



Volcanic and Magmatic Studies Group

February 2017 Newsletter (No. 34)

Welcome to the VMSG newsletter 2017!

Dear VMSG members, firstly a warm welcome from the committee to 2017! For those of you who do not know me, my name is John Millett and I have taken over from Craig Magee in running the VMSG newsletter going forward. A big thankyou to Craig for all the hard work! Within this edition of the newsletter you will find highlights from the fantastic annual conference hosted by Liverpool, an interview with this year's VMSG award winner Sue Loughlin and a range of other articles and upcoming events relevant to the community.

VMSG Conference 2017 - Liverpool

The VMSG calendar got off to a flying start in 2017 with the arrival of the annual VMSG conference hosted in excellent fashion by the University of Liverpool. This year marked the 53rd annual VMSG meeting which we had the very fitting pleasure of sharing with the centenary year of the Department of Geology at the University of Liverpool. With a change to the normal

format of the conference, this year saw VMSG joining forces with both the TSG and BGA special interest groups (SIG's) to host an exciting joint assembly with a strong focus on multidisciplinary research.

Jackie Kendrick (local organising committee) has provided some key numbers from the conference: The meeting attracted over 400 full conference delegates with an additional 45 attendees taking advantage of the day only tickets, a successful new feature introduced this year. The attendee split for the entire meeting included 218 students, 47 early career/retired (new this year) and 140 standard tickets. The scientific program included 204 posters and 123 talks with two of the three days hosting three parallel sessions. Over 50 % of all presentations and posters for the meeting were given by VMSG delegates and of this number, approaching 50 % of talks were given by students along with 78 high quality posters.

The scientific program at Liverpool was diverse and wide reaching with 14 separate sessions covering themes (too many to mention here!) ranging anywhere from planetary scale volcanism and global aerosol release down to micro-scale deformation and zoning within individual minerals.



Highlights from the Liverpool VMSG 2017 meeting, photographs courtesy of Felix von Aulock and Suraya Hilmi-Hazim.

The bringing together of the separate SIG's, and the emphasis on integrated research had a clear response in terms of the range of studies presented. In particular, studies investigating magma emplacement and seismic monitoring were strongly represented, as were experimental studies linking rock and magma deformation to edifice evolution and eruption forecasting. The Jon Davidson Memorial Session was very well attended and included a keynote from this year's VMSG award winner Sue Loughlin.

In total, there were five excellent keynote talks over the three-day conference. Professor Freysteinn Sigmundsson (Nordvulk, University of Iceland) gave a summary of his work interpreting one of the world's most extensive seismic monitoring networks associated with the Bardabunga volcanic system. Last year's VMSG award winner Professor Yan Lavallée (University of Liverpool) presented highlights from his research looking at strain localisation in magma and highlighting how multidisciplinary research coupled with controlled laboratory experiments are moving volcano science forward. Professor Othmar Müntener (University of Lausanne) discussed the role of mantle rocks for rifted margin studies with a focus on the origins of magma poor rifted margins highlighting extensive work from the European Alpine realm. Doctor Sue Loughlin (BGS) gave a talk outlining the challenges and growing successes associated with global monitoring, reporting and anticipation of volcanic activity. Professor John Ludden CBE (BGS) gave a talk discussing how new and emerging subsurface technologies are being implemented to ensure the future energy security of the UK.

2017 VMSG Award



Sue Loughlin accepts the 2017 VMSG award.

Dr. Sue Loughlin has been Head of Volcanology at the British Geological Survey since 2008. She leads a multidisciplinary team of scientists studying topics from volcanic processes, volcano monitoring and volcanic hazards to volcanic risk. Dr Loughlin worked at the Montserrat Volcano Observatory as Deputy Chief Scientist between 1997 and 1999 and then as Director from 2004 to 2006. She has continued to work in volcanic hazards and risk since then and was instrumental in integrating volcanic risk into the UK National Risk Register from 2010. She has worked in Ethiopia, Tanzania, Iceland, Ecuador, Colombia, Mexico, St Vincent and Montserrat in a variety of

projects. She co-leads the Global Volcano Model network, with Professor Sparks at Bristol University. This growing collaboration of volcano scientists worldwide compiled the first global assessment of hazard and risk for UNISDR in 2015 and is continuing to raise the profile of volcano science worldwide.

Student prizes

Joint Assembly Best Talk

Carl McDermott, Imperial College London

Using SDRs to identify the mode of breakup along South America's magma-rich margin

By: Carl McDermott*, Jenny S. Collier, Lidia Lonergan, Kenneth McDermott

Joint Assembly Best Poster

Rebecca Paisley, McGill University

Using trace elements to constrain gas pathways at Cordón Caulle, Chile

By: Rebecca Paisley*, Kim Berlo, Hugh Tuffen, Bassam Ghaleb

Bob Hunter Prize for Best Oral Presentation

Victoria Honour, University of Cambridge

The behaviour of immiscible silicate liquids in a crystal mush

By: Victoria C. Honour*, Marian B. Holness, Bernard Charlier
Honourable Mentions – Simon Matthews (University of Cambridge), Nathan Magnall (Lancaster University)

Geoff Brown Prize for Best Poster Presentation

Simone Cogliati, The Open University

Understanding the degassing of young volcanic systems using noble gases

By: Simone Cogliati*, Sarah Sherlock, Alison Halton, Tiffany Barry, Mike Branney, Simon Kelley

Honourable Mentions - Ruth Farley, University of Southampton

Nature Communications ECR Prize

A new early career researcher prize was introduced this year sponsored by Nature Communications and was received by:

Robert Green, University of Cambridge

Seismic velocity structure of volcanic rift zones in Iceland

By: Robert G. Green*, Keith F. Priestley, Robert S. White

Photo Competition Winner



Kirsten Spry, University of Cambridge

Title: Rainbow mountain, Peru

Location: Vinicunca mountains, Peru

Cake Competition



Geo-bake masterpieces by Frey Fyfe (left) and Hannah Moss-Davies (right).

Other conference activities

Adding to the scientific program, six workshops were also held after the conference where students and professionals alike could gain insights into various applied methodologies relevant to the Earth Sciences including in brief: 1. Experimental methods in Earth sciences. 2. Quantitative SEM/EBSD/QEMSCAN analysis in Earth sciences. 3. DEM in Earth sciences. 4. Reconstructing geomaterials in 3-D using X-ray tomography. 5. Python solutions for management of continuous seismic data and ambient noise interferometry. 6. 3D model building, fault displacement and seal analysis, and restoration in Move.

A lunchtime seminar by Olga Degtyareva took students through the often challenging process of 'How to start writing!' and Helen Robinson gave an introduction to the work and outlook of Women in Geothermal (WING www.wing.geothermal-energy.org).

Alongside the academic program, a range of social events and activities were organised during the meeting. The conference kicked off with a well-attended meet and greet event at McCoolley's bar on the eve of the conference which was still going strong when I left around 12.... The conference dinner and party were held at the unique Camp and Furnace venue set in the heart of Liverpool's Industrial docklands. Delegates enjoyed a range of food options which merged seamlessly into a lively party which continued with a DJ and the occasional geologist stage invasion into the small hours.

Finally for those who stayed in Liverpool on Friday night

(and still had some energy left), the local committee organised an authentic Liverpool pub crawl.



BGA-sponsored ice-breaker in the Central Teaching Hub.



Conference dinner and party at the Camp and Furnace venue.

Local Organising Committee

VMSG2017 was organized by Yan Lavallée, Jackie Kendrick, Sarah De Angelis, Janine Kavanagh, Felix von Aulock and many others, and was run with the help of a fantastic team of student helpers and technical staff.

The meeting was very well supported and we are deeply grateful to all the supporters listed below.



The VMSG committee would like to extend a special thank you to the organisers and supporters of VMSG 2017 for all their effort in arranging an excellent meeting. It is clear the scale of the logistics increase with the hosting of a joint meeting, and the fact that the conference ran smoothly is testament to all your hard work.

Q and A with VMSG award winner Sue Loughlin

Compiled by Robert Gooday

Q. *Could you give a very brief outline of your career so far.*

A. I did a BSc in Geology at Leicester University and enjoyed the emphasis on fieldwork, spending long summers in Assynt for a mapping project. I started a geochemistry PhD at Durham University but due to practicalities (too many phenocrysts and a more complex stratigraphy than anticipated!) this changed to a more general project into eruptive history at the Eyjafjallajökull volcano, Iceland. I was then offered a job as volcanic specialist at BGS, ironically my first job was back home in the Lake District mapping the Borrowdale Volcanic Group. I've been with BGS ever since working on a variety of projects from studying greenstone belts in Mauritania to building 3D subsurface digital geological models for development of the Commonwealth games site in Glasgow. Each of these was like a separate job and each experience taught me different things.

I first went to work at Montserrat Volcano Observatory (MVO) in May 1997. It was a steep learning curve with much responsibility. I left MVO in 1999 when activity levels reduced but then went back as Chief Scientist for two years in 2004-6 after activity picked up again. I started a dedicated Volcanology research group at BGS in 2007. My career has come about through a combination of design and luck but I've fundamentally always made choices based on things I feel passionate and enthusiastic about.

Q. *How much did 'chance' events (e.g. Soufrière Hills, Eyjafjallajökull etc.) shape your career?*

A. Working at Montserrat Volcano Observatory encouraged me to embrace international collaborative research across disciplines and to engage fully with government officials, media and populations at risk. In 1997, despite our efforts, 19 people lost their lives in Montserrat. I interviewed survivors and began to understand the complexity of risk and recognise that much more is needed to support good decision-making before, during and after eruptions. In 2004, the volcano at the UK Overseas Territory of Tristan da Cunha also erupted (BGS staff responded). When the summit eruption of Eyjafjallajökull volcano began in 2010, it was fortunate that I knew the volcano and had experience of explosive eruptions at Soufrière Hills Volcano so was able to advise the UK government. Now I work with volcano observatories and civil protection worldwide, primarily trying to ensure that excellent science and evidence

supports decision-making by scientists, authorities and individuals.

Q. Which people (or anything else) have been particularly significant in your career-to-date?

A. I've been fortunate that key people gave me opportunities early in my career. I was fortunate to have Mike Norry as a tutor at Leicester University, Henry Emeleus and Bob Holdsworth provided generous supervisory support at Durham University. Simon Young and Tony Reedman at BGS began contributing to the scientific response to the growing emergency in Montserrat in 1996. At the same time as pursuing and supporting the best science they ensured investment in Montserrat and Montserratians and believed in the abilities of early career scientists. It was a privilege to work with Willy Aspinall, Barry Voight, Rick Hoblitt, Keith Rowley, Steve Sparks and others during the early days in Montserrat – they had diverse experiences from other crises and ensured the best research contributed to real-time response and future planning. The people of Montserrat including government officials, farmers, journalists and small businesses taught me a lot, especially during and after the tragic events of 1997. I've been fortunate to have worked with many inspiring people over the years.

Q. *Do you think it is important for all geoscientists to communicate and do outreach?*

A. Scientists should be able to explain why their science matters to non-specialists including scientists in other disciplines. Research needs to be published and accessible for the science community and if there are potential beneficiaries outside academia, it's good to engage with them as they may contribute novel perspectives. If you're interested in engaging the public in science then outreach activities at science fairs, open days, schools and similar can be very rewarding.

Q. *What advice would you give Sue Loughlin the PhD student?*

A. I would say keep an open mind, be proactive and make the most of any opportunities. Build on positive experiences and learn from negative experiences.

Welcome to our new committee members!

A number of members rotated off the VMSG committee at the end of 2016, so here is a reminder of the committee as it stands:

Chair:	Mike Widdowson
Treasurer:	Victoria Smith
Secretary:	Richard Brown
Student Rep:	Robert Gooday
Ordinary members:	Mike Branney, Kate Dobson, Janine Kavanagh, Jackie Kendrick, Pete Marshall, Sami Mikhail, John Millett and Seb Watt.

On behalf of the committee and the community we would like to extend a huge thank you to Chiara Petrone, Craig Magee and Kerry Reid for their efforts in maintaining the VMSG tradition through their committee contributions. Jackie and Sami have joined the committee as ordinary members and Robert has taken on the role of student rep, welcome to the committee!

Student activities

Jazmin Scarlett



With assistance from the VMSG Conference Bursary, I attended the Cities on Volcanoes 9 conference in Puerto Varas, Chile. There, I presented a conference poster titled: 'Volcanic risk through the ages: social factors influencing volcanic risk on St Vincent, Lesser Antilles from a historical perspective' in the session: Social construction of volcanic risk, community knowledge and resilience.

Being a third year PhD student now at the stage of writing my findings, the conference provided an excellent platform to showcase my work and to gain insightful feedback. As a historical and social volcanologist it was important to gain feedback from like-minded researchers. It also presented the opportunity to network with other VMSG members and also the international volcanology community. I have made new contacts that may one day turn into collaborations to better understand societies living with active volcanism.

The award allowed me to attend a valuable and enriched conference experience in a wonderful setting. I learned a lot from the other delegates about challenges at other volcanic

communities around the world but also gained feedback from a diverse group of researchers that will help me approach problems and find solutions in my own research, as well as networking with like-minded international researchers. Many thanks to VMSG for their support.

Notices

Professor Hazel Prichard (1954-2017)

The committee were saddened to hear that Professor Hazel Prichard passed away in early January, she was highly respected by many in the VMSG community and our thoughts are with her family.

<http://www.cardiff.ac.uk/news/view/538797-professor-hazel-prichard-bsc,-phd,-mba-1954-2017>

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

- VMSG 2018 – Leeds University will host the 2018 VMSG conference in early January, watch this space for more info!
- The 2017 Goldschmidt conference will be held in Paris, France 13-18th August.
 - Abstract submission deadline, April 1, 2017.
- IAVCEI Scientific Assembly 2017, 14-18th August, Portland Oregon USA.
 - Abstract submission deadline, March 17, 2017.
- XXII Meeting of the International Mineralogical Association, 13-17th of August, 2018, Melbourne, Australia.
 - Call for sessions, deadline 3rd March 2017, call for workshops, deadline 3rd April 2017.
 - The International Mineralogical Association is an umbrella organisation uniting professional associations from 38 countries, and its quadrennial meeting is the largest global forum for making contacts and exchanging information with mineral scientists from around the globe. The 22nd meeting in Melbourne, Australia, will be the first such meeting held in Australia and only the second in the southern hemisphere. The meeting will be hosted by the Geological Society of Australia, and held in the Melbourne Convention and Exhibition Centre, between 13–17 of August, 2018.

Fieldtrip Co-ordinator:

Janine Kavanagh has the role of fieldtrip co-ordinator for the VMSG committee, so if you are interested in running a VMSG

fieldtrip, please contact her for further information at Janine.Kavanagh@liverpool.ac.uk

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.

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

Many thanks to those who have contributed to this issue. Please forward any articles, comments or notices of events, workshops and conferences before 29th April 2017, for inclusion in the next newsletter. All previous newsletters are available for download from the website.

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