



## Volcanic and Magmatic Studies Group

May 2019 Newsletter (No. 43: *In times of disaster, look for the helpers*)

**VMSG Newsletter.** This issue offers much cheer, and news of success, PhDs completed and new starts to warm you up for the winter, and get you ready for VMSG2020!

### A Note from the VMSG Chair (Sally Gibson)

Because we sincerely want to hear about your research – and for you to enjoy and benefit from our conferences, workshops and field trips – we've been working closely with colleagues at the Geological Society of London and Mineralogical Society to put several new policies in place.

Following on from the Code of Conduct policy (announced in our last Newsletter) we have a new 'inclusivity' statement, to emphasize our commitment to involving the whole community in all of our events.

***VMSG aims to provide a supportive environment where all in the community are welcome and valued, and are keen to promote balance in terms of gender, ethnicity, religion, geographical location, physical ability, sexual orientation, socio-economic background and others. Our interest is in the science, and in your work.***

The new initiatives on inclusion and diversity pioneered by VMSG are now being adopted by other Special Interest Groups of the Geological Society of London and Mineralogical Society. But actions count larger than words, so please help us in continuing to

support VMSG events and making these a positive experience for everyone.

### Looking forwards to VMSG 2020– Plymouth 7<sup>th</sup>–9<sup>th</sup> January 2020.

*Contributed by The Local Organising Committee*

This year's 2.5 day meeting coincides with the 400<sup>th</sup> Anniversary of the departure of the Mayflower from Plymouth. Registration and website can be found here:

<https://www.plymouth.ac.uk/whats-on/volcanic-and-magmatic-studies-group-conference-2020> . **Abstract deadline is 23rd November.**

There are several exciting symposia on offer to suit all volcanic and magmatic tastes. These are: (1) *Processes at plate margins*; (2) *Magma storage and transport*; (3) *Timescales and rates of magmatic processes*; (4) *Intraplate magmatism*; (5) *Monitoring and forecasting (volcanic eruptions)*; (6) *Hazard, risk and communication* – and, of course, (7) *Research In Progress*. Keynotes are a selection of our most erudite and entertaining community members: VMSG Award Winner: **David Pyle**; **Kathy Cashman** 'From magma storage to eruption: new questions for a new decade'; **Mike Cassidy** 'Explosive or effusive? Investigating the controls of volcanic eruptive style'; **Johan Lissenburg**

*'Magma processing in the lower oceanic crust'; Costanza Bonadonna 'Integrating hazard, exposure and vulnerability for risk assessment and management: the case study of Vulcano Island, Italy'.*

*Don't forget that a highlight of VMSG is always the inspirational and exciting posters and talks contributed by our early career community too. Please come and support them. The conference dinner will be held at the historic Duke of Cornwall Hotel. After dinner entertainment will be provided by a local band....watch this space!*

**WORKSHOP.** A half day workshop entitled 'Communicating Volcano Science using narratives and storytelling' will be held at the University's Sustainable Earth Institute, from 14:00 on 9<sup>th</sup> January (immediately after the meeting). The workshop will be led by top storytelling boffin Iain Stewart along with language wrangler Jenni Barclay. The workshop is free of charge but strictly limited to 40 participants.

**PhD Success!** Several of our newly minted post-doctoral researchers have shared their progress.

**Dr. Amelia Bain** (University of Edinburgh). PhD Title *'Eruption dynamics of cyclic vulcanian explosions from Galeras volcano, Colombia'*. Now working as a research assistant in the Schools of Geoscience and Architecture at the University of Edinburgh.

**Dr Jazmin Scarlett** (University of Hull). PhD Title *'Co-existing with volcanoes: the relationships between La Soufriere and the society of St. Vincent, Lesser Antilles'*. Now working as a Teaching Fellow Physical Geography at Newcastle University where she has also won a research award to investigate the mental health impacts on those who

communicate hazards and their risks in the UK and US.

**Dr Claire Harnett** (University of Leeds). PhD title *'Understanding the mechanics of lava dome collapse'*. Claire has just started a 5 year Ad Astra Fellowship at University College Dublin.

*Early Career Success Gleaned from the Twittersphere!* **Congratulations** also to **Emma Liu** (University College London), **Katie Preece** (Swansea University), **Mike Stock** (Trinity College, Dublin) who have all recently started lectureships/Associate Professor positions. **Brendan McCormick Kilbride** and **David Neave** have also started Presidential Fellowships at the University of Manchester, and **Amy Donovan** has recently started a European Research Commission Starting Grant at the University of Cambridge. Congratulations to **Brendan** too on his award of the William Smith Fund of the Geological Society. Well done all and we hope to see you at VMSG soon!

## **New UKRI Future Leaders in volcanology**

We are delighted to announce that three volcanologists were successful in the UKRI Future Leaders Fellowships scheme. These fellowships are focused on supporting the rising stars of UK science and provide a major research funding boost for early and mid-career academics. The new UKRI fellows are:

**Janine Kavanagh** (University of Liverpool) who will be using scaled analogue experiments, numerical models and field experiments to build the next generation of magma intrusion models. Janine is VMSG Committee's current Secretary.

**Will Hutchison** (University of St Andrews) who will be developing new ice core geochemical tools to constrain the magnitude and frequency of large volcanic events. Will was the first recipient of VMSG's Willy Aspinall Award.

**Paul Albert** (Swansea University) who will investigate ash layers preserved in dense networks of marine and lake sediment cores to construct long-term records of explosive volcanism at arc volcanoes.



*Will and Janine at the Inaugural UKRI Fellowships event in London in September. Paul at Swansea University where he will hold his Fellowship*

The UKRI fellowships are funding researchers in both the sciences and humanities and given that these projects span virtually all disciplines it is incredible that 3 of the 78 fellows are volcanologist. This reflects well on the strength of the UK volcanology community and so a big well done to Janine, Will and Paul (and all those that have supported them along the way).

*Look out for lots of new and exciting PhD and postdoc opportunities stemming from these grants!*

**Impact in Focus:** is having a wee rest. Back next issue!

## VMSG, IAVCEI and the International Union for Geology and Geophysics!



*Contribution by Jackie Kendrick*

Did you know that VMSG is the UK representative for IAVCEI, which is part of the International Union of Geodesy and Geophysics (IUGG)? The IUGG is one of 40 Unions and Associations under the

International Science Council. The 2019, 27<sup>th</sup> General Assembly in Montreal marked a momentous occasion for IUGG, being the centenary celebration of its inception by the founding member states, amongst which the UK proudly stands (along with Australia, Belgium, Canada, France, Italy, Japan, Portugal, and the United States).

New President Prof. Kathryn Whaler (University of Edinburgh) will oversee the next 4 years of IUGG, facilitating the International promotion and coordination of scientific studies of the Earth via eight semi-autonomous associations, of which International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) is one. The General Assembly, which ran 8th-18th July was attended by around 4000 people, and consisted of 234 symposia, including 558 sessions with more than 4,580 presentations. Of these there were 2,329 oral presentations including 437 invited presentations, and 9 distinguished speakers who delivered the Union Lectures, including the IAVCEI union lecture from Dr. Paolo Papale (Istituto Nazionale di Geofisica e Vulcanologia). Meanwhile, Dr. Patrick Allard (Institut de Physique du Globe of Paris) has taken on the presidency of IAVCEI, flanked by new vice-Presidents, Jan Lindsay and Masato Iguchi - for more IAVCEI news see the latest newsletter including the mandate set by the incoming president at [https://www.iavceivolcano.org/downloads/news/2019/2019\\_IAVCEI\\_News\\_2\\_3.PDF](https://www.iavceivolcano.org/downloads/news/2019/2019_IAVCEI_News_2_3.PDF)

This meeting also marked the centenary celebration for IAVCEI, and was a brilliant showcase of the growing diversity of the community. The IAVCEI programme kicked off on Fri 12<sup>th</sup> with a unique full-day symposium on "CELEBRATING 100 YEARS OF VOLCANIC ACTIVITY: 1919-2019" featuring Ray Cas, Kathy Cashman, Setsuya Nakada, Diana Roman and many others in a series of 30 min keynotes that addressed the key advances in volcanology as well as a thought-provoking overview of the tragic Fuego eruption in 2018 by Rüdiger E. Wolf. These excellent presentations can be accessed online via <https://www.iavceivolcano.org/40-featured-articles/139->. The rich IAVCEI programme then continued with more than 25 sessions on everything from experimental and numerical

modelling of volcanic processes, to magma-water interactions and geothermal energy, to the role of Large Igneous Provinces in environmental change. The IAVCEI members general assembly marked an opportunity for community feedback, and importantly the presentation of awards.

### **Medal Success for UK Volcanologists**

**By Jackie Kendrick (University of Liverpool)**

Every 2 years the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) makes a number of awards to celebrate the excellent work being conducted within our community worldwide. Both the Wager Medal and the George Walker Award were announced at the IUGG General Assembly in Montreal in July.

This year the Wager Medal was Awarded to **Dr. Madeleine Humphreys** (Durham University).

The Wager Medal honours the memory of Professor Lawrence Rickard Wager of the University of Oxford, who was born in 1904 and died in 1965. Professor Wager is best known for the discovery of the Skaergaard layered intrusion and the first detailed structural, mineralogical and petrological study of such intrusions. The medal has been awarded since 1974 to a scientist up to 15 years after PhD, who has made outstanding contributions to volcanology. Madeleine's work has spanned a range of topics from plumbing systems to magma mixing, and crystal growth to gas emission monitoring. Her seminal work has been conducted in-part under a Royal Society Research Fellowship which first took her to Durham University

in 2013, where she is now Associate Professor.



*Madeleine Humphreys' certificate and medal are shown by outgoing IAVCEI president Don Dingwell and IAVCEI secretary Roberto Sulpizio.*

Madeleine says 'I never heard much about volcanology until I fell into Earth Sciences rather by accident at university and became an undergraduate student of David Pyle. I have been lucky enough to work with some inspiring, talented and insightful scientists so far, including great students and postdocs. Collaborations like these are productive but also make life interesting and enjoyable. In particular, the Volcanology group at Durham is genuinely supportive, stimulating and fun, **and** enjoys cake and biscuits – perfect! I was especially pleased to receive the Wager Medal given his interests in the Arctic and mountaineering, which I share (though in much less fine style!). Many thanks to IAVCEI for this award'

This year the George Walker Award was given to two recipients, **Dr. Fabian Wadsworth (Durham University)** and Dr. Damien Gaudin (LMU-Munich). The George Walker Award honours the memory of Professor George Walker, who was born on in 1926 and passed away in 2005. Professor Walker's discoveries pioneered a modern quantitative approach to physical volcanology and greatly accelerated understanding of volcanic processes. The award is supported by the George Walker Fund and is given to a scientist up to 7 years after PhD, in recognition of achievements of a recent outstanding graduate in the fields of research



encompassed by IAVCEI. Fabian and Damien join a prodigious list of previous winners since the introduction of the award in 2004. Fabian has worked extensively on the dynamics of magma sintering, and on fluid flow through porous media, following in Walker's pursuit of quantitative models. His truly advancing work in volcanology is ongoing at Durham University, where he was appointed as Assistant Professor in 2018.

Fabian says 'I am deeply honoured to receive an award in the name of George Walker, and humbled to join the cohort of Walker award winners past, all of whom I respect a great deal. My interest in magma and volcanoes started late in my undergraduate degree, when Mike Branney took me through the Snake River Plain and talked to me about what a PhD project is like, and when Ben Kennedy sent me off to the Taupo Volcanic Zone for a summer-long adventure into fissures and calderas. Without Mike and Ben, I would certainly be on a different path. These experiences gave me a first glimpse of what a research career might be like, which had me hooked and led me to go and work with Betty Scheu, Yan Lavallée, Don Dingwell and many others in Munich, Liverpool, and worldwide. To all these people I owe a great debt and thanks. Now that I've found a home in the vibrant Durham Volcanology Group, I'm humbled by this recognition that comes on the back of a great deal of help from mentors, comrades and friends. My thanks to IAVCEI!



*Fabian Wadsworth receives his certificate with laudator Yan Lavallée, outgoing IAVCEI president Don Dingwell and IAVCEI secretary Roberto Sulpizio.*

VMSG extends our congratulations to the award winners. These awards highlight the position of UK volcanological research at the forefront of the world stage, indeed 7 of the 22 Wager Medals have been awarded to UK-based scientists who fall under the VMSG banner – so keep up the good work!

The IUGG General Assembly runs every 4 years, and is punctuated by Scientific Assemblies during the intervening period and more specialist section meetings which represent the >25 IAVCEI commissions (<https://www.iavceivolcano.org/39-news/iavcei-commissions.html>). I encourage you to get involved with IAVCEI, more broadly with the IUGG and encourage you to attend the future meetings:

**Cities on Volcanoes 11: Heraklion 23-27 May 2020**

**IAVCEI: Rotarua 15-19 Feb 2021**

**IUGG: Berlin July 2023**

## Student Bursary Reports

Within this section, we have one short report sent in by a PhD student who received a VMSG bursary funding. Don't forget this is available to all VMSG attendees studying for a PhD!

Fieldwork in Mexico

**Attendee:** Alastair Hodgetts

**Affiliation:** University of Birmingham



By receiving the VMSG Travel Bursary for fieldwork, I have been able to travel to Mexico to study the explosive eruptive history of the major stratovolcanoes surrounding Mexico City. My PhD, as part of the wider MexiDrill project, primarily investigates numerous fall deposits and other volcanic event layers in a lacustrine core from Central Mexico, providing an insight into the style, frequency and volume of pyroclastic eruptions over timescales comparable to the individual lifetimes of the source volcanoes. In order to answer these questions, it is important to gather additional physical volcanological data from volcano-proximal deposits, and to geochemically characterise eruptive sources and individual eruptions for correlation purposes with distal tephra deposits in the core.

In total, I was in Mexico for a month working with Ivan Sunye-Puchol (Postdoctoral Research Assistant at Oxford University) and collaborators at the National Autonomous University of Mexico (UNAM). Consisting of a great team of volcanologists, we were able to work effectively, sampling and stratigraphically characterising many eruptions from over 5 stratovolcanoes, as well as also finding time to sample the delicious local street food from time to time...! Mexico was a fantastic country to explore and work in, and we even saw some current eruptive activity at *Popocatépetl* which was

*certainly a highlight as an early career volcanologist!* This field season was invaluable to my research and is a great addition to the data I have already collected. This new data will certainly allow me to determine more about the eruptive history of the Mexico City Region, an area home to more than 20 million people at risk from potentially similar events in the future. It has also provided me with the chance to make new and effective collaborations with researchers in Mexico and expand my knowledge and experiences in a volcanically active region.

I am very grateful to VMSG for providing me with the funds to make this work possible and I really encourage other doctoral students to apply to support their studies like mine!

Do you know an outstanding member of the VMSG community? Please consider nominating them for awards and medals bestowed by other societies. Remember, these recognise both early career scientists as well as those well established.

## VMSG Distribution List

The VMSG mailing list is managed by jisc-mail. As a list member, you can subscribe to the list or change all your details yourself by subscribing to jisc-mail.

VMSG can also be found on [Twitter](#), [Facebook](#), [LinkedIn](#) and now [Instagram \(@vmsg\\_uk\)](#).

Mike Cassidy ([michael.cassidy@earth.ox.ac.uk](mailto:michael.cassidy@earth.ox.ac.uk)) has recently taken over from Sami Mikhail as manager of the VMSG twitter account. #VMSG

has a great range of links to papers, positions, articles/news of interest being updated on a regular basis so do follow us!!

James Hickey replaces Pete Marshall as VMSG website manager. A huge thanks to Pete for all of his work on the website.

### *How to join or leave the group?*

Go to the group homepage at [www.jiscmail.ac.uk/vmsg](http://www.jiscmail.ac.uk/vmsg) and choose the 'Subscribe or Unsubscribe' link from that page. You will receive a confirmation email which you need to respond to.

### **VMSG Committee 2019**

**Chair:** Sally Gibson (Cambridge)

**Secretary:** Janine Kavanagh (Liverpool)

**Treasurer:** Sami Mikhail (St. Andrews)

**Student Rep:** Jess Pugsley (Aberdeen)

**Common People (aka Ordinary Members)**

Jenni Barclay (UEA), Mike Cassidy (Oxford), George Cooper (Bristol), Sam Engwell (BGS), James Hickey (Exeter, Cambourne), Jackie Kendrick (Liverpool)

### **Editorial**

Many thanks again to those who have contributed to this issue. Next issue we would like to tackle the thorny issue of our Carbon Footprint as global researchers. Thoughts, ideas and commentary on this topic are welcome!