IAVCEI *News* 2016 No: 3

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

FROM THE PRESIDENT

Dear Colleagues,

Don Dingwell
President of the IAVCEI

With the first half of 2016 behind us, your secretary-general, Roberto Sulpizio, and I are happy to report that membership reform continues to go smoothly. As a brief reminder, if you are reading this and have not yet gotten around to „joining“ IAVCEI as a member, you have several options.

Firstly, you can simply sign up over the IAVCEI web page as a regular member. Secondly, you can consider a 1-time contribution to join as a life member. This relieves you of all future hassles concerning renewals, remembering and future membership costs increases. Thirdly, you can collectively investigate whether you can be covered by an organisational membership. Finally, and quite importantly, you can consider whether you are eligible for young researcher membership at a substantial discount. As IAVCEI grows its membership and its activities, including meetings, workshops, awards and the like, don´t be left behind!

Our newly revamped web site is a great improvement and a treasure trove of information on IAVCEI activities. Nevertheless, do not hesitate to complain. With that I mean to encourage your constructive criticisms and suggestions for change. In the age of cyberspace it is pretty obvious what the strengths of distributed development are, so tell us through any media (Roberto or myself) what you would like to see.

The Executive Committee is about to conclude its preliminary discussion on portfolios for each member of the commission. Should you have ideas for portfolios or for initiatives that IAVCEI should concentrating on, contact any member of the Executive Committee at any time and in any way. We collectively welcome your input.

The 9th Cities on Volcanoes Meeting is upon us in November. It has been meticulously planned and prepared by the Local Organising Committee and Scientific Technical Committee. The meeting is also supported by the greater Chilean geological community. Reward their efforts and (yourself!) with your presence at COV9 – you will not be disappointed. The extensive web site and 2nd circular (https://www.citiesonvolcanoes9.com/en/) explains it all.

2021 sound like a long way off, but I would like to see all of you at the general assembly somewhere in the world in that year. Until November 15 you can register a proposal for the 2021 General Assembly, arguably the most prestigious of IAVCEI. Give it some thought.

Last but not least…

Call for nominations – IAVCEI Awards

The awards of the International Association of Volcanology and Chemistry of the Earth´s Interior will be bestowed upon the best and most promising of our fields at the General Assembly in Portland, Oregon, USA in August of 2017.

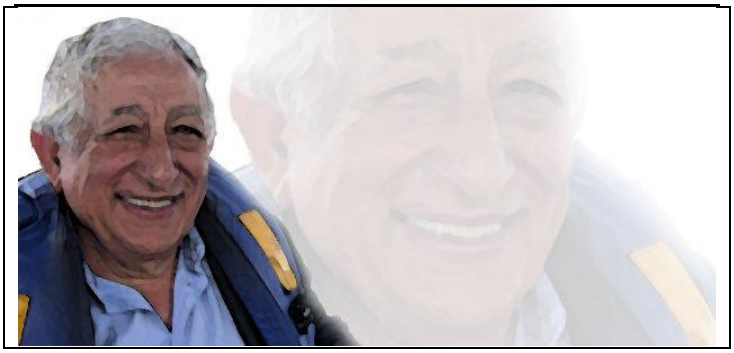
On behalf of IAVCEI, its Executive Committee and the Awards Committee I herewith call for the submission of nominations for:

The Thorarinsson Medal
The Krafft Medal
The Wager Medal
The George Walker Award
IAVCEI Life Membership

Please refer to the IAVCEI web page for details of the nomination process, eligibility and the focus of efforts the awards are intended to honour. Nominations should be submitted to the chair of the Award Committee, preferably by email (Dingwell@lmu.de). (Please ensure you get a confirmation of receipt of your nominations.) This call will be repeated in the next issue of IAVCEI News.

D. B. Dingwell,
Paris, 2 September 2016

OBITUARY
Professor Paolo Gasparini
14 – 28 July 2016



Prof. Paolo Gasparini passed away in the night of July 28, 2016. Prof Gasparini was emeritus at University Federico II in Naples. His brilliant career was paced by numerous achievements in the field of Geophysics and Volcanology, making him one of the most recognised scientists in Italy and worldwide. He served as Vice President (1987-1991) and as President (1991-1995) the IAVCEI.

Here is a remembrance from Wally Johnson, who served as Secretary General under Paolo Gasparini presidency.

"*I was very saddened to hear about the death of Paolo Gasparini. He and I worked closely together in 1991-95 when Paolo was IAVCEI President and I was Secretary General. Our work included, especially, the introduction of personal membership to IAVCEI for the first time - this was approved by IAVCEI national delegates at the 1995 IUGG General Assembly in Boulder, Colorado. The result involved a great deal of effort on both our parts, especially in negotiating with the IUGG Bureau and in changing of the wording of IAVCEI's Statutes and By Laws. He was a terrific person to work with.*"

Selected References from Professor Paolo Gasparini

Books

Earthquake Early Warning Systems 2007. Editors**: Prof. Paolo Gasparini**, Prof. Gaetano Manfredi, Prof. Dr. Jochen Zschau - ISBN: 978-3-540-72240-3 (Print) 978-3-540-72241-0 (Online)

Volcanic Seismology 1992 **Professor Paolo Gasparini**, Professor Roberto Scarpa, Professor Keiiti Aki (eds.) Springer-Verlag Berlin Heidelberg - ISBN/ASIN: 9783642770104,9783642770081

Physical volcanology 1974. Civetta L, **Gasparini, P**., Luongo, G., Rapolla, A. (ed). Elsevier, Amsterdam, Oxford, New York, pp 289-311

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Capuano P, Continisio R, **Gasparini P** (1992) STRUCTURAL SETTING OF A TYPICAL ALKALI-POTASSIC VOLCANO - ROCCAMONFINA, SOUTHERN ITALY. Journal of Volcanology and Geothermal Research 53(1-4):355-369

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IAVCEI 2017 PORTLAND
14 – 18 August 2017
"*Fostering Integrative Studies of Volcanism*"

Dear IAVCEI members and international volcano science community,

The IAVCEI 2017 Scientific Assembly will be held in Portland, Oregon, U.S.A, from the 14th to 18th of August, 2017. The various committees are delighted to report that excellent progress is being made towards the realization of a memorable conference. The main theme of the conference will be "***Fostering Integrative Studies of Volcanism***" with the goal of exploring and nurturing thinking that integrates the breadth of sub-disciplines represented at the meeting.

Interest in the conference is energetic with over 120 session proposals in response to the recent call. These will ensure that the scientific program will include symposia covering a broad variety of volcanological fields and facilitate integration between them. Numerous pre-, mid-and post- conference field trips to classic locations throughout the western US are in the advanced planning stages and a suite of pre- and post- conference workshops have been proposed. A program for young scientists is a priority.
Details and updates about the conference, as well as contact information for the various committees are provided at the conference website at **iavcei2017.org**. Please visit often.

Shan de Silva
Oregon State University

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

The first volume of the AiV book series – **Volcanic lakes** – has been published and can be accessed as electronic book or printed volume via the following link:

http://www.springer.com/gp/book/9783642368325

Upcoming volumes:

Cenozoic Volcanism in the Tyrrhenian Sea Region - Peccerillo, Angelo – Expected to be published in October 2016

http://www.springer.com/gp/book/9783319424897

Physical Geology of Shallow Magmatic Systems: Dykes, Sills and Laccoliths - Breitkreuz, Christoph, Rocchi, Sergio (Eds.) – Expected to be published early 2017

http://www.springer.com/gp/book/9783319140834

Observing the Volcano World: Volcano Crisis Communication - Fearnley, C., Bird, D., Golly, J., Haynes, K., McGuire, B. (Eds.) – Expected to be published in middle of 2017

Please note this book will be Open Access.

http://www.springer.com/gp/book/9783319440958

New book proposals are welcome. Please send your proposal to discuss your ideas to Karoly Nemeth (k.nemeth@massey.ac.nz) and we can provide some advice to succeed your book.

Karoly Nemeth Series Editor – Advances in Volcanology

CALL FOR PAPERS
Frontiers in Earth Science, section Volcanology
Research Topic - *Volcanic hazard assessment: rising to the challenges of data and model integration*

Dear Colleagues,

In collaboration with **Frontiers in Earth Science**, section **Volcanology**, we are organizing a Research Topic entitled ***Volcanic hazard assessment: rising to the challenges of data and model integration***. We would like to encourage you to contribute to this topic! Your hosts for this research topic are **Jan Lindsay, Eliza Calder and Jacopo Selva**.

We already have 10 contributors, and hope to get a few more expressions of interest before the end of February. We will be in

touch with contributing authors in March with more details.

Topic Description:
Volcanoes are complex systems that can produce a wide variety of hazardous phenomena both during and after actual eruptions, including pyroclastic density currents, lava flows, lahars, debris avalanches, ballistic ejecta, ash plumes and ash fall, but also ground shaking from earthquakes, inundation via tsunami, landslides, gas emissions, flooding and fires. Furthermore, there is a diverse array of possible approaches to hazard assessment. Hazard assessment may focus on one or more of these hazardous phenomena for a specific volcano, or one or more of these phenomena for a specific region or city. Assessment may be based solely on geological investigations, or deterministic or probabilistic modelling, or a combination. Time frames for volcanic hazard analyses can also vary, from long-term (years), to short-term /rapid hazard assessments after volcanic unrest has initiated (weeks, days or less). The quality of data used in every step of the hazard assessment process will vary, and thus uncertainties associated with data also need to be accounted for, from uncertainties in the past eruptive behaviour at a particular volcano through to uncertainties in future wind patterns. The difference strands of information available for any given assessment are thus diverse in terms of origin and type of data, methodologies involved in their generation and the associated uncertainties. Although integration of these respective strands presents both scientific and methodological challenges for us, particularly if the output of the hazard assessment is to be a single unified product, such as a hazard map, when accomplished an integrated approach will lead to vastly improved characterististion of the hazard than using any single approach alone.

With this Frontiers Research Topic we thus encourage contributions related to approaches used for the integration of data and/or information from different hazards, or from different methods, or both. Have you produced a volcanic hazard map that utilizes novel approaches for combining results of different models of different hazards? Have you combined results from a number of different models of the same hazard in a hazard assessment (multi-models)? Have you developed a method to capture uncertainties in geological data that is used in or propagated into volcanic hazard assessment? Have you integrated deterministic and probabilistic data into one end product? Have you developed a computer platform for hazard assessment that can integrate different types of data with different uncertainties? If these sound like the challenges you are tackling then you might like to contribute to this collection of papers. Our aim is to trigger discussion on this challenging topic and spark novel approaches to hazard data integration for future research.

You can also visit the homepage we have created on the Frontiers website, which defines the focus of the topic, and where all published articles will appear.

http://frontiersin.org/Volcanology/researchtopics/Volcanic_hazard_assessment_rising_to_the_challenges_of_data_and_model_integration/4505

Please note the submission deadline for this Research Topic:
Dec 31, 2016

If you are interested in contributing, please contact **Jan Lindsay** j.lindsay@auckland.ac.nz

CONFERENCE REPORT
6th International Maar Conference, Changchun, China

The 6th International Maar Conference was held between 30 July and 3 August 2016 in Changchun, NE China. The maar conference series started in year 2000 in Daun, Germany. Since then with a stable regularity maar conferences were held in various places (Hungary, Argentina, New Zealand, Mexico) and this year the first time in Asia, in China.

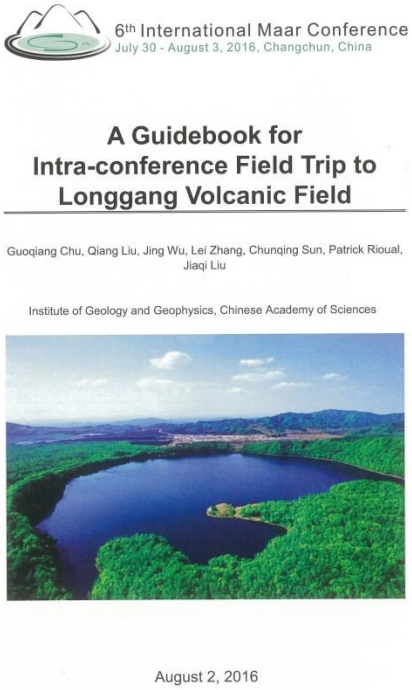
Prof. Jiaqi Liu as the Chairman of the 6th International Maar Conference opened the conference in Changchun taking the maar conferences first time to Asia.

Over the years the maar conferences developed to be a main meeting points for experts to share their ideas about monogenetic volcanism in general, having the maars in the centre of the themes of the meetings. Maars in particularly in great interest as they are not just an interesting subjects to study in respect to understand small-volume explosive volcanism but also as they commonly form intracontinental depressions, they act as continental sedimentary traps where sediments can be preserved very well. Such conditions makes maar researches important to understand continental sedimentation, but also to understand climate changes over considerable long time (tens of thousands of years).

The 6IMC in China was an important event, not only having IAVCEI meeting in China, but also expose the extensive maar researchers conducted in the past decades to the global community. The 6IMC was supported by the IAVCEI and IAS to represent the importance of maar systems for both the volcanologist and sedimentologist community.

Changchun also provided excellent places for further discussions. In this respect our Korean friends were very helpful to find quickly some nice BBQs and cold beer …

The 6IMC was hosted in NE Chine in the proximity of numerous young (post-Pliocene), mostly mafic intra-plate volcanic fields. Among these volcanic fields at least two is still considered as an active volcanic field such as the Aershan/Chaihe and Wudalianchi volcanic fields. The Wudalianchi volcanic field particularly hosts two complex scoria cones and associated extensive lava fields that erupted in 1776 and 1720 AD. The more diverse and extensive volcanic field in Inner Mongolia, the Aershan/Chaihe volcanic field also recently showed evidences that its latest eruption was about 1000 years ago.



6th International Maar Conference
July 30 - August 3, 2016, Changchun, China

A Guidebook for
Intra-conference Field Trip to
Longgang Volcanic Field

Guoqiang Chu, Qiang Liu, Jing Wu, Lei Zhang, Chunqing Sun, Patrick Rioual, Jiaqi Liu

Institute of Geology and Geophysics, Chinese Academy of Sciences

August 2, 2016

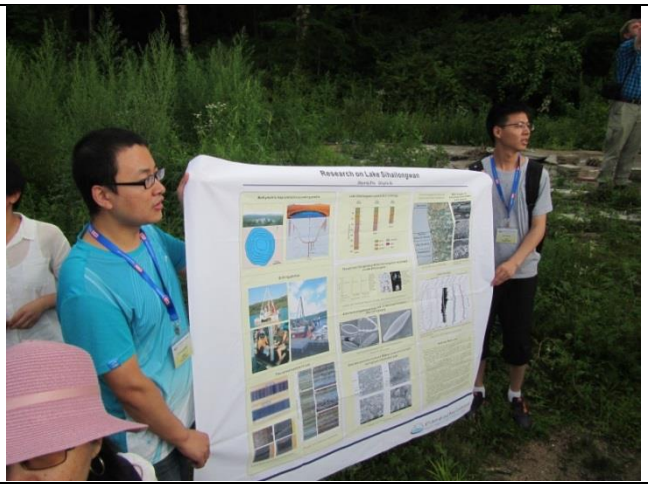
Intra-conference guidebook

The intra-conference fieldtrip provided a little insight to every participant to see rural China and an iconic volcanic field (Longgang Volcanic Field) provided huge amount of information for understanding the climate record of NE Asia in the past 10 ky. Lake Dalongwan is a maar that is surrounded an exceptional tuff ring rich in accidental lithics and mantle-derived xenoliths.

The 6IMC Chairman, Prof Jiaqi Liu from Beijing provided a complete summary of recent volcanism in the territory of China and pointed out that small volume eruptions that formed scoria cones, lava fields and some phreatomagmatic volcanoes are fairly common in China, and their volcanological researches are needed. In this respect 6IMC served an important role not only to expose this information to the global community, but also let Chinese researchers consider that volcanology has a huge potential as a science research field in China.

The intra-conference fieldtrip also gave opportunity for idea exchanges in regard of understanding the maar volcano system.

The 6IMC followed the same structure that has previous IMC events followed, offering 2 days lectures and intra-conference fieldtrip for each participant and a 2 days session period in the end. The sessions were consisted of keynote lectures and regular talks and some discussion panels. The keynote lectures covered great array of subjects and centered around the maar volcano system.



Dr Chunqing Sun (left) from Beijing as a young researcher showing a summary poster of the Sihailongwan maar's lacustrine sediment record.

The conference offered three plenary talks. Jiaqi Liu gave a summary of the young volcanism in China. Bernd Zolitschka presented a summary of the maar lake sediments and their importance in environmental and climate reconstruction. YounSoo Lee reviewed the Late Cenozoic tectonics of NE Asia.

Group photo of the 6IMC in Changchun, China

Each session started with a keynote lectures such as a summary of monogenetic volcanism by Karoly Nemeth, a geochemical aspect of monogenetic volcanism by Ian Smith and the paleoenvironmental aspects of the volcanic processes recorded in Mexico by Claus Siebe.

Abstract volume of the 6IMC can be downloaded via https://vhub.org/resources/4076 OR http://www.intechopen.com/books/6th-international-maar-conference-abstracts

The conference has a total of about 100 participants with about 40 international participants. While originally it was expected that more international presence will be in the 6IMC, the large number of Chinese participation is a great success. The 6IMC is clearly made an influence on Chinese volcanology and paved the path for having IAVCEI a more visible scientific organization in China.
The conference organization went very well. Beside the tremendous work provided Prof Jiaqi Liu there were a very clear team work that made this conference a very memorable event. We particularly have to be very thankful for the work of Dr Jing Wu and Cuiling Lan to professionally manage the scientific program. Dr Qiang Liu, Dr Zhengfu Gu, Dr Shuangshuang Chen, Dr Chunqing Sun, Dr Jingtai Han and Dr Guoqiang Chu take a major share in the workload to manage the conference perfectly.

During the 6IMC, the IAVCEI Commission on Monogenetic Volcanism changed its leadership (see notes later) and also decided the location of the 7IMC. The 7IMC will be held in Olot, Spain in 2018.

Karoly Nemeth
Massey University, New Zealand

JIM LUHR AWARD 2016

The Jim Luhr Award is a special recognition established by the IAVCEI Commission on Monogenetic Volcanism and given for a lifetime achievements of a person worked on understanding monogenetic volcanism. The Award is given during the relevant International Maar Conference and based on Nominations and Associated Supporting Letters. This year the International Maar Conference was held in Changchun City in China and the Award

was given during the conference's closing ceremony.

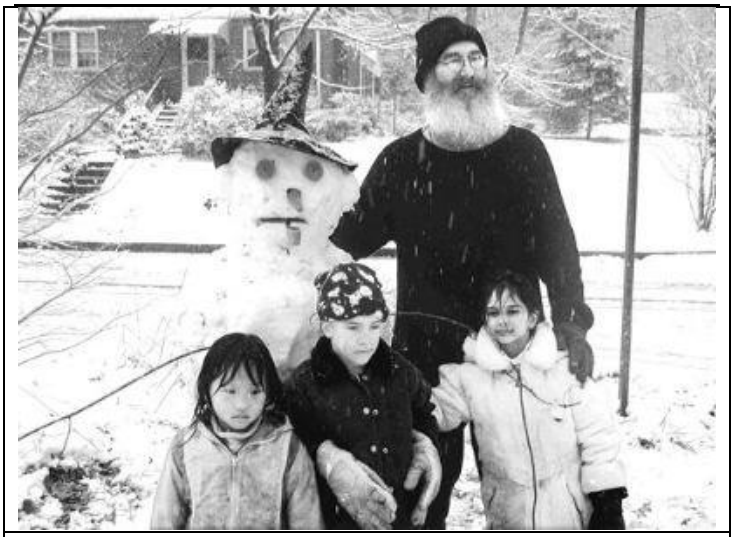
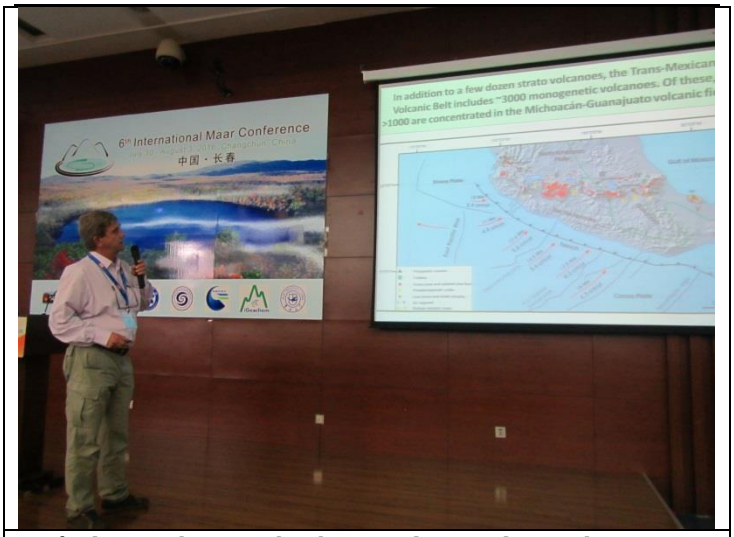


Photo courtesy of Patrice and Pasky Pascual
Jim Luhr poses with (from left) daughter Mei-Mei and neighbors Chessie Pascual and Frannie Ashcraft after making a snowman in 2004.

The 2016 Jim Luhr Award was given to

Prof Claus Siebe, UNAM, Mexico.

The Jim Luhr Award 2016 was accepted by Prof Claus Siebe during the 6IMC in Changchun City, China.



Prof Claus Siebe gave his keynote lecture during the 6IMC in Changchun

Nomination Letter for the 2016 Jim Luhr Award

24 August 2016
Re: Nomination of Professor Claus Siebe for the Jim Luhr Award

Dear Committee of the Monogenetic Volcano Commission of IAVCEI,

I write to nominate Professor Claus Siebe, of the Geophysics Institute of Universidad Nacional Autonoma de Mexico, for the Commission of Monogenetic Volcanism's Jim Luhr Award. Over the past three decades, Prof Siebe has led research into the understanding of the Trans-Mexican Volcanic belt, and published as a lead author or latterly with his students extensively on the Michoacan Guanajuanto Volcanic field. This area is fitting for this particular award because it includes Paricutin, the subject of Jim Luhr's seminal work on the "volcano that grew from a Mexican corn field". Claus too has published on Paricutin and its older sibling El Jorrillo, as well as bringing to light many other unusual features of this huge belt of monogenetic volcanism. His work has showed that the spectrum of monogenetic volcanoes also includes small "shield-like" volcanoes, long-lived cone systems such as El Jorillo in addition to the simple small-volume eruptions that normally characterise such distributed basaltic volcanic fields.

Prof Siebe, who grew up in Mexico with German parents, completed his Diplom Geology at the University of Tubingen in Germany, and followed this with PhD research under the supervision of Professor Mike Sheridan at Arizona State University, USA. Returning to Mexico, Claus has been a stalwart of the Institute of Geophysics at UNAM ever since, with sabbatical stays in Germany, USA and Spain, along with short research stays in many other parts of the world. Claus' contributions to the volcanology field have been many and diverse, primarily resting on his ability to combine petrological and geochemical insights into the volcanic systems with sedimentology and physical volcanology. In a characteristic feature of Claus' work, painstaking human, ecological, paleoentological and archaeological research is often applied to understanding the specifics of eruption sites and conditions. In this way, Claus, with an unerring detective-like quality for historic and geological processes (and political/historical scandal), has brought to light features such as the controlling factors for phreatomagmatic vs magmatic eruptions in continental fields, and the influences on chemical or environmental change to monogenetic eruptions.

I would point the committee to the over 100 publications of Prof Siebe in volcanism and volcanic hazard in various media and the additional work that he has carried out over the years in developing hazard maps and assisting authorities in planning for and responding to volcanic eruptions in Mexico. Furthermore, Claus has been active in organising and running conferences and field workshops in Mexico, and active in the international field, providing witty and insightful glimpses into the complex world of the most simple-appearing volcanoes on Earth. He has also supervised numerous Mexican and other international students and post-doctoral fellows, building and supporting the careers of many others of his countrymen and women. Of his publication record, I would like to highlight Prof Siebe's long-term and ongoing contribution for aspects of monogentic volcanism, for example in 1986, where he proposed the use of cinder cones and maars of the Trans-Mexican belt as means of establishing indicators of paleo-climate and paleo-environment, through to work published in the last year on the conditions favourable to phreatomagmatism due to groundwater, topographic and paleoclimatic situations.

For all of the reasons I have described, above, along with his

excellent humor and supportive collegial nature, I heartly recommend to you Prof Claus Siebe for the 2016 Jim Luhr Award.

Yours sincerely,

Professor Shane J. Cronin
Auckland University, New Zealand

Support Letter for the Jim Luhr Award 2016

Supporting letter
for the nomination of Claus Siebe for the James Luhr award

I had the privilege to meet both James Luhr and Claus Siebe – then a quite young scientists – practically during the same event, namely the 1994 edition of the once (i.e. the 1990's) appealing Colima volcano meetings in Mexico. Later one, I met them during subsequent editions of the Colima meetings as well as in Mexico City's UNAM with various occasions. So, somehow the names and personalities of the two scientists – one older, another younger, one potentially teacher, another potentially a student of the former – remained in my memory linked together by some non-evident reason.
Claus Siebe is, in my own opinion, probably the most merituous Mexican scientists deserving the James Luhr award at this time. Jim Luhr has dedicated a significant part of his scientific career – and of his life-long passion – to the study of Mexican volcanoes, including those of the monogenetic nature. Likewise, Claus Siebe's major achievements in volcanology are, at least partly, the result of investigation of the Mexican monogenetic volcanic fields including maars. He is the scientist, somehow following the paths opened by Jim Luhr, addressing – and answering – the intriguing question of the scarcity, and conditions of formation, of maar-type volcanic structures in the Transmexican Volcanic Belt. His work and results have contributed to draw the attention of the volcanologist's community on the significance and role of monogenetic volcanic fields in subduction-related environments worldwide and making the Michoacan-Guanajuato Volcanic Field a most-cited reference in the volcanological literature.
Claus Siebe, as I know him, is one of the rare volcanologists today who combines, in a balanced manner, passion for volcanoes with healthy skepticism deeply rooted in his own decades-long experience. His talks and interventions at international meetings, bear a distinctive peculiar flavor, always enjoyed by myself - and, surely, by many other attendees - resulting from scientific rationality and a classical European cultural background.
Concluding my supporting letter, currently I cannot find a more merituous recipient of the James Luhr award, one who is continuing and enhancing Jim's scientific heritage in Mexico, and in the domain of monogenetic volcanism in general, than Claus Siebe. For this reason I fullhearthedly support his nomination for this distinguished award.

Dr. Alexandru Szakács
Dept. of Environmental Scieneces, Sapientia University, Cluj-Napoca and Institute of Geodynamics, Romanian Academy, Bucharest, Romania

Support Letter for the Jim Luhr Award 2016

As a young researcher, I am glad to provide my support in nominating Professor Claus Siebe for the James Luhr award.
Professor Siebe has an extensive background in geology, volcanology, petrology, geochemistry, sedimentology and geological hazards, among other skills. However, his main interest has been proudly promoting the extensive record of volcanism in Mexico and developing a deep understanding of active volcanic areas.

Professor Claus Siebe has worked in the Michoacán-Guanajuato Volcanic Field for a long time. He started by investigating the famous El Jorullo monogenetic volcano before beginning his work on the maars, tuff cones and other phreatomagmatic eruptions. His work has provided valuable insights into these volcanic processes, both in his home country of Mexico and around the world. He has worked in a diversity of places including Nicaragua, Colombia, Germany and New Zealand, but he has always brought his research back to Mexico.

Professor Siebe is a referent volcanologist for researchers of all levels. He has provided many opportunities for post graduate, masters and PhD students, as well as postdoctoral researchers.

Therefore, I certainly recommend that the James Luhr award should be presented to Professor Claus Siebe.

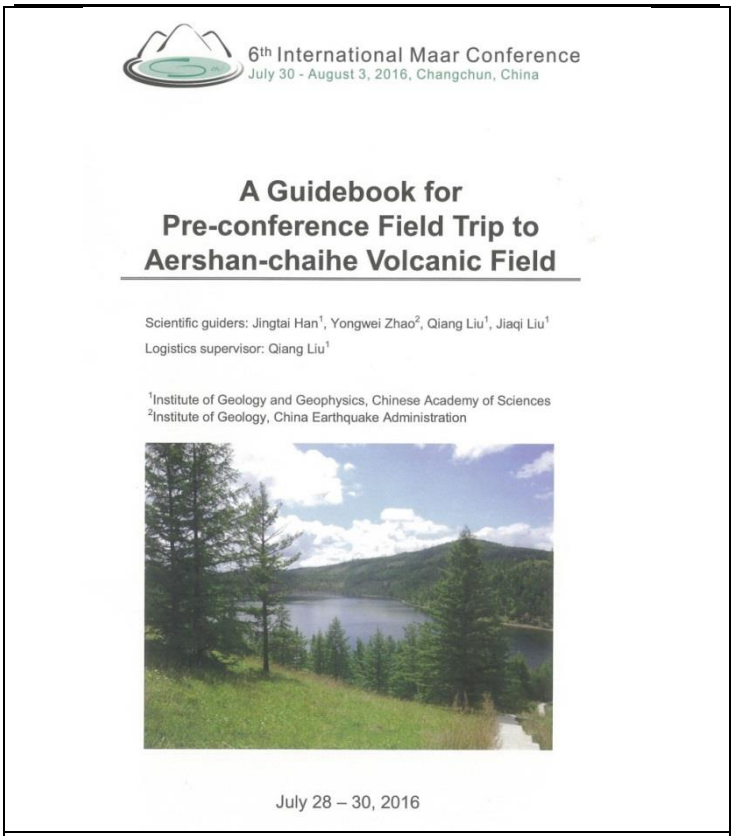
Dr. Xavier Bolós
Barcelona, Spain.
August 2, 2016

6IMC PRE-CONFERENCE FIELDTRIP: AERSHAN-CHAIHE VOLCANIC FIELD

The pre-conference field trip for the 6IMC conference took place within the Arxan Global Geopark (established 2004), located in northern China's Inner Mongolia Autonomous Region. The field trip was guided by Jingtai Han, Yongwie Zhao, Qiang Liu and Jiaqi Liu from the Chinese Academy of Sciences and the China Earthquake Administration, and the trip included 15 delegates from around the world with interests in both volcanology and paleoclimatology. The purpose of the fieldtrip was to provide a cross-disciplinary introduction to maars and their importance in paleoclimate research, and showcase some of the spectacular volcanic features within the geopark.

The Arxan Geopark covers an area of 814 km2 and includes the Quaternary-aged Arxan-Chaihe Volcanic Field (ACVF). The dominant composition of the ACVF is alkali basalt, and geochemical investigations suggest a MORB-like source for the melt, with a low degree of partial melting of garnet peridotites. The low SiO2 and 87Sr/86Sr and abundant xenoliths are thought to suggest rapid magma ascent with little crustal assimilation. The ACVF contains 34 volcanoes formed during both phreatomagmatic and magmatic activity, some of which host

crater lakes with high resolution paleoclimate records. The ACVF also hosts numerous lava flow fields of pāhoehoe, ´a´ā and blocky lavas which were visited during the fieldtrip.


6th International Maar Conference
July 30 - August 3, 2016, Changchun, China

A Guidebook for
Pre-conference Field Trip to
Aershan-chaihe Volcanic Field

Scientific guiders: Jingtai Han[1], Yongwei Zhao[2], Qiang Liu[1], Jiaqi Liu[1]
Logistics supervisor: Qiang Liu[1]

[1]Institute of Geology and Geophysics, Chinese Academy of Sciences
[2]Institute of Geology, China Earthquake Administration

July 28 – 30, 2016

Fieldtrip guide to Aershan-Chaihe Volcanic Field is available via https://vhub.org/resources/4083

Day 1

The first day of the field trip introduced delegates to the deposits of phreatomagmatic eruptions at a dissected tephra ring near Tianchi town. The outcrop included deposits of fall and surge origin, and provided a good opportunity to discuss the criteria for recognizing such units. The observed succession appeared to represent a drying upwards sequence, and was capped by lavas from an unknown source. We then drove through larch and pine forests to examine several examples of lava flow fields. Here, we found type-examples of tumuli that ranged from 5−10 metres in diameter, as well as a "turtle back" lava flow with a hummocky surface and numerous collapse pits. These collapse pits may represent sections of crust that have collapsed into drained lava tubes. Blocky lava flows were also observed. Our next stop was a lava damned lake named Dujuan. Here, the lava flow field contained numerous hornitos up to 1.5 m in height with either saucer-like or steep-sided morphologies. Following a banquet lunch, we travelled to Tuofengling volcano; an elongated scoria cone which hosts a crater lake. Our final visit for the day was the Great Volcanic Canyon found at the headstream of the Chaihe river. The canyon is up to 130 m deep and its walls are composed entirely of fragmented lava. Our day in the field was concluded with another banquet meal, lots of "baijiu" (Chinese white spirit brewed from sorghum) and a late night BBQ.


Panoramic view of the Woniupao crater lake.

Day 2

The second day of the field trip began with a visit to Woniupao volcano and it's crater lake. Roadcuts provided excellent exposures of phreatomagmatic tephra deposits, and provided the opportunity to observe features such as dune-form bedding, mantle xenoliths, cored bombs and basement lithic clasts >0.5 m in size. Syn-eruptive faults in the deposits provided an ideal opportunity to discuss the growth and modification of small volume basaltic volcanoes. Lithic-rich beds, perhaps indicating a vent-widening event, could conveniently be correlated with those found in a small quarry near the hotel, allowing us to trace the deposits back for another large lunch.

Our afternoon visit to Moon Lake introduced us to more phreatomagmatic deposits, as well as the site of current research for paleoclimatologists from the Chinese Academy of Sciences, Beijing. Sediments within the lake provide a high resolution record of climate change for the northern margin of the East Asian monsoon regime. The lake was named for its appearance in winter after freezing solid and for having a near-perfect circular shape.

Our next stop was Black Bear Den – the eroded remnants of a volcano that formed during magmatic volatile-dominated activity. Here we observed an abundance of spatter and scoria-rich deposits as well as clastogenic lava flows. Our final stop on the field trip was to a cliff nicknamed the "water-rock fresco", which was composed of columnar jointed basalt. The cliff was characterized by entablature-style jointing, suggesting the influence of water during cooling. Our field trip was concluded with another banquet dinner at our hotel with local authorities, before beginning our journey to Changchun the next day.

A road cut through a phreatomagmatic tephra succession containing syn-eruptive faults.

With thanks to the organizing committee for running the field trip and for their outstanding hospitality.

Peter Reynolds
University of Adelaide, Australia

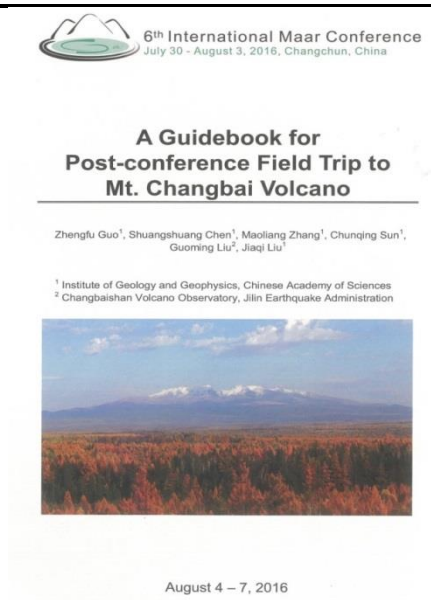
Group photo during the pre-conference fieldtrip on Moon Lake.

6IMC POST-CONFERENCE FIELDTRIP MT CHANGBAI VOLCANO

Following the meeting of the 6IMC, a post-conference field trip was offered to visit the Changbai volcano in the border between China and North Korea. The field trip was acted as a magnet, as over 60 people signed up to the trip. For most of the international visitors to see Changbai volcano in a geological fieldtrip is a once in a lifetime opportunity. However, Changbai volcano also an iconic natural monument for Chinese, and function as a pilgrimage place. This made Changbai volcano a very heavily visited site during the summer months particularly when the weather clear, and the visitors have a chance to see the caldera lake that is surrounded by caldera rim peaks over 2700 m above sea level (highest point 2749 m). During the fieldtrip the participants were super lucky to have an exceptionally clear day to see the oval shape, scalloped cliff rimmed caldera lake that occupies an area of 13 km^2. The caldera lake is an average of 200 m with a deepest point is 373 m.

Tianchi caldera lake on top of Changbai volcano.

The field trip was lead of Chinese experts worked recently on the volcano in its Chinese sites. The Changbai volcano sits in the middle of an extensive volcanic fieldwith two other less known and studied stratovolcanic edifice (Wangtain'e and Namhote volcanoes) that are located in the North Korean territory. The Changbai volcano's stratigraphy fundamentally composed of a large volume basaltic shield-like base that is capped by so-called cone building volcanic facies initiate with a trachyte and pantellerite lava successions that is capped with the youngest eruptive products of pyroclastic successions including the famous Millennium Eruption pyroclastics formed sometimes between 939 and 946 AD.



6th International Maar Conference
July 30 - August 3, 2016, Changchun, China

A Guidebook for
Post-conference Field Trip to
Mt. Changbai Volcano

Zhengfu Guo[1], Shuangshuang Chen[1], Maoliang Zhang[1], Chunqing Sun[1], Guoming Liu[2], Jiaqi Liu[1]

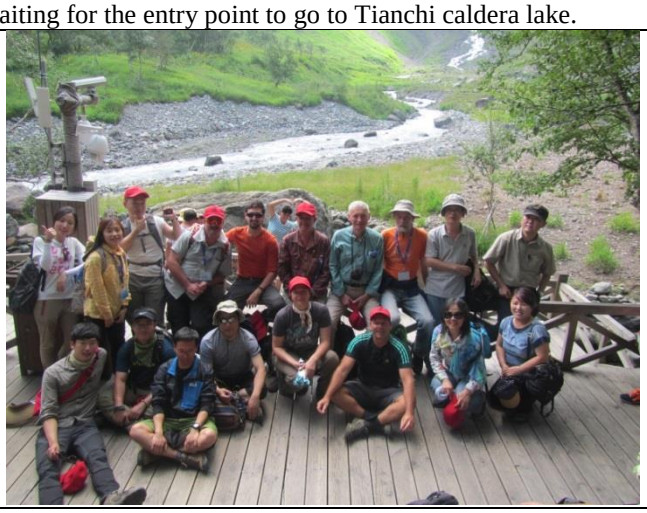
[1] Institute of Geology and Geophysics, Chinese Academy of Sciences
[2] Changbaishan Volcano Observatory, Jilin Earthquake Administration

August 4 – 7, 2016

Fieldtrip guide to Mt Changbai is available via https://vhub.org/resources/4081

The Millenium Eruption and its eruptive products are in great interest among volcanologists as its distal tephras reached Japan and have been identified in numerous locations in the sea floor between Korean peninsula and Japan. The only problem is that the majority of the deposits that hold key information on the eruption mechanism of this eruption is located in the territory of North Korea hence it is difficult to access. During the fieldtrip the participants were able to see a small fraction of these deposits in proximal settings accessible from the Chinese side. During the fieldtrip however, some plan emerged to organize a field workshop alongside with North Korean colleagues in their side with the help of IAVCEI. The field trip provided a very insight experience of the difficulty to conduct researches in such conditions where coordination between various regions is essential. We also experienced what a challenge to go up to the top when in a single day about 40 000 visitors want to see the exact same spot as their lifetime pilgrimage to this very spiritual mountain. We all have to be very thankful for the organisors of this field trip to take this challenge and share their knowledge about this less known volcano. Particularly Dr Zhengfu Guo and Dr Shuangshuang Chen ensured that the trip can provide as much information as possible in such conditions.

Waiting for the entry point to go to Tianchi caldera lake.



Group photo at Changbai volcano

Karoly Nemeth
Massey University, New Zealand

WORKSHOP REPORT

3RD IAVCEI VOLCANIC GEOLOGY WORKSHOP

The 3rd International workshop on Volcano Geology took place from July 3rd to 10th 2016 on Etna Volcano and the Aeolian Islands. It was organized by the IAVCEI Commission on Volcano Geology. The 56 participants took the opportunity to exchange experiences in volcanic mapping techniques and their applications. The workshop was led by a highly dedicated organization team including Stefano Branca, Emanuela De Beni and Mauro Coltelli from INGV-CT, Gianluca Groppelli from CNR-IDPA, Federico Lucchi from University of Bologna and Roberto Sulpizio from University of Bari. Topics were geologic mapping in volcanic areas and volcanic stratigraphy with the emphasis on Italian style. Therefore the most important topic was lithostratigraphic and sinthemic (unconformities) units.

Part of Etnas eastern flank had collapsed around 10 ka BP and left the Valle del Bove (photo: A. Brum da Silveira)

Besides the key note lectures, 30 extended abstracts and poster presentations gave a context for scientific exchange amongst the participants. During the bus and ship rides, hikes and meals, there was plenty of time to get to know all the participants and their different experiences. Participants from different fields of expertise had different views on the geologic formations which ranged from unconformities, volcano-tectonic features and stratigraphic relationships, to lava flow textures down to the mineralogical scale. The lectures were often followed by long discussions. Besides the many debates for example about unconformities and the scales of mapping units, in the end, everyone agreed that mapping and geologic field observations are the basis for volcanology. Thus authors of geological maps should be more highly rewarded and field volcanologists should work closer together with experts in other fields, such as modelers.

Ski resort on Etna covered by the 2002 lava. (photo: S. Harangi)

The first field trip to Mount Etna provided a fantastic overview of the Valle del Bove depression and gave the opportunity to study the large variety of scales and learn about the Valle del Bove formation. With a gondola we went up to La Montagnola, walked around the cone and down alongside the western rim of the Valle del Bove. This trip focused on the mapping of volcano-tectonic features, stratigraphic relationships, and the relation of unconformities to the shifting of the feeding systems.

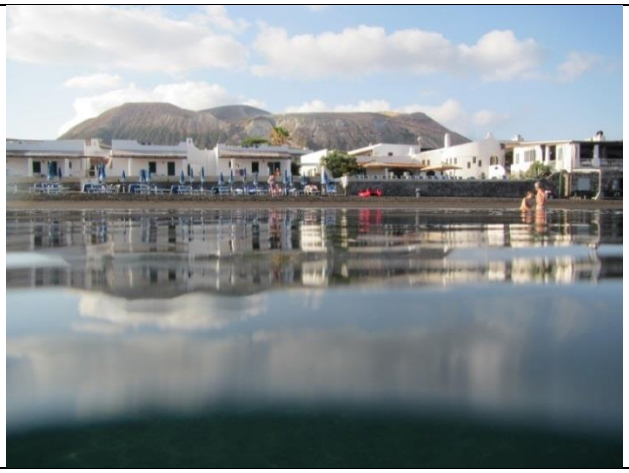
On the next day there was a trip to the Ellittico caldera and the NE-Rift of Mt. Etna. Already when driving up, we could see the historic lava flows that originated from Etna's NE summit crater. From the volcanological observatory of INGV we had a panoramic view of Etnas active summit craters and the Ellittico caldera collapse and the following lava flows filling the depression. From the Piano delle Concazze area, the fissure system and lava flows of the 2002 eruption at Etna's NE-Rift were visible and the mapping of their features was discussed. From there we followed and discussed the structural features of numerous old spatter ramparts and pit craters- the definition of which was intensely debated. The downslope propagation of the dike and the eruptive fissure system of the 2002 eruption along the NE-Rift provided fantastic outcrops of dike and vent features. At the feeder dike and eruptive fissure of the 1809 eruption, originating from a shallow vent system, we could see indications of the shift of magmatic to phreatomagmatic activity.


Participants swimming from the outcrop at the cliffs of Lipari's western coast where they closely examined the lavas rich in megacrysts of cordierite and garnet which are a fundamental key bed for stratigraphic correlations on Lipari. (photo: C. Bonanati)

The same evening we travelled to Vulcano Island by hydrofoil. After dinner, the participants went for a swim in the dark to discuss the observations of the day- and to train for the next: The boat trip around Lipari Island which included a dive to sample the famous Lipari obsidian and white pumice, and a swim to an outcrop. The ambition in doing volcanological fieldwork was clearly higher than the fear of poisonous jellyfish. This opinion probably changed after two participants got stung the next morning.


Prof Roberto Sulpizio explains the volcanic geology of Vulcano. Photo: K. Nemeth

At the first stop we were introduced to the growth of stratocone, typically developing in shallow water conditions towards the gradual emersion of a volcanic island, and the deposits as a combination of strombolian activity and lava flows. At the north-eastern Lipari coast on top of hydrothermaly altered lava domes, Holocene to Medieval volcanic successions with prominent palaeosoils were observed. Upon discussing the ranking of unconformities, the participants took the opportunity to dive for some samples of the rhyolitic pumices and viscous obsidian lava in front of the former most important pumice quarry in the world and. At the western coastal cliff, marine terraces formed another type of unconformity in between the interlayered volcanic products of the stratocone. These deposits of a paleoshorlines resulted from sea level fluctuation and crustal uplift and their use for large-scale correlation of sea-level driven unconformities was discussed.



Locations, locations, locations … perfect choice to host participants on a volcanic geology workshop … on Vulcano (photo: K. Nemeth)

Next morning we ascended along the western flank of the active cone of La Fossa di Vulcano. Along the paths we could study the Holocene and Historic pyroclastic, polygenetic successions and lava flows of the Tuff cone and the results of active dynamics of erosion and resedimentation of recent volcaniclastic products. The 1888-1890 activity was eponymous for vulcanian-type eruptions, typical products of which are the large obsidianaceous bread-crust bombs. On the crater rim the attention was also given to the sulphoric fumaroles which together with morphostructural features indicated active volcano-tectonic stress. From the top the evolution of the polygenetic volcanic edifice was obvious, as we had a clear view of the surrounding caldera and remnants of successive caldera rims. Being exposed to the burning midday heat was rewarded by a view of the Aeolian Islands including a first greeting cloud above Stromboli in the distance.

On the last afternoon we ascended Stromboli from its northwestern flank along the northern border of the Sciara del Fuoco collapse which made apparent how in the Holocene, Stromboli evolved through phases of eruptive activity interrupted by recurrent lateral collapses and flank erosion. These volcano-tectonic structures are covered by the recent lave flows (2002-2014).

Large bread-crust bomb at the crater rim of the La Fossa caldera, Volcano Island: A distinctive feature of the AD 1888-1890 eruption. (photo: S. Harangi)

Half way to the top we had a closer look at paroxysmal spatter deposits which are an important feature for the evaluation of volcanic hazards. Overlying the prominent deposits of the 2003 and 2007 paroxysms was black scoria in patches or closely intermingled with phenocrystal poor golden pumices. Besides some differences in trace elements both have similar geochemical compositions and black scoria is interpreted as the degassed and largely crystallized equivalent of golden pumice. With the beautiful sunset on their backs the group crawled towards the summit of Pizzo, 150 m above the active crater. Waiting in the dusk near a shelter for the tourist groups to leave the summit, we gained the first view of typical strombolian explosive activity. On this day, the activity level was rather low but this didn't diminish the impressive explosions and ejection of gloving pyroclasts rising >50 (?) m above the vents. After watching this spectacle in the darkness from the top, we descended Stromboli's eastern flank through the freshly fallen (painful) scoria of the ongoing activity.

Group photo on top of La Fossa caldera on Volcano with Lipari and the Aeolian arc in the back. (photo: A. Brum da Silveira)

Strombolian activity on Stromboli in late afternoon … in 9th July 2016 (photo: A. Brum da Silveira)

Strombolian activity on Stromboli in night … in 9th July 2016 (photo: A. Brum da Silveira)

I would like to take this opportunity to thank all the lecturers and participants for their helpful explanations and stimulating discussions.

Bonanati, Christina
GEOMAR, Kiel

SOME TECHNICAL INFORMATION ON THE 3RD WORKSHOP ON VOLCANO GEOLOGY

Geological fieldwork in volcanic areas - Mapping techniques and applications

The 3rd workshop on Volcano Geology, held on Mt. Etna and Aeolian Islands (Italy) from 3 to 10 July, 2016, has had the participation of 50 researchers from 21 countries and 4 continents. So the widespread international participation was the first achieve of the meeting, which aimed to involve researchers from the largest number of countries as possible. The most numerous groups arrived from USA, followed by Italy and New Zealand. For the workshop we received more than 100 expressions of interest and the selection was not easy because of the high profile of most of applicants. Unfortunately we could not fulfil all the requests because of the logistic and scientific problems to organize a field-based meeting, but I hope in the next future we will have the opportunity to meet in the different activities promoted by the Volcano Geology Commission also the researchers that could not participate this time.

The workshop has been realized thanks to the financial support of international and national institutions, as IAVCEI, IUGG, INGV and University of Bologna. These sponsorships allowed us also offering 7 grants to young researchers and/or researchers coming from developing countries.

We promoted a field-based workshop to favor the discussion on volcano mapping directly on the field, one of the main topics of this commission. The same title of the workshop "*Geological fieldwork in volcanic areas. Mapping techniques and applications*", reflects this indication In fact the workshop has been particularly focused on discussing the methodological approach and the state of the art of geological fieldwork and mapping in volcanic areas, which are the baseline for understanding the volcano behavior and its associated hazards. In particular during the 5 days of excursion we have been the chances to present some of the most recent geological maps realized by the Italian community on volcanic areas following and improving the Italian Guidelines for the new Geological Map at 1:50,000 scale (CARG project - http://www.isprambiente.gov.it/en/projects/soil-and-territory/carg-project-geologic-and-geothematic-cartography?set_language=en). These maps present usually the combination of different kinds of stratigraphic units, such as litostratigraphic, lithosomatic, sinthemic.

To reduce the time of presentation we have dedicated the first day to a poster session, where the majority of researchers presented their results in 30 posters. In addition we have added few keynotes on the main topic of volcano mapping to stimulate the discussion, continued during the field excursions and the plenary sessions. The main points of discussion during the field excursions and plenary sessions were the applications of lithostratigraphic and sinthemic units for mapping volcanoes and the problems of the scale (spatial and temporal scale in volcanic area respect to original definition and application of these units in a sedimentary successions). Another topic was the identification of unconformities, not so easy in a poorly exposed area, and the definition of local vs regional unconformity, useful to designate a sinthemic unit. We discussed also the application of other kind of stratigraphic units to map old volcanic complex or really poor exposed area. All the participants have agreed that a guideline for volcanic mapping is necessary and it will be one the most important work for the Volcano Geology Commission in the next months.

During plenary session we have discussed also the future of the Volcano Geology Commission, planning a special volume collecting papers on the topic of the Volcano Geology Commission, the future workshops from 2017 to 2021, sessions to submit for the EGU and IAVCEI 2017 Scientific Assembly, a field school for PhD and post-doc students on volcano mapping, the organization of the web site of the commission.

As organizer of the workshop, I am really satisfied for the results obtained, because the broad discussion on volcano mapping demonstrates that it is an important and real topic to face up in the next future. I know that we made only the first step, and more steps will need, but at last we are in the right way to propose a common methodology to map volcanic areas and to strengthen the role of geology as the foundation for modern volcanology and its applications.

On behalf of the organizers

Gianluca Groppelli
University of Milan

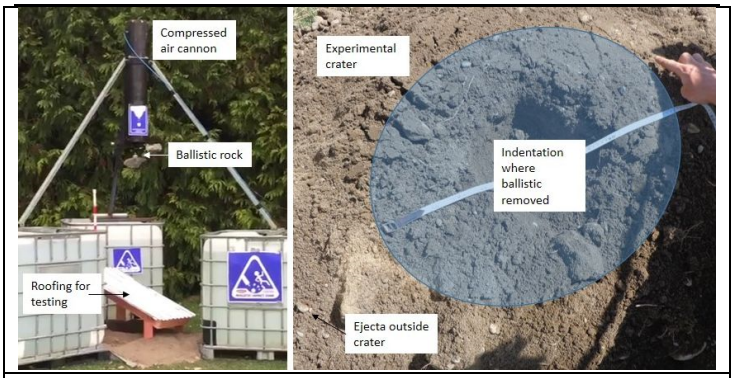
REPORT ON THE NEW ZEALAND BALLISTIC WORKSHOP

29 August, 2016, Taupo, New Zealand

The 56 fatalities from ballistic trauma from the 2014 Ontake eruption and similarities between this and the 2012 Te Maari eruptions in New Zealand made Japan and New Zealand natural partners to tackle ballistic hazards. The collaborative workshop had 28 participants from New Zealand universities, GNS Science, and Dr Kae Tsunematsu from Mt Fuji Research Institute. The format of the workshop was a series of short presentations followed by group activities that aimed to facilitate open discussion and identification of a New Zealand approach to the identification of knowledge gaps, end user needs and new methodological approaches to reduce ballistic risk.

Workshop participants on the New Zealand Ballistic Workshop.

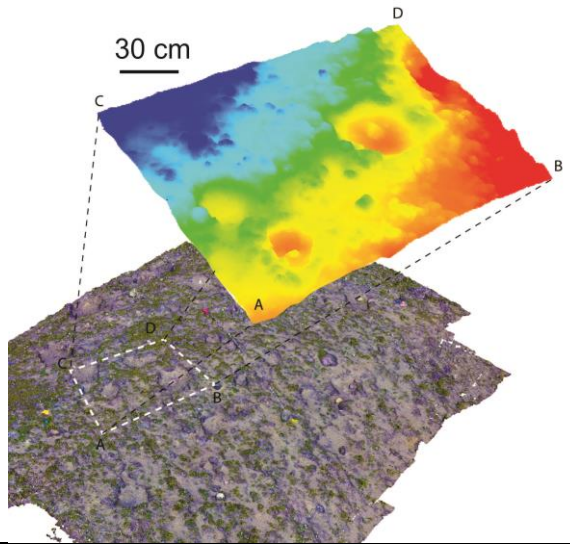
The workshop was led by Dr Ben Kennedy and Rebecca Fitzgerald from the University of Canterbury and showcased 'Ballista', the 3D ballistic distribution model of Dr Kae Tsunematsu. Ben Kennedy used case studies to present the importance of research into ballistic hazard, vulnerability and impact. The take home points from the subsequent exercises and discussion were that the risk context for the volcano defines current and future hazard management needs.



Large scale experimental set up to study ballistic impact craters.

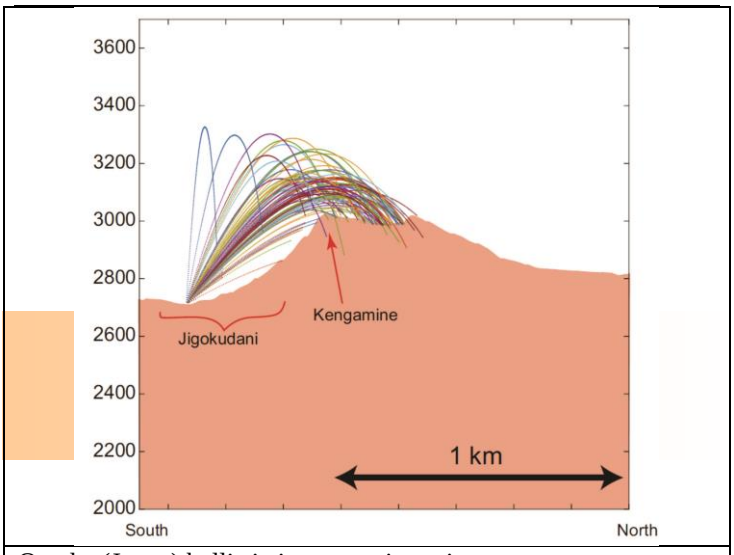
The moment of canon impact recorded.

Dr Graham Leonard then presented a range of hazard maps that included ballistics and how they had been created and used for communication products. In line with many points from the IAVCEI commission on hazard maps, the subsequent discussion showed that depending on the purpose of the map, the eruption style of the volcano, and the status of the volcano (whether or not was in a volcanic crisis), ballistics as a hazard varies hugely in prominence. The discussion of examples of ballistic hazard zones also illustrated the lack of systematic methodology and transparency for the shape and size of ballistic hazard zones as presented on maps. Rebecca Fitzgerald presented on the methods for collecting relevant ballistic hazard data. The wider group identified ballistic data needs at New Zealand volcanoes with a focus on a need for higher resolution imagery of ballistic fields on New Zealand volcanoes, as well as continued evaluation into historic data regarding recurrence intervals. The workshop was funded by the Earthquake Commission and the Natural Hazard Research Platform.



Ballistic impact crater surface map.

Dr Kae Tsunemastu demonstrated her Java run 3D ballistic distribution program 'Ballista' and the participants adjusted parameters to perform sensitivity analysis for the Ontake eruption. The model runs from the group revealed how incredibly unlucky the direction, angle, and velocity of the eruption was, and that only small changes in any of these parameters would have led to a shielding effect of the topography of the volcano and far fewer casualties. The discussion also revealed how the shielding nature of volcanic topography associated with different eruption directions could be an invaluable tool to identify "safer" shelter zones on volcanoes. The rest of the workshop focused on human and infrastructure vulnerability to ballistics. George Williams and Rebecca Fitzgerald presented field data and experimental data from the University of Canterbury's Pneumatic Ballistic Cannon.



Ontake (Japan) ballistic impact trajectories.

The group discussion showed the paucity of ballistic data available to inform life safety decisions and populate damage models (fragility functions) for buildings. Future research directions were for ballistic vulnerability data suitable for multi-hazard analysis, and integration of this data into exposure and risk models like RISKSCAPE and national frameworks for calculating probabilities for hazard and risk assessment. The workshop finished up with a positive mood and aligned need and methodology towards reducing ballistic risk at volcanoes in New Zealand and worldwide.


Blast in vent initiating ballistics leaving the crater.

Ben Kennedy
University of Canterbury, New Zealand

INVITATION CHAPMAN CONFERENCE ON SUBMARINE VOLCANOLOGY: NEW APPROACHES AND RESEARCH FRONTIERS

30 Jan – 3 Feb, 2017, Hobart, Tasmania, Australia

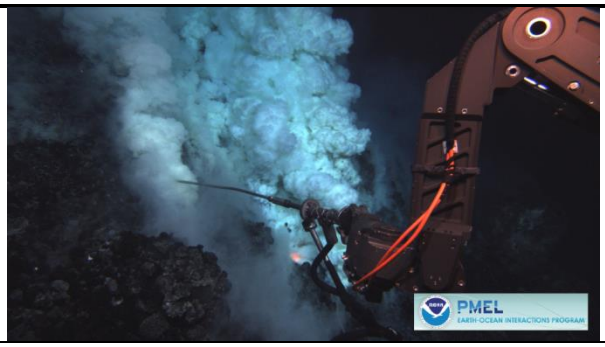
Web: http://chapman.agu.org/submarinevolcanism/

OVERVIEW, SCIENCE FOCUS AND OBJECTIVES

A Chapman conference on Submarine Volcanism will be held in Hobart, Tasmania, early in 2017. This occasion will bring together Earth-Marine scientists across multiple disciplines, who study terrestrial ancient marine volcanic environments together with scientists whose focus is modern-day submarine volcanic systems to enable cross-fertilization of ideas and mutual edification. The communities of scientists who have the potential to significantly contribute to this field have traditionally worked independently (e.g., ocean scientists vs. terrestrial volcanologists and petrologists). There is a need for a multi-community-wide meeting dedicated to cross-disciplinary teaching and learning to formulate the direction of submarine volcanology into the future. This proposed Chapman conference includes important themes starting with magmatic processes at depth in different tectonic settings, seafloor monitoring, eruptions and deposits of all styles and types, and numerical and experimental approaches.

A foremost goal of the conference is to engage early career

researchers who will contribute to, or even drive, the next decade of research in Marine-Earth science. The connections established among participants will lead to direct linkages between fundamental scientific questions that need to be addressed, with the existing and nascent technology to make them possible, catalyzing future collaborations.



Hades Area (Akel's Afi?) J2-418 (W Mata). Fluid sampling at an eruptive vent in the Hades Area. Fluid sampling "wand" ~1m long. From: Susan Merle (2009) Northeast Lau Basin Response Cruise (NELRC) R/V Thomas G. Thomson Expedition TN-234. May 5 – 13, 2009, Apia, Samoa, Jason-2 Dives J2-413 to J2-420 [Joseph Resing, Robert Embley, Tito Collasius]; pp 1-243. Web: http://oceanexplorer.noaa.gov/explorations/09laubasin/background/NELRC_CruiseReport_final.pdf

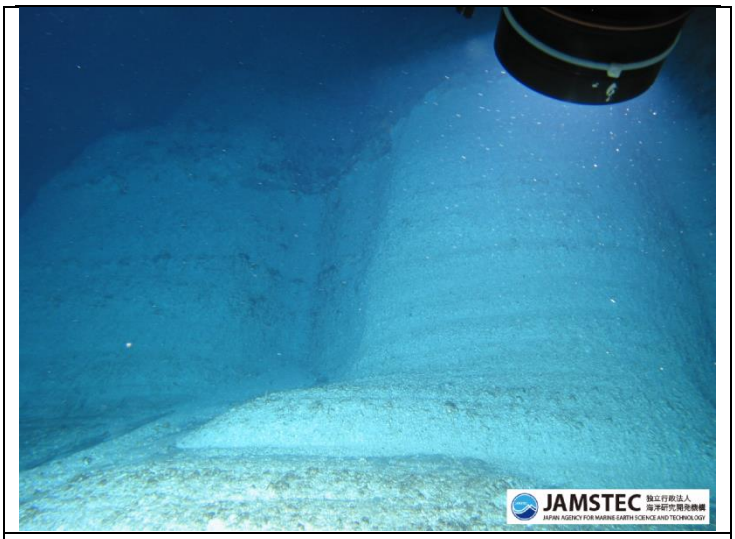
The conference will occur over 5 days and will include both invited and contributed talks, keynotes, breakout group discussions as well as posters. The group will be kept together to ensure teaching and learning across multiple disciplines. The conference will be organized to provide an account of the current state-of-knowledge, key outstanding questions and future research directions in 4 disciplinary fields. The final day's activities will outline important future directions for the next decade of marine research and exploration. We anticipate that the proposed conference will benefit the Earth-Marine science community in numerous ways. The conference objectives are:

Hades's eruptive blast. From: Susan Merle (2009) Northeast Lau Basin Response Cruise (NELRC) R/V Thomas G. Thomson Expedition TN-234. May 5 – 13, 2009, Apia, Samoa, Jason-2 Dives J2-413 to J2-420 [Joseph Resing, Robert Embley, Tito Collasius]; pp 1-243. Web: http://oceanexplorer.noaa.gov/explorations/09laubasin/background/NELRC_CruiseReport_final.pdf

1. To establish the current knowledge of oceanic volcanism across multiple disciplines.
2. To identify the most important questions that should be the focus for future research
3. To provide a multidisciplinary forum for the exchange of ideas and new technologies/methodologies.
4. To stimulate the formation of multidisciplinary collaborations that will address key research questions.
5. To facilitate transfer of knowledge between scientists in different disciplines and career levels.

Kolumbo volcano, Aegean Sea. From: Ocean Exploration Trust (http://www.oceanexplorationtrust.org/#!aboutus/cfvg)

We encourage broad participation and especially hope to attract graduate students and early career scientists to the meeting, since they represent the next generation of Earth-Marine scientists and future leaders in their fields. Interactions between young researchers and experienced scientists will provide a forum for information transfer in both directions.



Wall of pumice in Kurose-Nishi submarine volcano, Japan. From: JAMSTEC

SESSION TOPICS

Topic 1: Mid-Ocean Ridges and Intraplate Volcanism

Topic 2: Modern Volcanic Arcs and Back Arcs

Topic 3: Integrating Ancient and Modern volcanic studies,

Topic 4: Numerical/Experimental approaches

Topic 5: Planning for the next decade of research in submarine volcanism

CONFERENCE FORMAT AND SCHEDULE

The Chapman conference will include a mix of invited talks, contributed talks, keynotes, breakout group discussions, workshops and posters. There will be a single session to ensure that attendees are kept together to maximize interactions and exposure to new ideas and subjects.

Session 4 on each day will comprise of a period for activities (60 minutes), and a poster session (60 minutes). The activities are: Early Career Science Slam, Technology Showcase and Volcano Video Festival. We anticipate that all posters will be displayed for the entire conference so that there is ample time for poster viewing and discussion. Each day's activities will conclude with a keynote talk.

The final day of the conference has the theme of "Planning for the next decade of research in submarine volcanism". The day has a format intended to increase group participation in the planning of future research, with discussion focused around:

a) what are the fundamental questions that need to be addressed?
b) what datasets are critical to acquire? What data, techniques, approaches haven't been combined that should be? Geographically, where is this science possible?
c) what current and emerging technologies are needed to help achieve the goals outlined?
d) how do we move forward from here?

CONFERENCE FIELD TRIPS

A day-long field trip will occupy the middle day of the conference. By holding the field trip in the middle of the conference, we hope to break up the schedule of plenary sessions, infuse the attendees with enthusiasm, and provide a forum for informal interactions between participants outside the confines of the conference setting. A 3-day-long field trip to world-class exposures of submarine volcanic rocks in western Tasmania will be held after the conference.

SPEAKERS

Dr. David Clague (Monterey Bay Aquarium Research Institute, USA)
Dr. Del Bohnensteihl (North Carolina State University, USA)
Dr. Ryan Portner (Brown University, USA)
Dr. Kenichiro Tani (National Museum of Nature and Science, Japan)
Dr. Ken Rubin (U. Hawaii at Manoa, USA)
Dr. Rebecca Carey (U. Tasmania, Australia)
Dr. Jocelyn McPhie (U. Tasmania, Australia)
Dr. Tracy Gregg (SUNY Buffalo, USA)
Dr. James White (U. Otago, New Zealand)

The 3 keynote speakers are:
Dr. Deb Kelley (University of Washington)
Dr. Daniel Fornari (WHOI)
Dr. Cornel de Ronde (GNS New Zealand)

ANTICIPATED ATTENDENCE

We anticipate the attendance of 100 scientists. We are especially interested in attracting early career scientists to the conference as a means of maximizing the exchange between established researchers and the next generation of scientific leaders. We will therefore pay particular attention to recruiting graduate students, post-docs, and recently hired professors and government scientists.

FIELD TRIP DESCRIPTIONS

Mid-Conference
An intra-conference field trip to the Tasman Peninsula and Tertiary Volcanics is planned for Day 3 of the meeting.

The igneous rock dolerite is prevalent throughout the island of Tasmania, and defines many of Tasmania's iconic mountain scenery, for example the Tasman Peninsula and Mt Wellington. This rock correlates with similar formations in Antarctica and South Africa, which is evidence of continental breakup during, and after, the Jurassic period. The Wednesday field trip will visit the Tasman peninsula via boat where visitors can see these outcrops. Following the boat trip, the field trip will include visits to the subaqueous basaltic volcanic deposits on the peninsula.

Post-Conference
1. Cape Grim, NW Tasmania – a world class example of submarine basaltic intraplate volcanism. 4 – 7 February 2017
Field Trip Leaders: Professors Jocelyn McPhie and Jodi Fox, University of Tasmania

Cape Grim in far north western Tasmania, Australia, was the site of extensive intraplate basaltic volcanism during the Cenozoic. The submarine basalitic succession is exceptionally well preserved and exposed in rock platforms and steep coastal cliffs. Field trip participants will have the opportunity to examine eruption-fed density current deposits, world class exposures of pillow lavas and pillow breccias, with much debate of eruption and depositional processes and timing relationships.

2. Understanding the effects of environment on volcanic eruption styles and deposit types: comparing subaerial and subaqueous volcanics of the Late Devonian Boyd Volcanic Province, southeastern New South Wales.
5 – 7 February 2017
Field Trip Leader: Professor Ray Cas, Monash University, University of Tasmania

Understanding the effects of environment on volcanic eruption styles and deposit types, remains an important focus in research, particularly in the subaqueous volcanism realm. This 3-day field trip will focus on excellent coastal outcrops of the Late Devonian Boyd Volcanic Complex on the south coast of New South Wales, which preserve original depositional textures very well. Discussion will focus on the factors that caused the differences in processes and deposit types.

INVITATION TO THE 4TH IAVCEI VOLCANIC GEOLOGY WORKSHOP
8-14 OCTOBER 2017
EASTERN TRANSYLVANIA, ROMANIA

An Official Meeting of the IAVCEI Commission on Volcanic Geology

"***Challenges of mapping in poorly-exposed volcanic areas***"

Workshop Concept

Geologists in many countries all around the world share the common problem of performing fieldwork and mapping in areas with dense vegetation/soil cover and, implicitly, poor exposure of the bedrocks. Central and Eastern Europe is one of such regions where most volcanic areas coincide with heavily forested mountains. However, geological maps still have to be realized in such conditions.

The main target of our Workshop is to cope with the challenge of mapping in poorly-exposed volcanic areas, to discuss, illustrate and make progress in mapping approaches and methodology. Previous Volcano geology workshops (i.e. Madeira and Sicily/Aeolian Islands) were held in active/recent volcanic areas where eruptive products are largely exposed and available to direct visual observation and sampling. The participants learned how the lithostratigraphic concept and methodology can successfully be applied in mapping in those areas. Even so, some aspects of that approach (the "synthemic/UBU approach"), essentially based on identification, ranking and mapping of discontinuities in the volcanic successions, have been challenged by a few participants. If there is whole spectrum of exposure conditions – i.e., from almost continuous exposure to almost no exposure – the field conditions met in Central/Eastern European countries – are closer to the no-exposure end-member of that spectrum. It seems inevitable that in such circumstances the lithostratigraphic approach and methodology – successful in well-exposed areas has to be adapted and/or completed with new perspectives and methodologies. One significant issue, for instance, is the fact that in poorly-exposed areas discontinuities identified in outcrops are absent or, at most, accidental, so their correlation and ranking impossible, hence they cannot be used as objective features to systematize and order lithostratigraphic entities such as synthems, subsynthems, etc. Rather, discontinuities will eventually emerge at the end of the mapping process, as interpreted features, while processing all fieldwork information.

Too, our workshop intends to shift the volcano mapping topic's target area from active/recent volcanoes to older extinct volcanoes, e.g., of Miocene to Pleistocene age in our case, which still preserve meaningful topographic features to be taken into account while mapping and interpreting fieldwork information.
An alternative or complementary approach in defining map units in volcanic areas is that emerging from the volcanic facies concept which helps systematizing volcanological information in function of dispersal areas of volcanic products with respect to their sources. Defining the spatial position of a certain formation of volcanic rocks or of a volcanic sequence with respect to their source area(s) is a crucial step not only in order to understand volcanic structures/edifices and evolution, but is also extremely useful in mineral exploration and other practical activities.

Session	Day 1	Day 2	Day 3	Day 4	Day 5
8:15	Topic 1: Modern: Mid-Ocean Ridges and Intraplatevolcanism	Topic 2: Modern: Volcanic Arcs and Back Arcs		Topic 3: integrating ancient & modern and numerical/experimental approaches	Topic 4: The next decade of research in submarine volcanism
	Official welcome and Ceremony				
Session 1:	Invited: David Clague (MBARI)	Invited: Kenichiro Tani (Nat. Mus. Nature, Science)		Invited: Jocelyn McPhie (U. Tasmania)	Science
8:30 - 10:15	3x Contributed talks (15 mins)	3x Contributed talks (15 mins)		3x Contributed talks (15 mins)	Breakout group discussion
	Discussion time (30 mins)	Discussion time (30 mins)		Discussion time (30 mins)	
Break 10:15 - 10:45					
Session 2:	Invited: Del Bohnenstehl (North Carolina State)	Invited: Ken Rubin (U.Hawaii)		Invited: Tracey Gregg (SUNY Buffalo)	
10:45 - 12:30	3x Contributed talks (15 mins)	3x Contributed talks (15 mins)	FIELD TRIPS	3x Contributed talks (15 mins)	Technology and Data
	Discussion time (30 mins)	Discussion time (30 mins)		Discussion time (30 mins)	Breakout group discussion
Lunch 12:30 - 2:00					
Session 3:	Invited: Ryan Portner (Brown University)	Invited talk: Rebecca Carey (U.Tasmania)		Invited: James White (U. Otago)	
2:00 - 3:45	3x Contributed talks (15 mins)	3x Contributed talks (15 mins)		3x Contributed talks (15 mins)	How to move forward?
	Discussion time (30 mins)	Discussion time (30 mins)		Discussion time (30 mins)	Breakout group discussion
Break 3:45 - 4:15					
Session 4:					
4:15 - 6:00	Early Career Science Slam posters (60 mins)	Technology Showcase posters (60 mins)		Volcano Video Festival posters (60 mins)	Meeting summary and highlights Convenor closing remarks (10 minutes)
Evening 6:00 - 7:00					
	Keynote talk	Keynote talk	Conference	Keynote talk	Closing celebrations
	Dr. Deb Kelley (U. Washington)	Dr. Dan Fornari (WHOI)	Dinner	Dr. Cornel de Ronde (GNS Science)	

Rebecca Carey
UTAS, Hobart, Australia

In the light of the discussion sketched above, a number of questions arise to be addressed during our workshop, such as (but not restricted to):

- whether, to what extent and how the UBU-based lithostratigraphic approach is applicable in poorly-exposed and/or extinct/old volcanic areas;
- which kind of map units – petrographical/petrochemical, lithological, facies, etc. – should be defined and used during different stages of mapping activities;
- what is the significance of "formation" as a lithostratoigraphic unit, and how can it be objectively defined, recognized and mapped in poorly-exposed volcanic areas (for instance, may one define a "formation" based on occurrence in one single outcrop?)
- whether and how the volcanic facies concept can be involved and integrated with the lithostratigraphic approach in mapping activities in poorly-exposed areas;
- how and to what extent topographic features can be used in defining and separating map units in old volcanic areas still preserving such features;
- whether and how geophysical information can be used and integrated in the definition of map units in poorly-exposed volcanic areas.

Workshop format

Following the Sicily/Aeolian Islands 3rd Volcano geology Workshop as a successful model, we propose that our workshop to be a fieldtrip-based one. It will include the following activities:

- one day (other than the first one!) of presentations consisting of:

presentation of the geology, volcanology, structure and evolution of the Neogene-Quaternary Călimani-Gurghiu-Harghita volcanic range, the actual target area of the workshop, by local volcanologists;

invited/offered talks related to the main topic of the workshop; we expect and strongly encourage colleagues from all around the world having expertise in mapping in poorly-exposed volcanic areas, to offer a talk voluntarily and share their own experience in that matter;

poster session with presentations related to the workshop's main topic, but other volcano geology-related contributions are also welcome;

5 days of field-trip activities, dedicated to particular segments of the Neogene Călimani-Gurghiu-Harghita volcanic range, from south to north, from younger to older: South Harghita, North Harghita, Gurghiu and Călimani; each of these days will include:

Morning to early afternoon visit of outcrops;

Late-evening discussions on the topics revealed by the field-trip observations of the day;

a final discussion related to the IAVCEI Volcano geology Commission issues and the Commission's future activities

Participants

For logistical reasons, the number of participants to this workshop is limited to 50 (without the Organizers). Therefore, please notice your intention to participate as early as possible. Early Registration deadline is March 31, 2017. If the number of 50 participants is not fulfilled at that time, further registration will be accepted later at higher registration fees.

According to the recommendations of the IAVCEI Commission on Volcano Geology, registered IAVCEI members with currently paid member fees are preferentially accepted to the Workshop. Other colleagues wishing to attend will be accepted only if the limit of 50 participants will not be attained by up-to-day-paid IAVCEI members. In that case the workshop registration fee will include a four-year IAVCEI membership fee too.

Accompanying person's participation is possible, but logistic arrangements for that (transport, accommodation, meals) is not assured by the Organizers.

Venue

There are many flights (including low-cost companies) from various European Airports to Bucharest and to two Transylvanian cities. We recommend arrival to these three airports.

Arrival and meeting points.

The participants arriving by aircraft will be picked up by bus/car from:

Henry Coandă International Airport Bucharest,
Avram Iancu International Airport Cluj-Napoca,
Transylvania International Airport Târgu-Mureş.

Participants wishing to attend by train or by own/rented car are expected to join the other participants at one of the three above mentioned meeting points at the airports. The latest time for them to join the trip will be announced as soon as all flight arrival times will be available.

One bus will start from the airport in Bucharest and will take the participants to the first-night accommodation place.
Another bus will start from the Cluj-Napoca airport picking up participants arriving there then will pass the Târgu-Mures airport to pick up those arriving there.

The buses will start from the airports according to the last-arrived participants at that particular airport. We strongly suggest to book flights arriving as early as possible at Ante Meridian hours of October 8th at the three airports to allow bus departures as soon as possible. Airport meeting points at each location will be announced in time.

We intend both buses to stop onway for a short visit of the Perşani monogenetic volcanic field.

Any accommodation costs before October 8th and after October 13th are not included in the workshop Registration fee.

Provisional workshop schedule

1st day, October 8th, 2017, Sunday

Arrival (early morning recommended) and transfer to the first-night accommodation site (Băile Bálványos, Covasna County); ca. 5 hours bus drive from both Bucharest and Cluj-Napoca/Târgu-Mureş; on the way ~ 1 hour stop to visit a quarry exposing the Pleistocene alkali-basaltic products of the Perşani monogenetic volcanic field; good opportunity for those interested to collect mantle xenoliths samples, abundant in the area. Evening: welcome speech, icebreaker and dinner;

Columnar jointed basalt from the monogenetic volcanic field of the Perşani mountain

2nd day, October 9th, Monday

morning: short introduction to the Călimani-Gurghiu-Harghita volcanic range and of the most recent activity of it (ca. 32 Ka ago);

visiting Ciomadul volcano, site of the most recent activity, and of a number of "post-volcanic " features in its environs (bubbling grounds, mofettes, mineral water swamps and peat-bogs, etc.); box-lunch;

late afternoon: transfer to the next accommodation site (at Odorheiu Secuiesc or Băile Homorod) while observing well-preserved topographic features of the youngest South Harghita volcanoes of the range;

evening: concluding informally the observations of the day and dinner;

Overview of the Ciomadul volcano

3rd day, October 10th, Tuesday

morning: short introduction to the North Harghita volcanoes and its mapping problematics;

visiting various outcrops showing ca. 5 Ma old debris avalanche deposits of the Vârghis volcano and post-debris avalanche lava flows, along the Homorodul Mare valley; visiting the debris avalanche depression area and the summit area of the Vârghis volcano; box-lunch;

late afternoon: transfer to the next accommodation site (at Reghin) while observing topographic features at the western peripheries of the Gurghiu Mts. (stop on the Kalanda pass and, if time permits, at the Praid salt diapir)

evening: concluding informally the day and dinner;

4th day, October 11th, Wednesday

Morning presentations session: Geology and volcanology of the Neogene Călimani-Gurghiu-Harghita volcanic range;

Invited keynote talk;

Lunch;

Afternoon presentation session (invited and offered talks on the workshop's main topic);

Poster session;

Late afternoon - evening: informal discussions on the IAVCEI Volcano Geology Commission's activity and future tasks; dinner;

Overnight in Reghin;

5th day, October 12, Thursday

Morning: visiting the Mureş valley between Deda and Topliţa where products of both Rusca-Tihu (Călimani Mts.) and Fâncel-Lăpuşna (Gurghiu Mts.) volcanoes are well exposed in spectacular outcrops showing various kinds of volcaniclastic deposits of both primary pyroclastic and secondary epiclastic nature, including debris-avalanche deposits; interfingering of medial facies products originating from two different volcanic sources can be appreciated and discussed;

Afternoon: visiting a spectacular ca. 200 m thick sequence of volcaniclastic deposits at the Răstoliţa dam site where products of a local source (proximal facies) and of a distal one (medial facies) occur in a superposition relationship; one significant discontinuity can be seen in outcrop here; its rank and significance are to be discussed onsite;

Evening; dinner;

Overnight in Reghin;

Dracula castle where the participants have a chance to spend a night in fear …

6th day, October 13, Friday

Morning: travel from Reghin to Bistriţa to Colibiţa, visiting Colibiţa lake, and outcrops of intrusive magmatic rocks (sills and dykes) and debris avalanche deposits belonging to the Rusca-Tihu edifice failure event (ca. 8 Ma); box lunch;

Early afternoon: arriving to the Tihuţa Pass (between Transylvania and Bucovina) and check-in in the "Dracula Castle" hotel and observing the beautiful landscape and topographic expressions, and contrast, of the Neogene intrusive bodies of the Bârgau Mts. and their sedimentary country rocks;

Late afternoon-early evening: final informal discussion, conclusions of the Workshop;

Evening-night: farewell dinner party with a "Dracula show" included (finishes after mid-night!);

Overnight in the "Dracula Castle" hotel at the Tihuţa Pass;

7th day, October 14th, Saturday

Early morning: start of bus ride back to airports: Targu Mures (ca. 4.5 hours), Cluj-Napoca (ca. 6 hours) and Bucharest (ca. 11 hours).

Taking into account the bus travel times to the airports, it is advisable to book for late afternoon-evening flights back home!

Registration

An online Registration platform, at which online payment of the registration fee is possible, will be set up and available until the end of the year.

Because the number of participants is limited to 50, notice on intention to attend is welcome from you as early as possible to be sent by e-mail to the Organizers contact addresses (see below). We will take into account the order of arrival of those expressions of interest.

Registration fees are still not established before sponsorship arrangements are not finished. However, one may expect a similar amount, as order of magnitude, as for the 3rd Volcano geology Workshop held in Italy.

Differentiated registration fees will be applied according to 1) paid IAVCEI membership vs. non-member, and 2) early (December 31, 2016) vs. late (May 31, 2017) registration.

Organization

The host organizing institution is the "Sabba S. Ştefanescu" Institute of Geodynamics, Romanian Academy, Bucharest.

Sponsorship

IAVCEI
IUGG
IAS
Etc. to be contacted

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INVITATION TO THE 7th INTERNATIONAL MAAR CONFERENCE
Olot, Catalonia, Spain
May 21-25, 2018

Since the first "International Maar Conference" (IMC) meeting, the series has become one of the most successful discussion forums in volcanology, mainly because it provides a unique opportunity to bring together people from many different volcanological fields (physical volcanologists, sedimentologists, modellers, geophysicists, petrologists, etc), any of whom may become involved in some way in the study of different eruption styles occurring in monogenetic volcanic fields. Previous IMC meetings have been held in a wide diversity of places that posed different problems in terms of eruption dynamics, products, and landforms in these volcanic areas. We propose the city of Olot (www.olot.cat/turisme; www.turismegarrotxa.com) (Fig. 1), the main location of the Garrotxa Volcanic Field (GVF), the most recent area in the Quaternary Catalan Volcanic Zone, 100 km North of Barcelona (Spain) (Fig. 2), to host the 7th IMC meeting and to draw attention in particular to the role of substrate geology

Figure 1. General view of Olot, with two basaltic cinder cones surrounded by the constructions and the pre-Pyrenees mountains behind. (Photo by Eduard Masdeu).

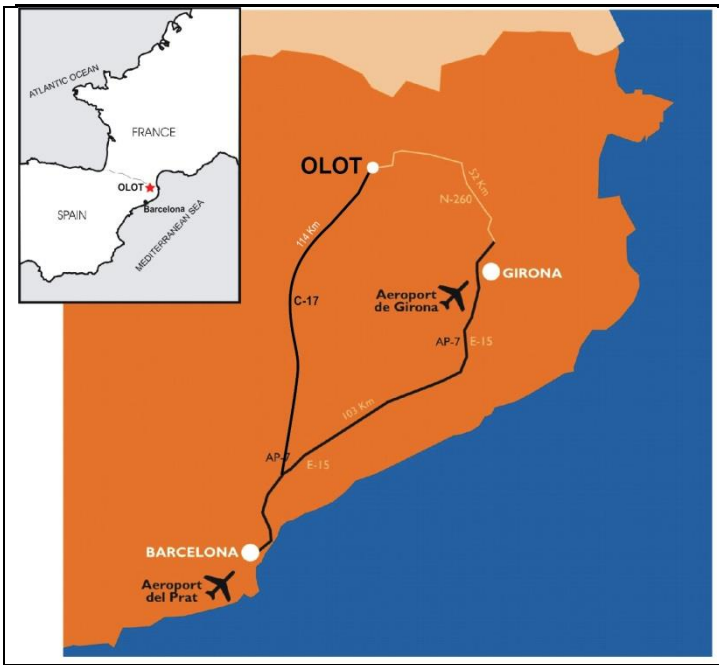


Figure 2. Location map of the city of Olot, indicating the nearest airports and the main roads

The scientific advances made in the last years in this volcanic area, which have been based on combined geological and

geophysical studies, have permitted to identify and characterise a large diversity of eruptive styles and the role of the geology of the substrate in determining them. This is the reason why we propose the city of Olot to host the 7th IMC. Selecting Olot for the 7th IMC meeting will provide a unique opportunity for holding a multidisciplinary volcanological forum that will focus on different aspects of maars and monogenetic volcanism. In Olot and its surroundings, volcanoes are present in many aspects of the society, as its cultural heritage, local history, architecture, or even in the excellent cuisine. People are aware that they live among volcanoes and that they represent the most characteristic feature of their region. Protection of the nature and the volcanic area, has been effective since 1982 when it was declared as a Natural Park (The Garrotxa Volcanic Zone Natural Park (PNZVG) by the Catalan Government (Figs. 3 and 4). Olot and its surroundings, known as the Garrotxa region, at the foot of the Pyrenees range, offer all logistic facilities to successfully organise a meeting such as 7th IMC, as it fulfils all the necessary requirements. It is a relatively small city (34000 inhabitants), with a great diversity of accommodation facilities, including first class and standard hotels as well as more economic but comfortable guesthouses and apartments, in addition to a complete network of hostels, farmhouses and rural apartments.

Figure 3. View of the Croscat volcanoes, in the Garrotxa Volcanic Zone Natural Park.

La Garrotxa is a land rich in traditions and history, with some Romanesque gems, medieval villages (Santa Pau, Besalú) and deep-rooted popular festivals. It is also a land with plenty of traditional dishes, which have been renovated by means of the most creative modern cuisine. Numerous restaurants and bars will offer the visitors the opportunity to taste it at a cheap price. The proximity of Olot to the main cities of Girona (50 kms) and Barcelona (115 kms) (Fig. 2), as well as other proximal interesting jewels such as the Dalí Museum in Figueres or the Costa Brava beaches, also provide a very attractive offer to organise an accompanying family programme. The airports of Barcelona and Girona are connected to the main national and international destinations, and bus services that connect them to Olot. The Olot city and the Garrotxa region have been pioneering in many initiatives addressed to preserve their landscape and natural values and to promote their knowledge among the society. One of these initiatives is the "Reunions entre Volcans" project that emphasised the tradition and experience of the city in hosting meetings and conferences of small format till an approximate forum of 400 people. This initiative encourages the participation of local industries and companies, as well, as the civil society in all these events, trying to promote the interaction between visitors and local people. We consider this philosophy as an additional value for proposing Olot as the venue for the next 7th IMC.

The excursions programme, including pre-, intra- and post-conference excursions. The fieldtrips will visit the Garrotxa volcanoes, and the Massif Central in France. Both volcanic fields belong to the Neogene-Quaternary volcanism of the European Cenozoic Rift System and share similar features but also show important differences between them.

Figure 4. General view of the Garrotxa Volcanic Zone Natural Park, with several basaltic cinder cones at the front

Please put the dates in your calendar and consider to visit Olot and present your research results. In the next few IAVCEI News we will provide feature articles about the volcanic geology, volcanic geoheritage values and the fun part the participants may experience during their attendance on the 7IMC.

We wish you welcome you all in Catalonia in 2018!

Dr Xavier Bolos
UNAM, Mexico City

Report on the International Goldschmidt Conference in Yokohama, 26 June – 1 July 2016

"The Goldschmidt Conferences™ were started in 1988 by the international Geochemical Society (GS) to provide a forum for its members to discuss their latest research. The conference is named in honor of Victor M. Goldschmidt (1888 - 1947), whose classification of the behavior of the elements in the Earth and meteorites laid the basis of modern geochemisty. Each year, the conference brings together thousands of scientists from throughout the world to talk about subjects including the origin of the Earth and planets, the chemical processes that have shaped Earth's evolution over time, the interconnections between life and the physical world, the search for new resources, and the environmental challenges facing today's world." (Goldschmidt Conference Website, 2016).

From the perspective of an IAVCEI member, the Goldschmidt Conferences are of great interests because they bring together

geochemists with a range of interests, including the Earth's Interior, magmatic and volcanic processes, and atmospheric chemistry. More recently, the conference includes contributions from geophysicists that shed light on progress made across several Earth Sciences disciplines. This year's meeting had several themes of direct interest to IAVCEI members, including "Deep Earth", "Mantle to Crust", "Subduction", "Volcanoes and Hazards", "Ocean and Atmosphere: Past and Present", "Frontiers in Analytical and Computational Techinques", and "Mineralogy and Mineral Physics".

As an igneous geochemist focussing on arc magmatism, volatile cycling, and the links between subvolcanic processes and volcanic eruption, the "Subduction" and "Volcanoes and Hazards" themes were of greatest interest to me. With each Goldschmidt theme typically consisting of 5-10 sessions, the week was filled with interesting talks, posters, and discussions with like-minded colleagues. Further, on each day of the meeting, a midday plenary talk was scheduled, elucidating the background and state-of-the-art research in some hot topics in geochemistry. Plenary lectures of interest to IAVCEI members included Terry Plank's "Volatile Input to Volcanoes and Eruption", and Vickie Bennett's "Deep Time, Deep Earth: Revealing Earth's Early History".

A benefit to young delegates was the successful mentor program, that teams up more senior scientists with one or two mentees to help them navigate the meeting and to meet colleagues with similar research interests. I feel that this would be a very good idea for future IAVCEI conferences as well.
The social programme was excellent. At the beginning of each poster session, short performances provided a taste of Japan's cultural heritage, including "Kagami Biraki" (a ceremony of the opening of a Sake cask), and performances of classical Japanese music, Samurai fights, and Kendama (a traditional Japanese toy). Other activities included a dinner cruise around Yokohama harbour with a beautiful view of the City's skyline, and of course a conference banquet. In the evenings, delegates enjoyed food and drinks at the many Izakayas (Japanese pubs) and other restaurants of Yokohama.

The Sake cask opened during the Kagami Biraki ceremony (Goldschmidt Conference Website, 2016)

Pre- and post-conference fieldtrips included many that would have been of great interest to IAVCEI participants, visiting some of Japanese abundant volcanoes, including, Fuji, Hakone, and Mt. Usu, to name just a few. There were also some workshops of interest to IAVCEI members, including "Computational thermodynamics and petrology with the MELTS family of models", "Geochronological applications with a Sensitive High Resolution Ion Microprobe (SHRIMP)", and "Magma Oceanology".
Details of all of the above, including plenary videos, are still accessible through the 2016 Goldschmidt website, http://goldschmidt.info/2016/. Next year's Goldschmidt meeting will take place in Paris, sadly in exactly the same week as the IAVCEI General Assembly in Portland. Naturally, I will have to attend the IAVCEI meeting. However, the 2018 Goldschmidt meeting in Boston, Massachusetts, should definitely be on the potential lists of stimulating meetings that IAVCEI members may want to consider attending.

Georg Zellmer
Massey University

FIRST EDITION (2016) OF THE VOLCANOLOGY FIELD COURSE IN COLOMBIA (SOUTH AMERICA)

Research Group of Stratigraphy and Volcanology -GIEV Cumanday, Universidad de Caldas

A First Edition (2016) of the Volcanology Field Course in Colombia (South America) was performed. The Course was hosted by the Research Group of Stratigraphy and Volcanology (GIEV) of the Universidad de Caldas (Colombia). The Dr. Hugo Murcia was the leader with the help of Johana Gómez from the Instituto de Investigaciones en Estratigrafía (Research Institute of Stratigraphy - IIES) and Eliana Arango from the Department of Geological Sciences both from the Universidad de Caldas (Manizales, Colombia).


Photo taken at the Cerro Machín volcano, at the edge of the crater, the fourth day of the field trip

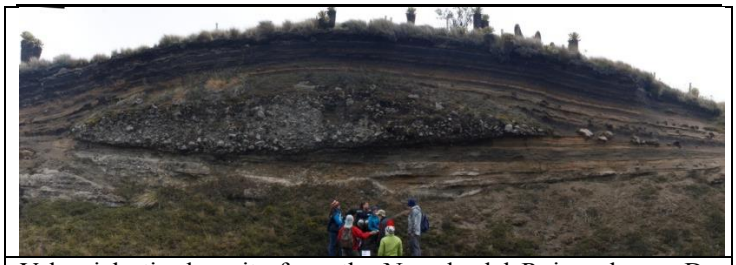
The Course hosted 39 people as follows: 31 inscribed participants, five invited speakers, and three people from the Organiser Committee. Inscribed people came from all over Colombia and some other countries. The participant institutions were: 1. Universidad de Caldas; 2. Universidad Nacional de Colombia sede Bogotá; 3. Universidad Nacional de Colombia sede Medellin; 4. Universidad Industrial de Santander; 5. Universidad Pedagógica y Tecnológica de Colombia; 6. Universidad del

Cauca; 7. Universidad EAFIT; 8. Universidad de Los Andes; 9. Servicio Geológico Colombiano; 10. Universidad de Concepción (Chile); 11. Universidad Austral de Chile; 12. Universidad Michoacana (México); 13: Instituto Politécnico Nacional (México). The invited speakers were: 1. Dr. Marcelo Arnosio (Universidad de Salta, Argentina); 2. Dr. Denis Avellán (Universidad Nacional Autónoma de México, México); 3. Dr. Natalia Pardo (Universidad de Los Andes, Colombia); 4. MSc. Bernardo Pulgarín (Servicio Geológico de Colombia); 5. BSc. Carlos Borrero (Universidad de Caldas, Colombia).

The Organiser Committee during the field trip planning the course... From left to right: Johana Gómez, Hugo Murcia and Eliana Arango.

The Course took place in two sessions: A two-days session of in-room talks between 6th and 7th of August, and a six-days session of a field trip between 8th and 13th of August. The first session was performed at the Universidad de Caldas (Manizales) and the second one at the Cerro Bravo – Cerro Machín Volcanic Complex (~70 km). During the in-room talks the following themes were addressed: 1. Methods for the studied of volcaniclastic deposits; 2. Rheological properties of magmas; 3. The keys of the volcanic explosivity; 4. Eruptive styles; 5. Volcanic types and volcanic geomorphology; 6. Morphology of volcanic particles and IIES projects; 7. Pyroclastic deposits associated with plinian eruptions; 8. Pyroclastic density currents; 9. Debris avalanches; 10. Lahars; 11. Lava flows and domes; 12. Petrography of primary volcaniclastic deposits; 13. Volcanic geology; and 14. Colombian volcanoes. During the field trip, we visited volcanic and volcaniclastic deposits associated with the following volcanoes: Cerro Bravo, Nevado del Ruiz (including the 1985 lahar deposits), Guacharacos, El Tabor and Cerro Machín. Thus, the Course met the requirements for a general physical understanding of both polygenetic and monogenetic volcanism. The Course is being focused on the recognition of volcanic and volcaniclastic deposits within the tropic world zone of the Earth.

Instructors on the last day of the field trip. Carlos Borrero and Bernardo Pulagarín were gone at this time; we missed them. From left to right: Denis Avellán, Natalia Pardo, Hugo Murcia and Marcelo Arnosio.



Volcaniclastic deposits from the Nevado del Ruiz volcano. Do you want to know what kind of deposits? Come to the next edition…

Typical cars in the region (Jeeps) which are taking us to the Cerro Machín volcano

The Course is currently being attempted to be offered each year, hosting 30 participants: 10 undergraduate students, 10 postgraduate students, 10 professionals plus 4-5 invited speakers. For the first edition the participants were (in alphabetic order): Abraham del Razo, Alba Suarez, Alejandra Vesga, Brian Osorio, Clemencia Alzate, Daniela Pinilla, Edith Jerez, Ingrid Garcia, Jenny Grajales, John Sanchez, Jose Duque, José Sanabria, Juan Suarez, Julian Lopez, Karen Arias, Karen Hernandez, Karla Picón, Lyna Rodriguez, Marcos Garcia, Marly Palencia, Martín Contreras, Melisa Ospina, Modesto Portilla, Nicolas Espitia, Patricia Torres, Rigo Ramirez, Sandra Lopez, Sergio Sarmiento, Silvia Castilla, Silvia Moreno and Tania Lucia.

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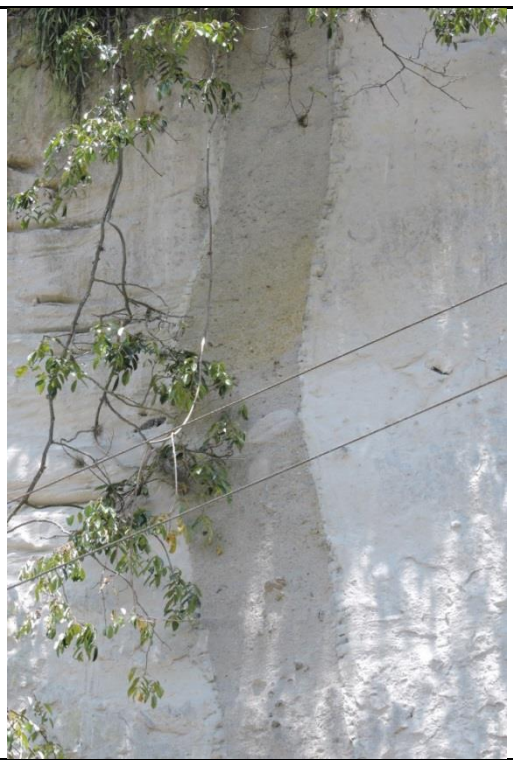


Pipe in a concentrated pyroclastic density current (pumice-rich pyroclastic flow deposit)

We hope to see you in Manizales the next year!!!

Hugo Murcia
Universidad de Caldas, Colombia
hugo.murcia@ucaldas.edu.co

IAVCEI Early-Career Network call for Portland 2017 meeting

Dear Early-Career volcano researchers,

As you are no doubt aware, the IAVCEI 2017 General Assembly will be held in Portland, Oregon, USA, during August 14-18 (see http://iavcei2017.org/ for more information). The conference organizers are planning a full slate of activities for Early Career scientists (broadly defined as students and post-docs, but also potentially including newly hired researchers and professors), including both social and professional development events, but we need your help to decide on discussion topics of the greatest importance. What is it that the early-career community cares the most about? Subjects might include getting published, having an impact with your research, dealing with the media (especially during a crisis), applying for faculty positions, advising students, career guidance (academia versus industry versus government science), and so forth.

With this in mind, we would like to hear opinions from early-career scientists in the volcanological community on the following questions:

1) If you were to attend a pre-meeting workshop (either a day or a half-day session), what topic would be most useful?

2) If you were to attend an evening event that included the opportunity to meet with established scientists to discuss a variety of topics (formatted as a "speed-dating" style of event), what 5-10 topics should be represented?

3) If a panel discussion were to be organized, what topic should the panel focus on?

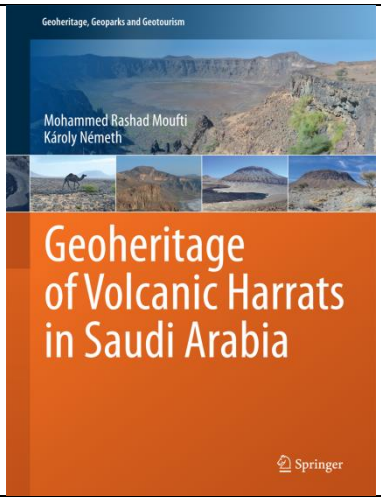
Please send responses to Mike Poland (mpoland@usgs.gov), Charlotte Vye-Brown (cvye@bgs.ac.uk) or Sam Poppe (sam35poppe@gmail.com). Thanks very much for your time—your responses are critical for ensuring that the IAVCEI 2017 General Assembly will be the best possible forum for Early Career scientists!

Thanks,

Mike Poland
Charlotte Vye-Brown
Sam Poppe
IAVCEI 2017 Early Career Committee

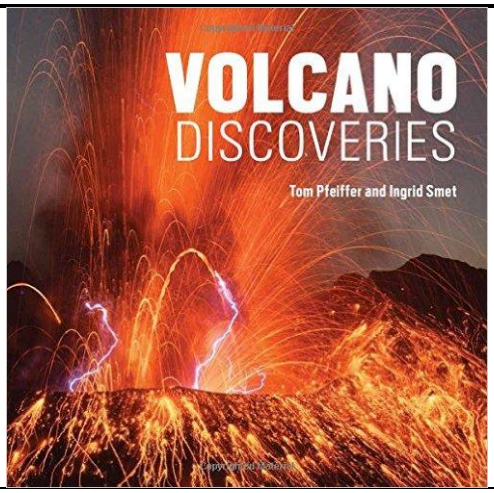
NEW BOOKS

In the future IAVCEI News will publish links and basic information on recently published books the volcanic community may interested. Please sent a link and info of any relevant books you aware of even if it was published other than English language. Also, if you wish to submit a book review article to the Bulletin of Volcanology, please do so, as such articles are very important feed backs to Authors and Publishers.



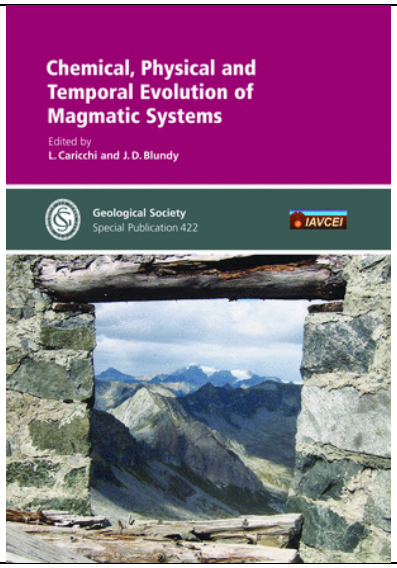
This book records the geoheritage values of globally significant, yet little-known, volcanic geosites in Saudi Arabia. It is the first of its kind to focus on the Middle East, clearly showing the hidden geoheritage value of the volcanic Arabian Peninsula's harrats and demonstrating why the Saudi Arabian volcanic fields are unique. Along with the systematic geosite description, the book introduces scientifically founded geoeducational programs that can be used to develop our understanding of volcanic geoheritage values of volcanic fields. It offers a detailed and comprehensive research-based description of four of the most accessible volcanic harratts in Saudi Arabia and an additional summary of other more remote fields. Additionally, it discusses geoeducational programs that could be used to link these volcanic areas and use them in volcanic hazard education.

You can access the book via
http://link.springer.com/book/10.1007%2F978-3-319-33015-0

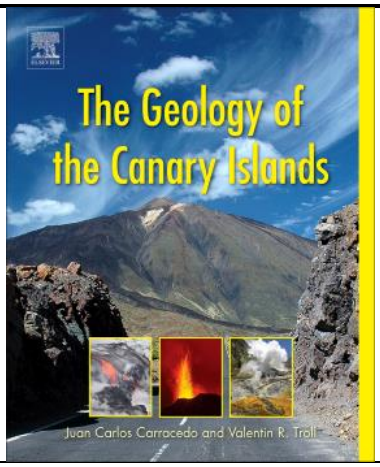


One of the most eye-catching guides to the world's volcanoes ever published – packed with stunning photography. Introductory chapters include clear and concise information on plate tectonics, different types of volcanoes, different eruption styles and volcanic hazards. The main chapters of the book take the reader on a journey around the world, with the key objectives being to illustrate some of the 'typical' volcanic features and also show that each and every volcano is unique with regards to the combination of location, age, tectonic setting, historic eruptions, eruption style, nature and culture around it.

You can access the book via
https://books.google.co.nz/books/about/Volcano_Discoveries.html?id=cgEBswEACAAJ&redir_esc=y



You can access the book via
http://sp.lyellcollection.org/content/422/1.toc

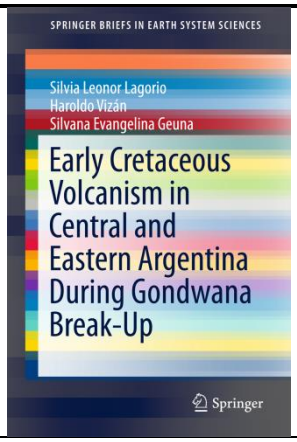


This beautifully illustrated and clearly written field guide provides extensive information for visiting and studying the Canary Islands' fascinating volcanic geology, including plans for day excursions that span all islands.

You can access the book via
http://store.elsevier.com/product.jsp?isbn=9780128096642&pagename=search

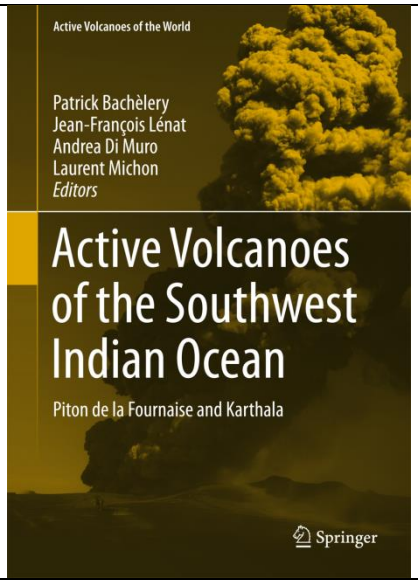
This definitive resource—compiled by an internationally renowned pool of authors—provides a holistic overview of methods for tracking and measuring volcanic ash in the atmosphere using ground-based, airborne, and spaceborne instruments, as well as the fundamental science required to support methodological application and interpretation.

You can access the book via
http://store.elsevier.com/product.jsp?isbn=9780081004241&pagename=search



This book analyzes the Early Cretaceous volcanic processes in Misiones Province and in Sierra Chica de Córdoba (Argentina). The volcanism in Misiones is tholeiitic and belongs to the Parana Magmatic Province (PMP), which extends throughout South America. In contrast, the volcanism in Córdoba is geographically restricted and of alkaline nature, representing a potassic locality peripheral to the PMP. To understand the causes of and geodynamic processes involved in these volcanisms, a new 40Ar /39Ar of 129.6 ± 1 Ma of a trachyte from Sierra Chica de Córdoba is presented. This dating points out that the volcanism in Sierra Chica de Córdoba slightly postdates PMP lavas. Moreover, complementary geochemical analyses from Misiones Province are presented and compared with those from the whole PMP in order to characterize its source.

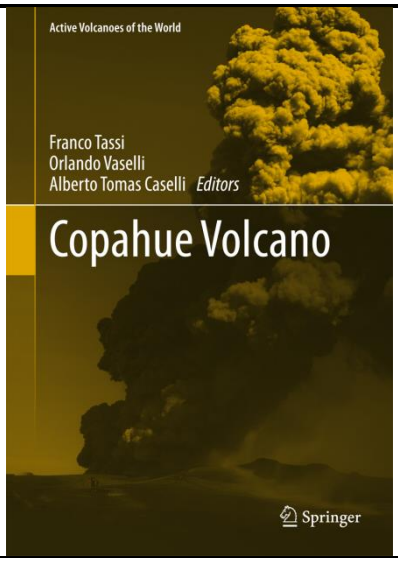
You can access the book via
http://www.springer.com/gp/book/9783319295916



Piton de la Fournaise and Karthala are both shield volcanoes in the southwest Indian Ocean. This publication summarizes the work done on these very active basaltic volcanoes. Piton de la Fournaise has a long history of scientific research and monitoring, with many data collected during recent eruptions. It is certainly one of the most studied volcanoes in the world. The work presented in this monograph includes geological, geophysical, geochemical and petrological aspects, but also studies on physical geography, natural hazards and the sociological and behavioural approaches.'

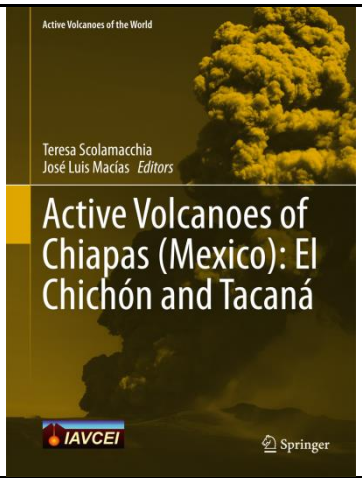
The Karthala volcano may be less well known, but it serves as an interesting comparison to Piton de la Fournaise. Although situated close to the volcanoes of Hawaii, it differs from them by its more alkaline magmas and less frequent activity. It was also monitored for more than 25 years, producing extraordinary eruptions in recent years.

You can access the book via
http://www.springer.com/gp/book/9783642313943



This book provides a comprehensive description of the volcanological, petrological and geochemical features of the Copahue volcano, located at the border between Argentina and Chile. Scientific studies are limited for this volcanic system, due to its remote location and difficult access in winter. However,

Copahue is one of the most active volcanic systems in the southern Andes. Monitoring the volcano's activity is of utter importance, as it provides means of existence for the nearby village of the same name, hosting the world's highest-located hot-springs resort.
This book's aim is to present the current monitoring activities, and to describe future research programs that are planned in order to mitigate volcanic hazards. Special attention is therefore devoted to the social and industrial activities close to the volcano, such as health therapies and geothermal energy exploitation.
In a special section, the Copahue volcano is presented as a terrestrial modern analog for early-Earth and Mars environments.
You can access the book via
http://www.springer.com/gp/book/9783662480045



This publication summarizes the studies carried out at two of the most active volcanoes of Chiapas (Mexico): El Chichón and Tacaná. El Chichón erupted explosively in 1982 killing more than 2000 people being the worst volcanic disaster in Mexico, and Tacaná produced two mild phreatic explosions in 1950 and 1986. Only after these explosions a surge of new studies began to unreveal their volcanic history and impact.
This book presents the state of the art advances in topics related to the geologic setting of the two volcanoes, their eruptive history and composition of erupted products, the hydrothermal systems and their manifestations. Volcanic hazards and risks and possible mitigation plans are discussed based on the experience of the catastrophic eruption of El Chichón that occurred in 1982. The book will also include previously unpublished material on the flora and the fauna of the region and archaeological and social aspects of the area that is inhabited by indigenous people.
You can access the book via
http://www.springer.com/gp/book/9783642258893

INTERESTING WEBSITE INFORMATION RELEVANT TO IAVCEI

Dear Reader,

This new section in IAVCEI News is a collection of interesting websites relevant to IAVCEI and volcanology. If you have find any sites that you think it would be good to let the community know please email the link (k.nemeth@massey.ac.nz) to IAVCEI News.

The Mantle Plume

http://www.mantleplumes.org/

The stress pattern of Iceland

http://www.mantleplumes.org/IcelandStress2.html

Marine Geophysical Survey of the Active Reykjanes Ridge Reorganization Tip – Implications for the Radially Expanding Iceland Plume Model

http://www.mantleplumes.org/RR_Reorg.html

Global Volcanism Program

http://volcano.si.edu/

StromboliOnline

http://www.swisseduc.ch/stromboli/

Volcano Link Collection

http://www.decadevolcano.net/links.htm

IAVCEI COMMISSION NEWS

In the future the IAVCEI News encourages publishing feature articles about IAVCEI Commission activities to facilitate information exchange across the volcanic community. If you have any news or interesting information to share that is relevant to any of IAVCEI's commissions, please consider preparing short news or longer feature articles and submit it to the IAVCEI News. Thank you!

IAVCEI COMMISSION ON MONOGENETIC VOLCANISM

During the 6IMC in Changcun City in China the new leadership of the IAVCEI Commission on Monogenetic Volcanism has been hand over for the period between 2016 and 2020. The new IAVCEI CMV coordinators reflect a good mix of young and senior researchers and a even geographical distribution on the global scale.

Coordinators of the Commission between 2016 and 2020 are:

Benjamin van Wyk de Vries - France (B.vanwyk@opgc.fr)

Marie-Noelle Guilbaud - Mexico (m.guilbaud@geofisica.unam.mx)

Jiaqi Liu - China (liujq@mail.iggcas.ac.cn)

Vladislav Rapprich - Czech Republic (vladislav.rapprich@geology.cz)

Sara Mountaj - Morocco (sara.mountaj@gmail.com)

Catherine Lit - Philippines (litcatherine@gmail.com)

IAVCEI COMMISSION ON SUBMARINE VOLCANISM

The Commission on Submarine Volcanism is in the early stages of development. The leaders of the Commission are Dr. Rebecca Carey (U. Tasmania), Dr. Steffen Kutterolf (GEOMAR), Dr. Michael Perfit (U. Florida) and Dr. Evi Nomikou (U. Athens). The first news item is that our website is up and running.

http://www.submarinevolcanology.com

We are soliciting feedback and contributions for the website so please visit and contact us! Some early ideas for website material include video highlights of recent cruises, advertising upcoming opportunities on voyages and publishing voyage reports.

Within the next month we will be promoting membership of the Commission to IAVCEI members and others who have an interest in submarine volcanism. Please consider signing up to becoming a member.

Thanks,
Commission Leaders

IAVCEI COMMISSION ON VOLCANIC GEOLOGY

Activities of the Volcano Geology Commission

Volcanology has made great advances in the last three decades, becoming a modern interdisciplinary science for quantifying volcanic processes, their associated hazards and impacts on society and the environment. The explosion of new techniques has reduced the prominence and perceived value of geology, despite it remaining the main source data for volcanic system, process and hazard modelling. In order to highlight and strengthen the role of geology as a critical foundation for modern volcanology, after the 1st workshop on Volcano Geology held in Madeira (Portugal) in 2014, we proposed to constitute a new IAVCEI commission on this topic, and in 2015 during the IUGG Conference held in Prague the new Volcano Geology commission began the first steps. The aim is to promote postgraduate research in geological aspects of volcano studies, to provide a forum for discussion among researchers on new developments in geological studies in volcanology, and to encourage multidisciplinary research across the wide range of geological fields involved in volcanology. A special attention is given to the geological fieldwork and mapping in volcanic areas as the basis for detailed volcanological, magmatic studies, computational modelling and for understanding the behaviour of volcanoes and their future activity in terms of volcanic hazards (for active or recent volcanoes).

The activity of this Commission will be to organise and promote regular field-based workshops, special sessions at major conferences and special volumes to encourage development of new geological approaches and tools toward improving our understanding of volcanic systems. Further, it will form a focal point for exchange of information between geological researchers and students and a portal by which a broad range of geologists may access and contribute to volcanology.

The 3rd workshop is just ended (see also the two reports) and, considering also the outcomes of the 3rd workshop, for the next future we are planning:

1) the preparation of a draft of the guidelines for mapping volcanic areas
2) the organization of the 4th International Workshop on Volcano Geology in Neogene-Quaternary Călimani-Gurghiu-Harghita volcanic range (Eastern Transylvania, Romania), from 8 to 14 October, 2017 (the First Circular will follow soon)
3) session proposals for the IAVCEI 2017 Scientific Assembly; we have submitted 5 session proposals, some of them shared with the Volcanic Hazards and Risk and Collapse Caldera Commissions.
4) the realization of the Volcano Geology commission website, where to share documents and information, and create tools for discussions
5) the preparation of a special issue on topics of Volcano Geology (the call is almost ready and will be sent soon)
6) the collection and collation of web links to existing data bases
7) the organization of a field school for PhD, post-doc students and young researchers on mapping methodology in volcanic areas

Currently, the Commission on Volcano Geology is lead by Gianluca Groppelli (gianluca.groppelli@gmail.com) and Joan Martì (joanmartimolist@gmail.com)

IAVCEI COMMISSION ON VOLCANIC LAKES (CVL)

New website is launched for CVL

https://iavcei-cvl.org/

For those who want to become a CVL member, please follow the procedure after clicking "become a CVL-er".
Soon we will announce the proposals for the site of the next workshop CVL10-2019, and update the site with further details and news on volcanic lake research.

For any further questions, tips or comments please contact us.

Enjoy your day,
Dmitri Rouwet
Leader IAVCEI-CVL

IAVCEI COMMISSION ON COLLAPSE CALDERAS

As the newsletter was going to press the IAVCEI Commission on Collapse Calderas was meeting in Hokkaido, Japan for it's 6th Workshop and 4th Course

https://staff.aist.go.jp/geshi-nob/CCC/title.htm

Detailed workshop and course report will be published in the next issue of the IAVCEI News.

Workshop participants examine the ~50ka Kuttara KT3 Ignimbrite, surge, and basal pumice fall at Noboribetsu ~2.5 km from the Kuttara caldera rim. (From Shan de Silva)

PhD Opportunity

Volcano PhD opportunity New Zealand, University of Canterbury

We have a fully funded PhD project to work on experimental earthquake triggering of volcanic eruptions with supervisor Ben Kennedy based at the University of Canterbury Christchurch NZ. The project will involve several months of high temperature lab work in Munich working with Dr Fabian Wadsworth in 2017 and possibly continued lab work in 2018 working with Dr Jon Castro and/or Dr Thomas Walter. There will be a field component, likely working on Merapi volcano, Indonesia sample collecting for detailed textural analysis using computed micro tomography.

There will be $27,000 NZ per year stipend plus funded conference a fieldwork opportunities.

The position is funded for three years and available to start between Nov 2016 and March 2017.

Preference will be given to students with research publication experience, experience with high temperature experiments and or micro tomography, and A grade (or first) equivalent GPAs, and numerical skills.

Please send an email stating why you are suited to the position and or CV to Ben Kennedy Ben.kennedy@canterbury.ac.nz, before September 23rd. Also list a potential referees who could comment on your volcano research abilities. I will then select a few students for an informal skype interview and follow up with referees in the last week of September.

Ben Kennedy
University of Canterbury

FUTURE EVENTS for IAVCEI member's interest

5th International Course on Volcanology (in Spanish)
Date: 10-23 October 2016
Venue: Olot, Spain
e-mail: ageyertraver@gmail.com
website: http://www.gvb-csic.es/CURSO/Home.html

Cities on Volcanoes 9
Puerto Varas, Chile
20-25 November 2016
Web:
http://www.sernageomin.cl/pdf/cities/Cities%20on%20Volcanoes%209%20(Puerto%20Varas,%20Chile)%20First%20Circular.pdf
The conference is supported by the **IAVCEI Commission of Cities and Volcanoes**

AGU Chapman Conference on Submarine Volcanology: New Approaches and Research Frontiers
Hobart, Tasmania, Australia
January 30 and February 3, 2017
Contact: Rebecca Carey <rebecca.carey@utas.edu.au>
Web:
http://chapman.agu.org/submarinevolcanism/program/schedule/

Magmatism of the Earth and related strategic metal deposits
4 - 9 August 9, 2017
Institute of Mineralogy, Ural Branch of the Russian Academy of Sciences, Miass, Ilmen mountains, South Ural
Web: http://magmas-and-metals.ru/

IAVCEI Scientific Assembly - 2017
Date: 14-18 Agust, 2017
Venue: Portland, Oregon, USA
Contact: Martin Streck - streckm@pdx.edu
Web: http://iavcei2017.org/

IAVCEI Volcanic Geology Workshop - 2017
Date: 8-14 October, 2017
Venue: Eastern Transylvania, Romania
Contact:
Ioan Seghedi – e-mail: seghedi@geodin.ro, phone: +40-744-333862
Alexandru Szakács - e-mail: szakacs@sapientia.ro, szakacs@k.ro, phone: +40-741-534405
Madalina Cirstea - e-mail: danamadalina@yahoo.com
This conference is supported by the **IAVCEI Commission on Volcanic Geology and Monogenetic Volcanism**

7th International Maar Conference
Olot, Spain
21-25 May, 2018
The conference is supported by the **IAVCEI Commissions on Monogenetic Volcanism, Volcanic Lakes and Volcanogenic Sediments**
Contact: Joan Martí Molist joanmartimolist@gmail.com

Next Issue of the **IAVCEI News** will be published on **5th January 2017**. Articles, notes, news or any items relevant to the IAVCEI community must be submitted by **15th December 2016** to be published in the next Issue.

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Editor-in-Chief
Károly Németh
Massey University, Palmerston North
Any correspondence, news items could be sent to:
k.nemeth@massey.ac.nz

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vHub Coordinator: *Greg Valentine* (SUNY, Buffalo)
Any correspondence, news items could be sent to
gav4@buffalo.edu

IAVCEI Web-stie Coordinator (University of Bari)
***Eugenio Nicotra* – email: eugenio.nicotra@unict.it**

If you have any idea or plan to have IAVCEI involved in the IUGG Outreach Programs please contact Karoly Nemeth via k.nemeth@massey.ac.nz