## Scientific Programme

### 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 Llewellin    | Emplacement of a complex lava flow field on Kilauea, Hawaii, USA      |
| 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 Galungung 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 Phanerzoic 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 SO2 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  | CO2-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 | Thursday 4th January | Friday 5th January |
|-----------------------|----------------------|-------------------|
| 09.00                 | 08.30                | 08.30             |
| 09.30                 |                      | 09.00             |
| 10.00                 |                      | 09.30             |
| 10.30                 |                      | 10.00             |
| 11.00                 |                      | 10.30             |
| 11.30                 |                      | 11.00             |
| 12.00                 |                      | 11.30             |
| 12.30                 | Workshops            | 12.00             |
| 13.00                 | Registration         | 12.30             |
| 13.30                 | Welcome & Session 1  | 13.00             |
| 14.00                 |                      | 13.30             |
| 14.30                 |                      | 14.00             |
| 15.00                 | Break                | 14.30             |
| 15.30                 |                      | 15.00             |
| 16.00                 | Session 2            | 15.30             |
| 16.30                 |                      | 16.00             |
| 17.00                 |                      | 16.30             |
| 17.30                 | Poster Session 1     | 17.00             |
| 18.00                 |                      | 17.30             |
| 18.30                 | Icebreaker           | 18.00             |
| 19.00                 |                      | 18.30             |
| 19.00                 | Pre-dinner event     | 19.00             |
|                       | Conference Banquet   |                   |
|                       | - till late          |                   |
|                       | 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.

| 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 Souffrière 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 Kilauea 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-H₂O-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 CO₂ 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?                                                                                                                      |
Amy Kember - Investigating transitions in eruption style using textural analysis of tephra samples: a case study from Fagradalsfjall 2021

Sally Law - The formation of silicic magmas on young planetary bodies in an Iceland-like setting

Fathia Lutfiananda - Systematic Review of Forecast-based Early Actions (FbEA) in Response to Volcanic Hazards: Insights from Merapi Volcano, Indonesia

Daniel Manns - Towards Dynamic Poroelastic Numerical Analysis of Volcano Ground Deformation at Bárðarbunga Volcanic System, Iceland

Lorenzo Mantilioni - Stress Inversion in Calderas with a Simplified Model of Dyke Pathways: Towards a Physics-based Forecast of Eruptive Vent Locations.

Lorenzo Mantilioni - From Mush to Dyke: Insights into Reservoir Failure and Dyke Nucleation in Dynamic Magma Mush Reservoirs.

Nick Mappin - Fluid interaction in nepheline syenite, Stjernøya, Norway

Ed McGowan - A geochemical reevaluation of caldera-forming eruption deposits in the Upper Borrowdale Volcanic Group, English Lake District.

Priya Minhas - Evolution, Eruptive Recurrence Rates and Behaviour of Monogenetic Volcanism in Central Armenia

Sam Mitchell - The Middle Hope Volcanics: Reconstructing the eruptive history of a Carboniferous marine volcanic sequence in modern-day Somerset, UK.

Jacob Nash - What do volcanioclastic sediments produced by submarine flows tell us about the largest volcanic eruption this century?

Kendra Ni Nuallain - Volcanic dome collapse: exploring post-emplacement stability as a function of hydrothermal alteration

David Pyle - Vesuvius: the Model Volcano.

Jessica Rawlings - Constraining ascent velocities of diamond bearing kimberlite magmas using diffusion chronometry

Alexander Riddell - New gas analyser for high frequency, simultaneous measurements of volcanic gas species.

Jane Scarrow - What can zircon tell us about volcanic processes?

Gilles Seropian - Towards volcanic jet noise theory

Adam Stinton - Long-term fumarole temperature monitoring with aerial and ground-based techniques

Isabelle Taylor - Measurements of sulfur dioxide (SO$_2$) emissions from volcanoes with the Infrared Atmospheric Sounding Interferometer (IASI) for 2007 to 2021.

Matthew Varnam - Low fO$_2$ magmatic gases released during lunar mare eruptions.

Daniela Vitarelli - Chemical characterization of Carboniferous age Irish volcanics.

Megan Watfa - Petrology and geochemistry of the Kula Volcanic Province.

Sebastian Watt - Volcano distribution and hazards associated with a passive continental rift: a re-evaluation of submarine volcanism in the Sicily Channel

Emma Watts - Afar triple junction fed by single, heterogeneous mantle upwelling

Rebecca Williams - Quantifying the sedimentation of ignimbrites – progress and challenges in analogue flume modelling of pyroclastic density currents and their deposits

Rebecca Winstanley - Generation, storage, and eruption of an intermediate composition magma on Ascension Island

Joshua Yonish - Development of an assessment framework for volcanic tsunami hazards at partially submerged caldera systems

Jingwei (David) Zhang - Records of prolonged ash-venting at a rhyolitic volcanic system, Torfajökull, Iceland

Tianyuan Zhu - Long-term deformation of seasonal snow-covered calderas: A case study at Laguna del Maule, Chile
| Poster Session 2 - Thursday 4th January |
|----------------------------------------|
| 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 Llewellin | The evolution of a basaltic fissure eruption |
| Page | Author(s)                  | Title                                                                                      |
|------|---------------------------|---------------------------------------------------------------------------------------------|
| 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 Meredew             | 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 Rooyakkers          | 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. |