine Horseshoe Volcanic Complex (Comoros Archipelago) Revealed by New K-Ar and ^{40}Ar/^{39}Ar Ages.:* **M Frey**, X Quidelleur, N Feuillet, E Médard, C Berthod, J C Komorowski, V Puzenat, J Ricci, I Thinon, É Lebas, E Rinnert, C Cathalot, S Jorry, F Paquet

1867973 *Reevaluating the India-Asia Collision in the Pakistani western Himalayas: Sedimentary Evidence for a ~56 Ma Onset":* **N ALI**, E R Sobel, A Bernhardt, H Ghani

1964774 *Rewriting the Quaternary History of the La Garrotxa Volcanic Field (NE Iberia) with High-Resolution Ar-Ar Geochronology:* **J Ricci**, J Martí, L Planagumà, G J A Díaz

1999573 *Thermochron.jl: Open-source time-Temperature Inversion for Multichronometer Thermochronology:* **C B Keller**, K McDannell, W Guenthner, P K Zeitler

1863988 *Trace Element Signatures of Magmatic vs. Inherited Zircons in Higher Himalayan Leucogranites: Insights from the Jutial Leucogranite, Pakistan:* **I Shah**, M Alam, M Shakhloi

1983854 *Tripoli: New Software Tools for Interactive TIMS and MC-ICPMS Data Reduction and Uncertainty Estimation:* **N M McLean**, S Burdick, J F Bowring

1959134 *Using in-situ He mapping to explore how crystal defects affect He distribution in zircon and implications for (U-Th)/He thermochronology:* **C Ross**, C Kortyna, K H Mahan, J R Metcalf, R M Flowers

246770
Aiming for Superhot Rock Geothermal: Technological Advancements for Working in Extreme, Harsh Environments *(joint with GC, H, NS, S)*

Conveners: **Angela Seligman**, Clean Air Task Force; **Jana Simo**, Pacific Northwest National Laboratory

1996601 *A model of path-dependent permeability and heat transfer with fluid phase changes, forapplication to a broad range of geothermal reservoir conditions.:* **B K Holtzman**, C R Wilson, S Scott, T Mittal, H O OGhaffari, PhD, E Beauce, A Barth

251803
A multidisciplinary perspective into crustal evolution: from subduction zones to orogens
(cosponsored by MSA: Mineralogical Society of America) *(joint with T)*

Conveners: **Wentao Cao**, SUNY at Fredonia; **David Hernández-Uribe**, University of Illinois at Chicago; **Suzanne Autrey**, Western Illinois University; **Sean Mulcahy**, University of California, Berkeley; **Thomas Lamont**, University of Nevada, Las Vegas

2002399 *A Novel Statistical In-situ Petrochronology Workflow for Decoding Overlapping Deformation, Melt and Fluid Histories in Monazite from the Grand Canyon Vishnu Schist:* **N Aikin**, A Mehra, C B Condit, M Williams, K E Karlstrom

1956734 *A thermobarometric and petrochronologic investigation of the lithostatic pressure paradigm in the NW Indian Himalaya:* **D Wilderman**, D Vlaha, V Guevara, A V Zuza, P J Haproff, F Reyes, J M Garber, E Branton, A Webb, B Singh, M Genge, A Ganbat

1968358 *Dating and geochemically characterizing subduction zone processes using apatite U-Pb petrochronology and microstructural analysis:* **M Odlum**, M Ferrell, E M Poulaki, C B Condit, M Odlum

1909372 *Density sorting of metasedimentary continental crust:* **A Smye**, O Muntener, B Z Klein

1920013 *Dynamic Metamorphism in a Low-Angle Subduction Channel: Formation of Mono- and Bimineralic Actinolite and Albite Assemblages by Concurrent Metasomatism and Mechanical Mixing; Orocopia Schist, Cemetery Ridge, SW Arizona:* **G S Epstein**, G B Haxel, C B Condit, C E Jacobson

1968178 *Zircon Radiation Damage and (U-Th)/He Thermochronology Record Sediment Recycling History: A Case Study from the Book Cliffs, Utah, USA:* **B A Peak**, D F Stockli, M A Malkowski

1873586 *Advancing Super Hot Rock Geothermal: A Strategic Approach for Durable and Cost-Effective Materials:* **T Atkinson**, T L Mcling, G Ilevbare, E Ohene Opare

1849136 *Mapping Global Laboratory and Research Capabilities to Advance Superhot Rock Geothermal Development:* **N Cornejo-Triviño**, A Seligman

1916324 *Superhot/Superdeep Geothermal: Can We Harvest High Enthalpy Heat at 10 km Depth Without Drilling to 10 km?:* **L Ring**

1951533 *Geodynamic cycle of carbon in the continental crust:* **M Satish-Kumar**

1958006 *Geothermobarometry of Metamorphic Rocks Associated with the Sanak-Baranof Plutonic Belt in Southeastern Alaska:* **C Boyle**, C M Davidson

1914167 *Interface Deformation, Exhumation, and Underplating: The Role of Plate Velocity Changes Throughout a Subduction Zone's Lifetime:* **V Turino**, A Holt, D J Neuharth, R K Stoner, W M Behr

1916496 *Magmatic response to crustal thickness changes in the Northern segment of the Central Andes during the Eocene to Lower Miocene.:* **J S Jaramillo**, V Valencia, L Torró Sr

1955141 *Melt inclusions in mafic rocks record deep element cycles and mass transfer to the mantle:* **A Borghini**, S Ferrero, P J O'Brien, O Laurent, B Wunder, L Remusat, J Majka, G Nicoli, G Borghini

1892045 *Mineral and Textural Observations of Serpentinized Fault Surfaces at Twin Sisters, WA:* **S White**, E H H G Cooperdock, A Rojas, L Hernandez, J Parsons, D E Ibarra, N J Phillips

1929693 *Probing secular changes in mid-ocean ridge hydrothermal alteration using Sr and O isotopes through two Paleoproterozoic ophiolite profiles:* **A L Bednarick**, C E Bucholz, C P Chamberlain, J N Christensen, D J DePaolo, M St Onge, D A Stolper

1900132 *Rapid exhumation of the subduction mélange of Cedros Island, Baja California, Mexico from compositional zoning of garnet:* **Y Xu**, R M Holder, S Neumann, C Connop

1880372 *Rapid Recycling of Juvenile Crust in a Convergent Margin:* **H Qi**, J H Zhao, R Yin

1852448 *Refining Quartz-in-Garnet Elastic Geobarometry in Barrovian Terranes: Insights from the Grand Canyon's Upper Granite Gorge:* **S R Autrey**, C E Bonamici, M L Williams

1891896 *Refining the Timescales of Late-collisional Tectonics in the Southern Brasília Orogen (SE Brazil) with Apatite U-Pb and Mica Rb-Sr Geochronology:* **C Cioffi**, A Oliveira, B Ribeiro

1948643 *Short Duration of Retrograde Suprasolidus Zircon Growth in UHT Migmatites Revealed by High-Precision Geochronology and Thermodynamic Modelling:* **B Rocha**, J Davies, C Cioffi, C Yakymchuk, M G Perrot, R Moraes, A Möller

247074
Communication of Volcanic Hazard and Risk: Science and Partnership for Geohazard Studies for Tsunamis and Other Geo-Disasters along coastal region. *(joint with A, NH, OS, S)*

Conveners: **Kalpana Chaudhari**, Geological Society of America; **Maria Cerreta**, The University of Naples 'Federico II',Italy; **Federica Dell'Acqua**, Researcher (RTDA) in Technology of Architecture,DiARC Department of Architecture, University of Naples Federico II,University of Naples Federico II, Italy; **Sabrina Sacco**, Ph.D. Student in Artificial Intelligence, University of Naples Federico II, Italy

251664
Critical Insights on the Secular Evolution of Earth's Mantle and Crust (cosponsored by GAC: Geological Association of Canada,GS: Geochemical Society,GSA: Geological Society of America,MSA: Mineralogical Society of America) *(joint with DI, EP, P, T)*

Conveners: **A. Kate Souders**, Texas Tech University; **Paul Sylvester**, Texas Tech University; **Keiko Hattori**, University of Ottawa; **Diana Urda**, California State University Fullerton

249153
Crystal Records of Magmatic Processes

Conveners: **Oliver Higgins**, University of St. Andrews; **Marc-Antoine Longpre**, CUNY Graduate Center; **Christy Till**, Arizona State University; **Kendra Lynn**, USGS Volcano Science Center; **Weiran Li**, University of Hong Kong

1882529 *1500 years of shallow magma storage at Kīlauea: a fluid inclusion perspective:* **C DeVitre**, P E Wieser, M L M Gleeson, K J Lynn, PhD, D T Downs, C Gordon

1988694 *The metabasite "messengers" for crustal evolution: the allochthonous high-pressure belt in western Grenville Province, Canada.:* **W Cao**

1892048 *Triple Oxygen Isotope Constraints on Fluid Alteration of Serpentinite, Twin Sisters Massif, Washington:* **L Hernandez**, E H H G Cooperdock, D E Ibarra, A Rojas, S White, N J Phillips

1921879 *Understanding the Subduction Mélange Rocks of Cedros Island, Baja California, Mexico Using U-Pb Dating, ZiR, and QuiG:* **S Neumann**, R M Holder, C Connop

1898628 *A step change in Earth thermal history driven by the onset of plate tectonics:* **J Mou**, C T Lee

1941976 *Effect of chemical and isotopic variation of DMM on the estimation of recycling ages of oceanic crusts:* **G Shimoda**, T Kogiso

1895597 *Evolution of subaerial cratonic exposure through the lens of low-$\delta^{18}O$ meteoric hydrothermal systems: An update on an intact Neoarchean system from Kola Craton based on multiple isotope proxies (H, Si, triple O, Hf):* **D O Zakharov**, D Zozulya, M Chiaradia, P Frings, A S Bouvier

1869279 *A new pre-eruptive H_2O proxy? Experimental calibration of Hydrogen partitioning between plagioclase and dacitic melts, with application to the 1980-1982 Mount St Helens eruptive event:* **M Pimenta Silva**, B Monteleone, E A Johnson, G A Gaetani, D L Blatter, T W Sisson

1896773 *Apatite geochemistry in A-type granites: A case study of the Eocene Bana igneous complex, western Cameroon:* **K H Chen**, K N Pang, F Ayaba, J P Tchouankoue

1973938 *Apatite Saturation Revisited:* **B Z Klein**, O Müntener, F Marxer, J Gillespie

1861182 *Application of Olivine-Melt Thermometry/Hygrometry to Icelandic High-Mg Basalts: Evidence of Relatively Hot and Dry Conditions:* **A Florea**, R W Nicklas, R A Lange

1935553 *Co-erupted Tephra with Different Decompression Histories During the 1666 CE Eruption of Cinder Cone, Lassen Volcanic National Park, CA, USA:* **K Kim**, M E Newcombe, S Desikamani, L Peterson, K Walowski, M A Clynne, J Wang, P M Piccoli

1896078 *CO_2-Enriched, Incompatible Trace Element Depleted Mid-Ocean Ridge Magmas as Sampled by Plagioclase-Hosted Melt Inclusions:* **O Daynes**, G K Ustunisik, R L Nielsen, G A Gaetani, F Klein

1956238 *Crystal Cargoes Insights Into Magmatic Processes Beneath Canary Island Volcanoes:* **M A Longpre**, F Cortese, S Tramontano, C Forrest

1926298 *Decoding Magma Processes Using Crystal Clusters:* **P E Izbekov**, J A Moshrefzadeh, V K K Wasser

1915134 *Expanding Time-Temperature Chronometry of Olivine-Hosted Melt Inclusions with Experimental MgO Diffusion in Hydrous Melts:* **O Callejas**, M Holycross, E Gazel, E Huggins

1955963 *Experimental Calibration of Li Diffusion in Feldspar:* **B Garvey**, M Holycross, G Larouche, E Gallagher

1921696 *Experimental constraints on multi-site diffusion of Li and coupling with Cr and REE in almandine-spessartine garnet:* **E M Bloch**, O Müntener, R L Hervig, J Barnes

1939485 *Extending the Record of Explosive Eruptions at Kīlauea Volcano Through Olivine Diffusion Chronometry and Chemistry Correlation Across Field Sites:* **A Bustos**, M Hudak, K J Lynn, PhD, D T Downs, T R Rose, M Sas

1975395 *First Insights into Volatiles and Magma Storage Beneath Poás Volcano: A Shallow Phreatomagmatic System:* **M Marostica**, W J D Lee, A Peccia, T A Plank, M J de Moor, G Avard

1870303 *Insights into arc mantle sources and crustal differentiation from olivine and clinopyroxene chemistry in ultramafic rocks of the Tulameen Alaskan-type intrusion:* **D W Spence**, J S Scoates, D Milidragovic, G T Nixon

1870119 *Investigating the Longevity of Crystal Mush Systems by Analyzing Crystal Assemblages in the ~70 ka Portals Andesite Compared with Eruptive Products Over the Last ~100 ka at Mount Baker, Northern Cascade Arc.:* **B McDade**, S M DeBari, K Walowski, H Shamloo

2003967 *Journey to the center of the crystal investigating Hydrogen diffusion in olivine:* **G Georgeais**, M C Jollands, Y Moussallam

1916086 *Mechanisms and Timescales of Pre- and Syn-Eruptive Processes in Monogenetic Volcanoes: Constraints from Mantle Xenoliths from the Meerfelder Maar:* **M Arao**, M Nakamura, M Mujin, N Araya, T Nakatani, S Sawa, M Sumita, H U Schmincke

1925729 *Months between initiation and eruption observed for each of the four most recent lavas at a Cascade Volcano, Mount Baker (Kulshan), Washington, USA:* **H Shamloo**, D Cunningham, E Yoder, S M DeBari, K Walowski

1881894 *Olivine Insights into Plumbing System Dynamics of Enriched Loa Volcanics, Hawai'i:* **J Curtis**, L N Harrison

1857213 *Petrogenesis of Basalt and Associated Silicic Rocks from Upper Omo Valley Volcanic Section, Southwestern Ethiopia:* **G Assefa**, D Tadessa, N Abrha, G Fufa, A Getaw

1890136 *Potential Controls on Magmatic Cu-Ni Sulfide Mineralization in Orogenic Belts: Insights from the Baixintan and Haibaotan Intrusions, Eastern Tianshan, NW China:* **T Zheng**, Y P Su

1852751 *Pre-eruptive Magma Evolution of the ~6.7 ka BA Tephra, Mount Baker, WA: Insights from Lake Core Stratigraphy and Crystal Chemistry:* **S Randall**, K Walowski, S M DeBari, D H Clark, H Shamloo

1933589 *Pre-Eruptive Timescales via Olivine Diffusion Chronometry for Lava and Tephra of the Schreibers Meadow Cinder Cone Eruption, Mount Baker (Kulshan), WA:* **S Ansari**, H Shamloo, S M DeBari, K Walowski, D C S Ruth

1890914 *Quartz and sanidine dissolution in rhyolite melt:* **K Befus**

1976751 *Systematic Classification of Crystal Zoning Patterns from Backscattered Electron Images: Implications for Magmatic Processes Beneath Canary Island Volcanoes:* **C Forrest**, M A Longpre, F Cortese

1873333 *Textural Reconstructions of the 1817 Kawah Ijen Eruption: Integrating 2D Stereology and 3D Deep Learning Segmentation of Pyroclasts:* **J Sotelo Flores**, N Barber, K Berlo, E Handini, G Buono, L Pappalardo, V van Hinsberg

1862769 *The birth of a Cascades volcano: defining crustal influence, magma storage, and magma evolution through bulk rock and zircon geochemistry for early silicic volcanism in the Goat Rocks volcanic cluster, Cascade Range, WA:* **H Finch**, H Shamloo, K T Wall, C G Mattinson, J Tepper

1950703 *The Diamond–Low-Cr Megacrystic Garnet Paradox in the Liqhobong Kimberlite: Constraints from Polycrystalline Aggregates of Diamonds and Garnets:* **K Halpin**, O Elazar, H O'Brien, G Howarth, Y Fedortchouk, A Giuliani

1897489 *The goldilocks effect: assessing the meaning of diffusion timescales in highly silicic systems:* **M Myers**, K Chamberlain

1918968 *The Landscape of the Experimental Orthopyroxene/Melt Partitioning Database:* **G K Ustunisik**, M X Betts, R L Nielsen

1905692 *Toward more realistic 3D diffusion modeling of olivine-melt systems using high-resolution X-ray micro-tomography: implications for magmatic timescales:* **A Mourey**, E Mutch

1970863 *Tracing Magma Mixing through Plagioclase Populations at Augustine Volcano, Alaska:* **R Berwanger**, A M Koleszar, K J Walowski, M Loewen, J Zehner

1967538 *Transition From Shield-building to Alkalic Volcanism in Hawaii: Hualālai Xenoliths Have Much to Say:* **B Mitchell**, D L Sahagian, T Carley

252562
Early Earth Evolution throughout the Hadean and Archean *(joint with DI, EP, P)*

Conveners: **Eugenia Hyung**, Harvard University; **Nadja Drabon**, Harvard University; **Val Finlayson**, University of Maryland, College Park

1929573 *Coevolution of Continental Mantle and Earth's Crust based on Triple Oxygen Isotope Geochemistry of Mantle Xenoliths, Granites and Shales:* **I Bindeman**, Y Kanzaki

1973478 *Constraining the Origins of Hadean through Paleoarchean Zircons through Trace Element Modeling, with Implications for Zircon Formation in Arc Settings:* **E Hyung**, N Drabon, S B Jacobsen

1983838 *Crustal emergence at 3.85 Ga linked to enhanced flux melting recorded in the Green Sandstone Bed, South Africa:* **N Drabon**, E Stoll, J Schultze, H Kirkpatrick, Ö Mete, G E Gehrels, M Pecha

1975775 *Dual classification of Early Earth zircon analyses highlights possible "modern" analog environments:* **E Schoonover**, T Mittal, J M Garber, M R Ackerson, J R Reimink

1905112 *Exploring crustal processes of the early Earth: Insights from mineral inclusions in Paleoarchean zircons from South Africa:* **Ö Mete**, E Bell, H Kirkpatrick, N Drabon

1876479 *Exploring Hadean zircons from Brazil and China:* **T M Harrison**, E Bell, T M Kusky, L Wang, W Ning, R Gordilho-Barbosa

1905176 *For How Long Was Earth A Water World?:* **L Liu**, C R Lithgow-Bertelloni

1902949 *Granitoid petrogenesis and density sorting produced an andesitic Archean crust:* **T Grocolas**, M Pimenta Silva

1894155 *Unraveling the Magmatic Complexity of a Monogenetic Eruption: Processes and Timescale in the Evolution of Xitle Volcano, Mexico:* **J Ahmadi**, E Widom, R Sanchez, D C Kuentz, M N Guilbaud, C Siebe, M P Loocke, T Blum, K Kitajima, S M Straub

1991347 *Using crystal cargo to ascertain pre-eruptive storage conditions and initiation mechanisms for the most recent explosive magmatic eruption of Mount Baker, northern Cascade Arc, USA.:* **S M DeBari**, K Aughenbaugh, K Walowski, H Shamloo, D Tucker, S Machel

1928757 *Utilizing Crystal Records at Mauna Loa to Determine the Underlying Architecture and Timescales of Magmatic Processes During the 2022 Eruption:* **H Winslow**, K J Lynn, PhD, D T Downs, A H Lerner, F Trusdell

1886512 *Investigating Fluid Migration in Archean Subduction Zones: Implications for TTG Genesis:* **H Choi**, S Sim, C R Wilson

1958211 *Iron Isotopes in Modern TTGs as Archean Proxies:* **M M Thiemens**, S Law, A Hastie, S Goderis

1892639 *Major-element, trace-element and sulfur-isotope evidence for arc-like magmatism in the 4.0–2.9 Ga Acasta Gneiss Complex:* **P Beaudry**, O E Jagoutz, A Bauer, H Rezeau, J R Reimink, T L Grove, G Izon, S Ono

1951414 *Prolonged TTG Generation from Basaltic Precursors in the Archean Lake Inari Terrain, Arctic Fennoscandia:* **E Heilimo**, K B Joshi, M I Kurhila, M A Rodriguez-Ruiz, J Halla

1951371 *The Formation of Earth's Earliest Continents: Field Observations from a Natural Laboratory in Arctic Fennoscandia:* **J Halla**, K B Joshi, M I Kurhila, A Luttinen, M A Rodriguez-Ruiz, E Heilimo

1855370 *The Paleoarchean–A Pivotal Time in Earth's History: Insights From the Zimbabwe Craton.:* **M Botero**, J D Vervoort, A Hofmann

1874621 *Wyoming Province zircon O-Si isotopes reveal Eoarchean water-rock interactions and silicification:* **H Kirkpatrick**, D Trail, E A Bell, N Drabon, D W Mogk, P A Mueller

1953915 *Xenon Isotopic Constraints on Mantle Degassing and Earth's Starting Material:* **L Hu**, C R Lithgow-Bertelloni

1977883 *Zircons from new lithologies in the Acasta Gneiss Complex, Slave Craton.:* **W Chowdhury**, M R Ackerson, J R Reimink, B Neil, R Canam

1996972 *Archean Ultrahigh-Temperature Mafic Granulites in the Northwestern Superior Province: Metamorphic Evolution, Origin and Tectonic Implications:* **X Wang**, C Yin, S Lin, C G Couëslan, J Qian

251978
Early Earth Origin, Composition, and Evolution
(joint with DI, MR, P, T)

Conveners: **Haiyang Luo**, Princeton University; **Stephen Mojzsis**, HUN-REN Research Centre for Astronomy and Earth Sciences; **Damanveer Grewal**, Yale University; **Thenganodiyil Amaldev**, Cochin University of Science and Technology; **Yiruo Xu**, University of Michigan Ann Arbor

1871500 *Constraints and Uncertainties in Earth's Core Composition From Accretion and Core Formation:* **R A Fischer**, W F McDonough

247959
Economic Geology Across Scales: From Solid Earth Processes to Critical Mineral Resources
(joint with GC, SY, T)

Conveners: **Andrea Giuliani**, ETH Zürich; **Herve Rezeau**, University of Arizona; **Nicolas Saintilan**, ETH Zurich Swiss Federal Institute of Technology Zurich; **Santiago Tassara**, Universidad de O'Higgins

1883068 *A magmatic origin of REE mineralizing hydrothermal fluids in carbonatites: trace elements, Sr and Pb isotopes in carbonates and apatite from Mt Weld:* **A Vicentini**, A Giuliani, D Denis Fougerouse, P Kinny, A Santos, A Deditius, L Tavazzani, M Hartnady, B Ware

1971422 *Amphibole Constraints on Cl Behavior Across the Magmatic Column: Implications for Porphyry Copper Deposit Formation:* **J Borchardt**, C Beno, S Gaynor, A K Gilmer, D Kreiner, C T Lee, L Bramschreiber

1990061 *ASSESSING THE EFFICACY OF PRISMA HYPERSPECTRAL DATA IN LITHOLOGICAL MAPPING: CASE STUDIES FROM PARTS OF ARUNACHAL PRADESH, INDIA:* **S Sharma**, R Bharti

1990827 *Critical Raw Materials Potential in Rock Salts and Brine Wastes Across Canadian Sedimentary Basins:* **M Roland Marun**

1951174 *Cu–Mo±Au Porphyry–Skarn System at Dereköy Pluton, NW Türkiye: Geological and Geochemical Approaches:* **A G Gökçe**, M Kaya, A Abdelnasser

1862690 *Effects of Composition, Temperature, and Pressure on the Partitioning of Zinc between Brine and Dolomite: Implications for Studies of Sediment-Hosted Base Metal Deposits:* **M S Appold**, S Smith-Schmitz, H Lamadrid de Aguinaco

1878318 *Depleted mantle: Compositional diversity and distribution in the lower mantle:* **B Liu**, C Z Liu

1941413 *Earth's Composition: Origin, Evolution and Energy Budget:* **W F McDonough**

1986406 *Insights on Earth's U-Th-Pb Evolution from Archean Galenas:* **J D Vervoort**, J Blichert-Toft, C Chauvel

1989955 *Limited angular momentum removal via evection resonance in the early Earth-Moon system due to Earth's magma ocean solidification:* **R Rufu**, R M Canup

1941403 *Substantial water retained early in Earth's deep mantle:* **W Lu**, Y N Yang, T Long, H Xian, Y Li, Z Du

1992409 *The Missing Hadean Rock Record:* **S Mojzsis**

1982404 *Volatile retention during stochastic planetary accretion:* **Y Miyazaki**

1949708 *Epigenetic Cu–Zn Sulfide Mineralization in Eocene Tuffs of the Yığılca Formation (Kuzuluk, Sakarya, NW Turkey): Evidence from Sulfur Isotope Geochemistry and Hydrothermal Alteration:* **M Kaya**

1913888 *Fingerprinting ore remobilization in the Zawar Zn-Pb deposit, Rajasthan, India: Constraints from pyrite texture:* **A Sengupta**, K L Pruseth

1886569 *Fractionation of Alkali Feldspar: On Making High Ga/Al Granite:* **J Zhang**, C T Lee, D S Keller

1947825 *Geological and structural control of Cenozoic Iron ore deposit in western Nepal:* **P Gaire**, J Bahadur Chand, S Bhandari, A Bhandari, K Paudyal, S Thapa

1944652 *Geological Comparative Study of Two Ni-Cu Sulfide Deposits of Maniitsoq of Greenland and Jinchuan of China:* **Y Yang**

1884530 *Layered Mafic Intrusions, Magmatic Turbidites, and the Making of Platinum Ores:* **C T Lee**

1936868 *Micron-Scale Mercury Sulfides in Silica Sinters from an Extinct Hydrothermal System: Implications for Volatile-Rich Processes and Critical Metal Potential:* **R L Cheng**, C Munoz-Saez

1934208 *Quantitative approach to determine sulfate-carbonate-chloride concentrations in fluid-melt inclusions from Pea Ridge IOA-REE, SE Missouri:* **D Sahdarani**, H Lamadrid de Aguinaco

1973304 *Tectonic Evolution of Complex Mineralization Systems: A Case Study of the Multi-Stage Catalcam Au-Pb-Zn-Cu Mineralization within the Tethyan Metallogenic Belt, Biga Peninsula (NW Turkey):* **Z Davis**, D Yasar, K Sayit, G Kamenov, B Miller, Z Billor

1993301 *The green and not so green mantle: a revisit of mantle sources for magmatic sulfide deposits:* **I Ezad**, J Shea, PhD, S F Foley, M Fiorentini, D Holwell, D Blanks, J Bennet

2001802 *The Lithium Potential of Pegmatite Systems in the Adamawa Region, Central Cameroon: Implications for the Global Supply of Critical Minerals:* **L Soh Tamehe**, S Ganno, J D Takodjou Wambo

1918308 *The Role of Crustal Architecture in Mississippi Valley-Type Mineralization: Insights from Kentucky:* **G Lukoczki**, D Boddy, B Schafler, J B Hickman Jr, E Haroldson

251485
Environmental Effects and Eruptive Dynamics of Large Igneous Provinces: a Multidisciplinary Perspective *(joint with B, GC, GP, PP)*

Conveners: **Isabel Fendley**, University of Oxford; **Courtney Sprain**, University of Florida; **Lucien Nana Yobo**, Texas A&M University College Station; **Jennifer Kasbohm**, Princeton University; **Theodore Green**, Dartmouth College

1969046 *A climate legacy of punctuated solid earth degassing events and the 'khaosphere':* **L Karlstrom**, B A Black, B J W Mills, M L Rudolph, Q Lu, B Schoene, J Eguchi

1905184 *Constraining Volatile Release Rates from Geologically Plausible Magmatic Fluxes and Eruption Timescales: Insights from Volcanological Data and Thermal Modelling:* **R A Duraiswami**, A Monteiro, T Mittal, S Self

1958826 *Coring Svalbard Deep-Time Climate Archives: From Hyperthermals of the Greenhouse World to an Icy Earth in the Oligocene:* **D K Kulhanek**, K Senger, M T Jones, V Zuchuat, S Planke, A Smyrak-Sikora, W Foster, S A Grundvåg, G Shephard, K Sliwinska, M E Jelby, H Lorenz, M L Vickers, J Barta, S Danise, A Lasabuda, M Sinnesael, L Tarhan, W Xu

1860941 *Extremely rapid eruptions of the NAIP revealed by high-precision $^{40}Ar/^{39}Ar$ ages may explain the initiation and main body of the PETM.:* **J Hansen**, M Storey, D E Heaton, T B Thomsen, A A P Koppers

1866752 *Geochemistry and mineralogy of Neoproterozoic strata in northeastern Svalbard: re-evaluating the prevalence of basalt weathering during the early Neoproterozoic:* **A E G Millikin**, T Gibson, J V Strauss, K Bergmann, N Tosca, R Anderson, G P Halverson, A D Rooney, T Zhang

1945021 *Understanding tourmaline chemistry at Paramanahalli, Western Dharwar Craton, India: Insights on gold mineralization in the Chitradurga Greenstone Belt:* **M Sati**

1899092 *Whole Rock and Radiogenic Isotopic Analysis of Mineralized and Unmineralized Samples from the Buffalo Valley Mine and surrounding Battle Mountain area, Nevada:* **A R Lopez**, D S Coleman, I Riddle

1895050 *High CO_2 in Siberian Traps Melt Inclusions and Carbon Release from Cratonic Lithosphere During the End-Permian Mass Extinction:* **J Eguchi**, B A Black, Y Moussallam, S Ding, H Lee, E Rose-Koga, G Georgeais

1887253 *Late Triassic Passaic Formation Lake Cycles; a Sulfur Isotopic Null Pattern for Volcanogenic Input During the End-Triassic Mass Extinction:* **A Kelso**, E E Stüeken, P E Olsen, C W Diamond, T Lyons, S Ono, J H Whiteside

1852350 *Mercury Accumulation Rates Implicate Pre-Eruptive Cryptic Degassing of the Columbia River Basalt Group as a Driver of the Miocene Climate Optimum:* **D S Jones**, S Gomez, D Weisgerber, A M Martini, J Kasbohm, J H Lee, D Johnston

1981969 *Mercury Isotope Evidence for Large Igneous Province (LIP) Activity During the Cretaceous Oceanic Anoxic Event 2:* **Y Zhang**, K Hoffer, L M E Percival, R Yin, J S Eldrett, D Minisini, S C Bergman, R Barclay, H C Jenkyns, X Y Zheng

1992307 *Simulating Plume-Driven CO_2 Emissions in Large Igneous Provinces and their implication on climate evolution:* **S Ritter**, A Balazs, J Rogger, D Stemmler, T Gerya

1979689 *Testing Models for Generation of Silicic Magmas Associated with the Steens Basalt:* **M San Miguel**, B A Black, J Eguchi

1919432 *Timing and climate effects of the Amba Dongar carbonatite complex eruptions, Deccan Traps large igneous province: Insights from U-Pb pyrochlore geochronology:* **T Green**, A Naik, S Khadri, B Schoene

1873404 *Trends in Mercury and Major and Trace Element Abundance Across the Cretaceous-Paleogene Boundary: New Data from Seymour Island, Antarctica:* **C Baumer**, I Fendley, J Witts, R Whittle

250055
Evolution of transcrustal magma plumbing systems and volcanic eruption styles: Chemical, Temporal, and Physical perspectives

Conveners: **Pranabendu Moitra**, University of Arizona; **Benoit Taisne**, Nanyang Technological University; **Brad Singer**, University of Wisconsin Madison; **Ayla Pamukcu**, Vanderbilt University

2001915 *A Tale of Two Magmas: Divergent Melt Inclusion Records from Lava and Scoria at Mt. Rainier:* **A Hammerstrom**, P E Wieser, C L DeVitre, B Monteleone, M J Jercinovic, D Meisenheimer, A S Pamukcu, S Turner

1857162 *Chemical Compositions of Volcanoclastic Materials Related to the 2020 Eruption Event, Nishinoshima Island in the Ogasawara Arc:* **E Tanaka**, K Yoshida, T Sato, Y Tamura

1980707 *Effect of Crystal Shape on the Extensional Rheology of Crystalline Magma:* **A Tatsch**, P Moitra

1899459 *Effects of bubbles on crystallization with implications for eruption explosivity:* **P Moitra**

1895003 *Effects of Bubbles on the Rheology of Crystal-Rich Magma: Insights from Analog Experiments:* **W Ma**, P Moitra

1948569 *Exploring Architecture and Dynamics of Caldera Plumbing Systems During Volcanic Unrest: The Case of Campi Flegrei Caldera (Italy):* **G Buono**, F Maccaferri, L Pappalardo, A Tramelli, S Caliro, G Chiodini, V Pinel, E Rivalta, E Spagnuolo, E Trasatti, M A Di Vito

1969481 *Flaring up: discrete magma bodies within a deep, vertically extensive transcrustal magmatic system fueled the Tuff of Elevenmile Canyon supereruption:* **A C Ruefer**, A S Pamukcu, G Chiaro, M J Lewis, M P Eddy, K L Weaver, J W DesOrmeau

1893705 *Glacial (un)loading modulates volcanic inactivity and caldera-forming eruptions in the Andean Southern Volcanic Zone:* **P Moreno-Yaeger**, B S Singer, M Townsend, C Huber, B R Jicha, B Alloway, B R Edwards, S A Marcott, J K Cuzzone

1922403 *Inception of Holocene silicic eruptions on Osorno Volcano, Andean Southern Volcanic Zone, following the retreat of the Patagonian Ice Sheet:* **J Stalla**, B S Singer, P Moreno-Yaeger, B Alloway, J Vander Auwera, B R Jicha

1988201 *Magma Transport Modeling: a Transcrustal Network Perspective:* **F Lam**, L Karlstrom

1930194 *Mechanical Heterogeneities as a Potential Cause for Cyclic Gas Venting at Dome Building Volcanoes:* **E Saucier**, M Harris, S Kolzenburg

1928616 *Melt Inclusion and Embayment Constraints on Magma Compositions, Volatile Contents, and Ascent Rates from the 2024-2025 Eruption of Kīlauea, Hawai'i:* **H Valgardson**, E R Johnson, K J Lynn, PhD, A H Lerner

1922208 *New constraints for explosive-effusive transitions from proximal tephras of the 2011-12 Cordon Caulle eruption:* **P Ruprecht**, T Giachetti, J Wiejaczka, H Winslow, A Topp, J Pin, T McLean

1952504 *New Evidence for Emplacement of Lavas into Ice at Subduction Zone Volcanoes: Field Observations from the Andean Southern Volcanic Zone:* **B R Edwards**, P Moreno-Yaeger, I Fustos-Toribio, A Bravo, F Vera, M Townsend, M Pooley, B S Singer

1894063 *Petrologic and Geophysical Synthesis of the Magmatic System at Akutan Volcano:* **M Moss**, M Myers, H F Mark, X Yang, Y Cheng, R Grapenthin, Y L Lizik, D E Portner, W J D Lee, S M Wu, J F Larsen, M L Coombs, J T Freymueller

1984552 *Phase equilibria of rhyolitic magmas: comparison between high pressure experiments and rhyolite-MELTS calculations:* **T Nakatani**, G Nobuo

1912741 *Post-Glacial Emergence of Distinct Shallow Rhyodacitic Magma Reservoirs Beneath Puyehue-Cordón Caulle Volcanic Complex, Andean Southern Volcanic Zone:* **B S Singer**, S Stevens, B Jicha, P Moreno-Yaeger, W O Nachlas, B Alloway

1909882 *Protracted assembly of the magmas feeding the 1783-84 Laki fissure eruption, Iceland:* **E Mutch**, J Maclennan, M E Hartley

1923298 *Stress pinch points from glacial loading modulate magma ascent and storage in continental arcs:* **M Townsend**, P Moreno-Yaeger, A Harp, C Huber, B S Singer

1959331 *Structural and Geochronological Investigations of the Duncan Hill Pluton: What Can the Plutonic Record Tell Us About Transcrustal Magma Plumbing Systems?:* **C Ruggles**, E Watts, B Schoene, B Tikoff

1940346 *Syn-eruptive surface faulting reveals laccolith deformation dynamics at the 2011-2012 Cordón Caulle, Chile eruption:* **F Aron**, P Ruprecht, N Vera, F Delgado

1901221 *The May 22nd 2021 eruption of Nyiragongo Volcano, DRC:Field observations and reconstruction of eruption dynamics.:* **A Kyambikwa**, A Sadiki, S Maombi, S Kolzenburg, B Ngangu, D Tedesco

1916707 *Trans-crustal Magma Ascent at the Speed Limit:* **T A Plank**

1854922 *Transcrustal Magma Storage and Evolution During Holocene Deglaciation: the Tungnarhraun Mafic Lavas, S. Iceland:* **T Furman**, D Kincaid, C Oborn

1957691 *Uncovering Hidden Eruption Histories: Insights from Volcaniclastic Deposits in the Yellowstone Plateau Volcanic Field Subsurface:* **D White**, P Kondracki, L N Harrison

1893344 *Unraveling the Timing and Episodicity of Intrusions under a Distributed Volcanic Field:* **A Paschall**, A Germa, C Connor, J A Bowles, J Ricci, X Quidelleur

252555
Explosive Eruptions at the Land-Sea Boundary: Improved Understanding Through Multidisciplinary Oceanographic Studies *(joint with NH, OS)*

Conveners: **Sharon Walker**, NOAA/PMEL; **Cornel de Ronde**, GNS Science-Institute of Geological and Nuclear Sciences Ltd; **Fabio Caratori Tontini**, Organization Not Listed; **Richard Henley**, The Australian National University; **Sean McAllister**, University of Washington

1887299 *Deep Crater Excavation and Sustained Heat Flow Following the 2022 Hunga Eruption:* **C E J de Ronde**, S L Walker, F Caratori Tontini, S A Henrys, D H N Barker, S Davidson, A Bagnasco

1990014 *Eruptive flux drives atmospheric lightning rates and submarine hydroacoustic signals during the 2021 Fukutoku-Oka-no-Ba eruption:* **K F McKee, PhD**, K E Fauria, J Caplan-Auerbach, J D Assink, M Louis, T Mittal, F Maeno, M Ichihara, D Metz, C Vagasky

250507
Extensional Systems through Space and Time: From Magma Genesis to Surface Expression *(joint with EP, T)*

Conveners: **Jisoo Kim**, Arizona State University; **Amdemichael Zafu Tadesse**, Addis Ababa University; **Jacqueline Giblin**, University of Connecticut; **Albert Kyambikwa**, Tulane University of Louisiana, EES; **Jacqueline Giblin**, University of Connecticut

1968489 *A Combined High-Resolution Magnetostratigraphy and $^{40}Ar/^{39}Ar$ Geochronology From Adigrat Section, Northern Margin of the Ethiopian Flood Basalts: Implications for the Timing and Duration of the Traps.:* **K N Tesfay**, M Heizler, J M Feinberg, D J Peppe

1855097 *Adigrat Basalts, Northern Ethiopia: Geochemical Constraints on the Final Stage of Flood Basalt Activity:* **T Furman**, K N Tesfay, M Petrucela, D J Peppe, A Z Tadesse, L Emishaw

1861688 *Viscosity and Flow Dynamics of the Rhyolitic Lava of Mount Arteni, Armenia: Insights from Numerical Modeling of Emplacement and Effusion Rates:* **D L Sahagian**, K Meliksetian, H Gevorgyan, G Navasardyan, E Grigoryan

1932249 *Volatile resorption expedites eruption onset in large silicic systems:* **F Keller**, M Townsend, J Troch, C Huber

1972016 *Persistent hydrothermal discharge more than 2 years post-eruption at Hunga volcano, Tonga:* **S L Walker**, C E J de Ronde, V K Stucker, N Palmer, T Baumberger, A M Antriasian, G Xu, S McAllister, P Tuakafu

1905663 *The role of shock waves in the climactic volcanic eruption of the Hunga (Tonga) volcano, 15 January 2022:* **P J Hazell**, T S Pham, R Henley

1941443 *Tracing the journey of volcanic ash in the marine environment: Using the January 15, 2022, Hunga eruption as a case study:* **M Chaknova**, T Giachetti

1909733 *Tracking the Growth and Deformation of Fissure Phreatomagmatic Eruptions: Insights from the ~3.9 ka Nisida Eruption at Campi Flegrei Caldera:* **J Natale**, E Cascella, S Vitale

1916983 *Widescale Recent Submarine Pyroclast Production During NE Lau Basin Eruptions at 1-3 Km Water Depth and Resultant Volcano Morphology:* **K H Rubin, PhD**, W Chadwick Jr, R Embley, S G Merle, D A Clague

1988449 *Blame the Rift: Magma Upwelling Over 3.1 My at the Chacana Shear Zone, Ecuador:* **P A Mothes**, K W W Sims, L B Kant, W C McIntosh, B R Jicha, H E Gaunt, M D Córdova Aguilar, B O Beate, A Chiluisa, J Salgado, J M Garrison

1942554 *Crustal Stresses and Magma Pathways in Volcanically Active Rifts:* **V Armeni**, L Mantiloni, B Bookhagen, E Rivalta, V Acocella, M R Strecker

1964136 *Histories Emerging from the Ice: Physical and Compositional Characterization of Igneous Moraine Clasts at Jökulsárlón:* **J Kammerer**, V Andreo, M Pearce, B Knittle, G Montano, A Glover, R Garey, G Greger, T J Banik, T Carley

1951508 *Iceland's Uncharted Skull: An Analysis of Hauskúpa, an Unmapped Nunatak at Þórðarhyrna:* **V Andreo**, J Kammerer, M Pearce, G Montano, T J Banik, T Carley

1922854 *Paleomagnetic and geochemical evidence for long-lived extensional volcanism that built the Modoc Plateau in Northeastern California, USA:* **M S Avery**, L Bramschreiber

1973083 *Spectral variations in low-frequency earthquakes during the 2021 eruption of Nyiragongo Volcano, East African Rift System:* **Z Herbst**, A Kyambikwa, C J Ebinger, C Kalugana, G Mavonga

1917575 *The Conditions of Melt Generation during the Rifting and Breakup of Southwest Africa and South America.:* **T O Rooney**, D A Jerram, L L Jacobs, O Gonçalves, N Sousa

251607
Fate of Volatiles During Magmatic Processes in Planetary Interiors: Implications on the Origins of Habitability *(joint with DI, P)*

Conveners: **Ekanshu Mallick**, Virginia Polytechnic Institute and State University; **Damanveer Grewal**, Yale University; **Leila Honarbakhsh**, Louisiana State University; **Abin Shakya**, Louisiana State University; **Abin Shakya**, Louisiana State University

1874815 *A Plate Tectonic Origin for Earth's Hydrogen Isotope Dichotomy:* **A Ferrick**, J Korenaga

1852539 *A Primordial Heterogeneity in the $\delta^{13}C$ Signature of the Earth's Upper Mantle?:* **Y Moussallam**

1970201 *Ancient Mantle and Atmospheric Ne and Ar Within Two Proterozoic Anorthosites:* **S Patzkowsky**, X Zhang, R Parai, F Vayrac, G Avice, B Dymek

1868774 *Dynamics and consequences of non-equilibrium outgassing in terrestrial magma oceans.:* **H Samuel**, A Walbecq, A Limare

1997746 *In-situ sulfur isotope constraints on the nature of mantle components erupted during Samoan volcanism:* **J Calcinari**, J Dottin, E Bell, E Bullock, M G Jackson, S Crossley, J Labidi

250200
From Earth Processes to Deposits: Geoscience Perspectives on Critical Minerals

Conveners: **Jonathan Tucker**, National Academy of Sciences; **Deborah Glickson**, National Academies of Sciences, Engineering, and Medicine; **Graham Lederer**, University of California Santa Barbara; **Joshua Martin**, Geological Society of America

1879144 *Analcime in Lacustrine Mudstones as a Record of Hydrothermal Fluids: Insights From the Kongdian Formation, Bohai Bay Basin, China:* **Z Wang**, J Zhao, K Liu, X Pu, Z Shi, W Zhang, Q Guan

1865188 *CRITICAL MINERALS FROM NON-CONVENTIONAL SOURCES: STUDIES ON THE OCCURRENCES OF NICKEL AND COBALT IN OLIVINE WITH RESPECT TO GEOLOGIC SETTING AND ECONOMIC POTENTIAL:* **J Thakurta**, C Paliewicz, N Lahiri, C H Stanfield, Q R Miller, M M Jones, T Schaef

1953807 *Inefficient nitrogen transport to the lower mantle by sediment subduction:* **W Huang**, Y Yang, Y Li, Z Xu, S Yang, S Guo, Q Xia

1984509 *Intrusive Magmatism as a Potential Source of Mid-Crustal Water on Mars:* **J Hernández-Montenegro**, A Sáez, J Dong, P D Asimow

1914855 *Iron Dispersion Pattern in the Thermally Convective Magma Ocean: Implications for Iron-Silicate Mixing:* **L Honarbakhsh**, G Morra, P Mora, C Jacson, B B Karki

1852814 *Isotopic constraints on the nature of H in plume derived magmas:* **J W Dottin III**, J Calcinari, M Alexandre, M D Kurz, F Horton

1962119 *Partitioning of nitrogen between Fe-rich alloy melts and mantle silicate minerals: The fate of nitrogen during percolative core formation in differentiated rocky bodies:* **A Pal**, R Dasgupta, D Rogalla

1926173 *S and Cl Speciation in Very Reduced Mercurian Magmas:* **B A Anzures**, Y Liang, F McCubbin, K E Vander Kaaden, J Filiberto, A Lanzirotti, M Newville

1949103 *Water retention in the F-bearing olivine:* **C Gao**, Y Yang

1944558 *Evaluating Rare Earth Elements and High Field Strength Elements Enrichment in Carbonatites from the Amba Dongar Complex, India:* **S Mohanty**, I González-Álvarez, S Viladkar, J D'Andres, A Ghatak

1933322 *Evolution of hydrothermal sediments revealed by REE patterns and chlorite geothermometry at the Cheoeum Vent Field, Central Indian Ridge:* **H An**, J Jung, S KIM, K Yang

1846023 *Fluid inclusion constraints on the green sphalerite mineralization from the Zawar Zn-Pb deposit: Implications on ore genesis:* **A Sengupta**, K L Pruseth, S K Rajput

1859922 *Formation and Evolution of Fault-Karst Reservoirs in the Maokou Formation Under Tectonic-Sedimentary Coupling:* **Z Lian**, H Tang Sr, J He Sr

1966556 *From geological hypothesis to AI: enhancing mineral exploration decisions by quantifying geological uncertainty:* **D Z Yin**, J Caers

1903372 *From Sedimentary Organic Matter to Graphitization: Mechanisms of Temperature–Pressure Coupling in Geological Processes:* **Y Wang**, S Yao, T Yoshino

1885114 *Geochemical Characteristics of Feldspar and Muscovite from Be-Nb-Ta mineralized Yamrang Pegmatite, Eastern Nepal:* **S Bhandari**, K Qin Sr, Q Zhou

1852001 *Occurrence and Mobility of Rare Earth Elements in Laterite Deposits, Eastern Thailand:* **S Kaewpaluk**, A Fanka, S Leknettip

1957815 *Origin and Accumulation of Lithium in Groundwater:* **D F Boutt**, L Munk, K L Butler, D E Ibarra

1973719 *Rare Earth Element Enrichment in Devonian Black Shales of Kentucky: Geochemical and Mineralogical Constraints:* **A Washburn**, J B Hickman Jr, G Lukoczki

251566
Granites and the Continental Crust: Reimaging, Reinvestigating, and Reinterpreting Earth's Veneer

Conveners: **Heather Kirkpatrick**, Organization Not Listed; **Mattia Pistone**, University of Georgia; **Laura Waters**, University of Michigan Ann Arbor

1914929 *Application of a New Biotite-melt Thermometer to the High-SiO2 Rhyolite Leucogranite Cap at Spirit Mountain, Nevada: Constraints on the Mechanism of its Melt Segregation:* **B Colding**, M Taylor, R A Lange

1994529 *Crust-mantle interaction during the late Archean in the Bighorn Mountains: Insights from Petrography and Geochemistry:* **S Adhikari**, J Gifford

1935406 *Garnet's Impact on the Petrogenesis of Himalayan Leucogranites:* **F Z Teng**, D Li, Y Xiao, Z Liu, W Y Li, F Y Wu, H O Gu, X Liu

1966658 *In one step: Insights into shallow differentiation from basalt to rhyolite at Cordón Caulle from rhyolite-MELTS simulations:* **A C Ruefer**, L Kelly, G A R Gualda, E Carrillo, S Hickernell, S Ward, H Winslow, P Ruprecht

1991084 *Magma Mixing and Mingling in the Berach Granitoid of the Aravalli Craton, India: Evidence from Field and Microtextural Observations:* **B Panigrahi**, D C Srivastava

249248
Magma Evolution and Longevity from Source to Surface *(joint with NH)*

Conveners: **Rose Gallo**, Northern Arizona University; **Abigail R Nalesnik**, University of Delaware; **Jessie Bersson**, Smithsonian Institution; **Kendra Lynn**, USGS Volcano Science Center

1896239 *Regional Characterization of U.S. Gulf Coast Coal Resources as Potential Sources of Critical Minerals and Rare Earth Elements:* **P D Warwick**, R C Reedy, B R Scanlon

1973573 *The Origin and Enrichment of Sedimentary Basin Lithium Brines: A Case Study from the Upper Devonian Leduc Formation, Alberta Basin, Canada:* **K L Butler**, L Munk, D F Boutt, D E Ibarra, N Morris, J Kennedy, M J Custado, P Saha, M Blake

1945485 *Tracing Extreme Magmatic Fractionation and Fluid Influence in Li-rich Pegmatites of Northeast India:* **A Dutt**, D Paul, V Goswami, D Ray

1854691 *Mn-Rich Garnets in Late- Stage Pegmatites from the Zebra Hill Complex, Chumathang, Ladakh, India: Evidence for Melt Evolution and Fluid Activity:* **D Bhoir**, M Jonnalagadda, N Karmalkar

1958568 *Origin of the Nepheline Syenites from the Arkansas Alkaline Province: Zircon U-Pb Ages and Sr-Nd-Pb-Hf Isotope Constraints:* **M Benton**, H Zou

2003792 *Outcrop-scale heterogeneity skews interpretation of lower crustal composition:* **J Murray**, P B Kelemen

1905522 *Petrogenesis and geochemical characteristics of Late Cretaceous plutonic block streams in the Gyeongsang Basin, Korea: The Maneosan and Biseulsan examples:* **Y J Lee**, S H Choi

1980493 *Petrogenesis and Thermal Evolution of the Granite Harbour Intrusives Suite (Central Transantarctic Mountains, Antarctica): Implications from Bulk-Rock Geochemistry, Sr-Nd-Pb Isotope Geochemistry and ^{40}Ar-^{39}Ar Hornblende-Biotite Ages:* **D Yasar**, K Sayit, G Kamenov, H Zou, B Miller, J Fosdick, Z Davis, W Hames

1903579 *The Failed Supervolcano Spirit Mountain (Avi Kwa Ame): The Critical Role of Basalt and Pre-existing Aplite Dikes in Producing Eruptible High-SiO_2 Rhyolite:* **M Taylor**, R A Lange

1866739 *Triassic geodynamics of the Korean Peninsula: Insights from petrogenesis of plutonic rocks in the Okcheon Belt and Gyeonggi Massif:* **S H Choi**, S Babazadeh

1886977 *Understanding fluid transport in plutons: Isotopic compositions of hydrothermal-pipe features in the Tuolumne Intrusive Suite, CA:* **C Deese**, A Ward, D S Coleman, T Rasbury, K Wooton

1853748 *A multi-disciplinary approach to develop melt extraction models that are consistent with the rock record:* **C Huber**, D Florez, O Bachmann, E M Parmentier, M Pec

1878932 *Differentiated alkali-mafic-ultramafic Inagli intrusion (Aldan Shield, Russia): evidence for alkali magmatism in paleosubduction zones:* **A Marfin**, T Radomskaya, A Ivanov, E Reguir, A Chakhmouradian, N Vladykin, E Demonterove, L Suvorova, A Chueshova, A Gavrilenko

1917801 *From A Single Tank To Multiple Magma Bodies: Co-Existing Magmas Highlighted By Diverse Scales Of Sampling:* **J Bowers**, J Andrys, D M Schwartz, V D Wanless, M D Schmitz, B Hosseini, M Myers, B J Andrews, M Manga, B D Brand, G Giordano

1954714 *Geochemistry of the Mauna Loa 2022 Eruption:* **L Harrison**, N Williamson, D Weis

1965572 *LIDAR, Seismic, and GPR Investigation of Aplite Dikes and Exfoliation at Enchanted Rock, Texas:* **O Ojelabi**, R R Stewart

249158
Magmatic and Hydrothermal Processes at Mid-Ocean Ridges *(joint with B, OS, S, T)*

Conveners: **Qi Fu**, University of Houston; **Karen Bemis**, Rutgers University

1909786 *3D Seismic Tomography in Combination with Geophysical Imaging of the Kairei Hydrothermal Vent Field – a Study of the Fluid Flow System at the Central Indian Ridge:* **B Schramm**, M Engels, M Schnabel, H Mueller, A Dannowski, H S Hilbert, U Barckhausen, A Jegen, I Grevemeyer

1939741 *Contrasting Behavior of Zn, Cu, Ni, Cd and Pb Species under the Influence of Labile Particulate Fe along the Disperse of Rainbow Nonbuoyant Hydrothermal Plume:* **X Zhu**, L Zhou, X Chen, S J Kao, E P Achterberg

1944736 *Direct observations a seafloor volcanic eruption starting 29th April 2025 on the East Pacific Rise at 9°50'N:* **S R Shah Walter**, A S Wozniak, S Wagner, M Yucel, G W Luther III, S M McNichol, D J Fornari, V Preston, A D Skarke, T Barreyre, V V Ingale, R E Parnell-Turner

1968022 *Evolving Subsurface Conditions and Fluid Pathways at M, P, and Bio9 Vents on the East Pacific Rise (9°N) Leading up to the 2025 Eruption:* **E Bibaj**, J McDermott, C Downing, J Siverand, D J Fornari

1964582 *Experimental Determination of Low-Temperature Silicate Alteration Reaction Rates:* **L Gasior**, J C de Obeso, C Anderson, D P Fernandez

1953485 *Experimental Insights into the Formation of Acidic Ultramafic-influenced Seafloor Hydrothermal Vent Fluids at Slow-Spreading Ridges:* **G Evans**, W E Seyfried Jr

1936761 *Magma Geochemistry and Eruption Intensity at Augustine Volcano, Alaska:* **A M Koleszar**, K Walowski, M Loewen, R D'Errico, J Zehner, J Farrell

1862549 *Migration and Chemical Evolution of Granophyric Melts in the Differentiated Mafic Graveyard Point Intrusion, Western Snake River Plain, Northwestern USA.:* **C M White**, D M Schwartz

1909031 *Numerical simulations of shallow magmatic bodies. Insights into magma chamber dynamics and crystal mush stability applied to the Krafla case.:* **G Girela Arjona**, D Garg, A Longo, P Papale

1921566 *Petrogenesis and Pre-Eruptive Magma Storage Conditions of the Understudied and Potentially Active West Crater Volcanic Field in Washington State, USA:* **J Genero IV**, K T Wall, C Harpel, H Shamloo, T Little

1987514 *Fe and Mn-rich Eruptive Fluids from the Australian Antarctic Ridge Crest Reach the HNLC Surface Ocean:* **J A Resing**, P Barrett, P Monreal, T Baumberger, N J Buck, C Stuhl, H Jerris, J E Davis, R M Bundy

1908231 *Geochemistry of hydrothermal fluids and the implications for sulfide deposit formation at the ultramafic-hosted Semenov vent field, 13°30'N on the Mid-Atlantic Ridge:* **G Portlock**, J Shannon, S Steigenberger, D Hillegonds, B J Murton, I A Yeo, R H James

1911022 *Hydrothermal Graphite: linking vent chimney mineralogy and dissolved black carbon in the deep ocean:* **J Hubbard**, N McDonald, F S Spear, M F Schaller, G W Luther III, S Wagner

1895878 *Hydrothermal Particles within the Axial Calley Control Off-ridge Concentrations of Long-lived Radionuclides:* **N Redmond**, C T Hayes, M C Lohan, A Tagliabue

1985582 *Insights into the magmatic plumbing system of the 8°20'N Seamount Chain using olivine-hosted melt inclusions:* **E E McCully**, V D Wanless, M Anderson, M R Perfit, J Andrys, M Myers

1878544 *Mantle Heterogeneity Along the Mid-Atlantic Ridge: Using Hafnium Isotopes to Distinguish a Distinct Highly Depleted Component at the Bight Fracture Zone:* **S Anderson**, M Bizimis, B J Murton, J E Dixon

1973587 *Metamorphic Fluid Pathways and Storage in Hydrothermal Systems: Macroscopic Reaction Porosity in Gabbros, IODP Expedition 399:* **A M McCaig**, J Matchett, A Macente, F Klein

1873966 *Modeling mantle melting beneath the ultraslow spreading Southwest Indian Ridge (9^{o}-25^{o} E):* **V Richardson**, M D Behn, A Shaw, V D Wanless

1872596 *Multiple Hydrothermal Reservoirs Inferred from Long-term Borehole Temperature Monitoring at the Noho Hydrothermal Site, Mid-Okinawa Trough:* **K Kitada**, M Kinoshita

1871446 *New mineralogical Features of clay minerals in Onnare and Onbada vent field, Indian Ocean:* **J Jung**, J Jung, Y K Park, H An, J Kim

1963577 *Pentlandite - Chalcopyrite formation by Pyrrhotite replacement in Olivine gabbro: Relation between Serpentinization and Sulfurization in Mafic – Ultramafic systems.:* **A Bose**, A S Majumdar, D Ray, S Mishra

1898621 *Petrogenetic Complexities Expressed in Gabbros from Fast-spread Lower Oceanic Crust at Pito Deep:* **C Luna**, M P Loocke, M J Cheadle, B E John, M Gess

1954094 *Potassium (K) Isotope Composition of Low-temperature Hydrothermal Fluids and Porewaters from the Eastern Flank of the Juan De Fuca Ridge: Insights into the Marine K Cycle:* **S Charin**, G Evans, C G Wheat, N Shalev, W E Seyfried Jr, X Y Zheng

1956385 *Record of On-Axis Gabbro Emplacement from the Atlantis Massif Oceanic Core Complex and its Hydrothermal and Tectonic Implications:* **K Lin**, E Cottrell, C J Lissenberg, C Ferrando, N Clayton

252035
Multi-disciplinary perspectives on ocean island and seamount processes from above the top to below the bottom *(joint with B, PP, T)*

Conveners: **Janine Andrys**, Boise State University; **Darin Schwartz**, University of Idaho Library; **Eric Mittelstaedt**, University of Idaho

1870972 *Constraining the Pressure and Temperature of Intra-Plate Mantle Melts: A Modelling-Informed Inversion:* **S Jiang**, R Davies, I H Campbell, M Khamlich, M J Hoggard, T Duvernay, M Sambridge

1879462 *Deep learning assisted identification of crystal and vesicle populations in SEM imagery of submarine volcanic rocks.:* **M Shaw**, J Tomer, J Pierce, A A Soule

1960044 *Geochemical and morphological constraints on the construction and evolution of the Galápagos Platform and Archipelago:* **J Andrys**, D M Schwartz, V D Wanless, D J Fornari, S K Hoy, D Geist

1988305 *Geochemistry of Hydrothermal Fluids at the Intraplate Volcano Vailulu'u Seamount, American Samoa:* **J M McDermott**, J Rodgers, S Herrera

1902067 *Investigating controls on chemical and iron isotopic systematics of vent fluids at the evolving Kamaʻehuakanaloa Seamount using low temperature laboratory alteration experiments:* **A Heard**, J Seewald, S Sylva, C R German

1928974 *Reevaluating Seafloor Hydrothermal Deposit Ages Calculated by ^{238}U- and ^{232}Th-Radioactive Decay Series Geochronometers Using Multiple Proxies.:* **A Miller**, K W W Sims, S Scott, M K Tivey, S E Humphris

1890347 *Sulfide Mineral-Driven Photon Up-conversion Mechanism Fuels Photosynthesis in Deep-Sea Hydrothermal Vent Ecosystems:* **J Zhu**, Y Li, Q Li, B Hou, H Lu

1970806 *The Southwest Indian Ridge: Where the Earth's Mantle is Abundantly Exposed on the Seafloor:* **H J Dick**, M Cannat, D Sauter, H Zhou, J Koepke, H Sato, T Sato, C Mevel

1918284 *Timing and Controls of Carbonate Formation in Oceanic Crust Trough Time: Constraints from U–Pb Dating and Thermodynamic–Kinetic Modeling:* **E Albers**, K Zavala, A Gerdes, S Kasemann, W Bach

1963799 *Visualization of Hydrothermal Plume Discharge Locations and Temporal Dynamics at ASHES Vent Field:* **K G Bemis**, S Li

1959342 *Volcanic Brine Pools in the Red Sea Rift: A New Expression of Hydrothermal Activity:* **F M van der Zwan**, N Augustin, S Petersen, S G Sander, M Schmidt, I Diercks, D Atienza

1885075 *Investigating the Upper-Mantle Dynamics of Galapagos Plume-Ridge Interaction with the Marine IGUANA Ocean Bottom Seismometer Array:* **G Ito**, E E E Hooft, PhD, Y Shen, D R Toomey, M C Ruiz, R S Hufstetler, K Autumn, O Adeboye, P Kongpet, V Sassard, Z Cheng, M Young

1870685 *Magnetic Anomaly in the Sofu Seamount Submarine Volcano in the Izu-Ogasawara (Bonin) Arc, Source Area of the October 2023 Earthquakes and Tsunamis:* **T Fujiwara**, N Tada, K Yoshida, A Ito, K Imai, M Obayashi, K Obana, G Fujie, S Ono, S Kodaira

1989463 *Making and breaking historical patterns in Kīlauea's lower East Rift Zone: investigating the magma sources and eruptive sequences of the 1840 and ca. 1790 eruptions:* **R I Gallo**, T Shea, L Barreau, N Cluzel, A J Pietruszka, K J Lynn, PhD, W Nelson

1934755 *Mapping and Classification of Seamounts in the Northern Atlantic: Integrating Bathymetry, Gravity, and Seismic Reflection Data:* **M A Salman**, I Filina

1869365 *New Insights into the Submarine Geology of Ofu and Olosega Islands, American Samoa:* **C Brown**, K Konrad, M G Jackson

1943901 *Ocean Drilling Records 32 Million Years of Plume–Ridge Interaction South of Iceland:* **C Pearman**, C Y Tien, N White, J Maclennan

1923995 *On the Evolution of Ocean Island Volcanoes: Perspectives from a Near-Stationary Hotspot:* **R Ramalho**, M G Jackson

1933142 *Spatio-Temporal Evolution of Lava Flow Emplacement at the Fani Maoré Submarine Volcano, Offshore Mayotte Island (Indian Ocean):* **V Puzenat**, N Feuillet, C Deplus, J Escartin, J C Komorowski, W W Chadwick Jr, C Cathalot, E Rinnert

1894727 *Submarine Volcanic Dome Growth at Vailulu'u Seamount, American Samoa:* **J Tomer**, S Soule, S Herrera, C R German, A Govindarajan, M Burkitt-Gray, A Michel, V Brown

251106
New Views on Submarine and Terrestrial Intra Plate Volcanism *(joint with T)*

Conveners: **Edgar Contreras**, University of Houston; **Irina Filina**, University of Nebraska Lincoln; **Kevin Konrad**, Oregon State University; **Matthew Jackson**, University of California; **Edgar Contreras**, University of Houston

1872797 *Subduction of the hotspot highway into the Mariana Trench:* **M G Jackson**, S Harðardóttir, K Konrad, S Beethe, N Gauer Pasqualon, V Finlayson, S A Halldorsson, M Bizimis, A Koppers

1896576 *Age-progressive Late Cretaceous to Paleogene Nephelinite-Phonolite-Carbonatite-Lamprophyre-Kimberlite Magmatism Along a 400 km Lineation in Southern Namibia: Product of the Vema Hotspot?:* **P E Janney**, R Liversage

1932773 *Constraining Interactions between Partial Melt and the Lithosphere beneath the Auckland Volcanic Field and the North Island of New Zealand with Sp Receiver Functions:* **J Wen**, K M Fischer, G A Abers, K van Wijk, J D Eccles, Z Guo, T Yang, J P Morgan, H Chevallier, M Soulsby, Z Wu, J Lin, M K Savage, F Illsley-Kemp

1892659 *Deep Provenance of East African and Indian Ocean Hotspots through Tomography, Graph Theory, and Geochemical Cross-validation:* **X Bao**, M Dongmo Wamba, A Stracke

1894469 *Evidence for a Hunga Tonga-Type Submarine Eruption in the Bismarck Sea:* **B Mohamed**, D H Abbott, B Bostick

1961443 *Exploring Interactions Between the Bowie Hotspot and the Pacific Plate with Active Source Seismic Data:* **C Brandl**, L L Worthington, M A L Walton, E C Roland, M R Nedimovic, S Rysanek, O Adedeji, J Castillo, B J Phrampus

1926531 *The 2022-2025 Submarine Eruption at Ahyi Seamount, Northern Mariana Volcanic Arc: Remote Detection and Monitoring, Depth Changes from Repeat Mapping, and ROV Dive Observations:* **W W Chadwick Jr**, J Beeson, M Loewen, A Wech, J J Lyons, M M Haney, J Tomer, D Sowers, L Davis, A Sanchez, J Powell, M Agarwal

1851961 *Xeno-pumice in historical eruptions on La Palma as messengers from beneath an ocean island:* **V R Troll**, B S Jägerup, F M Deegan, H Geiger, M Aulinas, J M Day, J C Carracedo, C Harris, V Soler, F J Perez-Torrado, K Zaczek, F van der Zwan

1898768 *Geologically Current Directions of Motion of 53 Hotspots Estimated from Monte Carlo Inversion:* **R G Gordon**, K Gaastra, G Mifflin

1889683 *Geology of petit-spot volcanic fields revealed by integrated acoustic observations:* **S Machida**, J Kaneko, N Hirano

1881817 *Hawaiian Magmatic Underplating: Insights from Synthetic Seismic Modeling:* **M Fujimoto**, R A Dunn, C Xu

1996872 *How does hydrostatic pressure affect the mechanics of triggering eruption in deep marine environments?:* **H Cabaniss**, N Sarlo

1883591 *Intraplate Alkaline Magmatism in a Subduction Zone: The Role of Melts from the Low-Velocity Zone:* **S Pilet**, M Jordan

1918377 *IODP Coring Reveals Pleistocene Magmatic Windows into Big Island Hawaiian Volcanoes:* **E Allison**, K H Rubin, PhD, S Mertzman, D A Clague, A C Ravelo, J Webster

1907375 *Large volcanic eruptions are mostly sourced above mobile basal mantle structures:* **A Cucchiaro**, N E Flament, M Arnould, N Cressie

1867853 *Multiple generations of magmatic activity imaged by high-resolution seismic reflection data in the western Pacific:* **H F Mark**, J Preine, M Tominaga, W W Sager, M Tivey, E Moreno

1937797 *New $^{40}Ar/^{39}Ar$ Age Determinations on Catalina Island Volcanics:* **C Tassinari**, A Balbas, A Martin, N Onderdonk, K Konrad, D E Heaton

1875273 *New Ages of Western Pacific Seamounts Reveal Complex Pacific Plate Motion Prior to 80 Ma:* **S Beethe**, A A P Koppers, M G Jackson, N Gauer Pasqualon, K Konrad

1904806 *Origin of LOMU–EM1 Revisited: Insights from Sr–Nd–Hf–Pb Isotopic Compositions of Petit-Spot Basalts:* **T Nakano**, S Machida, N Hirano

1924616 *Plume capture, escape, and drift along the Emperor seamount chain:* **B R Jicha**, R B Mershon, M O Garcia, A J Pietruszka

1899122 *Plume head and tail: The Deccan-Reunion Molybdenum connection.:* **M Bizimis**, J M Day, T Khanna, A Marfin, E Rojas Kolomiets, D Kiran Yildirim

1969332 *pyUserCalc-Da: Depth-Dependent Modeling of U-Series Disequilibria in Basalts with Variable Reactivity During Mantle Melting:* **S Haridasan**, L Elkins

1905173 *Sedimentation, Mass Wasting, and Volcanism on Walvis Ridge Guyots Imaged by Multichannel Seismic Data: Implications for Regional Processes:* **E Contreras**, W W Sager, H W Zhou

1898516 *Seismic evidence of mid-plate volcanism in the Magellan Seamounts, Western Pacific:* **W W Sager**, M Sexton, M Tominaga

253370
Norman L. Bowen Award Lecture

Conveners: **Marie Edmonds**, University of Cambridge; **Tyrone Rooney**, Michigan State University; **Marie Edmonds**, University of Cambridge

248089
Petrology and Geochemistry of Meteorites and Returned Samples *(joint with DI, GP, MR, P)*

Conveners: **Susana Hoyos**, University of California Los Angeles; **Liam Peterson**, Woods Hole Oceanographic Institution; **Zoe Wilbur**, National Museum of Natural History, Smithsonian Institution

1868607 *In situ Rb-Sr analyses by LA-MC-ICPMS/MS: Method development and applications to lunar rocks:* **T W Chen**, R Zhao, D Zhu, C Timoner, A Bouvier, P H Warren, B Zhang

1988968 *Assimilation of crustal fluids in slowly cooled magmas on Mars:* **L Saper**, Y Liu

1860872 *Crystallization of Amorphous Olivine: Why is it Faster with Iron ?:* **P Cordier**, H Idrissi

1928424 *Distribution and Transport of Water in Planetesimals Constrained by Nominally Anhydrous Minerals in R Chondrites:* **M Sita**, S Desikamani, M E Newcombe, J Wang, P M Piccoli, R D Ash, C M O Alexander, L Peterson, PhD, S Nielsen

1907187 *EMPA and Raman analysis of S02 Meteorite from Jonnagiri, Kurnool District, Andhra Pradesh, India:* **P Raju**

1931511 *Hydrogen Isotope Variations Between Apparently Paired Lunar Meteorites:* **A G Distel**, J Davidson, M Wadhwa, R L Hervig, S Sutton, A Lanzirotti

1898858 *Seismic Imaging of Lithospheric Flexure Along the Hawaiian Ridge:* **M Ram A B**, B Boston, M A Uge, D J Shillington, A B Watts, C Xu

1847547 *The ages and formation mechanisms for the eastern Hess Rise and Mid-Pacific Mountains:* **P Crawford**, K Konrad, V Finlayson, A Balbas, D E Heaton

1925508 *The Réunion Island Mantle Plume – Core Addition or Ancient Silicate Component?:* **M Willbold**, N Messling, X Huang, D Hoffmann, G Wörner

1934241 *Tracing Deep Earth Volatile Heterogeneities with Heavy Noble Gases in Réunion Plume-Influenced Central Indian Ridge Basalts:* **X Zhang**, R Parai, P H Barry, E Füri

1936399 *阿曼东北部巴坦纳佩斯内碱性岩的特征和岩石成因:* **W Wang**, J Zheng

1891214 *Kinetic Fractionation of Vanadium and Magnesium Isotopes as Tracers of Volatility in the Early Solar System:* **L Peterson, PhD**, S Nielsen, M E E Auro, D V Bekaert, K Righter, L Tissandier, K W Burton, K Prissel, A Heard

1919488 *Mn-, Mg-bearing sulfides formed through aqueous alteration on the Bennu parent body:* **Z Wilbur**, T McCoy, C M Corrigan, T Gooding, R Wardell, K Righter, L Smith, H C Connolly Jr, D S Lauretta

1988508 *Modeling Carbon Outgassing from Chondritic Planetesimals:* **B Peng**, D Valencia

1934785 *Parent body processing and constraints on an IAB iron connection from Re-Os isotopes and highly siderophile element abundances in winonaites:* **X Zhang**, J M Day, R Nicklas, Y Srivastava

1917018 *Petrography and Shock Features of Two New Martian Poikilitic Shergottites: Northwest Africa 13366 and Plateau Du Tademait 008:* **S Ramsey**, G Motta, A Udry

1985499 *Sulfoxy Anions in Winchcombe Meteorite Host Remnants of Pristine Early Solar System Water:* **I E Kohl**, N Kuhlbusch, A O'Brien, J Weatherill, L J Hallis, L Daly, D J Morrison

1852809 *Sulfur isotope constraints on lunar evolution:* **J W Dottin III**, S Simon, C K Shearer

1972724 *The Hydrothermal Alteration History of Asteroid Bennu Recorded by Phosphates:* **J Barnes**, L Seifert, B Tkalcec, G Libourel, K J Domanik, T Erickson, Z Wilbur, K Ishimaru, I Ong, F E Brenker, P Haenecour, E M Bloch, L P Keller, D Hill, H Connolly, D S Lauretta

1921405 *Unique Shock Textures in the Martian Depleted Basaltic Shergottite Northwest Africa 15917:* **G Motta**, A Ostwald, S Ramsey, A Udry, J M Day, G R Osinski, L Loiselle, A Zukowski, V Payre, M Ferrell

247336
Processes in the crustal column: From magma genesis to ore deposits and eruptions

Conveners: **Manuel Pimenta Silva**, Organization Not Listed; **Thomas Grocolas**, U.S. Geological Survey; **Juliet Ryan-Davis**, Massachusetts Institute of Technology; **Mattia Pistone**, University of Georgia

1901786 *An experimental study of the solubility of S-CO_2-H_2O in dacite melt at 100-200 MPa: Investigating the links between the petrology and gas-emission geochemistry of the 2009 eruption of Redoubt Volcano, Alaska (Invited):* **D Coulthard Jr**, T W Sisson, D L Blatter

1880907 *Assessing halogen behavior within mature continental arc systems: A case study from the Cretaceous Sierra Nevada arc, CA:* **E H H G Cooperdock**, J Barnes, C Bucheli, J S Lackey, G Segee-Wright, J G Grabiec, L Stockli, D F Stockli

1845738 *Contributions of metasomatized lithosphere or asthenosphere to the formation of magmatic Ni-Cu-PGE deposits: Evidence from the Norilsk 1 deposit:* **A Marfin**, M Brzozowski, P Lightfoot, X Ding, M Bizimis, S Rader, M Karnes, V Brovchenko, T Radomskaya, A Ivanov, O Belozerova

251428
Recent Advances in Volcanic Geophysics: Theory, Methodology, and Applications *(joint with S)*

Conveners: **Xusong Yang**, Institute of Geology and Geophysics, Chinese Academy of Sciences; **Ninfa Bennington**, University of Wisconsin Madison; **Guoqing Lin**, University of Miami

1978571 *A Clearer View of the Current Phase of Unrest at Campi Flegrei Caldera:* **X Tan**, A Tramelli, S Gammaldi, G C Beroza, W L Ellsworth, W Marzocchi

1920953 *A High-Precision Earthquake Catalog for Mauna Loa (July–November 2024):* **X Yang**, G Lin, N Bennington, S W Roecker

1982021 *Arc-Scale Imaging of the Cascade Volcanoes Using Ambient Noise, Heat Flow, and Ps Scattering:* **K J Agboola**, G A Abers, G Pang

1978881 *Correlation between Oceanic Crust Production and Volcanic Activity: A Case Study of the African and Pacific Plates:* **V E Juhlin**

1912423 *Water in Early-Formed Non-Carbonaceous Pallasite Parent Bodies: Implications for Terrestrial Planet Water Accretion:* **E Codillo**, A Shahar, J Wang, C M O Alexander

1920705 *Distribution of Platinum Group Elements in Sulfide-bearing and Oxidized Ores of the Sittampundi Anorthosite Complex, Southern Granulite Terrain, Tamil Nadu, India:* **A Kaur**, R Krishnamurthi, N Rai

1991143 *Evolution of Magmatic Sulfides in Arc Lower Crust: Insights from Copper Isotopes:* **L J Heywood**, M Muth, L Shengao, H Yang, G W Bergantz

1916413 *Magmatic fractionation and volatile enrichment in granitic systems: A pathway to economically viable Rare Earth Element and Critical Mineral Deposits:* **J D Takodjou Wambo**, S Ganno, T Kumbong Chiandeh, J P Nzenti, P D Asimow

1934088 *Modelling magma chamber failure: a new approach integrating magma dynamics and crustal mechanics:* **F Keller**, M Townsend

1925484 *Multi-source contamination and mineral fractionation indicate complex, disconnected plumbing systems along the Northwest Rift Zone, Newberry Volcano, Oregon:* **D C S Ruth**

1976407 *Deep short-period earthquakes beneath the Aleutian volcanoes: in the lower crust, mantle wedge, or slab?:* **K Zylstra**, S L Klemperer

1846605 *Fiber-optic Geodesy Enables Operational Early Warning and Real-time Imaging of Volcanic Eruptions:* **J Li**, E Biondi, Y Cubuk Sabuncu, P Erlendsson, V Hjorleifsdottir, K Jónsdóttir, Z Zhan

1910187 *Full-spectrum similarity of repeating trapdoor faulting:* **O Sandanbata**, S Takemura

1901739 *Hydroacoustic Analysis of the 2022-2023 Tanaga Island Seismic Unrest:* **N Narayan**, G Tepp, V V Ingale, R E Parnell-Turner, R Dziak, T Little

1905851 *Illuminating Magma Storage and Transport from the Pāhala Seismic Swarm:* **H A Janiszewski**, N Bennington, M E Glasgow, P Urra Tapia, S M Wu, M Smith-Polette, J Wight

1963205 *Imaging of volcano-tectonic features and plumbing system of the Campi Flegrei caldera by magnetotelluric survey:* **D G Maria Giulia**, R Isaia, A Troiano, C De Paola, F Pagliara

1928039 *Investigating Four Months of Pāhala Seismicity Using a Dense Nodal Array:* **M E Glasgow**, N Bennington, A F F Peña Castro, H A Janiszewski

1896903 *Magmatic Structure Beneath Okmok Volcano Constrained by Full-Waveform Ambient Noise Tomography:* **Y L Lizik**, X Yang, J Maurer, M M Haney, D C Roman

1899115 *Magnetic Inversion of Volcanic Dikes and Tubes Using a Particle Swarm-Driven Centerline Prism Approach:* **T A Berkey**, C Connor, F Garin, R Bakowski, S Kruse

1863331 *Migrating tremors indicate the activation of satellite magma reservoirs preceding the 2015 Axial Seamount eruption:* **J Zhu**, Y J Tan, Y Zhong, M Tolstoy, F Waldhauser, W S D Wilcock

1936391 *Nearshore Magnetic and Geoelectrical Surveys in the Gulf of Pozzuoli, Southern Italy: Volcanological Implications:* **V DI Fiore**, M Punzo, D Tarallo, C Minopoli, S Caliro, M A Di Vito

1902266 *New insights into crustal velocity structure of Kīlauea volcano's Southwest Rift Zone using a temporary dense nodal array:* **P Urra Tapia**, S M Wu, H A Janiszewski, N Bennington

1987617 *Noise-based spatiotemporal monitoring of magma-induced seismic velocity changes at the Piton de la Fournaise Volcano:* **S Zhang**, S Mao, M K Sen, N M Shapiro

1939911 *Preliminary Focal Mechanism Solutions for Upper Mantle Earthquakes During the 2022 Pāhala Seismic Swarm, Island of Hawai'i:* **M Smith-Polette**, H A Janiszewski, S M Wu, N Bennington, M E Glasgow

1871759 *Quantifying the contribution of magma to the current unrest at Campi Flegrei caldera through thermo-mechanical modeling:* **C Nardoni**, A Spang, L De Siena

1918666 *Reevaluating the 2008-2009 Yellowstone Lake Seismic Swarm with Deep Learning:* **H Woodrich**, R Maguire, P M Gregg

253365
Reginald Daly Lecture

Conveners: **Marie Edmonds**, University of Cambridge; **Marie Edmonds**, University of Cambridge; **Tyrone Rooney**, Michigan State University

1899392 *Refined Images of the Plumbing System Beneath Kīlauea Summit Based on the Analysis of Active and Passive Seismic Data in Conjunction with Gravity Disturbance Observations:* **S W Roecker**, N Bennington, R P Denlinger, A F Flinders, A J Girard, M M Haney, R Kramer, G Lin, D O'Connell, C Ruggles, E Vinarski

1910419 *Relative seismic velocity changes at Axial Seamount:* **P WANG**, Y J Tan, S Mao, W S D Wilcock, F Waldhauser, M Tolstoy

1863867 *Retrospective Forecasting of Volcanic Eruptions Based on b-value Time Series Analysis: A Step Towards a Near Real-Time 'Volcano Traffic Light Alert System (VTLAS)':* **T Bantidi**, K Nanjo, T Ishibe, B Enescu, T Nishimura, A M Besa

1941351 *Source model of surface deformation and seismicity at the Campi Flegrei:* **J Cheng**, M Acosta, J P Avouac

1919789 *SpecMaster: An Information-Theoretic Approach for Spectral Representation of Geophysical Data:* **S Swar**, T Mittal, T M Olugboji

1891387 *Temporal Changes of Seismic Activity in the Akutan Volcano Detected with Machine Learning:* **R Merber**, A Birkey, Y Jie, S S Wei, T Little

1996063 *Thermal Fingerprints of Volcanic Eruptions from Space using Machine Learning:* **C Corradino**, S Cariello, G S Di Bella, A La Spina, C Del Negro

1944245 *Thermoacoustic Wave Equation for Geothermal Reservoir Characterization and RTM:* **S Yang**, T Yang, B Ren, Y Su, Y Qi

1893134 *Time-dependent Source Inversion of Long-Term Deformation at Campi Flegrei Caldera:* **P Romano**, B Di lieto, A Mangiacapra, Z Petrillo, A Sangianantoni

1892778 *Transcrustal Structural Fabric in the Alaskan-Aleutian Arc from Receiver Functions:* **A Gandhi**, V Schulte-Pelkum, M M Haney

250576

Resourcing the Clean Energy Economy: Finding and Developing Sustainable Materials to Build Renewable Energy Infrastructure *(joint with EP, MR, SY)*

Conveners: **Edith Wilson**, Thriving Earth Exchange; **Frances Wall**, University of Exeter; **Murray Hitzman**, Irish Centre for Research in Applied Geosciences; **Jennifer Craig**, Society of Economic Geologists

1998379 *A Himalayan-Scale Orogeny in the Central African Copperbelt and Its Implications for Mineralization:* **T Mackay-Champion**

1928258 *AI-POWERED CORE LOGGING & DRILL OPTIMIZATION WITH HIGH-RESOLUTION CORE SCANNING: ENHANCING OREBODY CHARACTERIZATION AND GEOLOGICAL MODELS, REDUCING EXPLORATION RISK & SUPPORTING THE GLOBAL CRITICAL MINERAL SUPPLY.:* **P Redmond**, G Sanden, J Manchuk, M Legat, A Chiquini

1998563 *Development of Ion-Exchange Fiber-Reinforced Rechargeable Cement Batteries for Energy Storage Applications:* **Y Liu**

1915564 *Direct use of mine waste as a substitute for graphite in Li-ion battery anodes:* **J Morley**, C George, K Hadler, P Brito-Parada

1873921 *Life Cycle Insights into Sustainable Materials for Offshore Wind:* **M Smith**, J C Pineda

1971682 *Making the most of what we already have; understanding the full potential of primary and secondary mineral and mine waste resources:* **S M Jowitt**

1956544 *Microbial and pH Control on Oxy-hydroxide Precipitation and Critical Metal Sequestration in Drainable Limestone Bed Acid Mine Drainage Treatment Systems:* **T Boothe Lordon**, M Hinkle, R C Capo, B W Stewart, B Hedin

1868031 *Overlooked potential for Energy Transition Mineral resources and research in Above-Ground Sources.:* **J Uponi**, J Klinger, K F Davis

248937

Santorini Volcanic Region: Interdisciplinary Perspectives on Magmatism, Tectonics, and the 2025 Seismic Crisis *(joint with S)*

Conveners: **Rebeckah Hufstetler**, University of Oregon; **Sarah Beethe**, Oregon State University; **Emilie Hooft**, University of Oregon; **Kaisa Autumn**, University of Oregon

1983463 *30 km-long Dike Intrusion in the Christiana-Santorini-Kolumbo Rift Zone Supplied by Multiple Magma Reservoirs:* **J Wilding**, T Wang, Y K Liu, Z E Ross

1894869 *A Multi-Chronometer Assessment of the Archaeos Tuff: Implications for Eruption Chronologies, Timescales, and Magma Accumulation:* **S Beethe**, A K Schmitt, A Koppers, A Woodhouse, A Metcalfe, K Pank, T H Druitt, S Kutterolf, T Ronge

1982157 *Characterizing Eruption Initiation Mechanisms and Storage Conditions at the High-Threat Submarine Volcano, Kolumbo, Greece:* **T Maher**, S M DeBari, T H Druitt, A Metcalfe, S Kutterolf, A Peccia, T Ronge

1871415 *Deciphering the 2025 Santorini Seismic Swarm Through High-Resolution Earthquake Catalog and Moment Tensor Analyses:* **S Marcou**, B Rong, W Zhu

1997448 *Decoding Subsurface Mechanisms Behind the 2025 Kolumbo Volcano-tectonic Unrest:* **K Drymoni**, T Girona, J D Pesicek, S G Prejean, P Lundgren, J Kendrick, Y Lavallée

1983777 *Faults, seismicity migration, and pulse-like episodes during the 2025 Santorini-Amorgos sequence:* **X Tan**, W L Ellsworth, G C Beroza, S G Prejean, J D Pesicek

1949453 *Resolving the Final Phase of the 2025 Santorini-Amorgos Seismic Swarm Using a Local Ocean Bottom Seismometer Array:* **E P M Gregory**, G Bayrakci, PhD Eng, J B Tary, I A Yeo

1958213 *Structural controls on hydrothermal fluid flow at Santorini and Kolumbo VolcanoesStructural controls on hydrothermal fluid flow at Santorini and Kolumbo Volcanoes:* **E P M Gregory**, I A Yeo, M A Clare, P Nomikou, J W Jamieson, G Bayrakci, PhD Eng, A Lichtschlag, G Portlock, S Della Sala, K Bowman Adamczyk, E Bethell, A Hopkins, J Nash, J Spalding, J Favela, S Hölz, M Wollatz-Vogt, T Kwasnitschka, E E E Hooft, PhD, A Katsigera, K Reeck, H Zimmer, J Tan

1923409 *Tectonic Modulation of Explosive Volcanism at Santorini-Kolumbo. Synthesis of First Results from IODP Expedition 398:* **T H Druitt**, A Metcalfe, K Pank, S Kutterolf, J Preine, C P Huebscher, P Nomikou, T Ronge

1906941 *The Source of the Amorgos 1956 Tsunamigenic Earthquake (M~7.5) Revealed by Submarine Observations:* **N Feuillet**, F Leclerc, S Palagonia, P Nomikou, D Lampridou, P Barrière, A Dano, E Ochoa, N Gracias, J Escartin

251336

Shaping the Future of Volcanic Hazard Monitoring and Forecasting (cosponsored by EGU: European Geosciences Union) *(joint with IN, NH)*

Conveners: **Claudia Corradino**, Organization Not Listed; **Michael Ramsey**, University of Pittsburgh; **Alessandro La Spina**, INGV - National Institute of Geophysics and Volcanology, Etna Volcano Observatory; **James Thompson**, University of Pittsburgh; **Giovanni Salvatore Di Bella**, INGV - National Institute of Geophysics and Volcanology, Etna Volcano Observatory

1889764 *3D Reconstruction of Topographic Changes on Volcanoes from High-Resolution Multi-Angular SAR Imagery:* **A Hauck**, T Ehret, R Grandin, G Facciolo, F Costa Rodriguez

1870523 *A complete Day and Night Algorithm for Near-Real-Time Volcanic Eruption Monitoring: The Next Generation MODVOLC system for SNPP VIIRS and MODIS Aqua/Terra archive:* **N Rogic**, E J Pilger, A Gabrieli, R Wright

1889178 *Accounting for volume uncertainty in modeling the size of volcanic eruptions:* **S Ferrara**, J Selva, J Natale, W Marzocchi

1998595 *Anticipating Volcanic Eruptions in Real-Time: Collaborative Monitoring Campaigns at Poás Volcano, Costa Rica:* **E Lev**, T A Plank, C Bacon, M J de Moor, G Avard, L van der Laat

1906843 *Data assimilation in volcanic deformation at Mount Ontake:* **S Tonoyama**, A Suzuki, Y Shigemitsu, K Nakajima, T Miyoshi

1869075 *Detecting Volcanic Deformation in Hawai'i Using Trustworthy Multimodal Deep Learning Techniques:* **T G Paladino**, E K Montgomery-Brown, M P Poland, M Bagnardi, R L Lee, J Parrish

1981127 *Global Monitoring and Precursory Eruption Detection: Application of Convolutional Neural Networks to the ASTER Thermal Infrared Volcanic Archive:* **S Pailot - Bonnétat**, C Corradino, M S Ramsey, J O Thompson, E Collins

1955039 *Mapping Glass and Crystal Content of Volcanic Ash Deposits via the Coupling of Lab and Satellite Thermal Infrared Measurements:* **A Hull**, D Williams

1974343 *Modeling the Spatiotemporal Changes in Volcanic Ash Composition from Space using Thermal Emission Spectroscopy:* **D Williams**, A Hull, M S Ramsey, V J Realmuto

1997634 *Monitoring Volcanic Emissions from Geostationary Orbit with the UV Satellite Constellation:* **S A Carn**, C Li, N A Krotkov, B L Fisher

1909789 *Monitoring Volcanic Precursors Through InSAR: Using Merapi as an Example:* **Z Zhang**

1976973 *Multidisciplinary Insights into Paroxysmal Eruptions at Mount Etna: Integration of Petrology, Gas Geochemistry, and Satellite Observations:* **L Miraglia**, C Corradino, A La Spina

1969606 *Operational Observation and Validation of Volcanic Ash Simulations and Forecasts by HYSPLIT:* **J Zeng**, A Crawford, J Kibler, E Smail

1890544 *Reverse Faulting as Indicator of Dike Propagation Arrest at Mount Etna:* **C Musumeci**, A Bonaccorso, E Giampiccolo

2001487 *The 2021 and 2022 Lahar Activity on Volcán de Fuego: Rainfall Control on Lahar Behavior:* **G Bejar**, R P Escobar-Wolf, G P Waite, J Mock

1979611 *User-centered Approaches for U. S. Geological Survey Next-generation Volcano Hazard Assessments:* **B A Bartel**, J L Ball, M Benage, S E Ogburn, H M N Wright, D E Damby, D W Ramsey, N I Deligne, H R Dietterich, J Bard

1960688 *VICTOR – A new Cyber-infrastructure for Volcanology:* **S J Charbonnier**, E Lev, S Krasnoff, A K Patra, C Connor, A Mullins

1857058 *VIGIA-PlumeNet and VIGIA-PlumeData: Open-Source AI Segmenting Tool For Volcanic Plumes From Monitoring Ground Cameras, with its Open-Source Worldwide Training Dataset:* **S Giffard-Roisin**, T Wilkes, S Valade, F Vasconez, E Ramos, R Campion, Y Moussallam

1991534 *Volcanic eruption forecasts through seismic data assimilation and seismic pattern recognition: The 2023 Paroxysms of Shishaldin Volcano, Alaska:* **T Girona**, D Fee, V Burgos, M M Haney, J A Power, T M Lopez

1977127 *X-Band Radar Mapping of Lava Flows Provides a Framework for Other Natural Hazard Applications:* **Q Hayes**, B D Corsa, M Zoeller, R Cassotto, K F Tiampo

251363
State-of-the-Arc: Questions and Progress about the Subduction Zone Factory

Conveners: **Emmanuel Codillo**, Carnegie Institution for Science; **Cian Wilson**, Columbia University of New York; **Ananya Mallik**, University of Rhode Island

1863944 *3-D thermal structure and dehydration near the Chile Triple Junction and its relation to slab window, tectonic tremors, and volcanoes:* **S Yoshioka**, K Iwamoto, N Suenaga, F Ortega-Culaciati, M Miller, J A Ruiz

1974887 *A New Estimate of the B and Sr Isotopic Systematics of Subducting Oceanic Mantle:* **W Osborne**, I Savov, A McCaig, M Godard, S Agostini

1868979 *Blueschist Rheology from the Laboratory to the Rock Record: Insights into Ductile Flow at the Subduction Interface:* **J N Ott**, C B Condit, M Pec, B Journaux, E M Poulaki, J Wass de Czege

1883856 *Constraining Permeability of Subducting Lithosphere at the Central American Trench:* **D Douglas**, B Aagaard, J B Naliboff, S Naif

1964399 *Effect of pressure on Fe-species partitioning between garnet and silicate melt:* **F Riley**, M Holycross, E Cottrell

1911266 *Estimating Mantle-Slab Coupling Depths in Subduction Zones From the Rock Record:* **S R Wallis**, H Hoshi, T Ito

1897106 *Exploring chemical variations and thermal history of the lower crust and upper mantle within the Mariana Trench: Signatures of subduction?:* **E Etheridge**, N J Dygert, M Anderson, A Bogdan, E J Chin, Y Harigane, G Denny, V Le Roux, M Leybourne, Y Ohara, T Okumura, I Pujana, G Segee-Wright, R J Stern

1929075 *FEniCS-SZ: Updates to the online community tool for two-dimensional thermal modeling of subduction zones:* **C R Wilson**, C Seebeck, K Teshome, N Sime, P E van Keken

1959171 *Filling the Gaps in the Northern Andean Volcanic Zone: Integrated Petrological, Geochemical, Isotopic, and Geochronological Analysis of Chimborazo Volcano (Ecuador):* **K McClain**, M Pistone, A Cherkinsky, J Fernando Cruz Roman, D Yasar, G Michelfelder, D Zakharov, M Foley, C Renato Chavez Velasquez

1914004 *Geochemical Imprints of Subduction Initiation in the Andaman Ophiolite:* **G N S Sree Bhuvan**, M R, R Bhutani, J S Ray, S Mukherjee, T J Kallukalam

1922596 *High-Pressure Electrical Investigation of Talc–Olivine Interactions in Subduction Zones:* **E Codillo**, M Hao, K Billups, M Tauber, H Pham, B Dragovic, PhD, M J Walter, A Pommier

1976488 *How Fluid-Solid Interactions and Compressibility Impact Fluid Migration in Subduction Systems:* **F S Lacombe**, D Douglas, L Xue, J B Naliboff, J Dannberg, R Myhill

1915699 *Mapping Water and Trace Elements across the Tonga-Lau System: Effects of Cold Slab Subduction:* **W J D Lee**, T A Plank, K A Kelley, C H Langmuir, K Haase, V Kamenetsky, R J Arculus

1925253 *Mass Transfer Processes in Ultramafic to Sedimentary-Rich Mélange Channels in Modern Subduction Zones:* **A M M Rebaza**, A Mallik, B Holman, E H H G Cooperdock

1888687 *Mélange and fluid contribute to arc basalt generation: Petrological and geochemical evidence from Futamatayama volano, NE Japan arc:* **S Watanabe**, T Hasegawa, F T Aka

1858841 *Modeling the Global Deep Water Cycle - H_2O transport in hydrous phases and nominally anhydrous minerals:* **N B Gies**, J Hermann

1966187 *Phase and Melting Relations of Impure Dolostones at 2 and 3 GPa: Implications for Carbon and REE Mass Transfer During Subduction-Zone Processes:* **M Putak Juricek**, A Mallik, S Mosteller

1859690 *Potassium isotopes reveal seamount contributions to the petrogenesis of Mariana arc lavas:* **R Zhao**, X Y Zheng, H Li, X Wei, J G Ryan, Y Yin, W Ding, S Charin, Y Xu

1929506 *Preservation of Sedimentary Rubidium Isotopic Signatures in Subduction Zones: Insights from the Schistes Lustrés HP-UHP Metasediments, Western Alps:* **M Clarich**, B Wang, V Busigny, F Moynier, Y Hu

1904504 *Re-interpreting Boninite in Subduction Zones: Reappraisal of the Geology, Petrology and Crustal Structure of Chichijima, Ogasawara Islands, Japan:* **Y Tamura**, I M McIntosh, S Kodaira, N Takahashi, O Ishizuka

1867167 *Revisiting Crustal Structure of the Izu-Bonin Volcanic Arc: Insights into andesitic middle crust formation:* **R Arai**, Y Tamura, S Kodaira

1961498 *Role of CO_2-Fluxed Melting of Pyroxenite at Sub-arc Depths in the Genesis of Arc Magmas:* **T Mukherjee**, S Ghosh, PhD, J K Dash, S Sarkar, D Ray

1933395 *Slab–Mantle Decoupling and Crustal Melting from Phase-Transition-Controlled Weak Layers in Subduction Models:* **H Li**, M I Billen

1937421 *The Aleutian-Alaskan System: Revisiting the Correlations between Magma Geochemistry and Tectonic Parameters along the Northern Arc of the Ring of Fire:* **M Pistone**, N Barber, S M Straub, A Hammerstrom, M A Jadamec, N A Graham, B Van Horn, B Williams-Mieding, N Kragh, S Kennedy, S Oxhorn, E Grant

1948832 *Tracing Mantle Wedge Processes Through Forsteritic Olivines in Primitive Arc Magmas:* **S M Straub**, V G Batanova, A V Sobolev, A Gomez-Tuena, R Espinasa-Pereña, I Bindeman, F M Stuart, E Widom, Y Iizuka

251772
The Superhot Hydrothermal to Magma Transition: A Scientific Frontier and a Prime Target for Geothermal Energy *(joint with G, MR, NH, P)*

Conveners: **John Eichelberger**, Alaska Division of Geological and Geophysical Surveys; **Paolo Papale**, Istituto Nazionale di Geofisica e Vulcanologia; **Paul Choate**, Choate Technology Services; **Charles Carrigan**, N/A

1879586 *Detailed Investigation of Micro- and Kilometer Scale Isotope Variations (∂D, $\partial'^{18}O$, and $\Delta'^{17}O$) to Reconstruct the Alteration History of the Geitafell Central Volcano, Iceland:* **A A Sheik**, D O Zakharov, M Reed, E Bell

248773
Unearthing Earth's Resources: Geochemical and Spectral Innovation Across Geoscience Disciplines *(joint with EP, MR, SY, T)*

Conveners: **Sam Scher**, LKI Consulting; **Brigette Martini**, Core Scan Pty Ltd; **Tom Carmichael**, Datarock

2005948 *Integrating Geochemical and Spectral Data for Scalable Mineralogy:* **C Harraden**

1943541 *Effects of sample absorption on Raman intensity for the detection and quantification of minerals in two-component geological mixtures:* **Y Y Phua**, B L Ehlmann

1950098 *Geologically Constrained Data-Driven Modeling for Mineral Prospectivity Mapping:* **T Li**

1964465 *Hyperspectral Imaging and analysis of coal ash for rare earth elements:* **A Hussain**, S Khan, J Radovic

248222
Volatile Behavior and Evolution: From Mantle Source to Surface *(joint with DI)*

Conveners: **Hyunjoo Lee**, Columbia University; **Michelle Muth**, University of Washington; **Proteek Chowdhury**, University of California Riverside; **Michael Hudak**, Williams College

1924501 *A Community Approach to Rapidly Characterize Melt Inclusion Compositions from the June 1992 Explosive Eruption of Mount Spurr, Alaska:* **B Hosseini**, C Cannatelli, E Huggins, E R Johnson, J F Larsen, M Myers, M Loewen, M R Hudak, N A Graham, P E Wieser, R L Hervig, S Ding

1901185 *Exploring Transition from Rhyolitic Magma to Hydrothermal System: Drilling, Stable Isotopes, and Numerical Experiments:* **I Bindeman**, A Simakin

1885271 *Hydrothermal Control on the Cooling and Storage of Shallow Magma Bodies:* **S Scott**

1865438 *Magma in a Thermos Bottle:* **J C Eichelberger**

1876813 *Reconstructing geothermal geological models by combining geophysical, geochemical and geological studies in Tatun volcanoes area, Northern Taiwan and implications for Superhot geothermal exploration:* **J C Lee**, C H Lin, C C Chen, H H Huang, H Hase, S R Song, Y C Lu, E C Yeh, L W Kuo, C H Mu, Y G Chen, S L Chung

1876303 *Innovation in Mine Water Management:* **T Meuzelaar**

1993082 *Remote Sensing and Field Spectroscopy-Based Spectral Characterization of Kimberlites: A Case Study from the Majhgawan and Hinota Regions, Central India:* **H Joshi**, M Chauhan, M Pandey

1991279 *Spaceborne Hyperspectral Imaging for Rare Earth Element Detection: A Neodymium Case Study:* **S Yeggina**, J Kravitz

1976524 *Spectral Unmixing for Mineral Identification in Vegetation-Mixed Terrain Using Airborne Hyperspectral Imaging: A Case Study from Coal Creek, Alaska:* **R Rajabi Toostani**, C Schmitt, M Stuefer

1941285 *Unsupervised Deep Learning-Based Mineral Prospectivity Mapping for Rare Earth Elements in the Rairakhol Alkaline Complex Using Integrated Geochemical and Geophysical Data:* **D Sahoo**, S Behera

1984363 *Amphibole-Melt Halogen Partitioning in Super-Hydrous Magmas from the Shiveluch Volcanic Complex, Russia:* **T Salazar**, M J Krawczynski, N Gorbach

1956274 *Determining Pre-eruptive Storage Depths of Mount St. Helens Basaltic Tephras Using Vapor Bubble Reconstructed CO2 in Olivine-hosted Melt Inclusions:* **K Cua**, M R Hudak, E Huggins, E R Johnson, A H Lerner, E Gazel

1917222 *Effect of H_2O on Magmatic Evolution Systematics: Spatial–Temporal Patterns Through Earth's History:* **H Bo**, B Z Klein, O E Jagoutz

1919437 *Effects of sulfur on phase stability and melt generation in highly reduced planetary interiors:* **Y Zhang**, R Dasgupta

1967938 *High-Pressure Calibration of the Sulfur-in-Apatite Oxybarometer:* **M Holycross**, M Lara, F Riley

1975614 *Hydrogen-in-clinopyroxene records increasing magmatic H_2O content over the 2009 Redoubt eruption:* **M R Hudak**, K Durham, B Hosseini, M Loewen, M Myers, R L Hervig

1998656 *Investigating Volatile Heterogeneity in the East Pacific Rise Mantle Source with Heavy Noble Gases:* **K Woody**, R Parai

1863385 *Outgassing of bubbly melts during deformation – an evolution from fracturing to coalescence with decreasing Deborah number:* **A G Ryan**, G Ferrante, J G Park, G Michalsky, H Gonnermann, M E French

1879778 *Redox and magma recharge controls on excess sulfur build-up at Mount Samalas (1257 CE):* **S Ding**, M A Longpre, R C Economos, Y Jackson, J C Komorowski, C M Vidal, B Monteleone

250693
Volatiles and redox in the mantle *(joint with DI)*

Conveners: **Patrick Beaudry**, Organization Not Listed; **Kate Kiseeva**, University of Oxford; **Hongluo Zhang**, China University of Geosciences

1956235 *Beyond Equilibrium: The Kinetic Limits to Carbon Sequestration by Mantle Fluids:* **M L Frezzotti**, A Maffeis

1847424 *Contrasting histories for Late Paleozoic orogenic peridotites from Eastern Alaska and Northern British Columbia:* **J G Shellnutt**, K L Wang, Y Iizuka, W Y Chen

1948056 *Exploring the upper mantle 'redox geodynamics' at subduction zones:* **A Benard**, A B Woodland, K Klimm, N Bolfan-Casanova, J Monteux, J Dominique, M Laubier

1900887 *Geochemistry and Redox State of the Wyoming Craton from Eclogite Xenoliths from the District Line Kimberlites:* **K Kiseeva**, R Davies, M C Jollands, H Zhang, N Korolev, S Ma, I Kupenko, A I Chumakov

250094
Volcanic Eruptions and Climate: Observations, Modeling, and Impacts (cosponsored by EGU: European Geosciences Union) *(joint with NH)*

Conveners: **Ciro Del Negro**, National Institute of Geophysics and Volcanology; **Vito Zago**, National Institute of Geophysics and Volcanology; **Eleonora Amato**, University of Palermo; **Federica Torrisi**, University of Catania

1979245 *Sulfur reduction induced by degassing in basaltic systems in Central Cascades:* **X He**, M Muth

1859706 *The Effect of Chlorine on the Dehydration and Partial Melting of Subducted Ultramafic-rich Mélanges:* **A Mallik**, A M M Rebaza, B Holman, E H H G Cooperdock

1960884 *The Tiniest Bubbles Possible: Experimental Insight into the Size of a Critical Bubble Nucleus in Rhyolitic Magmas:* **J Kammerer**, M Pearce, V Andreo, J E Gardner, F B Wadsworth, E W Llewellin, D L Sahagian, T Carley

1913866 *Volatiles in Water-Saturated Carbonate Melts:* **J Karpf**, D Foustoukos

1957008 *Water Migration, Bubble Nucleation, and Worms, Oh My: Capturing the Mobilization of Water in Rhyolitic Glass:* **M Pearce**, V Andreo, J Kammerer, J E Gardner, E W Llewellin, F B Wadsworth, D L Sahagian, T Carley

1898295 *Water-depleted mantle source for the water-enriched lunar magma suggested by the effects of magmatic recharge:* **D Ji**, R Dasgupta, C T Lee

1954057 *Mantle metasomatism by fluids: a DEW modeling perspective on redox reactions:* **P Beaudry**, D A Sverjensky

1921236 *Oxyhydrides – A Potential Overlooked Component of Mantle Hydration:* **W R Palfey**, S Hwang, W A Goddard III, G R Rossman

1964065 *Partial Melting of Hydrous Carbonated Pyroxenite at 3 GPa: Implication for Genesis of Primitive Arc Magmas:* **S Ghosh, PhD**, J K Dash, S Sarkar, D Ray

1908613 *Redox Evolution and the Role of C-S-bearing Volatiles From the Slab–Mantle Interface to the Mantle Wedge:* **N Malaspina**

1849166 *Reevaluating the Oxidation States of Arc Magmas:* **Y Moussallam**, G Georgeais, S Ding

1967434 *The effect of pressure on sulfur valence state in mafic silicate melts:* **M Muth**, E Cottrell

1876988 *Water contents of oceanic lithospheric mantle decoded from petit-spot mantle xenoliths:* **Y Sato**, N Akizawa, A Ishikawa Dr, K Shimizu, T Ushikubo, S Machida, N Hirano

1992278 *Arctic climate response to explosive and effusive Icelandic eruptions:* **E van Dijk**, T Zoega, K Krüger, T Storelvmo

1951165 *Capturing Regional Climate Signals of Volcanic Eruptions: Toward Integrated Downscaling:* **V Zago**, E Amato, L Basile, S Cariello, C Corradino, G S Di Bella, A La Spina, A B Malaguti, F Torrisi, C Del Negro

1892479 *Does Climate Modulate Explosive Arc Volcanism? Re-Examining Pliocene-Pleistocene Distribution of Fallout Ashes at ODP Site 887, Northeast Pacific Ocean:* **M Stone**, S Straub, B Reilly, M E Raymo

2004758 *Integrated Observation and Modeling Reveal the 2024 Ruang Volcanic Plume within the Asian Tropopause Aerosol Layer:* **H Vernier, PhD**, G Berthet, N Rastogi, J P Vernier, N Dumélié, L Joly, R Meena, H Liu, P A Case, C D Boone, T N Knepp, R Das

1953066 *Investigating past, present and future volcanic impacts on climate using reduced-complexity aerosol-climate models:* **T J Aubry**, M M Chim, M Verkerk, C J Smith

1891705 *Modeling Volcanic Ash Impacts of the 2010 Eyjafjallajökull Eruption with CESM2:* **L Wu**, S Deutsch, A Hornby, D Meidan, E Gazel, F Galetto, L Li, M J Garay, O V Kalashnikova, H Elliott, C Gaston, N M Mahowald

250663
Volcanology, Geochemistry and Petrology General Contributions

Conveners: **Benjamin Andrews**, Smithsonian NMNH; **Madison Myers**, Montana State University; **Sujoy Mukhopadhyay**, Arizona State University

1863779 *Geochemical constraints on mafic-ultramafic assemblages from the Song Ma-Song Chay belt and Nui Nua complex, Northern Vietnam:* **T D Tran**, K L Wang, X T Ngo, H Y Lee, Y Iizuka, K N Pang

1973975 *A Newly Identified Miocene Mafic Dike in the Central San Juan Basin, NM: Implications for Mantle-Sourced Magmatism in the Southeastern Colorado Plateau:* **J Ricci**, K Hobbs, L E Waters

1999552 *A Time-Series Analysis of the 2021 – 2024 Eruptions on the Reykjanes Peninsula, Iceland using Rhenium-Osmium Isotope Systematics, Highly Siderophile Element Abundances, and Major- and Trace Element Compositions:* **A Stark**, J M Day, M Hawrylak, W Moreland, V R Troll, G Cook

1850495 *Back-arc basin origin of the Narewa Andesites in Rakiraki, Viti Levu, Fiji:* **K R Regmi**, T Imayama, S Shrestha, M Button

1971365 *Carbonate Formation in Mantle Peridotites in the Tyrrhenian Sea:* **Q Fu**, N R Voarintsoa, T Sun, A Raza

1879715 *Complex Relationship Between Neighbouring Subglacial Constructs in the Western Volcanic Zone, Iceland Suggests Changing Ice Sheet Thickness Between Eruptions:* **C Ryan**, T K P Gregg

1983991 *Eruption Sequence and Petrologic characteristics of Scoria fall deposit from Sub-Plinian eruption: A Case Study of Miyakono Scoria at Kuju Volcano, SW Japan:* **M Fukuoka**, T Ohta, T Tsuji

1953656 *Monitoring volcanic SO2 Emissions using Foundation Model and Sentinel5-P TROPOMI data:* **S Cariello**, C Corradino, G S Di Bella, A La Spina, A B Malaguti, F Torrisi, C Del Negro

1907924 *Multi-mission Satellite Monitoring of Active Volcanoes Using Short-Wave Infrared (SWIR) Observations: Recent Advances And Future Perspectives:* **N Pergola**, E Ciancia, A Falconieri, C Filizzola, N Genzano, S Plank, G Mazzeo, C Pietrapertosa, F Marchese

1918637 *The atmospheric impacts of volcanic eruptions : From Disasters to Climate:* **J P Vernier**

1955841 *Evaluating Olivine in Mafic Rocks as a Source of Cobalt in the Katangan Portion of the Central African Copperbelt: Insights from Geochemical Modeling:* **M M Bristy**, M S Appold

1994677 *Geochemical and textural investigations of pyroclastic products from the June 3rd, 2018, eruption of Volcán de Fuego, Guatemala:* **E Fancher**, A Germa, S J Charbonnier

1893117 *Geochemical Study on Hydrothermal Alteration in Unzen-Jigoku Geothermal Area, Shimabara Peninsula, Kyushu Island, Southwest Japan:* **H Sakamoto**, T Miyamoto, J I Ishibashi, T Matsushima, K Ikehata

1868137 *How Much Surface Inflation May Precede Supervolcano Sized Eruptions? Modeling Deformation at Campi Flegrei Supervolcano, Italy.:* **A Grant**, H Cabaniss

1865663 *Lessons LERned: Impact of Webinars Hosted by CONVERSE Emerging Researchers on the Volcanology Community:* **J Kim**, G Bejar, A Bosa, M Murphy, C Jaimes Viera, O Anggara, D Tan

1999241 *Pervasive and rapid subsidence of Mount Etna's mobile southeastern flank revealed by fresh lava, volcaniclastics, and microbathymetry:* **A Bonforte**, M Urlaub, S Mayolle, P Madrigal, T H Hansteen, J C Belo, M Campbell, S Furst, F Gross

1907025 *Petrogenesis and Tectonic Implication of Jurassic Granites from Fogang and Xinxing Batholiths, SE China:* **Z Lai**, C Yin, J Qian

1884290 *Petrogenesis of Granitoid Rocks in the Central Indian Tectonic Zone: Integrating Temporal and Geochemical Constraints from Zircon U-Pb Geochronology and Hf-O Isotopic Signatures:* **S Bose**, A Rajagopal

1980952 *Petrography and Detrital Zircon Geochronology of Cretaceous Sands: Implications for Provenance Analysis in the Western Mississippi Embayment, USA:* **J Gifford**, S Sapkota, B F Platt

1877671 *Position-Specific Hydrogen Isotope Analysis of Fatty Acids in GC-Orbitrap:* **K Yang**, H Xie

1910093 *Revisiting Campi Flegrei Holocene Deformation History: Uncovering the Link Between Caldera Resurgence and Bradyseism:* **J Natale**, S Vitale

1906495 *Spatio-Temporal Analysis of Mud Volcanoes in Balochistan Using Remote Sensing and Machine Learning Approaches:* **S MYaqoob**, S Ghuffar, M Shakir

1950701 *Spatio-Temporal Framework of Quilotoa Volcano (Ecuador) Based on New K-Ar and $^{40}Ar/^{39}Ar$ Ages.:* **X Quidelleur**, P Samaniego, J Ricci, D Narváez, S Santamaria, S Hidalgo, P A Mothes

1883806 *The age of the Benton Range, CA high-SiO_2 rhyolite dike swarm from U-Pb zircon geochronology: tectonic implications:* **B M Gordon**, R M Holder, R A Lange

1989274 *The Growth of Metamorphic Tourmaline in Inverted Barrovian Metamorphic Belt, Nyalam, South Tibet:* **S Pan**, C Yin, P Gao, J Qian

248866
Volcano Processes, Monitoring, and Hazards
(joint with S)

Conveners: **Emilie Saucier**, University at Buffalo; **Elisa Biagioli**, Organization Not Listed; **Stephen McNutt**, Univ South Florida

1936744 *A Blowout in Biscuit Basin: A Multi-Method Approach to Investigating Failure Mechanics and Hazard Implications from the 2024 Hydrothermal Explosion of Black Diamond Pool:* **P Kondracki**, E Blom, K Folz-Donahue, S F Gallen, A Hammerstrom, M H Reed, J Hungerford, L N Harrison

1993131 *A comprehensive seismic monitoring study of La Palma (Canary Islands, Spain) eruption as a tool for study previous historical eruptions:* **J Rueda**, J Mezcua

1941911 *Assembling the Elements of Discrete Explosions and Lava Fountains:* **B F Houghton**, C M Tisdale, E W Llewellin, N Gauer Pasqualon, J Taddeucci, T Thordarson

1930997 *Bridging the Hawaiian–Strombolian gap: quantifying explosive mafic volcanism at fissure eruptions:* **C M Tisdale**, B F Houghton, N Gauer Pasqualon, E W Llewellin, J S Pálmadóttir, T Thordarson

1869925 *Can Shear Wave Splitting Analysis Illuminate the Dominant Driver(s) of Short-Term Magmatic Flow? A Case Study from the 2018 Kīlauea Eruption:* **O George**

1924254 *Challenges in eruption forecasting - A tale of three volcanoes: Okmok, Westdah, and Veniaminof, Alaska:* **Y Li**, P M Gregg, Z Lu, J Wang, J Albright

1988496 *Time-Dependent Volcanic Conduit Erosion:* **F Lam**, E Carrillo, L Karlstrom

1968926 *Triple Oxygen Isotope Signatures of Hydrothermal Systems: Insights from the East Pacific Rise, Western Galápagos Spreading Rift, and the American Samoa Intraplate Volcano.:* **E Bibaj**, R Tanaka, S Herrera, J Rodgers, J Siverand, J McDermott

1976726 *Update on the Tephra Information Portal: A FAIR Data Framework for Tephra Research:* **A V Kurbatov**, S C Kuehn, K Lehnert, K L Wallace, L Profeta, S Crass, D Harmon, A Nastan, N Novak, S Cao, A J Newton, J D Figueroa-Salazar, V Smith

1897008 *Volcanic Ash Aggregation in Turbulent Jets: Laboratory Experiments on the Roles of Humidity and Grain-Size Distribution:* **B Aspinwall**, M M Hossain, S Solovitz, J Mendez Harper, J Dufek, J Gitzendanner, A R Van Eaton, L G Mastin, M Benage, B J Andrews

1886917 *Characterizing eruptive activity at Shishaldin (Sisaĝuxˆ) Volcano, Alaska using seismoacoustic signals and volcanic emissions:* **K Merritt**, D Fee, D Tan, M M Haney, A Gomez-Patron, H R Dietterich, T M Lopez

1927607 *Collisions at Speed: How Inertial Particles in High-Speed Flows Influence Volcanic Eruptions.:* **J Gitzendanner**, J Dufek, C Kimblin, I McKenna, J Mendez Harper

1989761 *Core Annular Flow Dynamics in Open Volcanic Conduits: From Eruptive Transitions to Deflation-Inflation Cycles:* **R Maor**, J Suckale

1892923 *Decadal-Scale Hydrothermal Alteration and Flank Instability at Mombacho Volcano (Nicaragua):* **B De Jarnatt**, M J Heap, T Walter, A Loisel, A R L Kushnir, G Gao, B van Wyk de Vries, F Martínez-Báez, D Chavarria, W Strauch, E Espinoza, C E Harnett, V R Troll

1902248 *Degassing patterns of a cooling shallow laccolith intrusion: Spatial decoupling of heat and CO_2 flux at Cordón Caulle, southern Chile.:* **P Becerra**, P Sanchez-Alfaro, C Munoz-Saez, D Tardani, M Taussi, F Aron, P Perez-Flores, D A Lobos Lillo, PhD, P Ruprecht, A Gomez-Patron

1912331 *Dynamic Magma Chamber Gas Escape and Recharge at Axial Seamount Revealed by Time-Lapse Receiver Function Monitoring:* **C Gong**, R Wang, L Chen, J Hua, S Hainzl, C Huber, M Jamalreyhani, Z Zhao

1955811 *Estimates of Water in the Hunga Tonga-Hunga Ha'Apai plume:* **S R McNutt**, E R Williams, F J Spera, M A Scruggs

1936471 *Experimental Measurement of Clustering in Polydisperse Turbulent Gas-Particle Suspensions and Its Implications for Volcanic Phenomena:* **Z Liu**, M Manga, O Roche, S van den Wildenberg

1979356 *Geochemical change over the course of a volcanic eruption: A case study investigating the geochemistry of the May 1706 Volcan Arenas Negras eruption at Garachico, Tenerife, Spain and its implications for historic observation evaluation and predicting future eruption behavior.:* **M Pizarro**, A Jones, J Gifford, L D Yarbrough, N T Thalakkottukara

1899078 *High-Resolution Video Analysis of Lava Fountain Dynamics During the Main Phase of the 2018 Kīlauea Fissure 8 Eruption:* **K Anderson**, B F Houghton, L DeSmither, M R Patrick, N Gauer Pasqualon, C M Tisdale

1873837 *How do Temporal Patterns in Volcanic Seismicity relate to the Dynamics between Volcanic Processes at Mt. Etna?:* **J Eyles**, W B Frank, P Poli, S Alparaone

1950149 *Hydrothermal Response to Meteoric Water Influx: Seismo-Acoustic Insights from Campi Flegrei caldera (Italy):* **S R Morelli**, D Delle Donne, S Caliro, A Aiuppa, L Nardone, P De Martino, M Orazi, S Gammaldi, F Giudicepietro, C Buonocunto, L Pappalardo, R Peluso, A Benincasa, A Bobbio, A Caputo, D Galluzzo, F Liguoro, V Morra, P Ricciolino, F Rufino, G Scarpato, M G Soldovieri, A Tramelli, M A Di Vito

1916183 *Improving Understanding of Seismic Activity in the Valles Caldera: Where is the Highest Activity?:* **I V Ordonez**, E Castillo, N Igonin, A Mostafanejad, S Kelley, T Little

1864216 *Insights into Fragmentation Dynamics from Volcanic Ash Characterization at Two Maars:* **S Leiter**, P S Ross

1928673 *Investigate Magma Movement at Pavlof Volcano with an Improved Volcano-Tectonic Earthquake Catalog:* **E V Alzate Gutierrez**, X Yang

1933102 *Keeping up with Kīlauea: Geochemical monitoring of the 2024–25 eruption:* **L Forster**, K J Lynn, PhD, D C S Ruth, E Gallant, K K Poepoe, M Decker, D T Downs, H Winslow, S Lundblad, P R Mills, N I Deligne, M R Patrick, M Zoeller, N Barnett, L DeSmither, K M Mulliken, B Lopez, M Cappos, C R Sealing, P A Nadeau, M Benage, E R Johnson, K T Wall, H M N Wright, M G Robbins, A E Dechert, N Gauer Pasqualon, G Chiaro, R Adams, H Neuman, P Dotray, E Blankenship, A Bustos, C A Gansecki, A F Flinders, M Warren, N Bennington, A H Lerner, H R Dietterich

1902487 *Lava-fountaining dynamics of the 2024-2025 Kīlauea eruption:* **N Gauer Pasqualon**, B F Houghton, M R Patrick, K Anderson, C M Tisdale, R E L Forshaw

1976956 *Linking magmatic inflation and seismicity in the Chiles-Cerro Negro:* **G Di Silvestro**, F Amelung

1959438 *Modeling Temperature Decrease of the Ash Cloud Surge occurred in the Mount Unzen Volcano on June 3, 1991:* **S Sato**, T Yamada

1895971 *Modeling the Viscosity of a Basaltic Lava Flow: The Case of the 2025 February-March Lava Flow at Mt. Etna (Italy):* **A Verna**, A Tonato, M Pistone, D Andronico, R Corsaro

1901498 *Monitoring proximal volcanic emissions with the new era of high-resolution thermal infrared sensors:* **M S Ramsey**, J O Thompson, C Corradino, V J Realmuto, J F Smekens, D Williams

1956504 *Numerical Modeling of Volcanic Processes: From Magma Ascent to Lava Flow Propagation:* **E Biagioli**, G La Spina, M De' Michieli Vitturi, F Di Benedetto, B Bonechi, M R Burton, M Polacci

1904763 *Optical Sensor Development for Volcanic Gas Observations to Advance Multi-Parameter Monitoring:* **Y Shibata**, M Nakada

1980016 *Petrologic and geochemical monitoring of Kīlauea's 2020–2025 summit eruptions:* **E Gallant**, K J Lynn, PhD, L Forster, K K Poepoe, N Barnett, B McDade, J M Chang, R Adams, J Chang, M Decker, N I Deligne, P Dotray, D T Downs, A P Ellis, C A Gansecki, S Lundblad, P R Mills, M R Patrick, D C S Ruth, H Winslow, M Zoeller

1987492 *Reaching New Heights: Photogrammetry, Lidar, and GNSS Track Unprecedented Behavior for Kīlauea Volcano's 2024–2025 Summit Eruption:* **M Zoeller**, N I Deligne, D T Downs, K J Lynn, PhD, R Adams, H Winslow, I A Johanson, M R Patrick, L DeSmither, P Dotray

1999756 *Real-time Effusion Rates from Tilt during High-fountaining Episodes at Kīlauea.:* **I A Johanson**, M R Patrick, M Zoeller

1948683 *Recent Progress Implementing the U.S. National Volcano Early Warning and Monitoring System (NVEWS):* **G C Mayberry**, S C Moran, E K Montgomery-Brown, L Wilson

1974425 *Revealing High-Permeability Structures through Coupled Geochemical, Electrical, and Magnetic Methods: Implications for Lava-Flow Hazard Assessment in Monts Dore (France).:* **V Rafflin**, L Gailler, C Aumar, N Cluzel, F Gal, A J L Harris, G Giuffrida, F Grassa, K Karim, T Souriot, G Boudoire

1869597 *Seismo-Acoustic Source Mechanism of High-Rate Very-Long-Period Seismicity at Yasur Volcano, Vanuatu:* **R S Matoza**, A D Jolly, D Fee, A M Iezzi, B Kennedy, R H Fitzgerald, G Kilgour, B A Chouet, P B Dawson, R Johnson, O D Lamb, L Watson, K van Wijk, H D Ortiz, L Toney, J Francoeur, A Sork, T Ilanko, S Cevuard, R William, E Peter, J J Niroa, T Boyer, T D Pering, T Wilkes

1941257 *Seismological Observations of the 2011 Nabro, Eritrea Eruption: Implications for Eruptive Processes and Volcano-Tectonic Interactions:* **S Li**, E Brodsky

1951926 *Towards a Unified Synthesis for Quantifying Terrain Surface Roughness from Multiple Sensors:* **I E Pope**, J Maurer

1901954 *Tracking lava fountain heights with timelapse cameras during the 2024–25 eruption of Kīlauea:* **R Adams**, M R Patrick, M Decker, E Gallant

1885228 *Understanding Dike Propagation Through High-fidelity Coupled Fracture and Fluid Flow Models:* **X Qian**, B Grossman-Ponemon, A Lew, P Segall

1900638 *Wind-modulated geyser dynamics: implications for heat loss processes in hydrothermal systems derived from Strokkur geyser, Iceland:* **E P S Eibl**, S Hamzaliyev, G P Hersir, G N Petersen