

# Scientific Programme

Eruption and transport processes  
 Remote sensing and geophysics

Hazard, risk, and society  
 Petrology and geochemistry

## Oral presentations - Wednesday 3rd January

Time		Presenter	Title
13.15		Tegan Havard	Analogue experiments to investigate magma mixing in dykes
13.30		Magali Verkerk	Large-ensemble simulations of volcanic impacts on climate throughout the last 9000 years.
13.45		Elisa Biagoli	Magma ascent dynamics and lava flow propagation: a numerical modelling approach with examples from the 2021 Cumbre Vieja and 2014 Fogo eruptions.
14.00		Charlotte Gordon	The textural record of extreme disequilibrium crystallisation
14.15		Ben Ireland	Towards a systematic catalogue of volcano deformation source parameters from Sentinel-1 InSAR data.
14.30		Eilish Brennan	Insights into the magmatic source of Kozelsky Volcano, Kamchatka including Boron and B-Sr-Nd isotopes as tracers of FME and volatile enrichments in the mantle source.
14.45		Ed Llewellyn	Emplacement of a complex lava flow field on Kīlauea, Hawaii, USA

Time		Presenter	Title
15.30		Isobel Yeo	Diverse impacts of marine volcanic eruptions on Pacific Island communities
15.45		Hannah Calleja	Inclined conduits promote flow recirculation in shallow open vent volcanic systems.
16.00		Maximillian Van Wyck de Vries	Monitoring hazard at ice-clad volcanoes: remote mapping of summit ice cap volumes.
16.15		Beitris Morrison-Evans	Source depth of basaltic-andesite magma beneath La Soufrière, St Vincent
16.30		Ceri Allgood	Particle alignment and bubble deformation in solidifying flows.
16.45		Man-Mei Chim	Disproportionate Impacts of the COVID-19 Pandemic on Early Career Researchers and Disabled Researchers in Volcanology.

## Oral presentations - Thursday 4th January

Time		Presenter	Title
08.30		Claire Horwell	'All four engines have failed!': The psychological and behavioural impacts to passengers and crew on flight BA009 which flew through the 1982 Gallungung ash cloud
08.45		Thomas Aubry	Using the Independent Volcanic Eruption Source Parameter Archive (IVESPA) to calibrate and evaluate a 1D volcanic plume model.
09.00		Morgan Bugler	Examining the role of continental collision magmatic activity in Phanerozoic continental crustal growth
09.15		Mark Bemelmans	Robust Observation of Volcano Displacement Using Sub-Pixel Offset Tracking on High-Resolution Satellite SAR
09.30		Abate Melaku	The origin and magnitude of gas emissions at a major Ethiopian Rift volcanic system.
09.45		Elliot Carter	Rapid temperature fluctuations in the early Iceland plume revealed by olivine-spinel and melt thermometry

Time	Presenter	Title
10.30	Amy Myers	A global analysis of lava dome and lava spine geometries
10.45	Megan Campbell	Evaluating the role of complex topography on ground deformation modelling at marine volcanoes
11.00	Callum Pearman	Temporal Variations In North Atlantic Mid-Ocean Ridge Magmatism and Plume-Ridge Interaction: Insights from IODP Expedition 395C.
11.15	Nemi Walding	The effect of moisture on cohesion of pyroclastic material: implications for deposit architecture and flow behaviour.
11.30	Jamie Farquharson	International volcanology: some publishing perspectives.
11.45	Gabriele Radzeviciute	Populations on Volcanic Islands: Life in the Shadow of Stromboli, Aeolian Islands, Italy

Time	Presenter	Title
13.30	Chetan Nathwani	A zircon case for super-wet arc magmas
13.45	Janina Gilies	Formation of Pele's hair by stretching of bubbly magma
14.00	Ben Esse	Quantifying daily volcanic SO <sub>2</sub> emissions on a global scale.
14.15	Ella Curtis	Chemical and isotopic tracers of the transition between oceanic and continental lithosphere in the Canary Islands
14.30	Hazel Knight	Assessing models for Large Igneous Province formation using a new magma productivity record spanning the North Atlantic Igneous Province
14.45	Marjorie Simbana	Sensors as a tool to understanding hazards and connecting people in hazard-prone zones.

## Oral presentations - Friday 5th January

Time	Presenter	Title
08.30	Owen Weller	New thermodynamic models for alkaline-silicate magmatic systems
08.45	Emma Horn	New insights into the magmatic systems feeding caldera-forming eruptions from juvenile nodules in lag breccias.
09.00	Jenni Barclay	Volcanologists as Storytellers: the explanatory power of stories told about volcanic crises
09.15	Timothy Davis	A theory for mega-dyke propagation as driven by hotspot topography.
09.30	Barbara Bonechi	Direct observation of degassing and crystallisation of magma via HP-HT X-ray transparent Internally Heated Pressure Vessel
09.45	Michael Clare	When volcanoes meet the internet: The variable drivers and impacts of volcanic hazards on subsea telecommunications networks

Time	Presenter	Title
10.30	Matias Clunes	Artistic expressions of volcanoes in Chile: a pathway to understanding their social significance
10.45	Roxanne Buso	CO <sub>2</sub> -rich primary magmas in continental intraplate domains: Insight from olivine-hosted melt inclusions from Bas-Vivarais (French Massif Central)
11.00	Thomas Gernon	A multi-million-year legacy of volcanism in the Earth system
11.15	Bridie Davies	Volcanology in a vacuum? How lessons from the archives can help us unify perspectives on volcanic crises.
11.30	David Neave	Iron valence systematics in clinopyroxene from oceanic basalts: revisiting stoichiometric estimates of ferric iron content.
11.45	Rami Alshembari	Modelling Surface Deformation from Melt Injection to a Poroelastic Reservoir at Soufrière Hills Volcano, Montserrat

# VMSG Award Talks - Friday 5th January

Time	Presenter	Title
13.00	Edna Dualeh	Willy Aspinell Award - Quantifying the rapid increase in extrusion rate from Synthetic Aperture Radar backscatter: 2021 dome growth at La Soufrière, St Vincent.
13.20	Martin Mangler	Zeiss Postdoctoral Keynote - Plagioclase shape variability reveals textural maturation of crystal mush due to resorption
14.40	Clive Oppenheimer	Thermo Fisher Scientific VMSG Award

## Draft schedule

### Wednesday 3rd January

09.00	Workshops
09.30	
10.00	
10.30	
11.00	
11.30	Registration
12.00	
12.30	
13.00	Welcome & Session 1
13.30	
14.00	
14.30	Break
15.00	
15.30	Session 2
16.00	
16.30	Poster Session 1
17.00	
17.30	
18.00	Icebreaker
18.30	
19.00	

### Thursday 4th January





08.30	Session 3
09.00	
09.30	Break
10.00	
10.30	Session 4
11.00	
11.30	Lunch
12.00	
12.30	PhD Forum
13.00	
13.30	Session 5
14.00	
14.30	Break
15.00	
15.30	ECR Forum
16.00	
16.30	Poster Session 2
17.00	
17.30	Pre-dinner event
18.00	
18.30	Conference Banquet til late
19.00	

### Friday 5th January

08.30	Session 6
09.00	
09.30	Break
10.00	
10.30	Session 7
11.00	
11.30	Lunch
12.00	
12.30	Award talks
13.00	
13.30	Break
14.00	
14.30	EDI Forum
15.00	
15.30	AGM
16.00	
19.00	Outreach event at the Watershed

# Poster Session 1 - Wednesday 3rd January

Please note that posters are associated with a posterboard number. Odd-numbered posters will be presented on Wednesday, and even number posters will be presented on Thursday.

 Eruption and transport processes	 Hazard, risk, and society
 Remote sensing and geophysics	 Petrology and geochemistry

No.	Presenter	Title
1	Gabriel Adler	Tracking Mush Disaggregation During the 1783 CE Laki Eruption.
3	Ceri Allgood	Complex dyke architecture suggests flow localisation during magma propagation.
5	Ryan Bailey	New insights into past and present volcanic activity of Socorro Island, Mexico
7	Sophie Baldwin	Trace element systematics at Etinde, Cameroon Volcanic Line.
9	Juliet Biggs	Analogue experiments show that fracturing around magma reservoirs can cause variation in surface uplift rates even at constant volumetric flux.
11	Samuel Bright	Bizarre magmatic compositions at Volcán Ceboruco, Trans Mexican Volcanic Belt, Mexico
13	Ri Cao	Formation of volcanic domes on Venus and the mobilization of crystal mush: Insights from the Troodos Ophiolite, Cyprus
15	Jordan Chenery	'Can you stop a PDC?' Assessing the impact of topography on analogue fluidized, dense granular flows.
17	Tanvi Chopra	Modelling lahars at Merapi (Indonesia) and Rainier (USA) volcanoes using Titan2D and LaharZ computer models
19	Leah Gingell	Developing a method to investigate waxing and waning behaviors in analogue pyroclastic density currents and their impact on deposit architecture.
21	Sofia Della Sala	Volcanism, Sedimentation and Hydrothermal Activity in Santorini, Greece
23	Jasmine Dibben	Seismically inferred reservoir geometry deformation model for Soufrière Hills Volcano, Montserrat.
25	Hannah Ellis	The Porosity of Shallow, Hot Granites
27	Molly Flynn	Refining the marine tephrostratigraphy of the central Mediterranean (40-90 ka): New insights into Late-Pleistocene Campanian explosive volcanism
29	Fiona Gardner	Volcanic units of the early centres of the Palaeogene Mull volcano
31	Katharine Gilchrist	Magma Mixing in Dykes and Chambers
33	Alexandra Daniels	Understanding pyroclastic density current timescales and evacuation timescales at Volcán Fuego and Volcán Santiaguito, Guatemala.
35	James Hickey	Social sensing the Kīlauea 2018 volcanic eruption
37	Rahma Hassan	The formation of the lower crust in oceans: a study from the Lizard ophiolite in Cornwall.
39	Frankie Haywood	What mechanisms control transitions in explosive-effusive eruptions for pantellerite volcanoes?
41	Oliver Higgins	Identifying distinct pre-eruptive composition-H <sub>2</sub> O-time trends using plagioclase
43	Alastair Hodgetts	Volcanism in the Mexico City region: extending our knowledge of past eruptions over the past 400 ka.
45	Alice Hopkins	Detecting Submarine Volcanic Eruptions from Space
47	Bence Horanyi	Experimental Constraints on the Genesis of Lithium-rich, Felsic Melts
49	TiVonne Howe	Deep CO <sub>2</sub> systematics at La Soufriere Volcano, St Vincent
51	Wenting Huang	Reconstructing volatile exsolution in a porphyry ore-forming magma chamber: Perspectives from apatite inclusions.
53	Rebecca Hughes	Using pyroclast textures to investigate a change in explosivity within a low-intensity basaltic eruption.
55	Thomas Johnston	What Can Block and Ash Flow Deposits Tell Us About Lava Dome Collapse Dynamics?

57	Amy Kember	Investigating transitions in eruption style using textural analysis of tephra samples: a case study from Fagradalsfjall 2021
59	Sally Law	The formation of silicic magmas on young planetary bodies in an Iceland-like setting
61	Fathia Lutfiananda	Systematic Review of Forecast-based Early Actions (FbEA) in Response to Volcanic Hazards: Insights from Merapi Volcano, Indonesia
63	Daniel Manns	Towards Dynamic Poroelastic Numerical Analysis of Volcano Ground Deformation at Bárðarbunga Volcanic System, Iceland
65	Lorenzo Mantiloni	Stress Inversion in Calderas with a Simplified Model of Dyke Pathways: Towards a Physics-based Forecast of Eruptive Vent Locations.
67	Lorenzo Mantiloni	From Mush to Dyke: Insights into Reservoir Failure and Dyke Nucleation in Dynamic Magma Mush Reservoirs.
69	Nick Mappin	Fluid interaction in nepheline syenite, Stjernøya, Norway
71	Ed McGowan	A geochemical reevaluation of caldera-forming eruption deposits in the Upper Borrowdale Volcanic Group, English Lake District.
73	Priya Minhas	Evolution, Eruptive Recurrence Rates and Behaviour of Monogenetic Volcanism in Central Armenia
75	Sam Mitchell	The Middle Hope Volcanics: Reconstructing the eruptive history of a Carboniferous marine volcanic sequence in modern-day Somerset, UK.
77	Jacob Nash	What do volcanoclastic sediments produced by submarine flows tell us about the largest volcanic eruption this century?
79	Kendra Ni Nuallain	Volcanic dome collapse: exploring post-emplacement stability as a function of hydrothermal alteration
81	David Pyle	Vesuvius: the Model Volcano.
83	Jessica Rawlings	Constraining ascent velocities of diamond bearing kimberlite magmas using diffusion chronometry
85	Alexander Riddell	New gas analyser for high frequency, simultaneous measurements of volcanic gas species.
87	Jane Scarrow	What can zircon tell us about volcanic processes?
89	Gilles Seropian	Towards volcanic jet noise theory
91	Adam Stinton	Long-term fumarole temperature monitoring with aerial and ground-based techniques
93	Isabelle Taylor	Measurements of sulfur dioxide (SO <sub>2</sub> ) emissions from volcanoes with the Infrared Atmospheric Sounding Interferometer (IASI) for 2007 to 2021.
95	Matthew Varnam	Low fO <sub>2</sub> magmatic gases released during lunar mare eruptions.
97	Daniela Vitarelli	Chemical characterization of Carboniferous age Irish volcanics.
99	Megan Watfa	Petrology and geochemistry of the Kula Volcanic Province.
101	Sebastian Watt	Volcano distribution and hazards associated with a passive continental rift: a re-evaluation of submarine volcanism in the Sicily Channel
103	Emma Watts	Afar triple junction fed by single, heterogeneous mantle upwelling
105	Rebecca Williams	Quantifying the sedimentation of ignimbrites – progress and challenges in analogue flume modelling of pyroclastic density currents and their deposits
107	Rebecca Winstanley	Generation, storage, and eruption of an intermediate composition magma on Ascension Island
109	Joshua Yonish	Development of an assessment framework for volcanic tsunami hazards at partially submerged caldera systems
111	Jingwei (David) Zhang	Records of prolonged ash-venting at a rhyolitic volcanic system, Torfajökull, Iceland
113	Tianyuan Zhu	Long-term deformation of seasonal snow-covered calderas: A case study at Laguna del Maule, Chile

## Poster Session 2 - Thursday 4th January

Eruption and transport processes

Hazard, risk, and society

Remote sensing and geophysics

Petrology and geochemistry

2	Fay Amstuz	Isotopic constraints on volcano tectonically controlled assimilation at Campi Flegrei caldera.
4	Thomas Austin	Benchmarking a Distinct Element Method model of volcanic deformation
6	Charlie Bates	Modelling Volcanic Umbrella Ash Clouds for Aviation Purposes
8	Katie Baumber	Relating Changes in Melt Genesis to Dynamic Conditions of the Demise of a Continental Arc: Antarctic Peninsula Arc
10	Frances Beckett	Conducting Multi Agency Volcanic Ash Cloud Exercises: Practicing forecast evaluation procedures and the pull-through of scientific advice to the London VAAC
12	Rachel Bilsland	Modeling Surface Deformation due to Magma Migration through Mush Zones
14	Daniela Bowden-Haynes	Bang, spatter, and plop: welding dynamics of proximal ignimbrite agglomerates.
16	Jack Bronziet	Magmatism and Mineralisation Along the Great Glen Fault, NW Highlands
18	Joshua Brown	A complex magmatic plumbing system beneath Bagana volcano, Papua New Guinea
20	Frankie Butler	The Rheological Feasibility of Magma Mixing at the Drumadoon Sill, Isle of Arran.
22	Caitlin Chalk	Deciphering flux-driven dyke dynamics with experimental and numerical models.
24	Dee Cirium	Volatiles and their Sources in the Afro-Arabian LIP
26	Matias Clunes	Dike-induced strain and stress field influenced by dipping heterogeneous crustal layers: insights from analogue modelling
28	David Colby	Unlocking volatile budgets at Santorini, Greece using Apatite
30	Edna Dualeh	Separating volcanic deformation signals using ICA: Corbetti Caldera, Ethiopia
32	Sam Engwell	The North Atlantic Volcanic Hazards Partnership: An Introduction
34	Eshbal Geifman	Geochemical Tracers of Assimilation in North Atlantic Paleogene Dykes
36	Janina Gillies	Evolution of highly vesicular basaltic pyroclasts during fountaining
38	Emma Hadre	Geomorphometric analysis and semi-automatic classification of blocks and cones in a volcanic flank collapse debris field offshore Fogo, Cape Verde.
40	Claire Harnett	Introducing ROTtnROCK: a new project to explore the role of hydrothermal alteration in unpredicted volcanic hazards
42	Ryan Hill	Comparing and interpreting the mechanics of formation of collapse calderas on Io and on Earth
44	Melina Hoehn	Petrological and geochemical characterisation of eruption products from the Rabaul Caldera Complex, Papua New Guinea
46	Jade Hrintchuk	Investigating magma flow dynamics in a dyke: a microstructural study of the Budj Bim Volcanic Complex, Australia
48	Matthew Johnson	Experimental modelling of thalwegs in pyroclastic density currents - the dynamic influence of progressive aggradation upon a migrating flow axis
50	Thomas Jones	Accretionary lava balls record the Pāhoehoe to `A`ā transition.
52	Ben Latimer	Magma mush remobilisation during replenishment of granitic intrusions: evidence from localised fabric heterogeneity
54	Milan Lazecký	Current Volcanic Activity at Azores Islands Observed by Sentinel-1 and GNSS
56	Amanda Lindoo	Plagioclase shape: implications for magma mush dynamics
58	Natalia Lipiejko	Permeability of granular mixtures under shearing conditions: implications for pyroclastic density currents.
60	Natalia Lipiejko	Experimental and numerical rheometer: insights into the flow properties of fluidised and non-fluidised granular mixtures.
62	Ed Llewellyn	The evolution of a basaltic fissure eruption

64	Sarah MacDonald	Carbonatite-syenite interaction and assimilation, Stjernøya, Norway.
66	Ana Martinez-Garcia	Model of the shallow crustal density distribution of the Krafla Volcanic System
68	Rhian Meara	Eldfell, 1973: Reconstructing the eruption night using archived documents and personal accounts
70	Rhian Meara	Magmatic Memories: Eldfell, 1973.
72	Kerys Meredith	The relationship between volcano growth, eruption style and instability at Anak Krakatau, Indonesia.
74	Sam Mitchinson	Identifying earthquake swarms at Mt. Ruapehu, a Machine Learning approach
76	Alexandra Morand	Upscaling host rock strength in Discrete Element Method models of viscous magma intrusion.
78	Wasim Mustafa	Preliminary textural and petrological insights from recent eruptive products of Fuego and Pacaya volcanoes, Guatemala
80	Ailsa Naismith	Once Upon A Time In The West: Communicating volcanic disaster through participatory arts-based methods
82	Julia Neukampf	Post-eruptive mobility of lithium in plagioclase
84	Alexander Nies	A novel model of volcanic plume evolution from high-temperature chemistry to reactive halogen processing in the atmosphere
86	Geri Peykova	Estimating volcanic ash plume heights using buoyancy waves
88	Jeremy Phillips	The Story So Far: Impacts and prospective hazard analysis of rainfall-triggered lahars on St. Vincent 2021-2022
90	Shane Rooyackers	Distinct but linked magma storage zones fed the 1975-1984 Krafla Fires eruptions
92	Pete Rowley	Spontaneous unsteadiness and resulting particle size mixing in PDCs and their deposits.
94	Ritwick Sen	Estimation of Volatile Degassing during Deccan Traps Eruption
96	Linda Sobolewski	Post-eruption lava dome development in the crater of Mount Saint Helens, Washington (USA)
98	Rahul Subbaraman	Imaging and visualising mesoscale 3D mush textures.
100	Rebecca Tanner	Research Outlook: Towards multi-method estimates of the intensity of explosive volcanic eruptions
102	Zoltan Taracsak	The sulfur content and isotopic composition of the subarc mantle.
104	Helen Thornhill	Precise determination of melt inclusion volumes using micro-XCT analysis
106	Norbert Toth	A three-dimensional insight into Icelandic magmatic mush
108	Gregor Weber	Coupling long-term magma evolution and short-term volcano deformation: Implications for uplift-subsidence patterns
110	Kate Williams	Emplacement Processes of the Whin Sill, Northern England – insights from macroscopic and microscopic structure observations
112	Rebecca Williams	Quantifying the sedimentation of ignimbrites – progress and challenges in analogue flume modelling of pyroclastic density currents and their deposits
114	Lindsay Young	The Petrogenesis of Virgin Island Granitoids: Implications for the growth of early-Earth-like continental material.