Volcanic and Magmatic Studies Group

June 2016 Newsletter (No. 31)

Welcome to the second edition of the 2016 VMSG newsletter!

VMSG Conference 2017 - Liverpool

By Jackie Kendrick (University of Liverpool)

VMSG-TSG-BGA 2017 – Liverpool

4-6th January 2017

UNIVERSITY OF LIVERPOOL

The University of Liverpool are pleased to announce the first Joint Assembly of VMSG with the Tectonic study Group (TSG) and British Geophysical Association (BGA) annual meetings.

The meetings will run in parallel over 3 days with 1 day dedicated to cross-disciplinary symposia. We wish to encourage integration and collaboration across study groups, whilst maintaining the high level of content and specialisation that VMSG is accustomed to. We particularly invite early career scientists to contribute to the scientific programme and will welcome presentations that represent *Research in Progress*.

A number of workshops will be offered after the meeting, from Experimental Methodologies, to Tomographic Imaging to Geophysical Monitoring Techniques.

Registration will include full access to the 3-day multi-disciplinary scientific programme, teas/coffees/snacks/ lunches, Meet-and-Greet Reception, Ice-breaker poster session and the Conference Dinner and Party in one of Liverpool's iconic converted dockside warehouses.

Key Dates	
Registration and Abstract Submission Opens	29/08/2016
End of Early Bird Registration	12/10/2016
Abstract Submission Deadline	26/10/2016
Close of Registration	02/11/2016

Website coming soon – In the meantime, keep up to date via our social media channels:

Joint Assembly 2017 @GeoLiv2017

#ComeTogether2017

For session suggestions, questions and comments, or to get involved, contact GeoConf2017@liverpool.ac.uk

Student activities

Lara Mani

In April 2016, thanks to the VMSG Conference Travel Bursary, I was able to attend the EGU General Assembly in Vienna, to present my PhD research. I presented a talk entitled 'Video Games in Volcanic Hazard Communications: Methods & Issues' in the session Communication and Education in Geoscience: Practice, Research and Reflections.

As I final year PhD student, I felt it was important to share my research with the wider geological and science communication communities. The meeting was an excellent opportunity for me to network with people working in a similar area of research, catch up with many members of the VMSG and wider academic community and to be inspired by many exciting posters and presentations. Further, presenting at the EGU also allowed me to publicise and support my new open access research paper which is currently in review and will hopefully be published in the EGU NHESS journal in the coming months.

I would like to thank VMSG for awarding me with the Student Conference Travel Bursary allowing me to attend this year's EGU General Assembly. Presenting at the EGU was a fantastic opportunity for me to hear thoughts and feedback on my research from a diverse group of academics and has undoubtedly provided me with some new insights and ideas

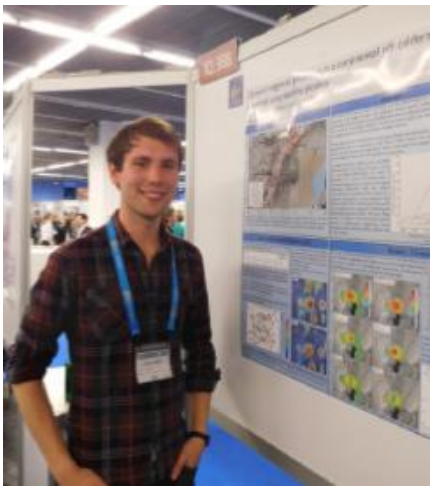
for the future of my research (and the thesis writing process ahead!). The award has allowed me to publicise my PhD work to an international audience, make many connections with researchers in a similar field and gain invaluable experience of presenting at an international conference. Again I would like to thank VMSG for awarding me with this bursary to attend this year's EGU General Assembly.

Ryan Lloyd

The European Geosciences Union (EGU) conference is an annual meeting held in Vienna every year, attended by ~13,000 geoscientists. I used the VMSG Conference bursary to attend the 2016 EGU conference. The conference was the largest I have attended and, with hundreds of posters and talks in the volcanology session alone, it certainly kept me busy. As well as being a volcanologist, though, I am also a geodesist and geophysicist. In this respect I was incredibly lucky to be able to attend EGU: it enabled me to indulge not just in the targets of research, but also in the latest developments in the techniques I am using through other sessions and workshops. EGU also provides many support sessions for young scientists, which I also found interesting.

I presented a poster entitled 'Dynamic Magmatic Processes at a Continental Rift Caldera, Observed using Satellite Geodesy', submitted to the session 'Volcanic processes: Tectonics, Deformation, Geodesy'. This work focuses on the Corbetti Caldera, one of the most rapidly deforming volcanoes in the world, and the cause of this unrest. I use InSAR, a satellite based remote sensing technique, to study deformation, but my work also relies on seismic, magnetotelluric and dynamic microgravity data. The size and breadth of the conference meant I could discuss each aspect of this work and have some great conversations with scientists from all over the world (including some of our Ethiopian collaborators), which I found incredibly valuable (although my poster's fortunate location near one of the beer tables may of helped increase footfall a little!). I was able to benefit from interesting and informative discussions with volcanologists, geodesists and geophysicists, who were all generous in providing insight on and interpretations of the data, and advice on what I could do next and how to go about it. I thoroughly enjoyed the poster session, and the whole conference. It was good to see the research people are doing, be exposed to a greater range of presenters and presentation styles, and foster new ideas.

I would like to thank VMSG for the financial award that helped me to attend the conference, and encourage everyone else to apply!



Awards for VMSG Members

EGU - Outstanding Young Scientist Award

We're pleased to announce that the 2016 Geochemistry, Mineralogy, Petrology & Volcanology (GMPV) division Outstanding Young Scientist Award was given to **Dr Jackie E. Kendrick** of University of Liverpool.

Dr Kendrick received her award for an outstanding early career contribution to seismogenic processes and frictional melting in shallow magmatic conduit.

She attended the annual EGU conference in Vienna in April to receive the Award, presented by EGU President Hans Thybo and Vice-President Jonathan Bamber, photographed below with the other division winners.

Geological Society of London Awards

A number or members from the VMSG Community were recently honoured for their contribution to science at the recent President's Day at the Geological Society of London. VMSG recipients included:

Prof. Jon Blundy – Murchison Medal
Dr Henry Emeleus – Prestwich Medal
Dr Anja Schmidt – William Smith Fund
Dr Craig Magee – Murchison Fund

Congratulations to them and all the other winners of Geological Society of London awards!

Geological Society of London Winners 2016, with Professor David Manning (President)

Field Activities

Involved in any field campaigns, got some great volcanological and magmatic photo's to share? This is the section for you!

Vatnajökull Spring Expedition 2016, Iceland

By Tom Hudson (University of Cambridge)

On the 3rd June I set out for a week with a team from the University of Iceland, the Icelandic Glaciological Society and the Icelandic Met Office onto the Vatnajökull ice cap in South East Iceland. A number of projects were undertaken, with my project being to deploy two geophones for investigating seismicity associated with the Bardarbunga volcanic system, located under Vatnajökull. The 2014 Bardarbunga-Holuhraun eruption originated from Bardarbunga, so there is still significant activity in the area, with a magnitude 3.4 event occurring the evening we arrived.

As one might imagine, working in a glacial environment can prove challenging. Installing instruments to investigate volcanically induced seismicity that will provide useful data for more than a week or two involves burying them depths of several metres below the surface, in order to avoid them melting out too fast over the summer. However, Iceland's near midnight sun allowed us to work well into the evening, so although the digging process took a while, we had the time to do it. The views from the instrument locations also provided a great reward for a long day's work.

The instruments will be used in conjunction with a larger array of instruments deployed on and around the edge of Vatnajökull, run by the Cambridge University Volcano Seismology Group, to accurately determine the location of the volcanically induced earthquakes. Data from the instruments deployed on this trip will be crucial in constraining the depth of these earthquakes, useful in understanding how molten rock feeds into the volcano.

Royal Society Summer Exhibition: Explosive Earth

By Jenny Woods (University of Cambridge)

Photo by Daði Harðarson

Seismic unrest began at the huge subglacial volcano, Bárðarbunga, in August 2014. Cambridge University research students happened to be in Iceland on fieldwork at the time, and were quick to respond. There were fears of an eruption under the icecap which could have had serious impacts like those during the 2010 Eyjafjallajökull eruption. The explosive interaction between 1100°C magma and the overlying ice would have caused instant fragmentation and steam generation, blasting ash into the atmosphere. In the event, the activity developed into a dyke intrusion, delineated by 30,000 tiny earthquakes at 7km depth. The researchers deployed additional seismometers around the tip of the intruding dyke, anticipating imminent eruption. After travelling 46km, the magma erupted north of the glacier, at the Holuhraun lava field, in spectacular 150m-high fire fountains. Two seismometers were retrieved moments before they were buried in the lava. The resulting seismic dataset will shed light on dyke propagation mechanisms and help improve understanding of the behaviour of these rifting episodes.

The University of Cambridge Volcano Seismology group will be showcasing their work on the Bárðarbunga-Holuhraun intrusion and fissure eruption at the Royal Society Summer Science Exhibition from the 4-10 July 2016. Find out more at:

Web: www.esc.cam.ac.uk/ExplosiveEarth
http://royalsociety.org/events/summer-science-exhibition

Photo by Þorbjörg Ágústsdóttir

Lapworth Museum of Geology (University of Birmingham) reopens

By Rob Starkey

Photo by Dr Paul Anderson

After several years of sustained effort, and a lot of hard work by many, many people, the Museum finally welcomed its first visitors on Friday 10 June. The end result looks superb - smart modern lines blending with the stylish Edwardian interior, all brought bang up to date by top class display cases, great graphics and a diverse range of excellent displays. Visitors can explore life over the past 3.5 billion years, whilst enjoying displays of exceptional objects from one of the UK's most outstanding geological collections, with state-of-the-art galleries and a range of innovative and interactive exhibits - all completely free of charge.

From rocks and fossils to volcanoes, earthquakes, and even dinosaurs, the Museum will capture the imagination of all ages. You can find out more details about opening times, directions, access etc. on the Museum website here - http://www.birmingham.ac.uk/facilities/lapworth-museum/index.aspx

Photo by Dr Seb Watt

VMSG PhD Graduates

A celebration and acknowledgement of volcanic and magmatic geoscientists who have recently graduated with a PhD. Well done to all!

Dr Peter Marshall
The Open University
The volcanic architecture, geochemistry and geochronology of the Kalkarindji continental flood basalt province, Australia
22/10/2015

Dr Maya Coussens
University of Southampton
Volcanic edifice collapse: processes, timing, and impact on volcano evolution

Dr Ellen Marie McGowan
Lancaster University
Magma Emplacement and Deformation in Rhyolitic Dykes: Insight into Magmatic Outgassing
01/04/2016

Dr Jing Zhang
Durham University
A crystal window into the crustal arc magma plumbing system

Dr Mike Stock
University of Oxford
The volatile history of past volcanic eruptions

Dr Robert Green
University of Cambridge
The structure and seismicity of Icelandic rifts

Dr Kyle Heron
Trinity College Dublin
Origin and Evolution of the Mesoarchean Aoueouat Greenstone Belt and Associated Gold Mineralisation

Notices

AAPG Interpretation Special Volume

Subsurface expression of igneous systems and their impacts on petroleum systems

Magma commonly forms during continental breakup in response to stretching and thinning of the lithosphere, and decompression melting of asthenospheric mantle. This magma may stall during its ascent and intrude the upper crust, and/or may be expelled at the earth's surface. Because continental stretching precedes the formation of continental margins, the emplacement of intrusions and extrusions are common during continental breakup, with igneous products being particularly common in some of the world's most prolific hydrocarbon provinces (e.g. offshore circum-South Atlantic, NW Shelf of Australia, NE Atlantic Margin). Petroleum systems in provinces such as these can be negatively and positively impacted by breakup-related magmatism.

We are seeking submissions on related topics including but not limited to the following:

i) impact of igneous activity on basin thermal evolution and source rock maturation
ii) physical compartmentalization of reservoirs by igneous intrusions
iii) deformation associated with igneous activity and trap formation
iv) reservoir properties of igneous intrusions
v) petrophysical characterization of igneous rocks
vi) case studies

Details can be found at:
http://www.seg.org/resources/publications/interpretation/specialsections/2016/subsurface-expression-igneous-systems
Submission deadline: **1st July 2016**

Kind regards,
Chris Jackson (c.jackson@imperial.ac.uk), Craig Magee, Nick Schofield, Simon Holford, Qiliang Sun, and Stuart Archer

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

- GSA Penrose Conference 2016 to the Stillwater Intrusion: ***"Layered mafic intrusions and associated economic deposits"***
  - Conveners:
    - Alan E. Boudreau
    - Eric C. Ferré
    - Brian O'Driscoll
    - Edward M. Ripley
  - Please contact Dr Brian O'Driscoll if you have any queries (brian.odriscoll@manchester.ac.uk)

Fieldtrip Co-ordinator:

Janine Kavanagh has taken on 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. For example:

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

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 and LinkedIn.

How to join or leave the group?

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

Editorial

Many thanks to those who have contributed to this issue. Please forward any articles, comments or notices of events, workshops and conferences before 16th September 2016, for inclusion in the next newsletter. All previous newsletters are available for download from the website.
Dr Craig Magee (c.magee@imperial.ac.uk)