

Volcanic and Magmatic Studies Group

December 2014 Newsletter (No. 25)

Season's greetings!

Welcome to our festive newsletter. We welcome our new committee, announce the winner of the VMSG Award for 2015, hear from our new student rep, update you on the upcoming VMSG AGM and conference and hear reports from VMSG-supported activities.

Welcome to our new committee!

A number of our existing committee members are due to step down this January, including the Chair, the Treasurer and the Secretary. This autumn, there was an online vote and our new committee is as follows:

Chair:	Mike Widdowson
Treasurer:	Victoria Smith
Secretary:	Richard Brown
Student rep:	Tom Pering

The committee is also made of ordinary members - Seb Watt and Janine Kavanagh will be joining us in this role. Kate Dobson will stay on as an ordinary member once she steps down from her current role of secretary. Sue Loughlin, Lorraine Field, Craig Magee, Chiara Petrone and Pete Marshall all remain on the committee. In this newsletter, we hear from Tom Pering in his new role of student rep. Welcome to all our new committee members.

I'm sure the community would like to extend their heartfelt thanks to those committee members who are stepping down this year. Rebecca Williams, Madeleine Humphreys and Adrian Jones have served on the committee for three years as ordinary members, and Jen Truby has been the student rep for 2014. Mike Widdowson and Kate Dobson have both been long-standing committee members and have been superb in their roles of treasurer and secretary, though both are staying on in new roles. Lastly, but by no means least, Andy Saunders is stepping down as chair of VMSG. During his tenure he helped grow the group to new strengths. Thank you to all.

VMSG Award – Jenni Barclay

The VMSG award is bestowed annually on an individual who is deemed to have made a significant contribution to our current understanding of volcanic and magmatic processes.

We are pleased to announce that the winner of the VMSG Award in 2015 is Professor Jenni Barclay from the University of East Anglia. Jenni is an outstanding volcanologist, who has worked tirelessly to establish and develop new areas of research into volcanic risk, building critical links across the interface between the classical fields of physical volcanology, and social science. She is well known for her championing of this field which was instrumental in gaining programme-level funding from NERC for research into Natural Hazards (the IRNH programme), and in her winning funding for the Strengthening Resilience (STREVA) project, a major research project which spans multiple institutions in the UK and overseas. She also serves on the Scientific Advisory Committee for the UK government that oversees the work of the Montserrat Volcano Observatory.



Prof Jenni Barclay

Jenni has always been a strong supporter of VMSG. Jenni not only regularly attends our annual conference, she encourages her graduate students to attend and present and even brought us the volcanic duck race in 2014. She's the driving force behind [Volcano Top Trumps](#), which has been a phenomenal success. Finally, she is also part of the team that is bringing VMSG to Norwich in January for this year's annual conference.

Jenni has made an enormous contribution to volcanology, both through her impressive research background and through the enthusiasm and commitment to communicating our science. The presentation of the award will take place during our conference in January. Jenni will also deliver the VMSG Award talk titled "Rocks, Risk and Robert Owen".

VMSG 2015 – Norwich



Summary Programme:

Sun 4th January 17:00 – 21:00; Registration in 'The Nelson' Premier Inn, Norwich. Sign-in and join us for a drink!

Mon 5th January 08:00 – 09:00; Registration at the OPEN.

09:00 – 18:00; Science sessions

18:00 – 19:30; Pub quiz icebreaker

Tues 6th January 09:00 – 18:00; Science sessions

19:00 – late; Conference dinner

Wed 7th January 09:00 – 12:00; Science sessions

Science Sessions:

Session 1: 'Reconstructing Volcanic and Magmatic Histories'.
Keynote: Madeleine Humphreys, University of Durham 'Magma degassing, crystallisation and the fidelity of plagioclase-melt thermometry'

Session 2: 'Geophysical, Geochemical and petrological monitoring'.

Keynote: Marie Edmonds, University of Cambridge 'New perspectives on monitoring andesite volcanoes'

Session 3: 'Important Problems in Applied Volcanology'
Keynote: David Pyle, University of Oxford 'Volcanoes: Learning from the past: looking to the future'

Session 4: 'Volcanic Emissions into the Atmosphere'

Keynote: Clive Oppenheimer, University of Cambridge 'Global Societal Impacts of Large Eruptions'

Session 5: lots of exciting Research in Progress from the VMSG community!

VMSG award talk: Jenni Barclay, University of East Anglia 'Rocks, Risk and Robert Owen'

Special Event:

Tues 6th January: VMSG Panel Discussion

The 21st Century Volcanologist: sharing, collaborating, and advising.

Panel Chair: Sue Loughlin (BGS). Panel Members: Mike Burton (INGV, Italy); Cynthia Gardner (USGS, USA); Chris Kilburn (UCL); Sally Potter (ECR, GNS Science, New Zealand), Richie Robertson (SRC, Trinidad); Anja Schmidt (ECR, Leeds); Steve Sparks (Bristol), Jon Stone (ECR, UEA)

Your chance to stimulate discussion and thinking! How do we interact with partners? How should we share information?

To tweet, or not to tweet...

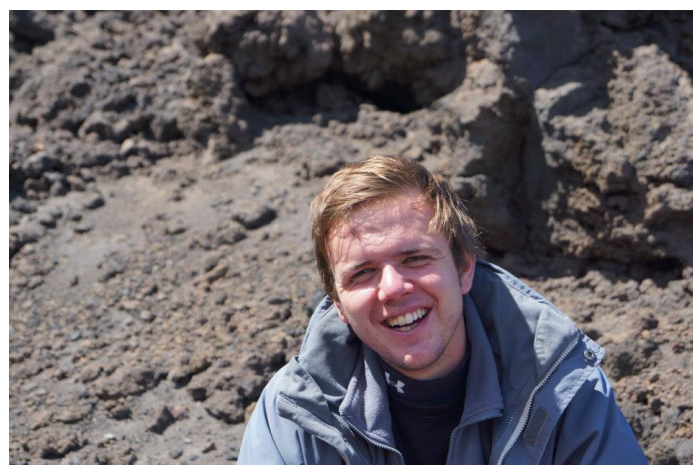


VMSG is a strong supporter of open science, widening participation and communicating our science. As such, we advocate our community to promote VMSG and the science that we do through outreach activities, blogs, social media and any means possible. Recently, we've seen excellent events such as London Volcano, Volcano Top Trumps, talks at Cheltenham Science Festival, as part of Pint of Science and participants in *I'm a Scientist, Get me out of here!*

Recently, some attention has been paid to live tweeting of conferences and we feel we need to make our position clear. VMSG supports open science and welcomes discussion around its annual meeting on social media. All presenters will be asked to add a 'no Tweet' logo (see right) where they do not wish information to be shared on social media. Please respect this and tweet responsibly at other times, for example, do not Tweet photographs of talks or posters without permission. The official hashtag is [#VMSG2015](#)



Meet your new student rep: Tom Pering



I have been studying volcanology for the better part of 5 years, starting life in the community as a Masters student on the popular Lancaster University Volcanology and Geological Hazards course. Now, I am currently residing at the University of Sheffield completing my PhD (in my third and final year)

where my principle research revolves around remote sensing of degassing at basaltic volcanoes coupled with computational models and, where possible, laboratory analogues. Much of my research is focussed on the Italian volcanoes: Etna, Stromboli, and Vulcano. I thoroughly enjoy getting out into the field and attending conferences so I try to do this whenever I can! My first and valuable experience of VMSG was the conference in Edinburgh last year and a great chance to get to know some of the volcanic folk from the UK and further afield. I am looking forward to representing all postgraduates in the VMSG community this year. As such, I will be hosting a student forum at the meeting in Norwich, where everyone will have a chance to air your views (positive or negative), give suggestions or ask general questions. I hope to see you all in Norwich!

Meeting report: Deep Earth Processes conference

Sponsorship provided by the Volcanic & Magmatic Studies Group funded a thematic session on 'Surface constraints on deep mantle processes' at a recent conference on 'Deep Earth Processes: windows on the workings of a planet' (Geological Society of London, 15th-16th September, 2014). This session featured an invited presentation on 'Relating the chemistry and structure of the deepest mantle to the geochemistry of mantle melts erupted at the surface' by Matt Jackson (UC Santa Barbara).

The conference also included thematic sessions on the core, transition zone, upper mantle, volatiles and mantle dynamics and brought together scientists from across the Earth Sciences community. The oral and poster presentations generated a series of lively discussions on our current understanding of the nature and composition of Earth's deep interior and highlighted areas for future research. Invited speakers included: John Hernlund (Tokyo Institute of Technology), Chris Ballentine (University of Oxford); John Brodholt (University College London); Arwen Deuss (University of Cambridge); Dan Frost (Universitat Bayreuth); Peter van Keken (University of Michigan); Mike Kendall (University of Bristol); Graham Pearson (University of Alberta) and Dan Shim (Arizona State University). The donation of funds by learned societies such as the Volcanic & Magmatic Studies Group was vital to ensuring the success of this international, multi-disciplinary conference and the convenors (Sally Gibson, Saskia Goes, Simon Redfern & Mike Walter) are grateful for this support.

Student reports

VMSG has been providing support to students for several years. In 2014 we awarded bursaries to 12 students, totalling over £2000. This supported students to present at conferences around the world (from Leeds to New Zealand, to Indonesia and back again!) and attend workshops both in the field and on cutting edge lab techniques. Student reports are posted on our website: <http://www.vmsg.org.uk/students/reports.php>. Some selected reports are included below.

John Browning - Royal Holloway, University of London

In July 2014, I was awarded £200 from the Volcanic and Magmatic Studies travel fund to support attendance to the NEMOH field school on Volcano deformation and magmatic processes. The workshop took place at the foot of Hekla volcano in Iceland and involved five days of lectures, practicals and three days of fieldwork. Presentations were made by members of the Crustal deformation group at the University of Iceland and members of the FutureVolc organisation, with specific examples from Icelandic and Italian volcanoes. The school was designed to be a technical exercise with an emphasis on training and practical exercises. As such, we undertook training in GPS data processing, InSAR interpretation, Inversion techniques as well as hand-on activities like installing GPS stations and carrying out levelling measurements.



John at Ofaerufoss in Eldgja.

Field work was spread over three days, the work initially involved visits to the eruptive deposits of Hekla volcano, including numerous tephra layers and lava flows. During the second trip we visited Landmannalaugar, where we discussed the anomalous rhyolitic volcanic centre and also the influence of central volcanoes on dyke propagation and distal fissure eruptions. One of the most impressive such fissure eruptions, which we also visited were Eldgja and Laki. The final field day involved a visit to the Hengill central volcano, a geothermal power plant and Thingvellir graben.

The schools timing couldn't have been more perfect, as it coincide with the beginning of the unrest period at Bardarbunga volcano, which at the time of writing has manifested into a beautiful fissure eruption in Holuhraun, north of Vatnajökull. As the school progressed we monitored the developments at Bardarbunga, tracking each day; the dyke path and discussing the various model interpretations and implications.

Attendance at this school has provided me with a huge amount of technical and practical information on deformation studies,

which I will apply to my PhD project. I thank VMSG for the award without which I would not have been able to attend the school.

Amy Gilmer – University of Bristol

I would like to thank the VMSG for the award of a travel bursary to attend the 2014 Society of Economic Geologists (SEG) conference which was held on September 28-30 in Denver, Colorado USA. This support enabled me to present my talk entitled: Pulsed intrusive events, magma mixing, and mineralization of the Don Manuel porphyry copper system, central Chile. This not only provided valuable experience speaking about my research in front of an engaged audience, but it also allowed me to discuss my research with others working on similar aspects of porphyry copper deposits.



Amy on the pre-meeting field trip

The SEG conference is a wonderful mixture of academics and industry geologists focused on the exploration for and understanding of ore deposits. It is an international conference allowing one to engage with other economic geologists from around the world. I was able to get valuable feedback on my PhD research as well as learn about new developments in exploration techniques. Conversations with other economic geologists on magma mixing features they have seen in the field provided new ideas for me to pursue. The sessions of talks and panel discussions were interesting and thought provoking.

I was also able to attend a pre-meeting field trip to some of the premier porphyry copper deposits in the southwestern US. The opportunity to see more of these deposit first hand with excellent field trip leaders pointing out key features of the mineralization and alteration was extremely valuable. The generous VMSG bursary of £200 was of great assistance in making this wonderful learning experience possible.

Michael Broadley – University of Manchester

Thanks to the financial support received from VMSG I was able to attend the Goldschmidt Conference held in Sacramento, California. The Goldschmidt Conference represents the largest annual gathering of geochemists providing a unique forum for the discussion and exchange of ideas with fellow researchers some of whom are the leaders in their respective fields. This represented the final conference of my PhD career and therefore provided me with an unbridled opportunity to discuss my research in preparation for my thesis defence.

At the conference I was lucky enough to present two research papers in the form of both an oral and a poster presentation. The oral presentation titled “Halogen and noble gas evolution along the Emperor Seamount Chain” was presented in the “Chemical Composition of the Deep Earth” session. The presentation allowed me to present this area of my research for the first time in front a large and knowledgeable audience. Afterwards I was then able to discuss in more detail my research with some distinguished scientists who had been present during my presentation. As well as my presentation I also presented my research on seawater contamination within submarine lavas as a poster. The poster sessions at Goldschmidt are an integral part of the conference and represent the best opportunity to discuss new and developing research in an informal and relaxed environment. Overall attending Goldschmidt provided me with an invaluable experience and no doubt improved the quality of my research.



Michael in Yosemite

Aside from presenting my own research I also made sure to utilise the conference to broaden my knowledge of geochemistry. Every aspect of geochemistry was included in the program, with sessions ranging from cosmochemistry to volcanology and even environmental waste management. This ensured that not only did I gain a new understanding in my field of mantle geochemistry I also expanded my knowledge on

all aspects of the field. Finally it was not just the science during the sessions that impressed but also the beautiful location of the conference within the city of Sacramento. This unique location enabled me to examine some field geology within the beautiful Yosemite National Park.

This was my first attendance of a conference outside of Europe and without the support of VMSG this would not have been possible. I would therefore like to thank this opportunity to thank VMSG and all their members for their continued support of PhD research.

Madeleine Berg - University of Edinburgh

Thanks to the support given by the VMSG conference bursary, I was able to attend the Gordon Research Conference on Rock Deformation, which took place in Andover, New Hampshire from the 17th to the 22nd August 2014. I also took part in the Gordon Research Seminar from 16th-17th August, which was the first of its kind and was aimed at early careers researchers (PhD students and Postdocs).



Madeleine highlighted by a red arrow!

I presented poster at the GRC, and an oral presentation at the GRS, so I had many opportunities to present my work, both to researchers at a similar stage in their career to my own, as well as to scientists well known in the field of rock deformation. It was incredibly useful to share my research, which is an experimental petrology project examining the deformation of partial melts at high temperatures and pressures, with other experimentalists who used similar techniques to examine very different processes. I was able to get ideas for how to develop my current work, and was also inspired by fascinating talks about areas of research which were completely new to me, such as water ice deformation experiments to investigate processes taking place on Jupiter's icy moons. The conference also gave plenty of networking opportunities: Chat took place not only in formal questioning after talks, but also over breakfast, poster sessions, afternoons kayaking or swimming in

the nearby lakes, and over delicious dinners, with lobster served on the last night! I was able to meet with researchers I had previously collaborated with, and to potential future collaborators. Overall the conference was both very useful and also incredibly fun – I would recommend this conference to anyone interested in rock deformation.

Notices

Upcoming conferences, workshops & field courses of relevance to the VMSG community:

- EGU 2015, 12 – 17 April 2015, Vienna.
 - Abstract deadline 7th January
- 2nd Jóannes Rasmussen Conference, 5 - 7 May, 2015.
 - Evolution of basaltic provinces
 - Drilling Volcanics
 - <http://jasmussen.if.fo/>
- IAVCEI General Assembly, 22 June – 2 July, 2015, Prague, Czech Republic.

Upcoming awards of relevance to the VMSG community:

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.

- GSA: deadline 1st February 2015
<http://www.geosociety.org/awards/>
- AGU: deadline April 2015
<http://honors.agu.org/awards-medals-prizes/>
- Mineralogical Society: deadline April 2015
<http://www.minersoc.org/awards.html>

PhD studentships:

We are collating all VMSG-related PhD studentships for dissemination. Please circulate to interested undergraduate students and others. If you want your PhD to be on the list, please let our student representative know.
<http://www.vmsg.org.uk/students/phd.php>

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Editorial

Please forward any articles, comments or notices of events, workshops and conferences before 1st January 2015, for inclusion in the next newsletter.

All previous newsletters are available for download from the website.

Merry Christmas! Happy New Year – see you in Norwich!

Dr Rebecca Williams (Rebecca.williams@hull.ac.uk)

