



## Volcanic and Magmatic Studies Group

December 2015 Newsletter (No. 29)

Welcome to the final edition of the 2015 VMSG newsletters!

### VMSG Conference 2016 - Dublin

By Emma Tomlinson

Dublin is ready to welcome delegates to the 2016 VMSG meeting on 6-8th January. Registration will open at 9 am on Wednesday 6th, with tea/coffee and an optional geological tour of the historic Trinity College Dublin campus, before the meeting opens at 10.15 am. During the meeting, delegates will have reduced price entry to see the Book of Kells and the Old Library. The conference dinner will be held at the Jameson Distillery and includes a tour and whiskey tasting. A third of VMSG attendants are also going on the 1-day fieldtrip to the Giants Causeway on Saturday 9th. The pre-meeting workshop on LA-ICP-MS microchemical mapping will take place on Tuesday 5<sup>th</sup>, the workshop has 24 places for students and postdoctoral researchers and is fully booked.



We have an exciting program of talks lined up, with some great student abstracts and keynotes from Balz Kamber (Trinity College Dublin), Jon Blundy (University of Bristol) and Guido Giordano (University Roma Tre). We also host this years Hallimond Lecture, to be given by David Pyle (University of Oxford). Poster presenters have the option of giving a timetabled, 2-minute lightning talk during their poster session. As usual, there will be prizes for the best student talk and

poster, and an additional mystery competition to be announced at the meeting.



Explore the Guinness Effect

VSMG2016

Dublin

### Field activities

#### *Expedition in the Patagonian Andes*

By Olivier Galland

Between the 13th-27th November 2015, a group of 19 European and Argentinian geoscientists, led by Olivier Galland (Physics of Geological Processes, University of Oslo), took part in an international expedition to the Argentinian Patagonian Andes of the Neuquén Basin. This expedition forms the start of large research projects, funded by the Norwegian Research Council, which aim at unravelling the complex dynamics of magma emplacement in sedimentary basins and their implications on hydrocarbon systems.

The Neuquén Basin has been a major hydrocarbon player in South America for more than a century. In addition, the Neuquén Basin hosts voluminous volcanoes, the ages of which span from Upper Cretaceous to Holocene, and the link between this volcanic activity and petroleum systems has been demonstrated. Finally, the Andean orogeny brought to surface numerous intrusions emplaced in sedimentary rocks, and the structures of the volcanic plumbing systems are very well exposed thanks to the harsh desert climate. The Neuquén Basin is thus an ideal case study for: (1) unravelling the

complex mechanisms governing magma emplacement; and (2) understanding the mechanical impact of magma intrusions on hydrocarbon systems.

The first week of the expedition consisted of a field workshop involving the whole group. During the second week, three groups focussed on distinct complementary field targets all over the basin: (1) the internal structure of the Miocene Chachahuén volcano; (2) exhumed sills emplaced in organic-rich shale; and (3) fracturing processes in shale. The knowledge produced in the framework of these projects will have invaluable implications for our understanding of offshore volcanic basins, such as the Faroe-Shetland, Norwegian margin, and Rockall Basin.



*The team at El Tromen Volcano. From left to right: Juan Spacapan, Craig Magee, Frank Guldstrand, Olivier Galland, Karen Mair, Octavio Palma, Steffi Burchardt, Anne Pluymakers, Maya Kobchenko, Alban Souche, Håvard Bertelsen, Alain Zanella, Regis Mourgues, Julien Scheibert, Tobias Schmiedel, and Dougal Jerram.*

## Mineralogical Society News

By Kevin Murphy

### Next President

Prof. Hilary Downes will serve as the next Mineralogical Society President (2016-17). She takes over from Prof. Frances Wall who has completed her two year term.



For many years Hilary's research has concerned the origin and evolution of the Earth's continental lithosphere. More recently

she has started to study lower crustal xenoliths from kimberlite pipes in ancient areas of continental crust such as Siberia, the Baltic Shield, Montana and Michigan (USA). In the past ten years she has moved into studying meteorites, specifically those that appear to be from the mantle of another body in the solar system. Hilary is using ureilites to investigate the processes that affected small planetary bodies (asteroids) in the early solar system, particularly the formation of compositional layering in "differentiated" asteroids that possess a core, mantle and crust similar to the layered structure of the Earth.

### Bursaries

The deadline for the next round of Mineralogical Society student and senior bursaries is 15th January 2016. Find more information at:

<http://www.minersoc.org/postgraduate-bursaries.html>

<http://www.minersoc.org/senior-bursary.html>

### Society Awards

Nominations for Society Awards are also sought:

- Max Hey Medal
- Collins Medal
- Mineralogical Society-Schlumberger Award
- Best paper award

Details at: <http://www.minersoc.org/awards.html>

### Society books and journals

Don't forget to check out:

Mineralogical Magazine

<http://www.minersoc.org/minmag.html>

Clay Minerals

<http://www.minersoc.org/clay-minerals.html>

and the MinSoc book titles:

such as EMU Notes in Mineralogy series

<http://www.minersoc.org/EMU-notes.html>

and other publications [including DHZ]

<http://www.minersoc.org/publications.html>

## Notices

### ***The Sixth Element: 57th Annual Bennett Lecture by Professor Andy Saunders***

**Monday 7th March, 6 pm, Lecture Theatre 1, Bennett Building, University of Leicester LE7 7RH.**

Carbon is fundamental to life on Earth. Not only is it an integral part of all known organisms, but it also exerts a powerful influence on the composition and thermal regulation of the atmosphere and oceans. The geological past is littered with examples where major and rapid changes of the carbon cycle are associated with mass extinctions and global oceanic anoxic events. This talk will look at the characteristics of these

changes and explore a possible cause: venting of carbon from the deep Earth via catastrophic flood-basalt volcanism. It will also consider the question: does our current profligate use of hydrocarbons pose the same threat to the global environment that flood basalts did in the past?

All welcome. For further details please contact Gail Andrews: [ga16@le.ac.uk](mailto:ga16@le.ac.uk)

### **American Mineralogist Special Volume**

We are pleased to announce that the Special Collection on the theme “*Dynamics of magmatic processes*” is now active on American Mineralogist.

The aim of the Special Collection is to shed new light on the complexity of magma chamber dynamics and on the relative timescales. We welcome contributions on the following topics:

- i) field evidences, experimental, analogue, geochemical and/or numerical modelling of magma mixing;
- ii) micro-analytical investigations of physical and chemical disequilibrium in minerals and between minerals and melt;
- iii) diffusion modelling in melts/minerals and timescale estimation using both elemental diffusion modelling and radiogenic isotopes;
- iv) analytical, experimental and computational approaches leading to new insights on the timescale of magmatic processes, magma ascent and eruption.

We invite you to consider this Special Collection for your future works and please submit your manuscript when you are ready. To submit to the Special Collection please select “regular article” or “letters”, and then choose “Dynamics of magmatic processes” in the Manuscript Information section.

Please find the instructions for authors at the following link: <http://www.minsocam.org/MSA/AmMin/instructions.html>

An important fact is that American Mineralogist is very flexible with no need to wait for the entire issue. Indeed, each article is published as soon as it is accepted with a heading referring to the special section. Each paper is obviously subjected to the high standard of peer review. Please feel free to contact us if you need any further information.

Best wishes,

Chiara Maria Petrone ([C.Petrone@nhm.ac.uk](mailto:C.Petrone@nhm.ac.uk))

Maurizio Petrelli ([maurizio.petrelli@unipg.it](mailto:maurizio.petrelli@unipg.it))

(Guest Associate Editors of “Dynamics of magmatic processes”)

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

- VMSG Conference 6-8<sup>th</sup> January 2016, Dublin
  - <http://www.tcd.ie/Geology/vmsg2016/>

- 'The 2016 Goldschmidt conference will in Yokohama, Japan 26 June - 1 July.
  - There will be a theme on 'Volcanoes and Hazards'. Given the location of the conference this theme is of particular relevance and VMSG members are invited to consider proposing a session. The call for sessions will be announced before the end of 2015 and you can sign up to receive an email alert here: <http://goldschmidt.info/2016/callForSessions>
  - More information about 'Volcanoes and Hazards' and all other Goldschmidt 2016 themes is here: <http://goldschmidt.info/2016/program/programViewThemes>
  - Please also feel free to contact the theme co-ordinators with any questions:
    - Michihiko Nakamura (Tohoku University, Japan: [nakamm@m.tohoku.ac.jp](mailto:nakamm@m.tohoku.ac.jp))
    - Georg F. Zellmer (Massey University, New Zealand: [g.f.zellmer@massey.ac.nz](mailto:g.f.zellmer@massey.ac.nz))
    - Tamsin Mather (University of Oxford: [Tamsin.Mather@earth.ox.ac.uk](mailto:Tamsin.Mather@earth.ox.ac.uk))
- GSA Penrose Conference 2016 to the Stillwater Intrusion: “*Layered mafic intrusions and associated economic deposits*”
  - Watch this space!
  - 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](mailto: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](mailto: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](http://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 31<sup>st</sup> January 2015, for inclusion in the next newsletter. All previous newsletters are available for download from the website.

***Dr Craig Magee ([c.magee@imperial.ac.uk](mailto:c.magee@imperial.ac.uk))***