



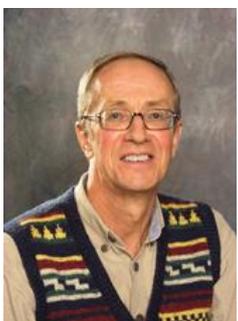
# IAVCEI News 2014 No: 3-4

INTERNATIONAL ASSOCIATION OF VOLCANOLOGY AND CHEMISTRY OF THE EARTH'S INTERIOR

## FROM THE PRESIDENT

Dear Colleagues,

**I apologise for the delay in the release of this newsletter. However, this allows us to address several issues that could not have been addressed earlier.**



Ray Cas  
President of the  
IAVCEI

### 1. L'Acquila Scientists Acquitted

First, as many of you will by now have heard, the six scientists convicted of negligence and sentenced to gaol for their role of managing the L'Acquila earthquake crisis in Italy in 2008, have been acquitted by an Italian Court of Appeal. This is wonderful news for the scientists, their families, and the international scientific community. The Italian legal system has been under international scrutiny since the legal proceedings commenced.

Widespread media coverage, as well as expressions of support and condemnation of the bringing of charges by numerous scientific organisations worldwide, including IAVCEI, have put some pressure on the Italian legal system to exonerate the scientists. However, it seems that the prosecution and some private citizens are likely to appeal the acquittal. So, although the acquittal is very good news, the saga is not over yet. IAVCEI is proud to have voiced its opposition to the legal proceedings, and to have contributed to the international effort to have the scientists acquitted.

### 2. Should IAVCEI leave IUGG? An update of the situation – please read and consider

Following is an update on developments since providing a summary of the pros and cons of IAVCEI leaving or staying in

IUGG in the July 2014 (this year) issue of IAVCEI NEWS. Please download from the IAVCEI website if you haven't yet read that assessment.

### • IUGG has just requested changes to IAVCEI regulations to stop members being able to elect the IAVCEI Committee.

Three weeks ago the Secretary General of IUGG, Alik Ismail-Zadeh, requested that IAVCEI change its statutes from election of the IAVCEI committee by IAVCEI members, as at present, to election of IAVCEI Committee by the National Correspondents to IAVCEI from financial member countries, to align with IUGG Statutes. That is, if IAVCEI goes along with this, we can no longer elect our own committee.

The IAVCEI Committee considers this to be a very retrograde step back into the dark ages. In a modern inclusive and democratic world, all scientists should be able to participate in the nomination of and election of the committee of their learned society, and they should all be eligible to be nominated for committee positions. This is also prohibited by IUGG Statutes.

### • A summary of the major issues that IAVCEI disagrees with IUGG about

1. IAVCEI cannot officially have individual members.
  - IAVCEI wants to have individual membership because it provides a sense of involvement in our learned association as an international community.
2. IUGG has just requested that IAVCEI amends its statutes on the election of the IAVCEI Committee so that ONLY National Correspondents can elect the IAVCEI Committee.
  - This is against the practices of IAVCEI for the last 20 years, which no-one in IUGG has officially objected to previously.
  - IAVCEI wants their own committee to be elected democratically by the members of IAVCEI.

- As discussed in 3. below, the majority of National Correspondents are not involved in IAVCEI activities, and there are many we have never heard of. IAVCEI does not want its committee elected by a majority of strangers who know little or nothing about our association or the candidates.
  - IAVCEI cannot, on the IUGG snail's pace timescale for bureaucratic process, change the statutes before the election of the next committee for 2015-2019. (see below for the call for nominations)
3. The national correspondents are chosen by member countries, without reference to IAVCEI for advice.
- IAVCEI wants to be involved in determining who the national correspondents are.
  - The majority of the listed National Correspondents for IAVCEI do not participate in IAVCEI, and the IAVCEI Committee has never heard of most of them or their research. They know nothing about IAVCEI nor can they know anything about the candidates nominated for election. This system is totally flawed, at least for IAVCEI.
4. Scientists from countries that are not member countries of IAVCEI cannot be nominated for, or be elected to, the IAVCEI committee, or be involved in any official way in IAVCEI. According to IUGG statutes, only scientists from financial IUGG member countries can participate in the decision making processes and governance of IAVCEI.
- This is an archaic, exclusive, club-like attitude that IAVCEI disagrees with.
  - IAVCEI wants all scientists who contribute to the association to be eligible to be nominated for and elected to the IAVCEI Committee.
5. IAVCEI cannot charge membership fees to maintain its level of activities and support for these activities, because this is against IUGG regulations.
- Although IAVCEI receives about 15,000 Euros annually from IUGG IAVCEI's expenditure on its current range of activities is between 40,000 to 55,000 Euros per year. This has been possible because of income received from the membership fees that IAVCEI used to charge all members. Since IAVCEI stopped charging membership fees in 2011, in response to a directive from IUGG, our financial reserves have started dwindling.
  - We want to be able to maintain our current levels of activity, but this can only be done by charging modest membership fees, using the AGU model for membership.
  - It is in IUGG's best interests that each association be as dynamic as possible, but in the modern world this requires financial resources that IUGG is incapable of providing, and so each association should be given approval to generate income in whatever way is deemed most effective for each association.
6. IAVCEI wants to be a semi-autonomous association that is able to determine its own regulations or statutes and processes and principles of governance, independent of IUGG statutes.
- If IUGG does not agree to IAVCEI being able to change its statutes IAVCEI has to decide what to do – leave IUGG and become an independent association, or stay and be dictated by outmoded IUGG statutes.
- Feedback so far on prospect of IAVCEI leaving IUGG**
- As many of you will be aware, IAVCEI has been considering whether or not to leave IUGG. I refer members to the July 2014 issue of IAVCEI News (available for download from the IAVCEI website) in which the pros and cons of leaving or remaining as an association member of IUGG were summarized. I invited members to provide feedback on the issue.
- The overwhelming feedback received has been positive in support of IAVCEI leaving IUGG *if necessary*, and becoming an independent scientific association. While attending the CoV8 conference in Yogyakarta in Indonesia in early September, two younger scientists expressed some reservations to me about how leaving IUGG might impact on IAVCEI's ability to influence international scientific policy, particularly with respect to volcanic hazard and risk issues. I pointed out that I was unaware of any major scientific policy of significance that IUGG has been instrumental in instigating. I also pointed out that through the initiative of groups of IAVCEI members, IAVCEI was now being involved in providing advice and seeking to influence policy of United Nations organisations directly, rather than struggling through the long winded, circuitous, and bureaucratic processes of IUGG, and then its umbrella organization, ICSU, the International Council for Scientific Unions, and then to UN organisations. For example, the Global Volcano Model Network (GVM), which IAVCEI supports financially and is involved in its management, has just completed a major review of the status of preparedness in assessing hazards and risks for the world's 1549 active Holocene volcanoes, and the thoroughness of, and the underlying geological database for the United Nations IDSR. This was done without any involvement of IUGG, and would not have been possible through IUGG without going through endless committees, taking years. Another small group of IAVCEI members is involved in direct discussions with UNESCO on the importance of preserving volcanic regions as international natural heritage regions. It thus seems that IAVCEI member groups can actually be more effective in helping formulate scientific policy independent of IUGG.
- I have specifically asked a couple of people who have expressed reservations to provide me with a written summary of clear and verifiable reasons as to why IAVCEI should remain a member association of IUGG, and specific achievements that have been brought about by this linkage. Unfortunately, they have not responded, despite waiting several months, so we will proceed, because we have given everyone plenty of time and opportunity to respond.
- The plebiscite on whether or not IAVCEI should stay in or leave IUGG will be conducted by email. All members as at 11th December 2014, will receive an email inviting them to vote and providing them with instructions.**
- The plebiscite is open to IAVCEI members only, that is, those who are registered as members on or before 11th December 2014.
  - **The closing date for voting in the plebiscite is 15<sup>th</sup> January, 2015.**

• **The plebiscite question is:**

*IUGG statutes/regulations:*

- do not allow anyone to become individual members in IAVCEI because IUGG is opposed to individual membership,
- do not allow the election of the IAVCEI committee by IAVCEI members,
- require the IAVCEI Committee to be elected only by the 55 National Correspondents to IAVCEI from financial member countries of IUGG, most of whom do not actively participate in IAVCEI
- do not allow scientists from non-member countries of IUGG to be nominated for, and elected to the IAVCEI Committee, and
- do not allow the charging of membership fees that IAVCEI needs to support its range of activities,

*The current IAVCEI Committee disagrees with IUGG on all these matters, and has made representations to IUGG without success. If the current IAVCEI Committee cannot resolve these issues with IUGG, would you support the formation of a new independent International Association of Volcanology (IAV)?"*  
YES /// NO /// NEUTRAL

- If members respond YES, the IAVCEI committee will continue to negotiate with IUGG to make changes, as requested until the Prague meeting, and then .....
  - If IUGG agrees to changes, IAVCEI could decide to stay in IUGG
  - If IUGG disagrees to changes, IAVCEI should consider leaving IUGG
- If members vote NO, IAVCEI will stay in IUGG, and future committees will have to deal with these issues, as other committees have for 20 years.
- The committee to monitor voting in the plebiscite consists of Past Presidents Steve Sparks (UK), and Grant Heiken (USA), and Past Secretary General, Hans Schmincke (Germany).

• Other considerations

1. If IAVCEI becomes an independent association, it will be known as the International Association for Volcanology (IAV)
2. The sky will not fall in if IAVCEI leaves IUGG !!
3. IAVCEI will be unencumbered by the bureaucracy of IUGG, and will remain a dynamic association.
4. IUGG may try to resurrect IAVCEI within IUGG, but who would want to join such an undemocratic organization?
5. Bulletin of Volcanology will remain with the new association.
6. IUGG has demanded that any funds that IAVCEI has will become the property of IUGG. IAVCEI uses all the modest 15,000 Euros per year on support for our activities, so there is no IUGG sourced money in our reserves. The reserves we have have come from membership fees paid by members. Since it is illegal for associations to charge membership fees, and it does not recognize individual membership, all reserve funds will be transferred to the new association.
7. The new association will have to be set up as a non-profit association, which can be done in most countries, but requires careful consideration of taxation issues. This will have to be done anyway when the Secretary General position moves from Spain to a new country after the next election, as it has happened each time this has happened in the past. So this is not new.

8. The interests of scientists in geophysical disciplines relevant to volcanology, will be accommodated by establishing a research commission in volcanological geophysics.

• ***The IAVCEI committee therefore again recommends to IAVCEI members to vote in favour of IAVCEI leaving IUGG and becoming an independent scientific association if IUGG is not prepared to change its statutes, or does not allow IAVCEI to change its statutes.***

**3. CoV8 Conference in Yogyakarta, Indonesia, 9 -13 September.**

It was a great pleasure to have participated in this very well organized and successful meeting. The focus on hazard and risk assessment and the interface between physical scientists, social scientists, government and civil protection authorities involved in volcanic hazard and risk assessment and mitigation, again made this CoV meeting a unique and crucially important conference in the IAVCEI calendar. A review of the conference by Adele Bear-Crozier and Heather Wright is included below in this issue of IAVCEI NEWS.

However, I would just like to bring to the attention of the IAVCEI community, two important aspects of the CoV8 meeting. First, the *IAVCEI Research Commission on Volcanic Hazards and Risks* was re-launched under the leadership of Eliza Calder, Jan Lindsay and Jo Gottsman. It was very embarrassing for an organization such as IAVCEI, not to have a very active commission on volcanic hazards and risks, and the re-launch of the commission restores much credibility to IAVCEI.

Secondly, the IAVCEI Working Group on Crisis Protocols and Best Practices Associated with Natural Disasters, Hazards and Crises, chaired by Guido Giordano, organized an open forum on the issues of responsibilities of scientists involved in hazard and risk assessment, their levels of accountability and communication protocols. This working group was set up to address some of the issues involved in the legal action against the L'Acquila scientists. The Working Group was "adopted" by the new IAVCEI Commission on Volcanic Hazards and Risks, and has now evolved into a Task Group to write new guidelines on the responsibilities of scientists, their accountability to governments, and communication protocols during crises. These guidelines will be tabled at the IAVCEI2015 General Assembly in Prague, in July 2015.

**4. KEY DATES for the IAVCEI 2015 General Assembly, Prague, Czech Republic, 26<sup>th</sup> June to 2<sup>nd</sup> July, 2015**

The next major IAVCEI conference will be the IAVCEI2015 General Assembly to be held in Prague, Czech Republic, as part of the IUGG2015 General Assembly. Information about the comprehensive IAVCEI scientific program of symposia, workshops and fieldtrips is available on the IUGG2015 website at: [www.iugg2015prague.com](http://www.iugg2015prague.com)

Key dates for the IAVCEI2015 General Assembly are:

- Abstract Submission deadline 31<sup>st</sup> January, 2015
- EARLY BIRD REGISTRATION DEADLINE: 10<sup>th</sup> April, 2015 [www.iugg2015prague.com](http://www.iugg2015prague.com)
- Deadline for Conference Grant applications from postgraduate students (any country), early career scientists (any country), and scientists from developing countries to attend the 26<sup>th</sup>

IAVCEI/IUGG General Assembly 2015. See Grants page on the IUGG2015 website for the list of eligible countries for those applying as a scientist from a developing country: 15<sup>th</sup> January, 2015

- Notification of successful grantees: 31<sup>st</sup> March, 2015
- ¶ Registration deadline for grantees: 10<sup>th</sup> April, 2015
- Deadline for all registrations: 15<sup>th</sup> June, 2015

### **5. Call for nominations to the IAVCEI Executive Committee (2011-2015)**

We are now soliciting nominations for members of the IAVCEI Executive Committee for the next committee term from July 2015 to July 2019. All positions on the Executive Committee are open and include:

- the President, for one 4 year term,
- two Vice-Presidents, for one 4 year term
- the Secretary General and Treasurer, for 2 four year terms, i.e for 8 years
- four Members, all for one 4 year term.

The current Vice-Presidents and the Executive Committee Members are eligible for re-election. The members of the Nominating Committee who will officiate over the election are:

#### Nominating Committee

- Oded Navon (Chair, and former President of IAVCEI, Israel)
- Hugo Moreno (former Vice President of IAVCEI, Chile)
- Anita Grunder (former Vice President of IAVCEI, USA)
- Jocelyn McPhie (former Vice President of IAVCEI, Australia)
- Toshitsugu Fujii (former Vice President of IAVCEI, Japan)

The details of voting and role of the Nominating Committee are summarised in the Statutes and By-Laws of IAVCEI available from the IAVCEI website, at [www.iavcei.org](http://www.iavcei.org)

*The following is a summary of the nomination process.*

- Any IAVCEI member can nominate in writing any other current member for a position of the IAVCEI Executive Committee.
- The nomination must be seconded by three other IAVCEI members, each from a country other than that of the nominee. The person who is nominating can be from the same country as the person being nominated.
- Theoretically the nominee, nominator, and seconders must all be from countries belonging to IUGG as per the IUGG statutes (i.e. paying member countries—see IUGG web site), although IAVCEI has been flexible on this regulation.
- No one can be a candidate for more than one position in the election.

*What is required of the candidates?*

Each nomination must include

- (i) a letter of nomination from the principal nominator
- (ii) a short statement of acceptance from the candidate
- (iii) a short resume outlining the candidate's position, research interests, and activities related to IAVCEI
- (iv) one-page curriculum vitae of the candidate including key research publications, and
- (v) letters of support from three seconders.

• **Deadline for nominations for the 2015-2019 IAVCEI Committee: 31<sup>st</sup> January, 2015**

The nominations should be submitted to Prof. Oded Navon, the Chair of the IAVCEI Nominating Committee, by email as pdf files at the following address:

Email: [Oded.Navon@huji.ac.il](mailto:Oded.Navon@huji.ac.il)

### **6. Call for nomination of candidates for the Wager Medal and George Walker Award for 2011**

The Awards Committee invites nominations of candidates for the Wager medal and George Walker Award for the next IAVCEI General Assembly during the IUGG General Assembly at Prague in the Czech Republic, in July 2015.

Awards Committee members (2011 to 2015) are

- Ray Cas (Chair), Australia
- Marta Calvache, Colombia
- Jenny Gilbert, United Kingdom
- Wes Hildreth, USA
- Shinji Takarada, Japan
- Hazel Rymer, United Kingdom

#### **WAGER MEDAL TO BE AWARDED IN 2015**

The Wager Medal honors the memory of Professor Lawrence Rickard Wager of the University of Oxford, United Kingdom, 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 is given every two years to a scientist who has made outstanding contributions to volcanology, particularly in the eight-year period prior to the Awards and is under the age of 43 on the 31<sup>st</sup> December 2014.

#### **GEORGE WALKER AWARD - TO BE AWARDED IN 2015**

The George Walker Award honors the memory of Professor George Walker, who was born on March 2, 1926 and died on January 17, 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. The award is given every two years to a scientist under the age of 35 on 31<sup>st</sup> December 2014. The award recognizes achievements of recent outstanding graduate in the fields of research encompassed by IAVCEI, or also a recent graduate whose achievements in volcanology involved operating in difficult circumstances. The winner will receive a certificate with a cash award.

*Guidelines for Nominations for the Wager Medal and George Walker Award*

- Nomination packages for the medal/award should include:
  - (1) a formal nomination letter, not to exceed three pages,
  - (2) a curriculum vitae,
  - (3) at least three supporting letters originating from different institutions (two such letters are sufficient for the George Walker Awards), and,
  - (4) if needed, a letter describing explicitly the types of "difficult circumstances" encountered by the candidate for the George Walker Award.
- Candidates must be IAVCEI members when nominated.
- A document certifying the age of the candidate is requested.
- The decisions of the committee will be notified to the winners and referees as soon as the decision is made. All candidates are encouraged to submit abstracts to the 2015 IAVCEI General Assembly scientific program (See IUGG2015 website) so as to be at the General Assembly when the awards are announced at the IAVCEI meeting of members.
- The citation by a nominator and acceptance speech for each

award will be scheduled during the IAVCEI business meeting, and will be published in the IAVCEI newsletter.

• Send nomination packs as pdf documents to:  
Ray Cas,  
Chair of the IAVCEI Awards Committee,  
by email: ray.cas@monash.edu

• ***The deadline for nominations for the Wager Medal and George Walker Award for 2015 is also 31<sup>st</sup> January, 2015***

Ray Cas  
President of IAVCEI,  
Monash University, and the University of Tasmania, Australia.

## 1. L'Acquila Scientists Acquitted

First, as many of you will by now have heard, the six scientists convicted of negligence and sentenced to gaol for their role of managing the L'Acquila earthquake crisis in Italy in 2008, have been acquitted by an Italian Court of Appeal. This is wonderful news for the scientists, their families, and the international scientific community. The Italian legal system has been under international scrutiny since the legal proceedings commenced. Widespread media coverage, as well as expressions of support and condemnation of the bringing of charges by numerous scientific organisations worldwide, including IAVCEI, have put some pressure on the Italian legal system to exonerate the scientists. However, it seems that the prosecution and some private citizens are likely to appeal the acquittal. So, although the acquittal is very good news, the saga is not over yet. IAVCEI is proud to have voiced its opposition to the legal proceedings, and to have contributed to the international effort to have the scientists acquitted.

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charging modest membership fees, using the AGU model for membership.

- It is in IUGG's best interests that each association be as dynamic as possible, but in the modern world this requires financial resources that IUGG is incapable of providing, and so each association should be given approval to generate income in whatever way is deemed most effective for each association.

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- If IUGG does not agree to IAVCEI being able to change its statutes IAVCEI has to decide what to do – leave IUGG and become an independent association, or stay and be dictated by outmoded IUGG statutes.

#### • Feedback so far on prospect of IAVCEI leaving IUGG

As many of you will be aware, IAVCEI has been considering whether or not to leave IUGG. I refer members to the July 2014 issue of IAVCEI News (available for download from the IAVCEI website) in which the pros and cons of leaving or remaining as an association member of IUGG were summarized. I invited members to provide feedback on the issue.

The overwhelming feedback received has been positive in support of IAVCEI leaving IUGG *if necessary*, and becoming an independent scientific association. While attending the CoV8 conference in Yogyakarta in Indonesia in early September, two younger scientists expressed some reservations to me about how leaving IUGG might impact on IAVCEI's ability to influence international scientific policy, particularly with respect to volcanic hazard and risk issues. I pointed out that I was unaware of any major scientific policy of significance that IUGG has been instrumental in instigating. I also pointed out that through the initiative of groups of IAVCEI members, IAVCEI was now been involved in providing advice and seeking to influence policy of United Nations organisations directly, rather than struggling through the long winded, circuitous, and bureaucratic processes of IUGG, and then its umbrella organization, ICSU, the International Council for Scientific Unions, and then to UN organisations. For example, the Global Volcano Model Network (GVM), which IAVCEI supports financially and is involved in its management, has just completed a major review of the status of preparedness in assessing hazards and risks for the world's 1549 active Holocene volcanoes, and the thoroughness of, and the underlying geological database for the United Nations IDSR. This was done without any involvement of IUGG, and would not have been possible through IUGG without going through endless committees, taking years. Another small group of IAVCEI members is involved in direct discussions with UNESCO on the importance of preserving volcanic regions as international natural heritage regions. It thus seems that IAVCEI member groups can actually be more effective in helping formulate scientific policy independent of IUGG.

I have specifically asked a couple of people who have expressed reservations to provide me with a written summary of clear and verifiable reasons as to why IAVCEI should remain a member association of IUGG, and specific achievements that have been brought about by this linkage. Unfortunately, they have not responded, despite waiting several months, so we will proceed, because we have given everyone plenty of time and opportunity to respond.

- The on-line plebiscite on whether or not IAVCEI should stay in or leave IUGG is now open
- at the IAVCEI website: <http://www.iavcei.org>

- The plebiscite is open to registered IAVCEI members only.
- **The closing date for voting in the plebiscite is 15<sup>th</sup> January, 2015.**

• The plebiscite question is:

*IUGG*

*statutes/regulations:*

- *do not allow anyone to become individual members in IAVCEI because IUGG is opposed to individual membership,*
- *do not allow the election of the IAVCEI committee by IAVCEI members,*
- *require the IAVCEI Committee to be elected only by the 55 National Correspondents to IAVCEI from financial member countries of IUGG, most of whom do not actively participate in IAVCEI*
- *do not allow scientists from non-member countries of IUGG to be nominated for, and elected to the IAVCEI Committee, and*
- *do not allow the charging of membership fees that IAVCEI needs to support its range of activities,*

*The current IAVCEI Committee disagrees with IUGG on all these matters, and has made representations to IUGG without success. If the current IAVCEI Committee cannot resolve these issues with IUGG, would you support the formation of a new independent International Association of Volcanology (IAV)?"*  
YES /// NO /// NEUTRAL

- If members respond YES, the IAVCEI committee will continue to negotiate with IUGG to make changes, as requested until the Prague meeting, and then .....
- If IUGG agrees to changes, IAVCEI could decide to stay in IUGG
- If IUGG disagrees to changes, IAVCEI should consider leaving IUGG
- If members vote NO, IAVCEI will stay in IUGG, and future committees will have to deal with these issues, as other committees have for 20 years.
- The committee to monitor voting in the plebiscite consists of Past Presidents Steve Sparks (UK), and Grant Heiken (USA), and Past Secretary General, Hans Schmincke (Germany).

#### • Other considerations

9. If IAVCEI becomes an independent association, it will be known as the International Association for Volcanology (IAV)
10. The sky will not fall in if IAVCEI leaves IUGG !!
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16. The interests of scientists in geophysical disciplines relevant to volcanology, will be accommodated by establishing a research commission in volcanological geophysics.

• *The IAVCEI committee therefore again recommends to IAVCEI members to vote in favour of IAVCEI leaving IUGG and becoming an independent scientific association if IUGG is not prepared to change its statutes, or does not allow IAVCEI to change its statutes.*

### **3. CoV8 Conference in Yogyakarta, Indonesia, 9 -13 September.**

It was a great pleasure to have participated in this very well organized and successful meeting. The focus on hazard and risk assessment and the interface between physical scientists, social scientists, government and civil protection authorities involved in volcanic hazard and risk assessment and mitigation, again made this CoV meeting a unique and crucially important conference in the IAVCEI calendar. A review of the conference by Adele Bear-Crozier and Heather Wright is included below in this issue of IAVCEI NEWS.

However, I would just like to bring to the attention of the IAVCEI community, two important aspects of the CoV8 meeting. First, the *IAVCEI Research Commission on Volcanic Hazards and Risks* was re-launched under the leadership of Eliza Calder, Jan Lindsay and Jo Gottsman. It was very embarrassing for an organization such as IAVCEI, not to have a very active commission on volcanic hazards and risks, and the re-launch of the commission restores much credibility to IAVCEI.

Secondly, the IAVCEI Working Group on Crisis Protocols and Best Practices Associated with Natural Disasters, Hazards and Crises, chaired by Guido Giordano, organized an open forum on the issues of responsibilities of scientists involved in hazard and risk assessment, their levels of accountability and communication protocols. This working group was set up to address some of the issues involved in the legal action against the L'Acquila scientists. The Working Group was "adopted" by the new IAVCEI Commission on Volcanic Hazards and Risks, and has now evolved into a Task Group to write new guidelines on the responsibilities of scientists, their accountability to governments, and communication protocols during crises. These guidelines will be tabled at the IAVCEI2015 General Assembly in Prague, in July 2015.

### **4. KEY DATES for the IAVCEI 2015 General Assembly, Prague, Czech Republic, 26<sup>th</sup> June to 2<sup>nd</sup> July, 2015**

The next major IAVCEI conference will be the IAVCEI2015 General Assembly to be held in Prague, Czech Republic, as part of the IUGG2015 General Assembly. Information about the comprehensive IAVCEI scientific program of symposia, workshops and fieldtrips is available on the IUGG2015 website

at: [www.iugg2015prague.com](http://www.iugg2015prague.com)

Key dates for the IAVCEI2015 General Assembly are:

- Abstract Submission deadline 31<sup>st</sup> January, 2015
- EARLY BIRD REGISTRATION DEADLINE: 10<sup>th</sup> April, 2015 [www.iugg2015prague.com](http://www.iugg2015prague.com)
- Deadline for Conference Grant applications from postgraduate students (any country), early career scientists (any country), and scientists from developing countries to attend the 26<sup>th</sup> IAVCEI/IUGG General Assembly 2015. See Grants page on the IUGG2015 website for the list of eligible countries for those applying as a scientist from a developing country: 15<sup>th</sup> January, 2015
- Notification of successful grantees: 31<sup>st</sup> March, 2015
- ¶ Registration deadline for grantees: 10<sup>th</sup> April, 2015
- Deadline for all registrations: 15<sup>th</sup> June, 2015

### **5. Call for nominations to the IAVCEI Executive Committee (2011-2015)**

We are now soliciting nominations for members of the IAVCEI Executive Committee for the next committee term from July 2015 to July 2019. All positions on the Executive Committee are open and include:

- the President, for one 4 year term,
- two Vice-Presidents, for one 4 year term
- the Secretary General and Treasurer, for 2 four year terms, i.e for 8 years
- four Members, all for one 4 year term.

The current Vice-Presidents and the Executive Committee Members are eligible for re-election. The members of the Nominating Committee who will officiate over the election are:

#### Nominating Committee

- Oded Navon (Chair, and former President of IAVCEI, Israel)
- Hugo Moreno (former Vice President of IAVCEI, Chile)
- Anita Grunder (former Vice President of IAVCEI, USA)
- Jocelyn McPhie (former Vice President of IAVCEI, Chile)
- Toshiguttu Fujii (former IAVCEI Committee Member, Japan)

The details of voting and role of the Nominating Committee are summarised in the Statutes and By-Laws of IAVCEI available from the IAVCEI website, at [www.iavcei.org](http://www.iavcei.org)

*The following is a summary of the nomination process.*

- Any IAVCEI member can nominate in writing any other current member for a position of the IAVCEI Executive Committee.
- The nomination must be seconded by three other IAVCEI members, each from a country other than that of the nominee. The person who is nominating can be from the same country as the person being nominated.
- Theoretically the nominee, nominator, and seconders must all be from countries belonging to IUGG as per the IUGG statutes (i.e. paying member countries—see IUGG web site), although IAVCEI has been flexible on this regulation.
- No one can be a candidate for more than one position in the election.

*What is required of the candidates?*

Each nomination must include

- (vi) a letter of nomination from the principal nominator
- (vii) a short statement of acceptance from the candidate
- (viii) a short resume outlining the candidate's position, research interests, and activities related to IAVCEI
- (ix) one-page curriculum vitae of the candidate

- (x) including key research publications, and letters of support from three seconders.

• **Deadline for nominations for the 2015-2019 IAVCEI Committee: 31<sup>st</sup> January, 2015**

The nominations should be submitted to Prof. Oded Navon, the Chair of the IAVCEI Nominating Committee, by email as pdf files at the following address:

Email: [Oded.Navon@huji.ac.il](mailto:Oded.Navon@huji.ac.il)

**6. Call for nomination of candidates for the Wager Medal and George Walker Award for 2011**

The Awards Committee invites nominations of candidates for the Wager medal and George Walker Award for the next IAVCEI General Assembly during the IUGG General Assembly at Prague in the Czech Republic, in July 2015.

Awards Committee members (2011 to 2015) are

- Ray Cas (Chair), Australia
- Marta Calvache, Colombia
- Jenny Gilbert, United Kingdom
- Wes Hildreth, USA
- Shinji Takarada, Japan
- Hazel Rymer, United Kingdom

**WAGER MEDAL TO BE AWARDED IN 2015**

The Wager Medal honors the memory of Professor Lawrence Rickard Wager of the University of Oxford, United Kingdom, 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 is given every two years to a scientist who has made outstanding contributions to volcanology, particularly in the eight-year period prior to the Awards and is under the age of 43 on the 31<sup>st</sup> December 2014.

**GEORGE WALKER AWARD - TO BE AWARDED IN 2015**

The George Walker Award honors the memory of Professor George Walker, who was born on March 2, 1926 and died on January 17, 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. The award is given every two years to a scientist under the age of 35 on 31<sup>st</sup> December 2014. The award recognizes achievements of recent outstanding graduate in the fields of research encompassed by IAVCEI, or also a recent graduate whose achievements in volcanology involved operating in difficult circumstances. The winner will receive a certificate with a cash award.

*Guidelines for Nominations for the Wager Medal and George Walker Award*

- Nomination packages for the medal/award should include:
  - (1) a formal nomination letter, not to exceed three pages,
  - (2) a curriculum vitae,
  - (3) at least three supporting letters originating from different institutions (two such letters are sufficient for the George Walker Awards), and,
  - (4) if needed, a letter describing explicitly the types of "difficult circumstances" encountered by the candidate for the George Walker Award.

- Candidates must be IAVCEI members when nominated.
- A document certifying the age of the candidate is requested.
- The decisions of the committee will be notified to the winners and referees as soon as the decision is made. All candidates are encouraged to submit abstracts to the 2015 IAVCEI General Assembly scientific program (See IUGG2015 website) so as to be at the General Assembly when the awards are announced at the IAVCEI meeting of members.
- The citation by a nominator and acceptance speech for each award will be scheduled during the IAVCEI business meeting, and will be published in the IAVCEI newsletter.
- Send nomination packs as pdf documents to:

Ray Cas,  
Chair of the IAVCEI Awards Committee,  
by email: [ray.cas@monash.edu](mailto:ray.cas@monash.edu)

- **The deadline for nominations for the Wager Medal and George Walker Award for 2015 is also 31<sup>st</sup> January, 2015**



Ray Cas  
President of IAVCEI,  
Monash University, and the University of Tasmania, Australia.

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**BULLETIN OF VOLCANOLOGY**  
**Electronic Submission Site via Editorial Manager**

Bulletin of Volcanology now operates an on-line submission tool such as Editorial Manager.

Please submit your manuscript on-line via

<http://buvo.edmgr.com/>

Before submitting your manuscript you need to register then log in by your user name and password.

Bulletin of Volcanology has a "twitter" address anyone can check out under the following addresses:

@bullvolc

<https://twitter.com/bullvolc>

Happy twitting ...!

Best regards,

*James White*  
Executive Editor, Bulletin of Volcanology

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## ADVANCES IN VOLCANOLOGY

### Springer Book Series

Editorial Manager for *Advances in Volcanology* is now fully operational. Book chapters from books accepted to be included in the book series now can be uploaded through the Editorial Manager via the following link:

<http://www.editorialmanager.com/avol>

Technical information for book chapter manuscript preparation can be accessed via the submission site.

The first volume of the *Advances in Volcanology* book series is in print now, and the book on volcanic crater lakes are expected to be published early 2015. Other books also progress well through the Editorial manager system.

For further information or submission of book proposals please contact the Series Editor (Karoly Nemeth) on [k.nemeth@massey.ac.nz](mailto:k.nemeth@massey.ac.nz)

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## GLOBAL VOLCANO MODEL

A new initiative in volcanology is the formation of the Global Volcano Model (GVM) network, which was launched in November 2011. This article describes what GVM is about, explains its relationship to IAVCEI and invites members and Commissions of the IAVCEI community to become involved.

GVM aims to create a sustainable, accessible information platform on volcanic hazard and risk. GVM will provide systematic evidence, data and analysis of volcanic hazards and risk on global and regional scales, and support Volcano Observatories at a local scale. GVM will develop capabilities to anticipate future volcanism and its consequences. GVM is based on institutional membership rather than individuals, as is the case for IAVCEI. So far 31 Partners and sponsors have joined GVM from around the globe involving some 20 countries at the time of writing, including many major volcanological research centres, three insurance sector partners and other international organisations, notably WOVO. The governance structure of GVM has been agreed with a Management Board and Steering Committee. The Board includes mandatory representation of IAVCEI and the Smithsonian Institution and the Steering Committee including representatives from all partners.

A major goal of GVM is the translation of volcano science into forms that are useful and accessible to the public, researchers, decision makers, governments, international agencies, NGOs and commerce. Database development is a core activity and currently includes the Quaternary Large Magnitude Explosive Volcanic Eruption (LaMEVE), which has reached a mature form and is online. As well as the development of databases GVM aims to provide tools for forecasting, assessment of hazard and risk, and dealing with complications associated with volcano information at global, regional and local scales.

A brief word on the name which some may find odd as GVM is not a model in the usual sense. The reason for the name is more strategic and pragmatic. Several years ago Global Earthquake

Model (GEM) was funded with similar mission. The concept of a global community of scientists dedicated to a particular natural hazard gained currency with international agencies like the UN, World Bank and OECD. GEM became an important source and the concept developed of "Global Models" for each kind of hazard. GVM was founded at the right time because of the increasing interest in disasters that led to the Hyogo Framework for Action in which Governments pledged to work more closely together and use science much better for disaster risk reduction (DRR). Thus Model should be understood as an overall understanding of the hazard and to put this knowledge into forms that are useful. The strategy GVM paid off because UN ISDR commissioned GVM and IAVCEI to make a global assessment of volcanic risk for their 2015 global assessment of DRR.

GVM has agreed an approach of undertaking specific projects and tasks. GVM has been commissioned together with IAVCEI by the UN ISDR Office for Disaster Risk Reduction to carry out an assessment of global volcanic hazard and risk for its 2015 report (GAR15) and will deliver the first comprehensive assessment of global volcanism from such a perspective. This has never been done before and will provide a benchmark assessment of the state of knowledge on volcanoes in relation to their hazards and risks. As a consequence of the GAR15 work there is now volcano information available at a national-level as a series of country profiles for every country in the world. GVM has received superb support and engagement from WOVO and other 80 individual scientists from over 50 institutions worldwide. Four background papers have been delivered to the UN ISDR, who have also agreed to support their publication as an open access ebook to be published by Cambridge University Press. This study provides a benchmark synopsis of what we currently understand about volcanoes, volcanic hazard and volcanic risk.

GVM is developing its own initiatives through the partnership by forming three task forces to address knowledge gaps. One is developing volcanic hazard and risk indices, another is preparing a database on volcano deformation recorded by satellite data (principally radar) as well as managing the global assessment of volcanic risk for the UN's GAR15 report. GVM is also supporting the second Volcano Observatory Best Practices workshop on communication, which is in the planning stage.

Each partner of GVM offers different expertise in developing models, methods, information and tools to analyse and monitor hazard risk and impacts. The development work of GVM includes databases such as the Global Volcanism Program, Smithsonian Institution, WOVODat (a database on precursors to volcanic eruptions by the World Organization of Volcano Observatories), VHub (a US-led effort to develop an online collaborative environment for volcanology research and risk mitigation) and the Volcanic Global Risk Identification and Analysis Project (VOGRIPA).

The current funding for GVM has been extended by the Natural Environment Research Council until August 2015. There has also been support from the European Research Council and the private sector, notably Munich Re. Additionally, the BGS has been awarded £20k to support the development of a business model for the long-term sustainability of GVM.

GVM has many potential users spread across the world. These include citizens living on or near volcanoes; governments; the humanitarian aid sector and development organisations interested

in disaster risk reduction; the insurance sector; aviation; national, regional and local authorities; civil protection; international agencies such as the UN and World Bank; businesses and critical facilities affected or threatened by volcanic hazards; as well as a number of research institutions around the world.

What of the future? There is much work to do. GVM is only at the beginning of creating databases. If you are reading this article and in any way are involved in or know of databases being developed then you are encouraged to let us know or develop the database within GVM, which are underpinned by the Smithsonian VOW4 database. The GAR15 study has revealed many knowledge gaps in volcano information, issues on definitions (such as how an eruption is defined), and considerable room for improving the quality as well as quantity of volcanological data. Thus GVM will have a future focus on developed standards and ontological questions related to how databases are constructed. The task forces will continue their work and it's already clear that there is a need to update the GAR15 assessment in a few years from now. The issue of volcano data is becoming very prominent and GVM proposes to involve the community in key questions relating to data: how it's collected, how definitions affect how data are represented, improving data quality, filling data and database gaps, standards for collecting data and how data are best analysed. We hope to announce a major workshop on this theme.

How can you get involved? The only rule for GVM membership is that it is based on institutions rather than individual researchers. To join GVM only requires a letter to Dr Sue Loughlin (as Chair of the GVM Board) outlining why membership is requested and what the institution wants to contribute. There are no fees.

Find out more about GVM at: <http://globalvolcanomodel.org/>

*Sue Loughlin and Steve Sparks*

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## **NEW IAVCEI COMMISSION Commission on Volcanic Hazard and Risk**

Dear colleagues,

The recently-formed Commission on Volcanic Hazard and Risk held its initial meeting at Cities on Volcanoes 8 in Yogyakarta. We are now pleased to be able to invite you to sign up to the commission 'group page' on VHub in order to both stay informed and get involved in our upcoming activities. These activities include at least 7 thematic sessions planned for conferences in 2015 as well as workshops related to the two working groups.

### **Instructions for signing up to the group:**

1. Go to: <https://vhub.org/groups/iavencecommhazrisk>
2. Click on the 'Login' button (orange) located in the top left corner of the page
3. Enter your VHub username and password. If you don't have a Vhub account click 'Register' in the top right corner of the page (free and easy to do), then return to the link above.
4. Click on the 'Join Group' button (orange) located in the top left corner of the page 4. Registration complete.

Browse the Wiki (located in the menu bar on the left) to see what is going on and how you can become involved. We will be sending out a commission newsletter before the end of the year and invite any suggestions for future activities, or relevant items to be included in the newsletter.

Looking forward to your participation.

*Eliza Calder, Jan Lindsay and Jo Gottsmann.*

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## **NEW IAVCEI COMMISSION Commission on Volcano Geoheritage and Protected Volcanic Landscapes (VGPL)**

Spectacular volcanic landscapes and regions are becoming increasingly recognized as critical areas to protect and conserve for the unique geoscientific aspects they represent and as places to enjoy and learn about the science and history of our planet. There is an increasing national and international interest related to "Geoheritage", "Geoconservation", "Geoparks" and "Geotourism" with a growing appreciation and linkage of these concepts with modern Earth sciences and volcanology in particular. Most notably, "Geoparks", in particular those with active volcanoes, attract an increasing number of visitors annually and have proven to be excellent tools to educate the public about "Earth Sciences". At the same time, many Geoparks are seen to be areas for recreation and significant sustainable economic development through geotourism. However, due to the increasing interest on these geological sites, they also demand increasing scientific knowledge to guarantee the best presentation and dissemination of their geological values, as well as for the safety and the security of their visitors by conducting accurate hazard assessment. In order to develop further the understanding of volcanism and Earth Sciences in general and to elucidate the importance of volcanology for Society we propose this new Commission on Volcano Geoheritage and Protected Volcanic Landscapes (VGPL), aimed at promoting an exchange of information and experiences between organizations and people responsible for managing and/or working in protected volcanic landscapes; explaining the importance of knowledge for raising awareness of volcanic landscapes at a territorial scale; and for sharing knowledge and raising awareness regarding experiences in management, education and geotourism in protected volcanic landscapes. This Commission will address five main issues: 1) Contributing with scientific knowledge to the management of protected volcanic areas; 2) Identification of scientific values of protected volcanic areas; 3) Evaluate threats to the integrity of volcanic landscapes from activities such as agricultural practices and livestock grazing, forestry practices, mining of volcanic materials, geothermal development, and development of built infrastructure. 4) Communicating heritage values through education and interpretation, and 5) Geotourism as a factor of economic and community sustainable development in protected volcanic areas. In addition, the VGPL will take responsibility for the organization of the VOLCANDPARK conference, every year or two years, in different protected volcanic areas around the World, and as a continuation of the first conference organized in Olot, Spain in 2012 (<http://parcsnaturals.gencat.cat/es/garrotxa/participa-hi/volcandpark/>)

### Foreseen activities for the next two years include:

- 1) To create a website of the commission through the vHUB platform;
- 2) To organise panel discussion in IUGG 2015 (already listed in the IAVCEI Scientific program);
- 3) To organise the conference VOLCANDPARK2 in Lanzarote, Spain, in November 2015;
- 4) To organise the conference VOLCANDPARK3 in Hawaii in 2016 or 2017;
- 5) To organise a scientific session in IAVCEI 2017 in Portland, USA

Notification on the activities and process to join to the group will be dispatched via email and VolcanoList early next 2015.

### Commission Leaders

Joan Marti (Spain)  
Karoly Nemeth (New Zealand)  
Mohammed Rashad Moufti (Kingdom of Saudi Arabia)  
Thomas Casadevall (USA)

## REPORT

### ON THE IAVCEI 1ST INTERNATIONAL WORKSHOP ON VOLCANO GEOLOGY JULY 7-11, 2014, FUNCHAL, MADEIRA,

In modern volcanology we now have the capability to physically and geochemically examine volcanic rocks and crystals down to the micron scale, remotely sense volcanoes from space and dissect the componentry of volcanic and volcanoclastic deposits in fine detail and mathematically model volcanic processes. All of this detail, however, requires a framework of knowledge of the geology of a volcano, particularly its stratigraphy in time and space, and the integration of knowledge from the various specialist areas with that geologic framework. Out of concern that the link between specialisation and volcano geology was losing its importance, Joan Martí (ICTJA, CSIC, Barcelona, Spain), António Brum da Silveira, (University of Lisbon, Portugal) and Susana Prada (University of Madeira, Portugal) organised the 1st International Workshop on Volcano Geology in Madeira to refocus attention on the importance of geological studies in volcanology.

Madeira was an excellent choice for the workshop with all of the sessions and accommodation sited at one venue. The workshop format comprised three days of oral presentations and two days of field trips. There were no concurrent sessions and this was fitting in light of the organiser's objective of focussing on the broad spectrum of volcano geology. This enabled all participants to contribute to discussions, bringing together perspectives from their varied backgrounds. Each session, two in the morning and two in the afternoon, was led off by a keynote paper which introduced the theme of the session. The workshop appropriately started with volcano stratigraphy and geochronology, followed by geological mapping and tectonics of volcanoes. The next themes were edifice construction and volcanoclastic sedimentology, then petrology and geochemistry. On the third day presentations and discussions were concerned with volcano geology that related to

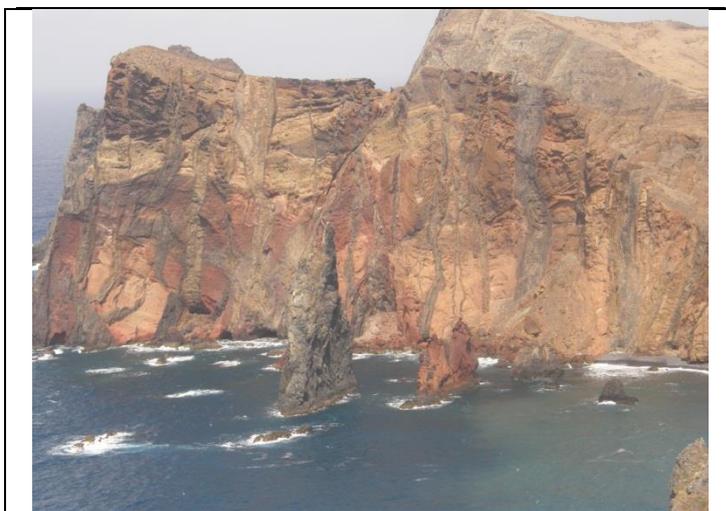
volcanic hazard assessment and the vexed question of interpreting volcano unrest.



Riccardo and Antonio at the summit of Madeira. Inset – Antonio and “that hat”

*Photo and inset – courtesy of Andreas Klügel*

On the last two days the workshop went into the field, exploring the volcanic geology of the island of Madeira. This was entertainingly and informatively led by Antonio and Riccardo Ramalho. One of the overall themes of the two days was the difficulty in mapping complex and multiple volcanic units of limited lateral extent and very similar field characteristics. The approach taken by Antonio, Riccardo and colleagues is to use unconformity bound mapping units to provide a basic stratigraphic framework to the geology, with a considerable degree of success. The coastal sections provided great examples of tuff cone activity and spectacular coastal erosion features, while the deeply incised central part of the island gave unparalleled views into a relatively young rifted basaltic volcano system with complex dykes and sills cutting lava flow and pyroclastic sequences. The field trip and its interesting lunch locations provided many opportunities to continue discussions initiated during the earlier presentations.



Rift dykes on the northern coast, Madeira Island.

On behalf of all the participants in the Workshop, I would like to extend a big thank you to Joan Marti, his co-organisers and the advisory committee for organising of the workshop; it was well organised, with incredible local geology, great field trips and a very friendly group of people, which made it both very enjoyable and scientifically productive. I am sure many of us will remain in contact as a result of this meeting.

On outcome of the meeting was a call to support a proposal by Gianluca Gropelli and Roberto Sulpizio for a new IAVCEI commission on Volcanic Geology and we urge all volcanic geologists to get behind this initiative.



Participants in the 1st International workshop on Volcanic Geology, Madeira 2014

#### Report prepared by

*Bob Stewart, Manuela Tost, Shane Cronin* (Massey University)

## **CITIES ON VOLCANOES 8 YOGYAKARTA, INDONESIA 9-13 SEPTEMBER 2014 CONFERENCE REPORT**

The eighth, biennial Cities on Volcanoes (CoV) conference was held recently in Yogyakarta, Indonesia from September 9-13, 2014. The CoV conference series aims to bring together geoscientists, emergency managers, social scientists, economists, city planners, engineers and educators to promote an exchange of ideas and stimulate dialogue on the generation of volcanic hazards, the vulnerability of exposed communities and risk mitigation. The conference theme this year ‘Living in Harmony with Volcano: Bridging the will of nature to society’ sought to improve volcanic risk mitigation measures, land use planning and emergency management of densely populated volcanic regions. The conference was held in the Grha Sabha Pramana at Universitas Gadjah Mada (UGM) in Yogyakarta and hosted by Indonesia’s Geological Agency (Badan Geologi), the local Government of Yogyakarta (special region), the local Government of Sleman Regency and Universitas Gadjah Mada. Support was provided by the International Association of Volcanology and Chemistry of the Earth’s interior (IAVCEI), the Commission of Cities and Volcanoes (CaV), the Indonesian National Agency for Disaster Management (BNPB), the Bandung Institute of Technology (ITB), the Indonesian Association of Geologists and the Indonesian Association of Geophysicists.

Indonesia is considered to have the greatest volcanic eruption hazard in the Asia-Pacific region as it has experienced the highest frequency of VEI 4 or larger eruptions resulting in a loss of more than 100,000 lives over the last 200 years directly related to volcanic activity. It therefore seems appropriate that CoV8 be held

in Yogyakarta, a city of population greater than three million located at the base of one of Indonesia’s most historically active volcanoes, Mount Merapi. The last major eruption of Mount Merapi occurred in 2010 and resulted in over 350 deaths. The hazards posed to communities surrounding the volcanoes are widespread and varying (e.g., lava dome and flow collapse, pyroclastic flows, volcanic ash, and lahars). Heavy annual rainfall events in the region contribute to the initiation of potentially deadly lahars, which occur frequently and in many cases during periods of volcanic repose.

The opening ceremony was initiated by Muhamad Hendrasto, of the Badan Geologi, who welcomed visitors from around the world to the conference. Opening talks by were followed by a Javanese dance, entitled “Lereng Merapi”.



Opening ceremony – UGM, Yogyakarta, September 9th 2014

Thematic sessions were organised into four major scientific and technical symposiums: 1) Volcanology; 2) Living in harmony; 3) Lessons learned from volcanic crises and 4) The Indonesian session. The conference was a great success receiving 507 contributions comprised of 4 plenary presentations, 273 oral and 234 poster presentations. In total, 552 delegates from 36 countries (Argentina, Australia, Belgium, Canada, Chile, China, Colombia, Costa Rica, Czech Republic, Denmark, Ecuador, France, Germany, Hungary, Indonesia, Italy, Japan, South Korea, Mexico, Netherlands, New Zealand, Nicaragua, Papua New Guinea, The Philippines, Poland, Puerto Rico, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Trinidad and Tobago, Turkey, United Kingdom, United States of America) attended the conference.

The conference was preceded by a number of pre-conference workshops and field trips to spectacular volcanic regions across Indonesia. Workshops conducted prior to the conference included: ‘Volcano Seismo-Acoustic Practicum’, ‘Reviewing Hazard Mapping Techniques’ and ‘WOVOdat: a volcano database’. Pre-conference field trips were conducted in Central Java at Dieng Volcanic Complex, East Java at Bromo (Tengger Caldera) and Kelud Volcano and in North Sulawesi at Tondano Caldera (see photo below). In addition to the scientific and technical sessions intra-conference workshops were held on; and ‘DOMERAPI’ and intra-conference meetings were well attended by delegates who contributed to discussions on ‘Lahars: from Hazard Assessment to Risk Mitigation’, ‘Tourism and Volcanoes’, the ‘Asia-Pacific region Earthquake and Volcanic Hazard Mapping Project (G-EVER)’, ‘Outreach Exchange’, ‘Aviation-Ash’, the ‘White Paper on Monitoring the Volcanoes of Southeast Asia (GEOSS)’ and a joint meeting which combined the ‘Cities and Volcanoes Commission workshop’ and the ‘Inaugural

meeting for the IAVCEI Commission on Volcanic Hazards and Risk' with a very stimulating discussion on 'The role and responsibility of scientists in hazard management' following the events in L'Aquila, Italy. Post-conference field trips were conducted in Central Java to Mount Merapi, on the island of Lombok to Rinjani Caldera and in the Sunda Strait to Krakatau.

A post-conference workshop entitled, 'Wet Volcanoes' took place at the world's largest acid crater lake, in Kawah Ijen caldera, east Java. The cultural highlight of the conference was most certainly the intra-meeting field trip to visit some of the communities affected by the 2010 eruption of Mount Merapi. Delegates met with villagers who have experienced much hardship in the years following that devastating eruption but who nonetheless have embarked on vast rebuilding programs, sought and found alternate sources of income and now provide education to visitors on the importance of building resilience in communities that live in active volcanic regions. The day was concluded with a visit to the spectacular Prambanan Temple on the outskirts of Yogyakarta where delegates were treated to sensational dinner and traditional Javanese Ballet..



Prambanan Temple, Intra-conference field trip, September 11th 2014

**Report prepared by:**

*Adele Bear-Crozier* (Geoscience Australia) and *Heather Wright* (USGS)



Soputan Volcano, North Sulawesi (Tondano Caldera Pre-conference Field Trip) – September 7th 2014

In addition to the scientific and technical sessions, fields trips, workshops and meetings, a specific program focused on community engagement 'The Indonesian Session' was held on the final day of the conference. This session was dedicated to stakeholders, non-government organisations (NGO's), educators, religious and informal leaders and provided a forum for members of the community to engage with scientists and each other to share their experiences, knowledge and local wisdom in facing recent volcano crises at Merapi, Sinabung, and Kelud volcanoes.

At the closing ceremony, the organizing committee announced that the next biennial Cities on Volcanoes meeting will be held in Puerto Varas, Chile in 2016.

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**REPORT ON THE CARPATHO-BALKAN GEOLOGICAL ASSOCIATION XX CONGRESS, TIRANA, ALBANIA, 23-26 SEPTEMBER 2014**

Between 24 and 26 of September, 2014 Tirana (Albania) hosted the XX Congress of the Carpathian Balkan Geological Association (CBGA). The CBGA is a premier geological association countries of Central and SE Europe geologically linked to the Carpathian and Balkan region. Most of these countries has no active volcanoes (beside Greece), however volcanism through the Mesozoic and Cenozoic played an important role of the geological evolution of these region as a collision zone between Africa and Europe where subduction events took place with active rifting and associated volcanism. As a result, the CBGA countries host a very diverse geological setting that has significant and long lasting very diverse volcanic history as well. In spite that the region covers a relatively small surface area, the diversity of volcanic facies and associated type and style of volcanism is very high. As a consequence to this the rock record many geologists face with in this region contains a large amount of volcanic rock formed from volcanic arcs to pure intraplate type small-volume volcanic fields. To express the importance of volcanic rock sin the rock record of the CBGA countries an increased energy is invested by numerous researches to raise the appreciation of volcanism in the formation of such rock record and show clearly that the region can contribute significantly to our understanding of many volcanic processes. During the XIX CBGA Congress in Thessaloniki (Greece) in 2010 volcanic sessions were offered with a specific goal to raise the profile of volcanic researches in the region and show to the active researchers a potential closer association with IAVCE. As a result of the 2010 meeting a special issue on volcanology has been published in the Central European Journal of Geosciences (Springer) based on the outputs of the volcanic sessions offered during the conference (Nemeth and Pecskey 2010).

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Tirana is a dynamically developing country in SE Europe (A) that hosted the CBGA congress in 2014 (B) in one of the town best hotel (C). (Photo K Nemeth)

In 2014, in Tirana a similar concept was behind to arrange a volcanic session. Beside many „heavy weight” geochemical sessions, a session titled as „From magma genesis to volcanic edifice growth and destruction: The Carpathian-Balkan and adjacent regions as a natural laboratory to contribute to the source to volcano model” was offered and labelled as a session associated with IAVCEI. The session had great attendance, higher than expected, and it has culminated in some very “fiery” but mind-opening discussions. In addition the CBGA meeting in Tirana also offered an excellent set of sessions on ophiolites as Albania, and in general the Balkan is the home of some spectacular ophiolite sections, and it is subject of intensive ophiolite researches. Overall, the volcanic related sessions were surprisingly high quality and they gathered great interest. It seems that IAVCEI “presence” in such regional meetings can be a very effective tool to raise awareness of volcanic geosciences in regions where due to lack of active volcanism, volcanic geology commonly has not so high profile.

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#### Reported by

**Károly Nemeth**

Massey University

## REPORT ON THE 5TH INTERNATIONAL MAAR CONFERENCE, QUERETARO, MEXICO, 17-22 NOVEMBER 2014

It was a great experience to host the 5th Edition of the International Maar Conference (5IMC) in Querétaro (México)

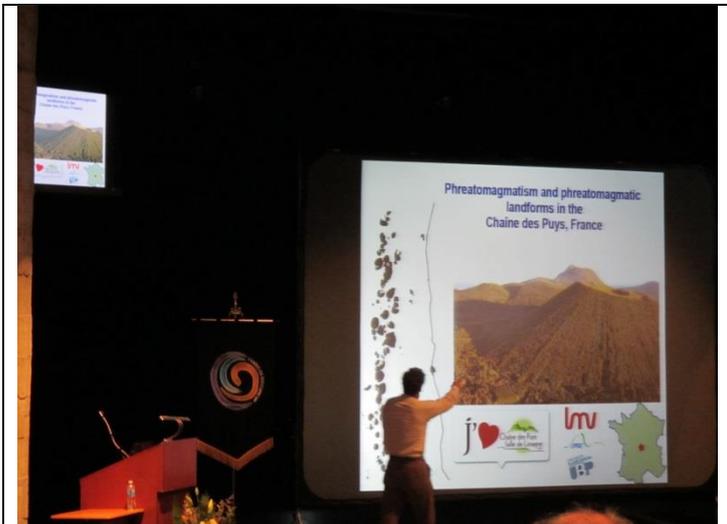
from the 17th to the 22nd of November 2014. The Centro de Geociencias of the Universidad Nacional Autónoma de México (UNAM) was the Conference’s venue. Following the trend established at the 4th International Maar Conference held in Auckland (New Zealand), where the conference’s scope was expanded to cover all aspects of monogenetic volcanism, the 5IMC included these topics as well as those related with volcanic lakes.

We organized six sessions for this meeting: (1) Geology, petrology, and geophysics of maar-diatreme volcanoes (architecture and evolution). Conveners: Greg Valentine, Pierre-Simon Ross, James White, and Gerardo Carrasco-Núñez; (2) Environmental studies of Maar lakes and other volcanic lakes: Biology, Ecology, Limnology, Paleoclimate and Lake Sedimentation. Conveners: Boris Chako Tchamabé, Georg Büchel, Joerg Negendank, Javier Alcocer, Beatriz Ortega, Károly Németh, and Takeshi Ohba. (3) Monogenetic volcanic fields: Structural and Tectonic Settings, causes of magmatic and phreato-magmatic activity. Conveners: Károly Németh, Ian Smith, and Claus Siebe. (4) Volcanic and hydrogeological hazards related to maar-diatreme volcanoes and distributed volcanic fields. Conveners: Jorge Aranda, Shane Cronin, and Volker Lorenz. (5) Monogenetic volcanism and mineral resources, quarries, land management, and geotourism. Conveners: Michael Ort, Bruce Kjarsgaard, and Peter Bitschene. (6) Experiments and Modeling of explosion and eruption physics relevant to maar-diatreme volcanoes. Conveners: Bernd Zimanowski, Greg Valentine, and Piero Dellino.



Group photo of the 5IMC participants (5IMC Photo Courtesy).

The conference was heightened by the contributions of five invited Keynote Speakers: Greg Valentine, Ian Smith, Volker Lorenz, Peter Bitschene, and Bernd Zimanowski. In addition to the regular program, we scheduled two round tables with several topics where we tried to make a follow-up of the Hopi Buttes Workshop discussions with regard to the state of the art research on maar-diatreme volcanoes.



Ben van Vryk de Vries (Clermont-Ferrand) gave a lecture on the monogenetic volcanic field of the Chaîne des Puys, a location applied for UNESCO World Heritage status on the basis of the outstanding values of its monogenetic volcanoes and associated fault line. The IAVCEI Commission on Monogenetic Volcanism is fully behind the proposal, and hope that the region will finally got the UNESCO World Heritage status (Photo K Nemeth).

We received nearly 120 papers, which were presented as: 50 oral and 70 poster presentations. Attendance was 70 researchers and 50 students from 21 different countries from all the continents. We offered four field trips: two pre-conference, one to Michoacán-Guanajuato and another one to San Luis Potosí, one intra-conference to Valle de Santiago and the other post-conference to the Serdán-Oriental Basin. The Jim Luhr Award was granted to Greg Valentine, for his contributions to the understanding of monogenetic volcanism and experimental work related to the evolution of maar-diatreme volcanoes, during the gala dinner.

The conference was sponsored by: (1) Mexico's Consejo Nacional de Ciencia y Tecnología, (2) the International Association of Volcanology and Chemistry of the Earth's Interior through the Commissions on Volcanogenic Sediments, on Monogenetic Volcanism and Volcanic Lakes, (3) UNAM's Coordinación de la Investigación Científica, (4) the International Association of Sedimentology, and (5) the Tourism Department of the State of Querétaro. Thanks to this generous support a total of 52 students and 18 researchers received grants that covered their registration fee or their living expenses during the meeting.



Greg Valentine (Buffalo) the 2014 recipient of the IAVCEI-IMC Jim Luhr Award presented during the 5IMC Gala Diner (Photo K Nemeth)

The intra-conference field trip was attended by 80 researchers and students. Grant Heiken described this field trip as follows: *“The trip began with a 2-hour bus ride across the El Bajío Plain. It was interesting to me in that I had never been in this part of Mexico before. The mixture of agriculture and industry was a surprise. Obviously this part of Mexico is on the rise.”*



Panoramic view of the La Alberca maar (Photo K Nemeth)

We were able to follow the background of these maars via a well-written field guide. The first stop was at La Alberca crater, where a road into the crater has opened up some remarkable exposures of surge deposits and a variety of bedding-plane sags. After the introduction, field trip attendees engaged in lively discussions about eruption processes and the source of water for magma-water interactions.



Proximal PDC deposits of the La Alberca maar (Photo K Nemeth)

Most of our time was spent in the Rincon de Parangueo maar. Our trip into the maar began with a dramatic walk through a 400-m-long tunnel that was excavated nearly 100 years ago by the villagers for easy access to the crater. The maar and its deposits are interesting but the remnants of the crater lake were even more illuminating. Platforms at the former shoreline are lined with modern stromatolites! Until this trip I had never seen stromatolites except in late pre Cambrian rocks. The lake floor has been sinking, causing interesting concentric detachments and deformation of lake sediments. This a wonderful site that should be visited by the IAVCEI Commission on Crater Lakes.



The Rincon de Parangueo maar (Photo K Nemeth..)



Amazing salt deposits in the crater floor of the Rincon de Parangueo maar (Photo K Nemeth).

In addition to the spectacular geology, a well-prepared lunch was available and beer at the end of the tour!

The SIMC last day concluded in an intensive round table discussion. Two round tables were arranged, each holding about 1.5 hours discussion lead by a moderator. The first round table was moderated by Michael Ort and it was focused on the magma fragmentation, deep processes and the role of external versus internal parameters may control the style of eruptions. In this round table Bernd Zimanowski, Ingo Sonder, James White, Ian Smith and Bruce Kjarsgaard were the people tried to discuss the well-formulated cutting edge research questions such as

- **Fragmentation** – How does fragmentation proceed and what evidence of water-magma interaction is preserved? Do falling wall-rock blocks drive premixing and/or trigger explosions? What is the role of intrusions in generating clastic (peperitic) material?
- **Hydrology** - How exactly does magma and water interact? Do dynamics of hydrological or magmatic system control explosivity? Can phreatomagmatic diatremes form completely under water?
- **Petrology** - Is there anything “special” about magmas that lead to phreatomagmatism? What ascent dynamics/conditions favor water-magma interaction?



Round table 1

The second round table was moderated by Karoly Nemeth and it was centered around maar/diatreme formation models, volcanic facies and their relationship to eruption styles, In this round table : Audray Delcamp, Greg Valentine, Claus Siebe and Volker Lorenz lead the discussion over research questions such as:

- **Conceptual models** - How well do current models capture generalities of maar-diatreme volcanism? Do all maars sit above diatremes? Is the water content inside a diatreme sufficient and available for intra-diatreme explosions?
- **Facies models** - How do we link together all parts of a maar-diatreme volcano? What can we deduce from evidence in diatreme or root zone about nature of explosions? Do different tephra ring deposit facies relate to fundamentally different eruption mechanisms, or are they just related to depth-energy? Do lithic clasts tell us explosion depths?
- What are structural controls on maar development, eruption, and orientation?



Round table 2

In each round table the audience could participate to the discussion and/or just be an observer to see how leading experts view those interesting research questions. These round table discussions were a vital part of the conference and all the participants enjoyed it a lot. Hopefully this style of work will trigger many new researches in the future.

**Reported by**

***Gerardo Carrasco-Núñez and José Jorge Aranda-Gómez (UNAM)***

***Report on the 5th International Maar Conference (SIMC-IAVCEI), Querétaro, México, November 18-21, 2014 - by Volker Lorenz (Wuerzburg University)***

After the first four International Maar Conferences (IMC-IAVCEI) had been held in the Daun/West Eifel/Germany (2000), Lajosmizse near Kecskemét city in Hungary (2004), Malarguë in Argentina (2008), and Auckland in New Zealand (2012), the increased interest in these Maar Conferences led already in Auckland to the early application of two countries for the next conferences and to the introduction of a semi-olympic 2 year interval between the following conferences. Therefore, it took only two years to run the Fifth International Maar Conference in 2014 in Querétaro in México. The 6th IMC will be held in Changchun City in China in 2016 and the 7th IMC will take place in Olot in Spain in 2018. As one of the few volcanologists who has attended all five International Maar Conferences I can fairly state, that it was Georg Büchel from the West Eifel who had the original idea to run and organize a maar conference in the West Eifel, which is the classic maar region of the world. With his splendid idea to have such a maar conference in the Eifel the seeds were sown that were to bear the fruits for the very successful International Maar Conferences. The really impressive maar conference in Querétaro in México clearly demonstrated again the high quality of these conferences and the request to continue the maar conferences. Full support was given again to the expansion of the maar conferences to include monogenetic fields within which maar-diatreme volcanoes mostly occur. The successful 5IMC was supported by IAVCEI, IAS, the Commission on Monogenetic Volcanism, the Commission on

Volcanogenic Sediments, as well as by a number of Mexican agencies: Centro de geociencias, Coordinación de la Investigación Científica, Conacyt, Concyteq, Centro Académico Cultural and last but not least Universidad Nacional Autónoma de México

The 5th International Maar Conference was successfully chaired by Gerardo Carrasco-Núñez and José Jorge Aranda-Gómez and their many helpful members of the local organizing committee. The field trips which have been forming a distinctly important aspect of all the International Maar Conferences were run on this 5IMC by the two conference hosts, and by Claus Siebe, Michael Ort and many young promising students (M.Sc. and Ph.D. students) and Postdocs..

The 5IMC was held from the 17-22 November 2014 in the Centro Academico y Cultural (CAC) Auditorium of the Campus Juriquilla, UNAM, Querétaro, México. Since years Juriquilla and Querétaro have been the home town of our two main hosts. The UNAM Campus at Juriquilla was not only perfectly well suited for the conference but it was also well located relatively close to the monogenetic fields with their maars and scoria cones that were visited on the four field trips prior, during and after the conference. In addition Querétaro respectively Juriquilla could be easily reached by air from and via the US and by bus from México City and its international airport.

A total of 114 people from 17 countries attended the 5IMC conference and the field trips prior to the conference and after the conference were attended by 22 to 24 participants. An obviously very interested large number of young female and male scientists – graduate and PhD students as well as postdocs attended the meeting and also the field trips. This certainly helped for a good interaction between the generations and a pleasant, joyful atmosphere and scientific interaction.

During the conference in the Centro Academico y Cultural Auditorium all sessions were held in the same auditorium and the posters were presented directly in front of the auditorium. All technical aspects and coffee and lunch breaks fitted perfectly well and simultaneously fitted very casually into the whole program. The meeting started on the evening of the 17th of November with an Icebreaker party that was held at the Hotel Misión Juriquilla, an impressive and large hotel where many of the conference participants resided. It was very pleasant to meet the chairs, other organizers, many good friends from previous maar conferences but also many new young maar-researchers who were from México or had come to México for their studies, or had come for the conference from abroad. Thus a very relaxed and friendly atmosphere developed rapidly and the “ice“ was broken successfully.

Next morning, after the opening ceremony of the conference the lectures and poster sessions started, organized over the week in non-parallel 6 sessions.

The talks and the associated posters in each session presented a broad approach to the many facets of maar-diatreme volcanoes, their characteristics, evolution, experimental studies and modeling, post-eruptive lakes and sediments, geotourism their resources, including those aspects related to their occurring mostly in monogenetic fields. and led to many interesting discussions between the young and elderly conference participants. The sessions with their talks, posters and key note speakers clearly

showed that since the first IMC the interest in maar-diatreme volcanoes and monogenetic fields has steadily grown and that the scientific output not only has remarkably increased but has opened up new fields of relevant research and also of unsolved problems.

Probably a consequence of the lack of more very recent maar-diatreme eruptions has been that the session 4, dedicated to the volcanic and hydrogeological hazards of maar-diatreme volcanoes, did not lead to an equivalent output in talks compared with the other sessions. However, several posters were shown in this sessions and received very good attention. As on all the last Maar Conferences one could realize again on the 5IMC that there is an obvious scientific gap between the International Kimberlite Conferences (IKCs) and the International Maar Conferences (IMCs). Whereas on the IKCs there is a clear preference for magmatic models for kimberlite maar-diatreme emplacement processes and only a small group advocates phreatomagmatic emplacement processes, at the IMCs almost only phreatomagmatic eruptions are considered to dominate the formation of the maar-diatreme volcanoes as such. It would be intriguing to see how a joint IKC-IMC would evolve.

On both the Tuesday and Wednesday evenings Mexican cultural entertainment were really enjoyed by all those who attended the shows and the music.

On the third day of the 5IMC the intra-conference field trip led many of the conference participants to the maars of the Valle de Santiago maars. The field trip was guided by Jorge Aranda-Gómez and Gerardo Carrasco-Núñez. Those maar-freaks or maar-maniacs - this term was also used by a particular conference participant - who have been on this field trip have certainly missed one of the high lights of the field trips, the Rincón de Parangueo maar. This maar with its white nearly completely dry lake beds clearly showed post-eruptive subsidence of lake beds - in this case due to regional subsidence of the groundwater table as a consequence of the drawdown of the Valle de Santiago-Salamanca aquifer. Inside the maar the former lake beds became dry and subsided and as a consequence the former near shore beds show severe deformation features: faulting, tilting, anticlines and synclines, and a series of extensional features like crestal grabens. In addition, even landslides with megabreccias had formed. Grant Heiken wrote a very informative account on this field trip.

The third day of the conference continued with highly interesting talks and posters. This Friday ended with a well-organized and simultaneously very impressive gala dinner in the Hotel Misión Juriquilla - hosted by Gerardo Carrasco-Núñez and Jorge Aranda-Gomez. During the marvelous evening we enjoyed excellent Mexican food, wine and tequilla as well as the Mexican music that led to more and more dancing of many maar-diatreme freaks. The keynote speakers were honored with a book on 101 beautiful Mexican pueblos and Greg Valentine was honored for his field, experimental and theoretical research on maar-diatreme volcanism with the Jim Luhr Award: our sincere congratulations to Greg.

The final Saturday morning of the 5IMC ended with two round table discussions. Questions discussed in Round Table 1 centered on: fragmentation - how does fragmentation proceed and what evidence is preserved for water-magma interaction? What is the role of intrusions in generating clastic (peperitic) material? Hydrology - How exactly does magma and water interact? Do the

dynamics of the hydrological system control the explosivity or is it those of the magma? Petrology - Is there anything "special" about the magmas that lead to phreatomagmatism? What ascent dynamics/conditions favor water-magma interaction?

In Round Table 2 the discussions dealt with the conceptual models - how well do current models capture the generalities of maar-diatreme volcanism? Do all maars sit above diatremes and vice versa? Facies models - how do we link together all the different parts of a maar-diatreme volcano? What can we deduce from evidence in the diatreme or the root zone about the nature of the explosions? What are the structural controls on maar development, eruption, and orientation?

As could be expected, not all questions were discussed and led to conclusions but it was felt that the round table concept led to lively discussions and should be continued in future IMCs. Fortunately not only the elderly but also the young maar-diatreme freaks in the auditorium participated actively in these round table discussions.

On this Saturday afternoon a visit to the old city center of Querétaro had been organized and those who participated could look at the many small shops and the lively people walking through and shopping in this old town center. No wonder that in 1996 the historic centre of Querétar had been declared a World Cultural Heritage Site by UNESCO. By driving through Querétaro several times to reach the field trip areas and to return from them we could a small understanding for what has been realized by many people that Querétaro is considered to be an economically fast growing city area, provided "with the best quality of life and as the safest city in Mexico".

Prior to the 5IMC two field trips were offered. A five day field trip went (Nov. 13-17) to the "Monogenetic volcanism of the Michoac'an-Guanajuato volcanic field, México : Maar craters of the Zacapu basin and scoria cones of the Parícutin region. The field trip was superbly guided by Claus Siebe, and his coauthors of the field guide book Marie-Noëlle Guillbaud, Sergio

Salinas, Pooja Kshirsagar, Magdalena-Oryaëlle Chevrel, Juan Ramón de la Fuente, Athziri Hernández Jiménez, and Lourdes Godínez, all from the Departamento de Vulcanología, Instituto de Geofísica of UNAM. The field trip started at Morelia on 13 November and aimed at a number of impressive maars with excellent outcrops in the intensively discussed thick tephra ring deposits, , the relationship between the maars and the intermontane Zacapu basin, and scoria cones in the Tarascan highlands (in the Paracho-Parícutin region). Despite their tree cover the scoria cones in part looked as having been formed only yesterday. We learnt on this day also that the monogenetic volcanic fields in Mexico display also a volcano type that had not really been mentioned and shown on the previous 4 International Maar Conferences: shield volcanoes. They showed up in fair numbers in the volcanic field but since erosion has not intensively dissected them a lot of questions on their eruptive history and monogenetic versus polygenetic emplacement history cannot be answered easily.

The next two days were spent on world-famous Parícutin and his lava flows. The first of these 2 days the lava flow of Parícutin and its effect on the town San Juan Parangaricutiro and its former 4000 inhabitants was studied. Only the church survived as a damaged partly lava-flooded historical monument. The people of San Juan (Viejo) Parangaricutico built a new town c. 8km to the Southeast (San Juan Nuevo and also built a copy of their former church of Old San Juan in their new town. Next meant to get to the top of Parícutin, of the volcano that ever<y volcanologist has

read about as it formed within 9 years from February 1943 to March 1952. Parícutin is a scoria cone 424 m high above its original base and is associated with a number of lava vents that jointly gave rise to a lava field 24,8 km<sup>2</sup> in size.

In order to get to the base of Parícutin scoria cone the next day meant for all of us to ride a horse for 3 hours. Once at its base an “easy” climb up the steep slope of scoria lapilli and ash followed and brought us at lunch time to the crater rim and its beautiful view into the twin crater and the great volcanic surrounding – volcanoes only; what a treat. The whole trip to and the climb up and walking around the crater of Parícutin was certainly one of the high lights of this field trip.

The ride back was easy for experienced horse-men and horse-women – they could be recognized easily. But there were some other people that were non-experienced horse-riding maar-freaks and maar-maniacs. They were clinging to their horses when they started galloping back home because they felt hunger and thirst. At least some of these non-experienced maar-freaks felt the ride back for almost another week. A few great outcrops, city centers and churches helped getting over the following day and learn more about cultural aspects and the way of life in this part of the Trans-Mexican Volcanic Belt. The villages and small towns we passed through on this field trip gave us a good idea on how people lived in the country side, how religion, customs, and their own agricultural products were still important to them. The last day of the field trip ended with the Icebreaker Party at Juriquilla, Querétaro. The hotels we stayed in were all very attractive and of very good quality. Lunch was always prepared in a very tasty fashion by the lively co-authors of Claus Siebe research students and postdoc. Many thanks to Claus and his active group, not to forget Lourdez who had carefully handled all the finances.

A detailed and illustrated report on the 5-day long field trip has been provided by Frazer and Cathy Goff.

The second pre-conference field trip was aimed at the “Maars associated with fracture- and/or conduit-controlled aquifers in folded limestone in San Luis Potosí, México”. Originally I had intended to participate in this field trip because of the various volcanological aspects that had attracted my interest. However, the scoria cone of Parícutin that in my view represents a long lived dry equivalent of long-lived large maars influenced my decision which field trip to choose.

After the 5IMC one 3-day field trip (23-25 November 2014) led us to the “Contrasting eruptive styles of late Pleistocene-to-Holocene monogenetic volcanism from maars to domes in the Serdán-Oriental basin, eastern Mexican Volcanic Belt”. This field trip was guided by Gerardo Carrasco-Núñez and Michael Ort, two of the five coauthors of the excellent well illustrated field guide book. After a 4 hour drive to the Serdán-Oriental basin and its volcanoes the field trip started with the impressive intrusive-extrusive rhyolitic dome Cerro Pizarro and its debris-avalanche deposits and reworked deposits. Then, with the sunset providing the last good glimpse of light, we explored a lava flow from the rim-fracture lavas derived from the Los Humeros caldera. The next day presented to us again several maar craters and their tephra ring deposits, the Alchichica maar with its large and deep crater lake surrounded at the shore by impressive white carbonaste microbiolites, the Atexcac maar and the Tepexitl rhyolitic tuff-ring. Unfortunately we had to miss the rhyolitic Cerro Pinto tuff-ring-dome complex due to a field road that had become unsuitable for our vehicles because of previous

rain. The rhyolitic Tepexitl tuff-ring, however, had provided evidence to everybody that rhyolite magma can interact with groundwater in a fashion resulting also in the characteristic features known from many basaltic maar tephra-ring deposits. At the Atexcac maar at first a scoria cone erupted and stopped its eruptions when the activity moved along an eruptive fissure sideways to a lower elevation where the interaction of the rising magma with ground water led to the formation of the maar. At the last maar investigated the opposite change caused first the formation of the Tecuitlapa maar that was followed inside the large crater by the emplacement of at least 5 scoria cones. The participants of this post-conference field trip also learned that at the Cantona archaeological site excavations and research had demonstrated that this site had a pre-Hispanic Aztec history and that about 100,000 people had lived in this well organized “city”. All of us would have stayed longer on the archaeological site and within the museum. It should be mentioned that on this field trip a distinct bedded series of aeolian to pyroclastic origin was not only seen along many roads but was involved in the pre-maar country rocks and always called Tobe café. It was considered a lithostratigraphically important unit of largely reworked origin and Michael Ort, one of the field guides was always delighted in explaining the variations in its thickness and age, and also that source regions were not really known.

All field trips, were they pre-, intra- or post-conference field trips were highly efficient in their organization, were excellent in the variation of outcrops, subjects of discussions, even of controversial discussions, and there was always sufficient time to look at the outcrops in detail. Thus the field trips I consider to have been excellent in the fantastic outcrops, the opportunity of great discussions always in a friendly atmosphere, and they were a very important part of the 5IMC.

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**Report by Karoly Nemeth on the 5IMC Pre-conference “Maars associated with fracture- and/or conduit-controlled aquifers in the folded limestone in San Luis Potosí, Mexico” fieldtrip**

This field trip had 15 participants (including the leaders) from 6 countries and led by Jose Aranda-Gomez and Pablo Davilla-Harris. The field trip intended to provide an insight of the formation of maar craters and their deposits on a terrain largely dominated by fracture-controlled aquifers of folded and in general tectonically disturbed limestones, dominated by platform carbonates.

I was very excited by joining this trip in spite that previously I was able to visit a small fraction of the field. My interest was driven by the similarity of the pyroclastic deposits documented in these fields in the literature (eg. Aranda-Gomez et al. 1990; Aranda Gomez and Luhr 1996; Loera et al. 2008) to those volcanoes I was working in the western Pannonian Basin (eg. Auer et al. 2007; Németh et al. 2001), and I was driven by a great curiosity to see the “rock” in person.

During the first day, after a long drive from Queretaro we spent a full afternoon exploring the enigmatic Joya Honda maar. The maar is enigmatic in sense of its size and deposits, and indeed, it is among the deepest maar craters on Earth, that is dry, and exposes in its crater wall the folded Jurassic limestones.



The deep crater of the Joya Honda maar exposes folded limestone beds in its crater wall (Photo K Nemeth).

Crossing the cacti-covered tuff ring around the crater showed us some peculiar feature of the pyroclastic successions such as the “wet to wetter” transition of the inferred eruption style of the explosive eruptions through the course of the activity. In the field the participants and our excellent leaders Jorge Aranda-Gomez and Pablo Davilla-Harris discussed a lot of the meaning of this scenario contrasting the maar-forming models (Lorenz 1986; Lorenz and Kurszlauskis 2007; Valentine and White 2012). We all agreed that the folded nature of the country rock, the specific orientation of fractures as well as the specific hydrogeology of such rocks may have strongly influenced the eruption style of the maar. We also discussed the likely vent migration and its consequences on the accumulated tuff ring succession. The site was a perfect and amazing location to discuss these interesting questions. It was also nice to see, that local protection and geotouristic developments are on the way to develop Joya Honda a potential geosite, maybe part of a regional geopark.

In the second day of the field trip we visited the Santo Domingo volcanic field just about 100 km NE from the region of Joya Honda maar. This field is a treasure box for volcanologists study monogenetic volcanism and maar-forming eruptions. The Santo Domingo maar itself is a deep hole in the ground and its tuff ring deposits mantling the rugged limestone landscape. The pyroclastic rocks of the maar are rich in accidental lithics derived from the limestone country rocks as well as various deep crustal to mantle derived nodules. The texture of the pyroclastic rocks indicates that the deposit was originated from a high particle-concentration flow-like medium.



Limestone fragment-rich pyroclastic breccia in the proximal pyroclastic succession of the Santo Domingo maar (Photo K Nemeth)

During the second day, we have visited another amazing maar

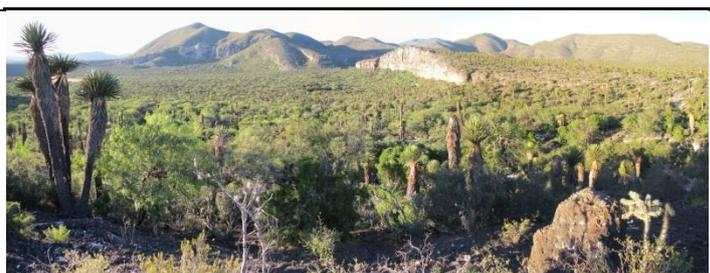
called Joya Prieta. This large maar seem to underlain by a pre-maar lava flow and spatter/scoria deposit posing a good old question on the timing of the maar forming event. This problem triggered some great discussion among the participants. This maar also provided good discussions on the crater forming and maar crater excavation processes as well as on understanding the petrogenesis of magmas erupted and formed such volcanic landforms.



Overview of the Joya Prieta maar crater (Photo K Nemeth)

In the end of the second day we have spent some short visit at the Joya de los Contreras where we discussed potential magmatic precursory events of maar forming eruptions. We also discussed the potential way how magma can reach the surface and fed lava spatter cones and small scoria cones along a circular fault may have been generated during themain phreatomagmatic eruption phase leading to form a chain of small vents along the margin of the volcanic crater. Following the successful field day during the evening the team explored San Luis Potosi city, which has rich colonial architecture and amazing cultural heritage.

During the third day we explored the La Joyuela tuff ring nearby to Joya Honda maar. This location seems to provide evidence for an eruption sequence continuum from an early (initial) magmatic explosive phase that gradually turned to be more phreatomagmatic in nature. The location has provided some great opportunity to discuss (again) this problem, and also explore the various transportation mode pyroclastic density current can be govern, and how such modes could be linked with the deposit textures we can observe in the pyroclastic succession.



Foreign landscape of the crater region of the Joya de los Contreras tuff ring (Photo K Nemeth).



Group photo of the field trip participants on the 5IMC at the Joya de los Contreras tuff ring (Photo J Aranda-Gomez).

Overall I think all the field trip participants were very satisfied on the organization and the science this field trip presented. Thanks for our great field guides of Jorge Aranda-Gomez and Pablo Davilla-Haris, we all learned a lot from this trip, and took Mexico home as a fantastic experience.

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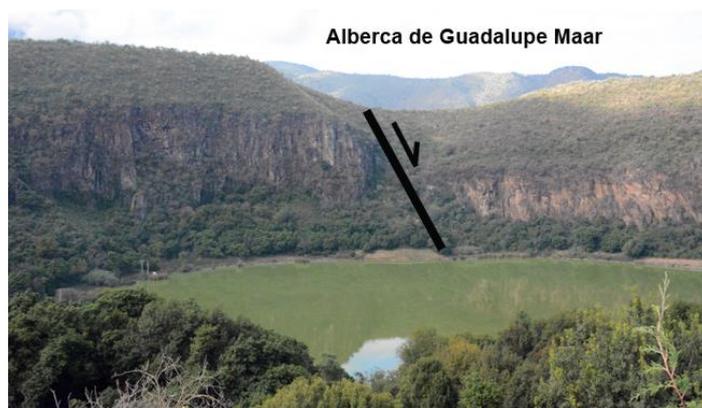
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#### Summary Report: 5IMC Pre-meeting Field Trip on Monogenetic Volcanism of the Michoacán-Guanajuato Volcanic Field (November 13-17, 2014) – Fraser & Cathy Goff, Los Alamos, New Mexico

This fabulous pre-meeting field trip focused on a variety of maars, scoria cones, and shield volcanoes in the Michoacán-Guanajuato volcanic field, which contains the largest concentration of monogenetic vents on Earth (Siebe et al., 2014). Our 23 participants from 8 countries rendezvoused the evening of November 12 at the charming Hotel Alameda in Morelia where we met Claus Siebe and other trip leaders, received an introductory lecture, had a cordial meal at an adjacent restaurant, and toured the main plaza of the city.

Day 1 (Nov 13) consisted of examination of three relatively young phreato-magmatic vents of the Zacapu basin, all of basaltic andesite composition. First we drove to Alberca de Guadalupe, a maar that blasted a 1-km-wide hole through faulted volcanic terrain. Siebe and P. Kshirsagar explained the geology and volcanology of this deep crater ( $\leq 23$  ka) and we examined the deposits on a road traversing the southern crater wall. The lake is only 9 m deep.

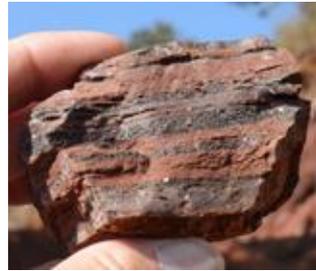


Next a quick stop viewing a large quarry wall excavated in the El Caracol tuff cone (28 ka) followed by a short drive and hike to the rim of Alberca de Los Espinos tuff cone (roughly 25 ka), peering into the deep crater. The interior lake is 29 m deep. Formation of this maar created not only an impressive landform, but altered the drainage system of the once-extensive Zacapu paleolake. After lunch we hiked to a prominent point on the east crater rim, admired the sweeping views of the basin and volcanic field, and traversed the rubbly circumference of the crater. From Alberca de Los Espinos we then drove a short distance to a quarry exposing the proximal deposits of the tuff cone. After some friendly debate about the stratigraphic sequence, we drove to the hotel Villa Zacapu for a boisterous dinner and a welcome night's sleep.



Alberca de Los Espinos Maar

On Day 2 (Nov 14) we rose early for breakfast and drove east from Zacapu to the fascinating breached scoria cone and products of Las Cabras (27.4 to 21.8 ka), a basaltic andesite to andesite eruption containing scoria and lava fragments with mingled-magma textures. Our first stop, as outlined by A. Hernández Jiménez, was in a quarry where we examined poorly stratified scoriaceous material exposed in a 420-m-long hummock, which was rafted roughly 3 km from the vent. Quarry miners stranded a voluminous assortment of unwanted scoria/lava blocks with museum-quality bread crust textures and spindle bombs. From here we drove east to another quarry to examine near-vent deposits and followed up with a lively discussion of wet/dry characteristics in Las Cabras beds.



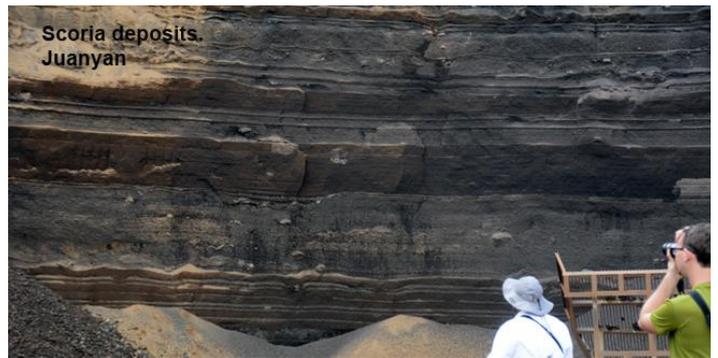
From here, we journeyed SW through the defiant town of Cherán to an active quarry in the perfectly shaped Juanyan scoria cone (9 to 10 ka) where J.R. de la Fuente explained the eruption history recorded in the basaltic andesite scoria deposits.



Las Cabras Scoriaceous Hummock



Bomb sag, Las Cabras



Scoria deposits, Juanyan

After lunch we continued SW from Juanyan and stopped briefly to admire a panoramic view of 2238-m-high Cerro Paracho ( $\leq 12.3$  yr. BP), which contains a prominent summit dome. This andesitic shield has produced an impressive block-and-ash fan that we examined in an active quarry at the NNW foot of the volcano, where M.O. Chevrel superbly described Cerro Paracho and the fan deposits. We then made side trips to examine the interiors of 16th century mission churches in the little frequented villages of Pomacuarán and Nurio.

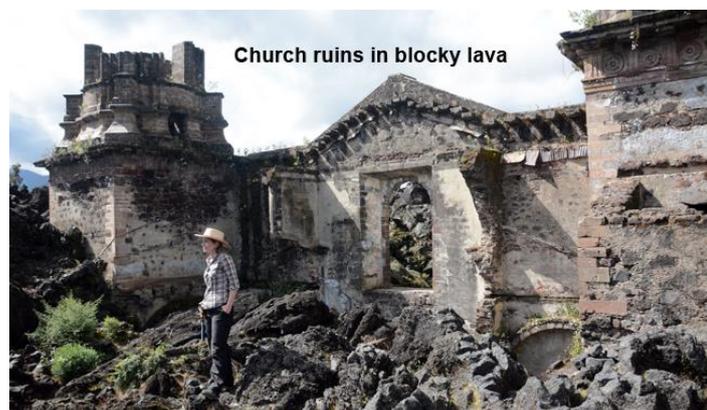


Cerro Paracho Dome

From here we continued SE to view Cerro El Metate andesitic

shield, also described by Chevrel, and finished the day by a long southerly descent through extensive avocado plantations north of Uruapan, arriving at hotel “Mansion del Cupatitzio” by dusk. All participants welcomed the well-prepared food and comfortable rooms at this beautiful inn.

Days 3 and 4 (Nov 15-16) of our trip focused on world-famous Paricutin, the volcano “born in a cornfield” on February 20, 1943 (summarized in Luhr and Simkin, 1993). In the morning of November 15, we drove from Uruapan to the village of Angahuan to capture the fabulous view of Paricutin scoria cone, lava flows, fumarole vents, and surrounding landscape, and hear a presentation by M.-N. Guilbaud on the eruption and socio-economic impacts. The eruption lasted 9 years emitting products of basaltic andesite to andesite composition. The lava flows destroyed two villages (Paricutin and San Juan Parangaricutiro) and buried 24.8 km<sup>2</sup> of land. Only the ruins of San Juan church remain, built of stout concrete and stone. After this awesome introduction, our hearty group hiked to the ruins of the church, which was completely inundated by thick, blocky lava during June-July 1944. We heard the inspiring story about the defiant pilgrimage of the populace. We next visited the church and murals at Nuevo San Juan, founded 6 km W of Uruapan on May 11, 1944. The day peacefully ended at Mansion del Cupatitzio, our previous hotel.



On Day 4 we again drove to Angahuan and mounted horses for a long, vigorous ride to the base of Paricutin cone. From there we climbed to the summit and circumnavigated the crater rim to take in the stupendous views. After observing the surrounding lava flow-field and Sapichu vent, we zipped down the flank of the cone, remounted our horses, and trotted back to the cars.



On Day 5 (Nov 17) we had a long drive from Uruapan to Querétaro with a short stop at an active quarry to examine the lateral margin of the southern (and longest) El Metate andesite lava flow and flow breccia. From there we drove to the city of Pátzcuaro to see its interesting plaza, punctuated by a lively funeral march, then on to Cuitzeo to see the 16th century Augustinian monastery, and finally to our hotels and the ice-breaker in Querétaro. What a “power-packed” and delightful trip for any volcanologist and those with cultural interests! We end with a group photo.



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**Report by James White (Otago University) on the 5IMC Post-conference Serdán-Oriental field trip.**

The post-meeting trip to the Serdán-Oriental basin, eastern Mexican Volcanic Belt took 20 people from 9 countries on a tour of basaltic to rhyolitic maar volcanoes, xalapazcos, and other features. It was ably led by Gerardo Carrasco-Núñez and Michael Ort, with assistance from students Mario Rojas and Lorena De Leon.

From Querétaro a 444 km drive took us to lunch among debris avalanche and pyroclastic flow deposits of Cerro Pizarro. This was followed by some time at the fascinating museum and archaeological site of Cantona, where a newly excavated city, among the largest urban centers yet discovered in Mesoamerica, is open for visiting on young lavas (<http://www.hgmexico.com/english/cantonai.html>).



Alchichica maar (Photo JDL White)

Day 2 opened with viewing of the Achichica maar (axalapasco), including maar-rim deposits with impressive impact sags, and an interesting section of the maar rim where deposits show the

transition from an initial scoria cone, was truncated and buried as the maar volcano grew, into the overlying maar-rim deposits. The next target, Cerro Pinto Dome Complex, remained out of reach because recent rainfall had made the roads unsuitable for our vans, so we moved on to a stunning lunch-site overlook at Atexcac maar. Like Alchichica, a pre-maar scoria cone is draped by maar-rim deposits. The maar crater itself is rather rectangular, suggesting structural control and multiple eruption sites, and Mario has mapped the long axes of ballistic blocks at many places around the volcano with the aim of identifying their source sites within the volcano.



Atexcac maar (Photo JDL White)

Moving from water-filled maars to a dry xalapazco, we finished with an examination of Tepexitl, a rhyolitic crater with a distinctive layer rich in dome-derived rhyolite blocks capping the ejecta rim. This is the site where Austin-Erickson et al. (2008, 2011) developed the case for induced MFCI explosions, and important advance in understanding phreatomagmatic eruptions. Remelted rhyolite from Tepexitl did not produce MFCI explosions with simple water contact in the lab, but when fragmented by expanding gas while in contact with water, explosions were generated because water was able to enter the opening cracks and briefly but strongly interact with the magma. Interactive particles, both in the lab and in the deposits at Tepexitl, bear witness to these induced MFCI explosions.



Aljojuca maar (Photo JDL White)

Day 3 began with examination of Ajojuca maar, with a fine church on the rim and excellent exposures in cuttings along a switchback road into the crater. Here we saw once again our universal stratigraphic friend for this trip, the toba café ("brown tuff"), that comprises young, fine-grained and variably volcanoclastic deposits present throughout the Serdan Oriental and beyond. For many maars this is inferred to have played a key role in providing water to eruptions. It is characteristically fine-grained, and this water would in most cases have been delivered along with the liquefied sediment itself. But the name has nothing to do with Toba, or with coffee...



Tecuitlapa maar (Photo JDL White)

The last volcano of the trip for us was Tecuitlapa maar, the lake within which is well on the way to disappearing. It has a series of scoria cones within the maar crater, and the eruption is interpreted to have first excavated an elongate maar with eruption sites shifting westwards, then shifted eruption style to produce the scoria cones, which developed successively eastwards (Ort and Carrasco-Núñez, 2009).

And what would a trip report be without a photo of the happy participants, seen below within Aljojuca maar.



Group photo of the field trip participants (Photo JDL White)

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***The Abstract Volume and the Field Guides published during the 5IMC are available to download via the IAVCEI Commission on Monogenetic Volcanism vHub site.***

During the 5IMC final decision was made about the following IMC events.

The **6<sup>th</sup> International Maar Conference** will be held in **2016** (probably in end of August) in **Changchun City** in **NE China** hosted by the **Institute of Geology and Geophysics of the Chinese Academy of Sciences**.

The **7<sup>th</sup> International Maar Conference** will be held in **2018** in **Olot** in **Spain** hosted by the **Departamento de Geofísica y Geociencias Instituto de Ciencias de la Tierra "Jaume Almera", Barcelona**.

Information on these conferences will be available through dedicated web site that will be ready by middle 2015.

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**REPORT ON THE GEOSCIENCE SOCIETIES OF NEW ZEALAND ANNUAL MEETING'S VOLCANIC SESSIONS  
 NEW PLYMOUTH, NEW ZEALAND, 25-27 NOVEMBER 2014**

The regular Annual Conference of the Geoscience Society of New Zealand (GSNZ) was held this year at the Pukekura Function Centre, Taranaki Thoroughbred Racing in New Plymouth just in the foothill of the Taranaki (Mount Egmont) volcano. The conference was hosted by the Massey University which has a strong volcanic research team spent many years to study the Taranaki volcano, especially its volcanic debris avalanche deposits. On the basis of this tradition and the spirit of the location, this year a particularly strong volcanic session was offered with strong support and presence by IAVCEI and IAVCEI members. The IAVCEI Commission on Monogenetic Volcanism offered a technical session dedicated to monogenetic volcanism during this meeting as honouring the scientific work of Dr Ian EM Smith on the chemical aspects of monogenetic volcanism. The "Ian Smith Session on Monogenetic Volcanism" attracted a reasonable amount of presenters and audience showing the strength of New Zealand volcanology in this research field. During this GSNZ meeting a special session was dedicated to the respect of the work Prof Vince Neall works on volcanic soils, volcanic geomorphology and volcanic debris avalanches. The "Vince Neall Symposium on Quaternary Geology, Geomorphology and Landscape Evolution" demonstrated clearly that young generations emerged and the well-established research Prof Neall initiated will have continuation. The GSNZ meeting

also offered a technical session to honour the geochemical and petrological research of Prof Richard Price. The “Richard Price Symposium on Igneous Petrology and Volcanic Geochemistry” collected presenters to contribute on the wealth of geochemical research conducted on New Zealand volcanoes.



Typical view to the Taranaki volcano, New Zealand

The GSNZ congress also offered an opportunity to let New Zealand-based IAVCEI members to discuss common research questions and enforce collaborative works. As Adrian Pittari (Waikato University) initiated a meeting to form a Volcanology Special Interest Group shows a sign that closer link to IAVCEI and IAVCEI activities through a national grid of volcanologists is on the way. One of the interesting outcome of the formation of the Volcanology Special interest Group is the consideration to consider a bid for New Zealand to host one of the near future IAVCEI Scientific Assembly, such as the 2021 venue four years after the Portland event in 2017. Certainly the meeting this year highlighted the strength of New Zealand volcanology, and certainly showed an intension from the NZ community that they are ready to host a major IAVCEI event in the near future.

**Reported by**  
**Karoly Nemeth**  
Massey University

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## **OBITUARY**

### **Douglas Takae Charley**

*I have to report a great loss for the volcanic and geohazard community, a good friend, an excellent researcher, and a real person with a big heart passed away in Vanuatu. We tend to forget people during our busy research schedule, who are commonly the most important link between major research teams and local communities where key volcanoes exist. My friend Douglas Charley was among those very few people with whom I guess every single person conducted research along the Vanuatu Volcanic Arc in the SW Pacific came across, and he always greeted us with a big smile and helpful and very clear ideas how a research could be successfully conducted in an environment very “foreign” for many people. In this article we would like to honor his life and let have him in the heart of the volcanic community forever.*

*(from the Editor, K Nemeth)*

Douglas Takae Charley was born on 28 November 1958 on the Island of Tanna, Vanuatu to Charley Malau from Buninga Island in the Shepherds group and Matilda from Aniwa Island, southern Vanuatu. He was the youngest of a family of 3 boys of which now all deceased. Douglas was adopted by his aunty Leilang who was married to Panita village in Tongoa Island, Shepherds group. Douglas spent most of his childhood on Tongoa; on Panita with his aunt and on Euta village with a female cousin who was married to a head chief there. At Tongoa, he attended Lemboroe French primary school on the Island. He spent 5 years at Lemboroe Primary school; from 1966 to 1970. After achieving a senior primary class 6 certificate, Douglas left Tongoa to further his education at Baou-fatu French Secondary High School on north Efate, the main island of the Vanuatu archipelago. He spent 3 years at Baou-fatu from 1971 to 1973 where he achieved a secondary school leaving certificate. Douglas then obtained a Diploma Certificate in d’Aptitude Professionnelle (CAP) in General Mechanics from the College d’Enseignement Technique (CET) Lycee d’Etat Mixte at Port Vila, the main urban centre on Efate Island after studying there from 1974 to 1976. Immediately after obtaining his CAP, Douglas was attached to the Public Works Department where he was a team member of an entourage that spent most of their time on the island of Ambae doing airstrip and road construction works. In 1978 Douglas joined the French Scientific Research Organisation (ORSTOM later IRD) where he worked as a geophysics technician for 15 years; from 1978 to 1993. His main tasks with ORSTOM revolved around designing, installation and maintenance of the ORSTOM-CORNELL seismograph network in the Vanuatu archipelago and in seismic and geodetic data processing. During his tenure with ORSTOM, Douglas attended short workshops/trainings/courses abroad and participated in numerous scientific expeditions throughout the Vanuatu archipelago. In 1980 he completed a 2 months practical electronic course at the ORSTOM (IRD) Geophysics and electronics Laboratory in Noumea, New Caledonia where he attained invaluable skills and knowledge on the maintenance of a variety of geophysical instruments. In 1984 and 1985, Douglas participated in the marine geophysics program in Vanuatu which included many months at sea working with French and American scientists doing bathymetry mapping, dredging of the ocean bed and seismic refraction recording using Ocean Bottom Seismometers (OBS). In 1989, Douglas spent 2 months (February and March) in La Jolla, California USA as a participant in the Global Positioning System (GPS) training/course. The training was a joint program of the Institute of Geophysics of the University of Texas and the Earth Resources Laboratory of the Massachusetts Institute of Technology. In 1992, Douglas completed the University NAVSTAR Consortium which is the Southwest Pacific Training Course enabling participants to become GPS field operators using the Trimble 4000 SST GPS Receiver. After 1993, Douglas spent more time working with research scientists around the active volcanoes of the Vanuatu archipelago. As such in 1996 he spent 8 weeks at the Center of the Study of Active Volcanoes (CSAV) in Hilo, Hawai’i where he completed postgraduate studies on assessing volcanic hazards and monitoring active volcanoes. CSAV is a joint collaboration between the University of Hawai’i and the Hawai’i Volcano Observatory (HVO) of the US Geological Survey with the main goal of equipping international scientists with basic volcanic hazard assessment and monitoring skills and knowledge. Douglas was the first Ni-Vanuatu CSAV alumna. Over the years, 2 other Ni-Vanuatu had attended the course. In 1998, IRD gave Douglas a

1 month internship on geological field work around volcano-tectonic environments in Ecuador, South America where IRD scientists were doing some studies. During that stint Douglas was involved in installation and maintenance of the Ecuador Seismograph Network with IRD volcanologists and technicians in Quito, Ecuador.



Douglas was a great educator to whom the local people always listened (photo M Harrison).

natural risks. Under this program, Douglas found himself explaining and informing all communities around active volcanoes. In September 1999, a council of ministers' decision acquired this program under the Department of Geology, Mines and Water Resources as the Geohazard Mitigation division. As a result, Douglas and 2 of his Vanuatu colleagues were transferred to the Department of Geology, Mines and Water Resources of the Vanuatu government.



Douglas always shared his culture and let his volcanologists explore the cultural beauty of Vanuatu (photo K Nemeth).



Douglas assists during the 2005 Ambae volcanic crisis (photo M Harrison)

From 1999, until his retirement in 2009, Douglas served as the Senior Volcanology Technician of the department. It was under this program that Douglas participated in numerous field expeditions with international scientists around active volcanoes in Vanuatu. In 2004, Douglas was awarded a certificate in Geology and Disaster Reduction from the University of Papua New Guinea after successfully completing a course at the Center for Disaster Reduction, University of Papua New Guinea. In 2005, he participated in an Executive Seminar on Legal Aspects of Disaster Relief held in Port Vila. Douglas was instrumental in the Melanesian Volcano Network (MVN) concept where he was a participant at the first initiation meeting of MVN in Rabaul, Papua New Guinea in 2007. The MVN acts as a platform for exchange and sharing of resources and expertise in order to reduce volcanic risk in the Melanesian countries, Vanuatu, Solomon Islands and Papua New Guinea. Later that year (2007) he attended the first round of talks on the collaboration between the Department of Geology, Mines and Water Resources and the Institute of Geological and Nuclear Sciences (GNS) on a volcano monitoring system for Vanuatu in Taupo, New Zealand. Due to his invaluable local knowledge on volcanoes in Vanuatu and vast experience in accompanying volcanologists around the volcanoes, Douglas received a 1 year internship in geohazard monitoring and mapping funded by the New Zealand High Commission at the Institute of Natural Resources and Volcanic Risk Solution at Massey University, New Zealand in 2008.

Douglas last major volcano crisis response was the Lombenben Volcano eruption on the Island of Ambae in Central Vanuatu in 2005-2006. There Douglas worked closely with GNS, IRD and Massey University volcanologists in monitoring the volcanic crisis.

In 1999 IRD closed down its Port Vila office and cut back most of its scientific programs to Vanuatu. The Ni-Vanuatu staffs were left to continue with the "Vanuatu Volcanoes Survey and Monitoring Program" a subsidiary program under the decade for reduction of



Douglas had a very deep and emotional drive to investigate the great 1252 AD Kuwae eruption, as his home island was one of the main part of the story (photo K Nemeth).

Because of his extensive travel to and fro islands with active volcanoes, many communities on these islands know Douglas very well as the volcano man. He acts as a bridge between the rural communities and foreign scientists. Something he does naturally and with great ease. Douglas was a mentor to young and new staff joining the geohazard division up until his retirement in 2009; he provides endless advice and encouragement and, always has something in-store about any communities or island in the Vanuatu archipelago. His contribution to understanding active volcanoes and working with communities living around active volcanoes in Vanuatu is second to none.



As Douglas was a great explorer, to spend a field season with him was always full of nice surprises and plenty of things to learn, such as crossing the Pacific Ocean from Island to Island and living from the sea (photo K Nemeth).

Apart from his professional work ethics, Douglas until his passing away was a chief representative of his home village of Panita on Tongoa in Port Vila; a role he has been occupying for the last 29 years since 1985. In 1980 he was bestowed the chiefly title of Timataso, a right-hand man of the head chief Masoerangi in the village of Panita, Tongoa. It is with no doubt that his chiefly rank has played a big role in his professional life especially in working

and communicating with other communities throughout Vanuatu. Douglas was given retirement based on medical ground in 2009. After about a combined 30 years in service (ORSTOM-IRD and Department of Geology, Mines and Water Resources). Douglas died at the tender age of 56 on 29 August 2014 after a long illness. He is survived by his wife Serah, daughter Annette and 2 grandchildren.

**Morris J HARRISON**

*Geophysicist*

*Vanuatu Meteorology & Geohazards Department*

*Port Vila, Vanuatu*

**OBITUARY**

**Don Lynn Anderson**

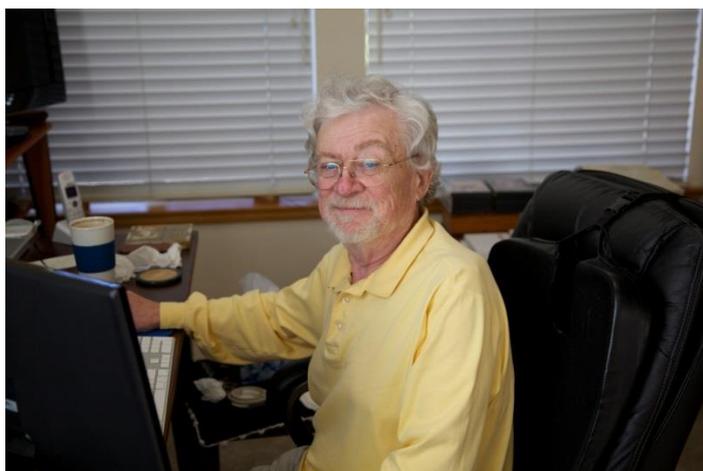
Don Lynn Anderson, Eleanor and John R. McMillan Professor Emeritus of Geophysics at the California Institute of Technology, passed away peacefully at his home in Cambria, California, 2nd December, 2014, aged 82.

Don was born March 5, 1933 at Frederick, Maryland. He worked for most of his career at the California Institute of Technology, where he gained his Ph.D. degree under the tutelage of Frank Press. In turn, Don advised numerous graduate students of his own, many of whom went on to become eminent in their fields. Among Don's many leadership roles were Director of the Seismological Laboratory, Caltech, from 1967-1989, principal investigator on the 1971 Viking mission to Mars, and President of the American Geophysical Union. He was honored with numerous awards including the Crafoord Prize (1998, with Adam Dziewonski), the National Medal of Science (1998), the Bowie Medal of the American Geophysical Union (1991), the Gold Medal of the Royal Astronomical Society (1988), the Arthur L. Day Gold Medal of the Geological Society of America (1987), the Emil Wiechert Medal of the German Geophysical Society (1986), and the NASA Exceptional Scientific Achievement Medal (1977). He held Fellowships of the American Philosophical Society (1990), the American Association for the Advancement of Science (1988), the National Academy of Sciences (1982), and the American Academy of Arts and Sciences (1972).

In a career spanning more than half a century, Don made pioneering contributions to understanding the large-scale structure of the Earth, taking on undaunted anisotropy, anelasticity, asphericity and anharmonicity. One of his great strengths was integration of physics, thermodynamics, petrology and geochemistry. He investigated the behaviour of mantle materials at high pressures and temperatures, the phase transformations of mantle minerals, and the generation of earthquakes. He and his colleagues developed the theory of wave propagation in complex media and he introduced the term "tomography" into seismology. He made major contributions to understanding plate tectonic motions and convection in the Earth's mantle. In collaboration with Adam Dziewonski he developed the Preliminary Reference Earth Model (PREM), a cornerstone of modern global geophysics.

In the latter part of his career, Don became most famous for ideas that depart from conventional wisdom but which he felt are more consistent with thermodynamics and classical physics. He challenged standard geochemical and evolutionary models for the

Earth, and presented alternative theories for the mineralogical and isotopic composition of the mantle. He viewed the Earth as being chemically stratified into layers, the deeper ones being refractory, convecting sluggishly, and having essentially no direct involvement with surface magmatism. He considered the mid-mantle to be pyroxene- and garnet-rich, not composed of olivine-dominated peridotite. These ideas led him to challenge the hypothesis of deep-mantle plumes, convective upwellings that are widely assumed to explain volcanic oceanic islands such as Hawaii and Iceland. Instead, he considered such volcanism to be fed from the shallow mantle through extensional fissures induced by plate tectonics. Don considered plate tectonics to be a natural result of a planet cooled from above, and for essentially all volcanism on Earth to result from this process.



I first met Don at the AGU Fall Meeting in 1999. After that, life was never the same again. Don had discovered that email made the world one big Department. He loved the Internet and embraced it with huge enthusiasm, supporting and contributing to his favourite site [www.mantleplumes.org](http://www.mantleplumes.org). He devoted countless hours to mentoring young scientists the world over, some of whom were never destined to meet him. He inspired numerous papers, projects and collaborations with his startling ideas, radical challenges, and infectious out-of-the-box thinking. And he couldn't hide the fact that he loved every minute of it.

Don bequeathed to his colleagues a commitment to the total, unrestricted and free sharing of resources, leading from the front by example. In the last months of his life, when he knew he would soon have to shut his laptop down for the last time, he worked tirelessly to finish his papers in progress and to make free and unrestricted to everybody his legacy to science. This includes over 300 published papers, his books *Theory of the Earth* and *New Theory of the Earth*, videos, web pages, blogs, hundreds of presentation slides and his tongue-in-cheek metaphorical voyage into minds and planets *What Planet Do You Live On Anyway?* All this is available unrestricted from his personal resources webpage at [www.mantleplumes.org/DLA.html](http://www.mantleplumes.org/DLA.html). The many details of his extraordinary life and career that are absent from this brief tribute are accessible from his Wikipedia page at [http://en.wikipedia.org/wiki/Don\\_L.\\_Anderson](http://en.wikipedia.org/wiki/Don_L._Anderson).

12th December, 2014

*Gillian R. Foulger*  
Durham University, U.K.

### Three consecutive years offering the International Course of Volcanology at Olot, Catalunya, Spain

Olot has been the venue of the International Course of Volcanology for the past 3 years, beginning at 2012. The site is a perfect site for hosting the course, in the middle of a Quaternary volcanic field, the Garrotxa, which is part of the Catalan Volcanic Zone and thus part of the European alignment of grabens with associated volcanism that includes the Massif Central of France and the Eifel volcanic field of Germany, among others. Olot is located at northwestern Catalunya, at the base of the Pyrenees and close to the Mediterranean coast and the spectacular Costa Brava. Thus, the location of Olot and its volcanoes combines the essence of the mountains and the Mediterranean Cadaqués-Cape de Creus zone, making it a wonderful experience in all aspects, from the scientific and didactic point of view to the cultural and historic one, with wonderful landscapes, excellent cuisine, and middle age villages, such as Santa Pau, which makes one to feel that time has stopped in this especial region, and that our rushy style of life is out of place.



The hilly area of Olot is a volcanic park, with the appropriate set up for students and visitors in general that would like to enjoy walking among volcanoes in a very pleasant environment, full of green, country houses and farms, and several nice volcanic deposits to observe, many with explanatory panels and route signs from the park that are used together with the corresponding geological guidebook and a full-size geologic map. In Olot, the volcano topic is taken quite serious, so that there is of course a museum, daily groups of school children to enjoy a guided tour in the volcanic park, street ornaments with the form of volcanoes, and a well-developed volcanic cuisine and excellent volcanic wine. Thus, Olot provides the perfect atmosphere for both to relax and to focus on learning new concepts on volcanology, and/or review forgotten concepts on volcanic rocks, volcanic processes and volcanic models.



The course is supported by the IAVCEI, the Olot Municipality, the Girona local congress, the Institute of Earth Sciences Jaume Almera of CSIC-Barcelona (ICTJA-CSIC), the Fundació D'Estudis Superiors D'Olot (FES), and it is part of the Master's program of the University of Girona. Classes are given in the FES building, which is conveniently located at the downtown of Olot, and classes run smoothly thanks to the efficient job of Marta Fontaniol. It is taught by several instructors, each specialized in the topic he/she is teaching. The professorship could vary year to year, and have included Joan Marti from the ICTJA-CSIC Barcelona (coordinator of the course and in charge of the magmatic-volcanic processes module), Gerardo Aguirre-Diaz from Centro de Geociencias, UNAM, Mexico (magmatic-volcanic processes and field methods modules), Adelina Geyer Traver from ICTJA CSIC-Barcelona (mathematical and experimental models of volcanic processes), Antonio Castro Dorado from the University of Huelva, Spain (petrology of igneous rocks and geochemistry), Rosa Sobradelo Pérez from University College London UK, Xavier Bolós also from ICTJA CSIC-Barcelona (geophysical techniques to gather information on the volcano's substrate and structure), Stephany Bartolini from ICTJA CSIC-Barcelona (evaluation of volcanic danger and risk), Carmen Lopez Moreno from Instituto Geográfico from Spain (monitoring active volcanoes and instrumentation), and Llorenç Planagumà from Olot's TOSCA private enterprise (Landscape protection and volcano park management).

The course is given in Spanish because it is oriented to Latin-American and Hispanic students, and in its first three editions it has received 57 students from from Argentina, Brazil, Colombia, Costa Rica, El Salvador, Italy, Mexico, and Spain.



The program is planned for 15 days of full time coursework, from 9 AM to 8 PM, with a break for lunch, resulting in a total of 125 hours. The program has been validated by the University of Girona and the students that have fulfilled all the coursework requirements are granted Post-Graduate's level credits, as well as the corresponding certificate.

The program includes an Introduction, mentioning the objectives and method of the course, followed by several modules, the module of magmatic processes and magmatism in distinct tectonic settings, where basic concepts for magma generation, magma ascent, and magma evolution are explained; the module of volcanic processes, including types of eruptions, magma fragmentation and explosive eruptions; this is followed by the module of criteria used during field work, explaining stratigraphy of volcanic successions, sedimentologic processes, characteristics of lavas and pyroclastic deposits, and methods for gathering field and laboratory information, such as granulometric studies and description of fabrics and textures, the construction of isopach and isopleth maps, and the interpretation of the data in order to infer the physical parameters of the eruption, and the dynamics of eruptive columns and pyroclastic density currents. The students are then ready to practice this knowledge in the field, and they are taken to a fieldtrip in the Garroxta Volcanic Field, in order to observe, describe, and interpret volcanic sequences in the area, including lavas, maars, tuff cones, scoria cones and ignimbrites.



*Having a beer and relaxing with some students of the 2012 course after a full-day of classes in one of several bars in Olot. Photo of Gerardo Aguirre-Díaz.*

The course is offered each year in the middle of October, when there are the best weather conditions in the area. Each year, about 10 grants are offered to students to help defray the costs for travelling or food and lodge at Olot. Applicants for a grant must contact Joan Marti (joan.marti@ictja.csic.es) or Marta Fontaniol (mfontaniol@olot.cat), as soon as they can, and not later than March of the year they are planning to attend. For further information please check the course webpage ([http://www.gvb-csic.es/CURSO/CURSO\\_OLOT/Home.html](http://www.gvb-csic.es/CURSO/CURSO_OLOT/Home.html)).

**Reported by**  
**Gerardo Aguirre-Díaz**  
UNAM Queretaro, Mexico

## **GRAND CHALLENGES IN U.S. VOLCANO SEISMOLOGY**

### **Background**

This white paper arises from a one-day discussion workshop held in Anchorage, Alaska, on April 29, 2014, and co-sponsored by the National Science Foundation, the USGS Volcano Hazards Program, and the Carnegie Institution of Washington. This workshop, attended by 37 scientists (see participant list in Appendix A) was a first step towards developing a relationship among members of the academic community and government agencies, focused around a shared, long-term vision for volcano seismology in the United States. A shared, long-term vision for the field of volcano seismology in the U.S. will provide guidance to scientific funding agencies and organizations responsible for hazard mitigation and disaster response, will facilitate multidisciplinary research on fundamental Earth processes and links between basic and applied volcano seismology, and will enable partnerships with international colleagues.

Observations of volcanically induced seismicity are essential for eruption forecasting and for real-time and near-real-time warnings of hazardous volcanic activity. Studies of volcanic seismicity and of seismic wave propagation also provide critical understanding of subsurface magmatic systems and the physical processes associated with magma genesis, transport, and eruption. However, our ability to successfully forecast volcanic eruptions and to understand fully subsurface volcanic processes is limited by our current understanding of the source processes of volcano-seismic events, the effects on seismic wave propagation within volcanic structures, limited data, and even the non-standardized terminology used to describe seismic waveforms. Progress in volcano seismology is further hampered by inconsistent data formats and standards, lack of state-of-the-art hardware and professional technical staff, and a lack of widely adopted analysis techniques and software. Addressing these challenges will not only advance scientific understanding of volcanism, but also will lead to more accurate forecasts and warnings of hazardous volcanic eruptions that would ultimately save lives and property within the United States and world-wide.

## **Grand challenges in volcano seismology**

### **Challenges in scientific understanding**

Workshop participants identified several key unresolved scientific issues, including the identification and understanding of seismic source versus wave propagation effects, and a fully-developed understanding of the source processes of the various commonly observed volcano-seismic event types. Additional scientific challenges include limitations in our ability to distinguish between precursory and non-eruptive seismic activity, to accurately forecast the time of eruption from seismic unrest, to determine the likelihood of a future eruption based on background seismicity, and to image and understand the processes that ultimately drive magma generation, accumulation, rise and eruption within and through Earth's crust.

### **Technical challenges**

Several key technical obstacles were also identified as impeding scientific progress in volcano seismology. These include A) numerous data sets from past episodes of volcanic unrest or eruptions that are not consistently archived with appropriate meta-data, B) software and analysis tools that are not standardized or consistently maintained, and C) seismic instrumentation that is expensive and difficult to operate and maintain, especially on active volcanoes that are often in remote areas, at high altitude, and that are frequently exposed to corrosive gases and other destructive volcanic processes.

### **Situational analysis**

#### **Strengths and Opportunities**

A major strength of U.S. volcano seismology is the existence of numerous high-quality continuous/longterm seismic data sets collected by the U.S. volcano observatories in Alaska, the Cascades, Hawai'i, Yellowstone, and California, as well as campaign data sets collected by researchers at volcanoes worldwide. Other key strengths of U.S. volcano seismology include the ability to take advantage of IRIS open-source infrastructure, including the PASSCAL instrument pool and the IRIS DMC, and to adopt and apply seismological methods and codes that are commonly initially developed in other fields of seismology. Furthermore, both fundamental and applied research in volcano seismology benefit strongly from clues from related fields of inquiry, including volcano geodesy, acoustics, gas geochemistry, hazards, and petrology; and members of the U.S. volcano seismology community have close ties to academic researchers and agency scientists in these allied fields.

Significant opportunity lies in the fact that most existing data sets have not been fully analyzed using modern seismological processing tools and software, even those from key well-studied eruptions at volcanoes like Mount St. Helens and Kilauea. A related opportunity is the existence of numerous continuously or long-term active 'laboratory' volcanoes either in U.S. territory or from U.S. overseas facilities (e.g., Kilauea, Mount St. Helens, Augustine, Erebus), or in other parts of the world (e.g., Santiaguito, Guatemala; Telica, Nicaragua; Soufriere Hills; Montserrat; Popocatepetl and Colima, Mexico; Stromboli, Italy; Bezymianny, Russia) where various members of the U.S. volcano seismology community have fruitful working relationships with

scientists and scientific agencies. Additional major opportunities include the ongoing IRIS 'Wavefields' initiative, and the current burst of development of techniques and codes focused on location and analysis of subduction zone tremor (ETS).

### **Weaknesses and Limitations**

Many problems in volcano seismology are unique and not easily approached with 'standard' seismological tools, e.g., non-double-couple source mechanisms, imaging of complex structures, and the existence of surficial events such as rockfalls, explosions, and icequakes (which are significant but generally not cataloged). Furthermore, barriers to short- or long-term entry into the field by seismologists from other subfields may exist in terms of understanding current paradigms, what work is being done, and what data are available for analysis. In the current AGU and NSF structures, volcano seismology exists between programs (Seismology and VGP in AGU; Geophysics, Geochemistry/Petrology, and GeoPRISMS in NSF), limiting the field's ability to attract resources, attain recognition for early-career volcano seismologists, and otherwise reach its full potential. Tool/code development efforts happen largely independently and in a variety of languages/formats, resulting in frequent duplication of effort and difficulties in porting data through workflows made up of colleagues' codes. Finally, as in all fields of volcano geophysics, there is an inherent dependence on serendipity: Seismic networks must be in place before an eruption occurs, and it is thus difficult to plan hypothesis-driven experiments, especially from a comparative perspective.

### **Recommendations**

Our recommendations for major community-wide efforts in U.S. volcano seismology to address the challenges described above fall under five categories: 1) Ongoing and enhanced community-wide discussions, 2) data and code curation and dissemination, 3) code development, 4) development of resources for more comprehensive data mining, and 5) enhanced strategic data collection. As presented sequentially below, the following specific recommendations can be regarded as a road map for galvanizing and strengthening the volcano seismological community to drive new scientific and application accomplishment over the next 5-10 years.

#### 1. Ongoing and enhanced community-wide discussions:

- Organize a standalone, multi-day planning workshop to discuss and build on ideas from the one day planning workshop, and to further define major outstanding scientific questions.
- Develop a formal mechanism to oversee these recommendations along with an online home for the community.
- Increase hosting of volcano seismology sessions at SSA, IAVCEI, and AGU, and convene a regular follow-up community meeting/forum.
- Develop and make available educational resources or student-based analysis tools.

#### 2. Data and code curation

- Develop a list of key digital volcano-seismic data sets.
- Archive key, presently unavailable digital data sets (continuous data if available) in modern data formats and with complete meta-data in a universally-accessible location (e.g., the IRIS DMC, WOVodat).
- Older data sets that are recorded only on paper records or photographic film should be considered a secondary priority, but

efforts should eventually be made for proper archiving of these data.

- Develop a meta-data archive listing all volcano-seismic data sets in existence and information on how/where they can be obtained.
- Develop an archive of legacy data format documentation and conversion tools.
- Develop an archive of codes for the analysis of volcano-seismic data.

#### 3. Code development

- Assess code/tool development needs to determine priorities for future work.
- Develop a common 'wrapper' for existing codes to facilitate workflows and porting/visualization of analysis results between existing codes.

#### 4. Data mining

- Perform a standardized reanalysis of key existing data sets with modern tools/techniques.
- Develop an (online) waveform almanac, and/or set of tests for volcano-seismic event classification.

#### 5. Enhanced data collection

- Develop a plan/proposal for a community-driven 'Large N' experiment(s) on one or more lab volcanoes, possibly in conjunction with the IRIS Wavefields initiative, so as to more fully characterize volcano edifice structure at frequencies required to address the "path versus source" question. Ideally such a study would be supplemented with multiparameter instrumentation (e.g., geodetic, gas, etc.), for open community access.
- Develop a plan/proposal for a Transportable Volcanic Array to assess volcano structure, background activity, etc. at significant U.S. volcanoes.
- Develop a program that is poised for rapid deployment/collection of research-grade, multiparameter data from critical/opportunistic targets during the next major eruption within the USA, or possibly overseas with appropriate collaborators.

### **Appendix A:** List of participants in the 2014 U.S. Volcano Seismology workshop

Aster, Rick Professor Colorado State University  
Bennington, Ninfa Assistant Scientist University of Wisconsin, Madison  
Bowman, Daniel Graduate Student University of North Carolina, Chapel Hill  
Braunmiller, Jochen Research Asst. Prof. University of South Florida  
Buurman, Helena Postdoctoral Fellow University of Alaska, Fairbanks  
Caplan-Auerbach, Jackie Associate Professor Western Washington University  
De Angelis, Silvio Lecturer University of Liverpool (United Kingdom)  
Dixon, Jim Geophysicist USGS/Alaska Volcano Observatory  
Fee, David Research Asst. Prof. University of Alaska, Fairbanks  
Haney, Matt Geophysicist USGS/Alaska Volcano Observatory  
Hotovec-Ellis, Alicia Graduate Student University of Washington  
Ketner, Dane Geophysicist USGS/Alaska Volcano Observatory  
Keyson, Laura Graduate Student University of Alaska, Fairbanks

Lees, Jonathan Professor University of North Carolina, Chapel Hill  
Lyons, John Postdoctoral Fellow USGS/Alaska Volcano Observatory  
McCausland, Wendy Geophysicist USGS/Volcano Disaster Assistance Program  
McFarlin, Heather Graduate Student University of South Florida  
McKee, Kathleen Graduate Student University of Alaska, Fairbanks  
McNutt, Stephen Professor University of South Florida  
Montgomery-Brown, Emily Geophysicist USGS  
Moran, Seth Geophysicist USGS/Cascades Volcano Observatory  
Ortiz, Hugo Graduate Student Instituto Geofisico, EPN (Ecuador)  
Parker, Tom Geophysicist USGS/Alaska Volcano Observatory  
Paskievitch, John Geophysicist USGS/Alaska Volcano Observatory  
Power, John Scientist-in-Charge USGS/Alaska Volcano Observatory  
Prejean, Stephanie Geophysicist USGS/Alaska Volcano Observatory  
Read, Cyrus Geophysicist USGS/Alaska Volcano Observatory  
Roman, Diana Staff Scientist Carnegie Institution of Washington  
Searcy, Cheryl Geophysicist USGS/Alaska Volcano Observatory  
Smith, Cassandra Graduate student University of South Florida  
Thelen, Weston Geophysicist USGS/Hawaiian Volcano Observatory  
Thompson, Glenn Research. Assist. Prof. University of South Florida  
Thurber, Cliff Professor University of Wisconsin, Madison  
Waite, Greg Assoc. Professor Michigan Technological University  
Wech, Aaron Postdoctoral Fellow USGS/Alaska Volcano Observatory  
Wellik, Jay Graduate student Michigan Technological University  
White, Randy Geophysicist USGS/Volcano Disaster Assistance Program

**Prepared by**  
***Diana C. Roman (DTM-CIW) and John A. Power (USGS)***

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## FUTURE EVENTS for IAVCEI member's interest

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### European Geosciences Union

#### General Assembly 2015

Vienna | Austria | 12 – 17 April 2015

Numerous volcanology-related sessions are on the program list.

Web: <http://www.egu2015.eu/>

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### 2nd Jóannes Rasmussen Conference

#### *Evolution of Basaltic Provinces*

Nordic House in Tórshavn, Feroer Islands

5-6 May 2015

#### Drilling Volcanics Workshop

7 May 2015

Web: [www.jrasnussen.jf.fo](http://www.jrasnussen.jf.fo)

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### 26th IUGG General Assembly, 2015, Prague, Czech Republic.

A broad range of sessions offered by IAVCEI and several field trips will be arranged to volcanic regions across Europe.

**Abstract submission deadline** is 31 January 2015

**Grant Application deadline** is 15 January 2015

**Date:** 22 June – 2 July 2015

**Venue:** Prague Congress Centre, Prague, Czech Republic

**E-mail:** [info@iugg2015prague.com](mailto:info@iugg2015prague.com)

**Web:** <http://www.iugg2015prague.com/>

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### 31<sup>st</sup> IAS Meeting of Sedimentology

Krakow, Poland

22 – 25 June 2015

Web: [www.sedimentologists.org/ims2015](http://www.sedimentologists.org/ims2015)

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### STRATI 2015

#### 2<sup>nd</sup> International Congress on Stratigraphy

Graz, Austria

19 – 23 July 2015

During this conference a special session will be dedicated for mapping volcanic rocks and their use for facies analysis and to solve stratigraphy questions. The special session is supported by the **IAVCEI Commission on Volcanogenic Sediment**.

Web: <http://strati2015.uni-graz.at/>

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### XIX INQUA Congress — Quaternary Perspectives on Climate Change, Natural Hazards and Civilization

Nagoya, Japan

27 Jul - 02 Aug 2015

Web: <http://inqua2015.jp/>

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### AOGS 2015 — Asia Oceania Geosciences Society

Singapore

02-07 August 2015

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### Web:

<http://www.asiaoceania.org/aogs2015/public.asp?page=home.htm>

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### Goldschmidt 2015

Prague, Czech Republic

16 – 21 August 2015

Web: <http://goldschmidt.info/2015/>

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### Society for Geology Applied to Mineral Deposits (SGA)

Nancy Centre Prouvé, Nancy, France

24-27 of August 2015

Web: <http://sga2015.blog.univ-lorraine.fr/>

Various –field trips will be offered to regions of volcanic rock-hosted mineral deposits such as those in Georgia, Armenia, The Balkan, The Carpathians and Northern Africa.

**Please check web-site:**

<http://sga2015.blog.univ-lorraine.fr/field-trips-2/>

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### 2015 Geological Society of America (GSA) Annual Meeting

31 October – 03 November 2015

Baltimore, Maryland, United States

Web: <http://www.geosociety.org/meetings/2015/>

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### 2nd International Congress on management and awareness in protected volcanic landscapes (VOLCANDPARK)

Lanzarote, Spain

November 2015 (exact date will be announced early 2015)

The congress is the main event of the **IAVCEI Commission on Volcanic Geoheritage and Protected Volcanic Landscapes**

**Contact:** Joan Martí Molist [joanmartimolist@gmail.com](mailto:joanmartimolist@gmail.com)

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### 2015 AGU Fall Meeting

San Francisco, California, USA

14 – 18 December 2015

Web: <http://meetings.agu.org/>

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### 2016 Goldschmidt Conference

Yokohama, Japan

26 Jun 2016 → 01 Jul 2016

Web:

<http://www.geochemsoc.org/programs/goldschmidtconference/>

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### Cities on Volcanoes 9

Puerto Varas, Chile

2016

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Exact date, contact and web information will be announced early 2015

**The conference is supported by the IAVCEI Commission of Cities and Volcanoes**

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**6<sup>th</sup> International Maar Conference  
Changchun City, China**

August 2016 (exact date will be announced early 2015)

The conference is supported by the **IAVCEI Commissions on Monogenetic Volcanism, Volcanic Lakes and Volcanogenic Sediments**

Contact: Jiaqi Liu [liujq@mail.iggcas.ac.cn](mailto:liujq@mail.iggcas.ac.cn)

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**IAVCEI Scientific Assembly - 2017**

**Date:** 14-18 August, 2017

**Venue:** Portland, Oregon, USA

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**7<sup>th</sup> International Maar Conference**

Olot, Spain

2018 (date will be confirmed by end of 2015)

The conference is supported by the **IAVCEI Commissions on Monogenetic Volcanism, Volcanic Lakes and Volcanogenic Sediments**

Contact: Joan Martí Molist [joanmartimolist@gmail.com](mailto:joanmartimolist@gmail.com)

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Next Issue of the **IAVCEI News** will be published on **15<sup>th</sup> April 2015**. Articles, notes, news or any items relevant to the IAVCEI community must be submitted by **1<sup>st</sup> April 2015** to be published in the next Issue.

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