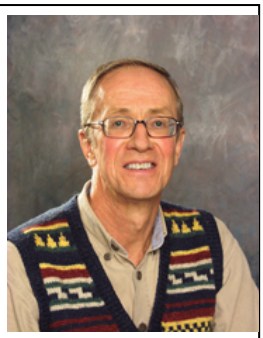
IAVCEI *News* 2012 No: 3

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

FROM THE PRESIDENT

Call for Nominations for IAVCEI Research Awards to be Awarded at the 2013 IAVCEI Scientific Assembly in Kagoshima, Japan, July, 2013.

Dear Colleagues,



Ray Cas
President of the IAVCEI

With the next IAVCEI Scientific Assembly to be held in Kagoshima, Japan, in July 2013, it is time to invite the IAVCEI community to nominate from its ranks members who have distinguished themselves through their research activities and their contributions to the IAVCEI research community for the various research awards IAVCEI presents. To ensure that long established, older researchers do not have an unfair advantage over younger, well performed middle career researchers, IAVCEI has several awards, some of which are awarded every 2 years, at both IAVCEI Scientific Assemblies and General Assemblies, and some which are awarded only every 4 years at Scientific Assemblies. Scientific Assemblies are only IAVCEI only meetings, whereas General Assemblies are IAVCEI conferences, held within the overall structure of IUGG conferences, a little like AGU and EGU conferences.

You are invited you to nominate deserving colleagues who you feel should be recognized for their outstanding contributions to volcanological research and the IAVCEI research community in one of the following awards.

Nomination and Award Process:

(1) a formal nomination letter, not to exceed three pages, stating the case for the nomination of a person, written by one or more individuals, and also indicating the agreement of the nominated researcher to being nominated
(2) an up to date curriculum vitae for the nominee
(3) at least three supporting letters originating from different institutions (two such letters are sufficient for the George Walker Awards)
(4) if needed, a letter describing explicitly the types of "difficult circumstances" encountered by the candidate should be included for the George Walker Award.
(5) Send nomination packs by December 15, 2012, addressed to: IAVCEI Awards Committee, c/o Ray Cas, School of Geosciences, Monash University, Clayton, Victoria, Australia, 3800, but sent in digital form (as pdf or docx documents) by e-mail to ray.cas@monash.edu.
* ALL candidates must be IAVCEI members when nominated
* All nominators must be IAVCEI members when they nominate a candidate
* Awards will be determined by an Awards Committee, chaired by the IAVCEI President. Decisions of the committee will be notified to the award winners and referees before the deadline for abstract submissions to the 2013 Scientific Assembly. The awards, citation and acceptance speeches will be scheduled during the Scientific Assembly, and will be published in the IAVCEI newsletter.

Thorarinsson Medal - To Be Awarded In 2013

The Thorarinsson Medal honors the memory of Professor Sigurdur Thorarinsson who was born on January 8, 1912, in Vopnafjordur, eastern Iceland, and died in Reykjavik on February 8, 1983. Professor Thorarinsson is known for his pioneering work in volcanology, especially tephrochronology of Iceland. The medal was donated by the Iceland Geoscience Society. The medal is the most senior medal of IAVCEI. It is given every four years at

the IAVCEI Scientific Assembly to a scientist of outstanding distinction who has made fundamental contributions to research in volcanology.

PREVIOUS THORARINSSON MEDALISTS

• 1987 Robert L. Smith (U.S.A.)
• 1989 George P.L. Walker (U.K.)
• 1993 Hans U. Schmincke (F.R. Germany)
• 1997 Richard V. Fisher (U.S.A.)
• 2000 Keiiti Aki (U.S.A./France)
• 2004 Wes Hildreth (U.S.A.)
• 2008 Robert Stephen John Sparks (UK)

Wager Medal - To Be Awarded In 2013

The Wager Medal honors the memory of Professor Lawrence Rickard Wager of the University of Oxford, United Kingdom, who was born in 1904 and died in 1965. Professor Wager is best known for the discovery of the Skaergaard layered intrusion and the first detailed structural, mineralogical and petrological study of such intrusions. The medal is given every two years (i.e. at both Scientific and General Assemblies, to a single scientist under the age of 43 who has made outstanding contributions to volcanology, particularly in the eight-year period prior to the Award. Candidates must be under the age of 43 on the 31st of December of the year preceding the IAVCEI General or Scientific Assembly at which the award is made.

PREVIOUS WAGER MEDALISTS

• 1974 Franco Barberi (Italy)
• 1974 J. Varet (France)
• 1978 R.S.J. Sparks (U.K.)
• 1987 Charlie Bacon (U.S.A.)
• 1993 Colin Wilson (U.K.)
• 1993 Claude Jaupart (France)
• 1998 Giovanni Macedonio (Italy)
• 1998 Jon Davidson (U.S.A.)
• 2002 Andrew Woods (U.K.)
• 2002 James Gardner (U.S.A.)
• 2004 Andy Harris (USA)
• 2004 Oleg Melnik (Russia)
• 2008 Joachim Gottsmann (UK)
• 2008 Alessandro Aiuppa (Italy)
• 2011 Amanda Clarke (USA)

George Walker Award - To Be Awarded In 2013:

The George Walker Award honor the memory of Professor George Walker, who was born on March 2, 1926 and died on January 17, 2005. Professor Walker's discoveries pioneered a modern quantitative approach to physical volcanology and greatly accelerated understanding of volcanic processes. The award is supported by the George Walker Fund. The award is given every two years to a a scientist under the age of 35. The award recognizes achievements of a recent outstanding graduate in the fields of research encompassed by IAVCEI, or also a recent graduate whose achievements in volcanology involved operating in difficult circumstances. The winner will receive a certificate with a cash award.

PREVIOUS GEORGE WALKER AWARDEES

• 2004 Costanza Bonadonna (Switzerland)
• 2008 Diana C. Roman (U.S.A.)
• 2008 Fukashi Maeno (Japan)
• 2011 Josef Dufek (U.S.A.)

Krafft Medal - To Be Awarded In 2013:

The Krafft Medal honors the memory of Katia Krafft (1942-1991) and Maurice Krafft (1946-1991) who were killed while photographing a pyroclastic flow on Mount Unzen, Japan in 1991. The Kraffts were pioneers in filming, photographing and recording volcanoes. The medal is co-sponsored by the Krafft family through the trust fund "Volcan et Images". The Krafft Medal is awarded every 4 years at the IAVCEI Scientific Assembly to an individual who has made outstanding contributions to volcanology through service to the scientific community or to communities threatened by volcanic activity. The Krafft Medal honors those who have shown altruism and dedication to the humanitarian and applied sides of volcanology and those who have made selfless contributions to the volcanological community.

PREVIOUS KRAFFT MEDALISTS

• 2004 Tom Simkin (U.S.A.)
• 2008 Christopher G. Newhall (U.S.A.)

IAVCEI seeks a Special Publications coordinator

IAVCEI has an agreement with the Geological Society of London for GSL to publish Special Publications on volcanological themes on behalf of IAVCEI. The GSL Special Publications series is a prestigious monograph series, in which each volume normally consists of collections of papers presented in a conference symposium or workshop on a specific and topical research theme. IAVCEI is seeking a pro-active coordinator who will act as a catalyst for seeking expressions of interest from potential guest editors for producing a GSL SP on behalf of IAVCEI, and then initiating discussions between the guest editors and GSL about the production and schedule of a SP. Most such volumes would originate from symposia at IAVCEI conferences and workshops, and so the IAVCEI coordinator would have to contact all symposium and workshop convenors before each IAVCEI conference and workshop to seek their interest in producing a SP as part of the GSL SP series.

Could those who are interested and have the time and the commitment to take on such a role for IAVCEI, please contact me at: ray.cas@monash.edu.

Best wishes,

Ray Cas,
President,
On behalf of the IAVCEI Executive Committee.
Monash University, Australia.

BULLETIN OF VOLCANOLOGY
Electronic Submission Site via Editorial Manager

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

Please submit your manuscript on-line via

http://buvo.edmgr.com/

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

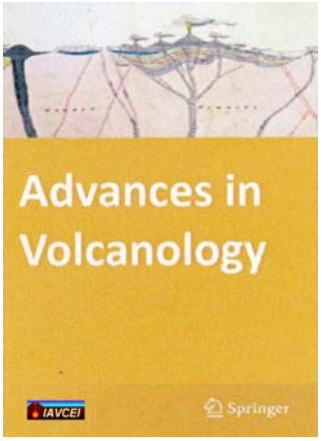
Best regards,

James White
Executive Editor, Bulletin of Volcanology

ADVANCES IN VOLCANOLOGY
Springer Book Series

Advances in Volcanology is a brand new official book series of IAVCEI. The aim of the *Advances in Volcanology* book series is to publish scientific monographs on a varied array of topics or themes in volcanology. The *Advances in Volcanology* is planned to be a regular publication supported by IAVCEI, with about 2-3 books per year on cutting edge contemporary research subjects in volcanology.

It is hoped that IAVCEI Research Commissions will consider using the *Advances in Volcanology* book series as a vehicle for publishing topical overviews and summaries of their research disciplines.



The first book of the *Advances in Volcanology* will be on Crater Lakes, and it will be published by early 2013. Now the book series is open for ideas and provisional book title proposals. If you wish to offer a book proposal, please provide the following information in a simple email (or email attachment) addressed to the *Advances in Volcanology* Series Editor:

Book title
Editor
Summary about the aim, basic concept, potential impact, need and intended target readership
Provisional book chapters
Provisional Authors of each book chapters
Timeline of book preparation
Preliminary information/evaluation about the expected response from the community if the proposed book published

Each proposal will be evaluated by the Series Editor in concert with discussion with the IAVCEI Executive Committee and the Technical Editor of the Publisher, Springer. Successful book proposals will then be prepared according to the offered and agreed timeline approved by the publisher, Springer.

If you have any question, suggestion or you already have a book proposal ready please email it to the Series Editor

Károly Németh
Series Editor
Advances in Volcanology [Springer]
k.nemeth@massey.ac.nz

IAVCEI 2013 Scientific Assembly related information

Date: July 20-24, 2013, Kagoshima, Japan
Website: http://www.iavcei2013.com.

The Steering Committee will provide information about IAVCEI 2013 until the time of conference in every news release. In this issue, the geology of Unzen and Aso volcanoes is introduced. This information would be useful in understanding the background geology of these volcanoes and guide in choosing field trips. The 2nd circular of the conference is going to be issued soon on the website, where information about registration, abstract submission, application of travel grants and field trip details will be obtained.

Unzen Volcano

Geology of Unzen Volcano

Unzen Volcano is situated in a volcanotectonic depression, the Unzen graben. The growth of Unzen Volcano began 0.5 Ma. Unzen Volcano has been divided into three stages, Older (0.5-0.3 Ma), Middle (0.3-0.15 Ma) and Younger Unzen (0.15-0 Ma) stages according to results from geologic surveys and flank drillings conducted during the Unzen Scientific Drilling Project (USDP). The total eruptive volume of the Unzen Volcano is more than 120 km3. Products of the Younger Unzen stage are composed of four volcanic edifices, Nodake (70 to 120 ka), Myokendake (20-30 ka), Fugendake and Mayuyama (Fig. 1). Nodake which is the oldest volcanic center, composed mainly of thick lavas and pyroclastics with debris avalanche deposits. Myokendake is a volcanic edifice consisting of pyroclastic deposits with the amphitheater (“Myoken Caldera”). Fugendake is grown both inside and outside of the Myokendake Amphitheter, consisting of many lava flows, lava domes, pyroclastic flow deposits, and

debris avalanche deposits. Located in the easternmost part of Unzen Volcano, Mayuyama comprises two huge lava domes.

Fugendake has been historically active. Eruptions in 1663 and 1792 issued lava flows, and the most recent eruption in 1991-95 produced a lava dome complex. The 1663 lava, Furuyake lava, erupted from a vent within the Myokendake Amphiteater and flowed down the slope for a distance of 1 km. The 1792 eruptions produced the Shinyake dacite lavas that flowed northwards for a distance of 2 km. At the end of April 1792, soon after the latter eruption, the number of earthquakes nesting in the eastern part of Unzen volcano increased and many cracks were seen on the ground in Shimabara area. On May 21, 1792, an intense earthquake occurred and the Mayuyama edifice collapsed causing a large-volume debris avalanche. This debris avalanche falling from the margin of the Jigokuato crater down the steep eastern slopes. On May 24, a reddish-brown ash-laden plume was observed above the eastern flank of Fugendake, producing the first pyroclastic flow that traveled about 1 km down the flank. More than 9400 Merapi-type pyroclastic flows (block-and-ash flows) occurred due to partial collapses of the lava dome during the 1991-95 eruption. Major pyroclastic flows, including those on June 3 and 8, September 15, 1991, and June 23 and 24, 1993, occurred during exogenous growth when the effusion rate was high.

A series of pyroclastic flows descended the Mizunashi River at 16:08 on June 3, 1991. An ash-cloud surge associated with the pyroclastic flow killed 43 people, including Maurice and Katia Krafft and Harry Glicken in Kita-Kamikoba area. On June 8,

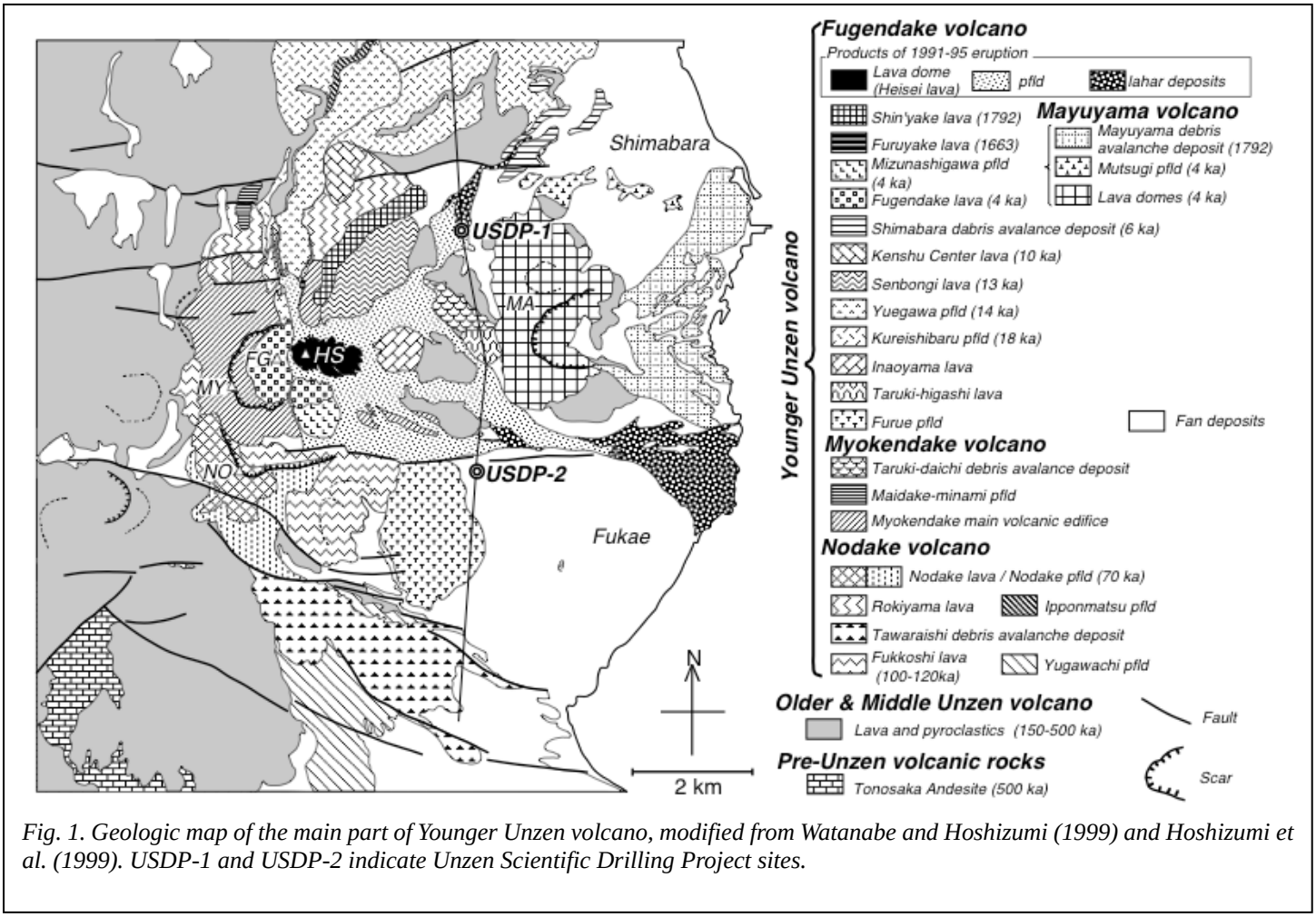


Fig. 1. Geologic map of the main part of Younger Unzen volcano, modified from Watanabe and Hoshizumi (1999) and Hoshizumi et al. (1999). USDP-1 and USDP-2 indicate Unzen Scientific Drilling Project sites.

devastated the central area of Shimabara City before entering the sea to generate deadly tsunamis. The tsunamis struck the opposite shore of the Shimabara Bay and also the Shimabara side. These events killed about 15,000 people. This was the worst volcanic disaster in Japan. Many small islands collectively named Tsukumojima, meaning 99 islands, scattered off Shimabara City are large blocks transported by the debris avalanche.

The 1990-95 Eruption

After 198 years of dormancy, Unzen Volcano erupted on November 17, 1990. Phreatic eruption started in two summit craters, the Jigokuato and Kujukushima craters. A lava protruded within the Jigokuato crater on May 20, 1991. The lava continued to grow as a lava dome on May 23 and small blocks of lava began

successive collases of the lava dome including the basement caused a sudden pressure reduction in the interior of the lava dome and conduit, resulting in explosive eruptions. The pyroclastic flows descended 5.5 km. On June 11, a similar explosive event occurred, but no large-scale pyroclastic flows were observed.

The largest pyroclastic flows occurred on September 15, 1991, caused by a large-scale collapse of the northern part of the dome complex. Multiple pyroclastic flows starting at 16:44 and successively at 17:59, 18:42, and 18:54 cascaded down the Oshigadani Valley. On June 23 and 24, 1993, a series of pyrolcastic flows descended the Nakao River. Pyroclastic flows starting at 2:52 and successively at 11:14 on June 23, and 5:25 on June 24, 1993, cascaded down the gorge in the Nakao River. One

person who entered in the evacuation area was killed by a pyroclastic surge associated by the second flow. In total, 800 houses were burned by pyrolcastic flows/surges during the 1991-95 Unzen eruption.

The lava dome complex that was formed during the 1991-95 is 1.2 km long (E-W), 0.8 km wide and 0.45-0.25 km thick, and the volume is about 100 million m3 (about half of the total volume of erupted lavas; 210 million m3 as DRE). The eastern half of the dome complex draped over the eastern slope of Mt. Unzen predominantly were formed by exogenous growth, while the western part covered by lava blocks with a relatively flat top is the part which grew endogenously. Growth of lava dome ended with the intrusion of a spine into the center of the endogenous portion, just above the crater (Jigokuato Crater) where a lava first appeared in May 1991.

Prepared by
Hoshizumi, H., Nakada, S. and Takarada, S.

Fig. 2. Lava dome complex seen from the north. The exogenous part is hanging on the eastern slope of Mount. Unzen and the endogenous part with a steaming spine on the flat top.

Aso Volcano

Aso Volcano, which is located in central Kyushu, southwestern Japan, is one of the largest caldera volcanoes in the world (Fig. 3). The Aso caldera, which is 25 km in north-south and 18 km in east-west, was formed by four gigantic pyroclastic-flow eruptions of andesitic to rhyolitic magma, from ca. 270 ka to 90 ka. The caldera-forming pyroclastic-flow deposits are divided into four units: Aso-1 (270 ka), Aso-2 (140 ka), Aso-3 (120 ka) and Aso-4 (90 ka) in ascending order. The Aso-4 eruption is the largest eruption of Aso Volcano, and produced multiple pyroclastic flow units. The Aso-4 pyroclastic flows with a volume of more than 200 km3 cover most part of the central Kyushu. These flows, which ran across the sea, reached an area of about 150 km from the source.

Post-caldera cones initiated their eruptive activity soon after the last caldera-forming eruption (90 ka). The central cones have produced voluminous fallout tephra layers and lava flows. At least seventeen cones are visible on the surface, but the shapes and structures of the central cones vary depending on their chemistry, which ranges from basalt to rhyolite. Nakadake Volcano is the only active central cone in Aso caldera, one of the most active volcanoes in Japan, and a composite volcano of basaltic andesite to basalt, which has been active since ca. 22-21 ka. It consists of old and young edifice, and new pyroclastic cone on the former. The active crater of Nakadake is occupied by a hyperacid lake in dormant periods (Fig. 4). In relatively active periods, the most characteristic activity is a continuous emission of black sandy ash (ash eruption). In more active periods, strombolian eruptions occurred, scattering red-hot scoria clasts around the vent. Occasional phreatomagmatic explosions ejected coarse lithic blocks accompanied by small pyroclastic flows.

Fig. 3. Oblique view of Aso caldera and post-caldera central cones from the south.

Fig. 4. The first crater of Nakadake occupied by a crater lake

IAVCEI 2013 Information

Important dates

Grant Application Deadline:	January 31, 2013
Abstract Deadline:	January 31, 2013
Early Registration Deadline:	April 30, 2013
Conference:	July 20-24, 2013

Scientific Program

Symposium 1: Magma processes

1-1. Initiation and evolution of oceanic arcs into continental crust and IODP drilling
1-2: Frontiers in large igneous provinces research
1-3. Volatile in magma processes
1-3a. Cycles of volatiles at subduction zones
1-3b. A halogen session
1-4. Magma processes in crust
1-4a. Deep crustal processes in magmatic arcs
1-4b. The crustal architecture of magmatic systems
1-4c. Making andesite in oceanic and continental arcs
1-5. Generation, transportation, and emplacement of magma in continental crust
1-6. Insights into magma chamber processes and volcanic forecasting from combined petrological and timescale information
1-7. Geothermal activity
1-7a. Geothermal energy utilization frontier
1-7b. The dynamics of magma-geothermal systems

Symposium 2: Monitoring, observation and modeling of volcanic processes

2-1. Volcanic seismology
2-1a. Volcanic tremor, seismic events and volcanic conduit dynamics: understanding based on field observations, experiments, and modeling
2-1b. Seismic triggering of volcanic eruptions and related activities
2-2. Imaging and monitoring of volcanic activity
2-2a. High-level volcano monitoring and data interpretation
2-2b. Electromagnetic and other geophysical methods for imaging and monitoring on going activity
2-2c. Imaging volcanoes and geothermal systems with muon radiography
2-2d. Remote sensing in volcanology: monitoring, hazard assessment and validation
2-2e. Terrain modeling of active volcanoes with photogrammetry, radar, and LiDAR techniques
2-3. Stress, strain, and mass changes at active volcanoes
2-4. Volatile tracking of magma degassing processes and volcanic eruptions
2-5. Structure and properties of magmatic liquids
2-6. Dynamics of volcanic processes
2-6a. Linking petrology, rheology, and numerical modelling
2-6b. Controlling factors and complex behaviors
2-6c. Open system volcanoes
2-6d. Understanding sudden effusive-explosive transitions
2-7. Experimental volcanology

Symposium 3: Eruption processes and volcano evolution

3-1. Origin, evolution and eruption of ocean island volcanoes
3-2. Monogenetic volcanism
3-3. Caldera
3-3a. Context, formation, evolution, structure, unrest, products, hazard, resources
3-3b. Changbaishan volcano
3-4. Evolution of eruptive craters, vents and conduits from feeding dikes, sills, and magma chambers
3-5. Volcanic plume dynamics
3-6. The complexity and diversity of pyroclastic fall out deposits
3-7. Pyroclastic density currents from source to sediment
3-8. Lahars: Flow, sediment transport and deposition processes from direct observations, deposits, theory and experiments
3-9. Lava flows
3-9a. Advanced imaging and analysis of lava flows
3-9b. Processes of pillow formation and constraints for eruption conditions and eruption environments
3-10. Active crater lakes
3-11. Carbon dioxide emission from volcanoes and tectonically active regions
3-12. Volcano-Ice interaction and planetary volcanism

Symposium 4: Volcanic hazards, risk and environmental impact

4-1. Forecasting the weather and climate effects of volcanic eruptions
4-2. Environmental and ecosystem impacts of persistent volcanic degassing and recent eruptions
4-3. Forecasting volcanic hazards
4-3a. Probabilistic volcanic eruption hazards and risk
4-3b. Forecasting short-term volcanic hazards: methods, paradigms, case studies, and practices
4-3c. Real-time volcano hazard assessment
4-3d. Forecasting and mapping medium/long-term volcanic hazards
4-4. Testing eruption forecasts from statistical, geophysical, and laboratory models
4-5. Open issues and missing links in volcanology and volcano physics
4-6. Responding to volcanic health hazards
4-7. Volcanic ash impacts, mitigation and warning
4-8. Recent eruption impacts and mitigation - a focus on both infrastructure and community volcanic hazard management
4-9. Databases in volcanology
4-9a. Global volcano model
4-9b. Data science/informatics and data assimilation in geosciences
4-10. Other topics related to education, tourism and geoparks

3-3. Field Trips

1.Calderas and active volcanoes in centarl to eastern Hokkaido [July 13 (Sat.) - July 18 (Thu.), 2013]

2. Active volcanoes in Northeast Japan [July 26 (Fri.) - July 30 (Tues), 2013]

3. Active volcano in central Japan: Asama Volcano [July 26(Fri.) - July 29 (Mon), 2013]

4. Fuji and Hakone volcanoes: typical stratovocanoes of Japan [July 25 (Thu) - July 28 (Sun), 2013]

5. Basaltic and rhyolitic island volcanoes in Izu Islands [July 26 (Fri.), - July 29 (Mon.), 2013]

6. Unzen and Aso volcanoes, central Kyushu, Japan: New lava dome climb and 1991-95 pyroclastic flows (Unzen), and active crater and one of the largest caldera in Japan (Aso) [July 15 (Mon.) - July 19 (Fri.), 2013]

7. Kirishima, Sakurajima volcanoes and their cource calderas in southern Kyushu [July 25 (Fri.) - July 27 (Sun), 2013]

8. Kikai caldera and southern Kyushu: products of a large silicic magmatic system [July 25 (Thu) - July 29 (Mon)]

9. Suwanosejima- Lighthouse of East China Sea; Ongoing strombolian activity and proximal facies of the 1813 eruption [July 15 (Mon.) - July 18 (Thu.), 2013]

Detailed information will be available soon in the 2nd circular on IAVCEI 2013 website (**http://www.iavcei2013.com**).

You can send your questions and comments to the Steering Committee of IAVCEI 2013 (**info@iavcei2013.com**).

Shinji Takarada
Geological Survey of Japan, AIST

INTERNATIONAL CONFERENCE "BASALT 2013" 24.04. - 28.04.2013 in Görlitz, Germany email: basalt2013@senckenberg.de web: www.senckenberg.de/basalt2013

basalt 2013
Cenozoic Magmatism of Central Europe

Co-sponsored by the IAVCEI Commissions on Monogenetic Volcanism AND Volcanogenic Sediments

The Second Circular of the conference is out now and can be downloaded via the following link:

www.senckenberg.de/basalt2013

Registration and Abstract Submission is open now.

Conference fee

•Early Bird Registration	
(Deadline: 31st December 2012)	100 €
•Regular Registration	
(from 1st January 2013)	130 €

•**For one day trip** incl. transportation and catering ~ 50 €

Abstracts
Abstracts with 1-2 pages will be printed before the conference. The abstract, submitted in English language only, will be reviewed and gives the basis for a decision of the admission of a presentation. Your paper can be presented as oral or poster presentation and must be related to the topics of the conference or as open topic.

Submit via E-mail to basalt2013@senckenberg.de or online via the website

Further Information on the conference please read the Second Circular and/or contact the conference organizors .

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International Conference "Basalt 2013"
24.04. - 28.04.2013 in Görlitz
email: basalt2013@senckenberg.de
web: www.senckenberg.de/basalt2013

AGU CHAPMAN CONFERENCE AND VEA COMMISSION ACTIVITY REPORT TO IAVCEI

An American Geophysical Union (AGU) Chapman Conference on Volcanism and the Atmosphere, was held at Selfoss, Iceland, from June 10 to 15, 2012.

Scientists from several disciplines gathered to discuss the effects of volcanism on the atmosphere at timescales ranging from billions of years to the Icelandic Eyjafjallajökull eruption in 2010. This was the third Chapman Conference on Volcanism and the Atmosphere, following those held in Hilo, Hawaii, in 1992 and in Santorini, Greece, in 2002, all of which were organized under the auspices of the IAVCEI Commission on Volcanism and the Earth's Atmosphere (VEA) and the International Association for Meteorology and Atmospheric Sciences (IAMAS). The meeting was supported by AGU via a US-National Science Foundation grant, together with extra support from IAVCEI and the Atmospheric Sciences and Volcanology, Geochemistry, and Petrology Sections of AGU.

After the 2002 Santorini Chapman Conference, a list of important scientific questions was drawn up to provide targets for future research [Robock, Alan, 2002: Blowin' in the wind: Research priorities for climate effects of volcanic eruptions. EOS, 83, 472]. Ten years later we reviewed those recommendations in light of the research findings presented at this latest Chapman conference. New topics at the recent conference were analysis and tracking of plumes of SO2 and ash from ground-based and satellite observations to provide rapid information for aviation authorities, and geoengineering. Details of the discussions will be in an attachment to the up-coming AGU Eos article on this Chapman Conference.

Topics discussed included:

What exactly goes into the atmosphere during a volcanic eruption?

How do quiescent emissions change over time?

How can we better quantify the record of past climatically significant volcanism?

Can we design an improved system for measuring and monitoring the volcanic gases and aerosols resulting from future eruptions?

How can we better model the climatic impact of eruptions, including microphysics, chemistry, transport, radiation, and dynamical processes?

How do high latitude eruptions affect climate?

Where are the important potential sites for future eruptions?

Geoengineering: The pros and cons of geoengineering with stratospheric aerosols were discussed by Alan Robock using volcanic eruptions as a proxy for the injection of aerosols into the upper atmosphere. He showed that volcanic eruptions warn us that while stratospheric geoengineering could cool the surface, there might be many deleterious effects associated with purposefully enhancing stratospheric aerosols.

Two keynote talks addressed the 1912 eruption of the high-latitude Katmai volcano in Alaska, the largest eruption of the 20th Century, on the centenary of that event.

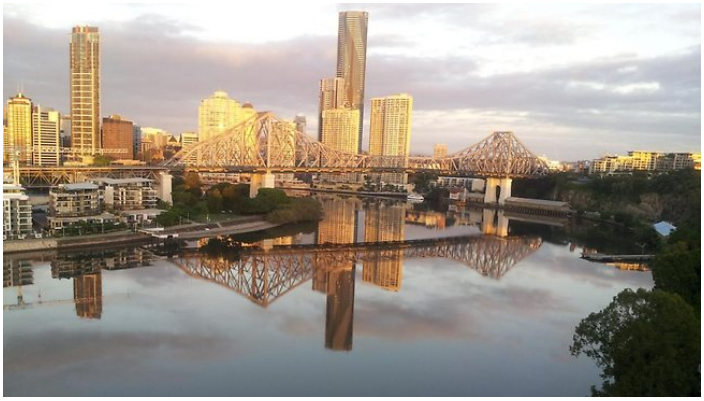
Chapman Conference participants return from examining glacier and 2010 jökulhlaup deposits on north flank of Eyjafjallajökull volcano during the mid-conference field trip. [Photo by Amy Kuwata.]

Iceland was an important and significant choice as the conference venue. Icelandic volcanic systems feature on average one eruption every 4-5 years and in the first 12 years of the 21st Century it has already featured five eruptions; Hekla in 2000, Grímsvötn in 2004, flank and summit events at Eyjafjallajökull in 2010 and Grímsvötn again in 2011. In recent years several other volcanic systems have shown signs of unrest, including Krýsuvík, Katla, and Askja. The possibility of a Katla fissure eruption like the great 934-40 AD Eldgjá event is a considerable worry because it would cause significant climate change and disruption of air traffic, possibly for several months. Further, imagine the problems for global air travel that would be associated with a Magnitude 7 Tambora-type eruption, which several presentations held is the maximum volcanic eruption that we might expect in the near term.

Conference organizers and Eos report authors:
Alan Robock (Rutgers University; VEA Acting Commission Leader),
Michael R. Rampino (New York University),
Thorvaldur Thordarson (University of Iceland);
reported to IAVCEI by
Stephen Self (Open University; IAVCEI VP)..

LIP Commission activities at the International Geological Congress (IGC), Brisbane, Australia, August 10, 2012

Members of the LIP Commission convened and took part in a session at the recent IGC under Symposium Theme 21, Magmatism: Settings, Compositions and Processes. Session 21-6 was entitled:



Brisbane city, Brisbane River, and the Storey Bridge; the rock unit in cliff on right is the Triassic-age Brisbane Tuff (ignimbrite). [Photo from the Web.]

Large Igneous Provinces and their impact on the lithosphere, atmosphere and biosphere.

LIP Commission leader ***Richard Ernst*** gave the opening keynote on *Large Igneous Provinces (LIPs) as drivers for Environmental Change and Extinctions*. This was followed by talks on (topic and speaker given):

The Source of the Tasmanian-Ferrar Jurassic Large Igneous Province (***John Foden***)

P-wave Velocity Structure and Deep Crustal Reflections of the Ontong Java Plateau (***Mike Coffin***)

The Deccan: A chronology of CFB eruption, lithospheric extension, and rifting (***Mike Widdowson***)

Deriving 3D volcanic architecture of continental flood basalt provinces (***Charlotte Vye; invited***)

Geochemistry and geochronology of the 1585 Ma Benagerie Volcanic Suite, S Australia (***Claire Wade***)

Assessing the continental LIP record of the break-up of Pangea (***Stefan Groflin***)

A second oral session was kicked off by another keynote on Environmental consequences of aureole gases formed around voluminous sheet intrusions injected into sedimentary basins (***Sverre Planke***), followed by presentations on:

Gas release from flood basalt eruptions: understanding potential environmental effects (***Steve Self***)

Environmental consequences of the Siberian Traps large igneous province (***Ben Black, invited***)

Synchronicity between the Kalkarindji LIP and the Early-Middle Cambrian extinction (***Fred Jourdan***)

U-Pb geochronology of the Emeishan large igneous province and the end of the Late Paleozoic Ice Age (***Steven Denyszyn***)

The use of magnetic geothermometers in basin analysis: An example from the western Karoo Basin, South Africa (***Leonie Maré***)

The oral sessions were supported by posters on:
Borehole Volcanostratigraphy of the Central Kalkarindji CFBP, Australia (***Peter Marshall***)

Petrogenesis of the Doros Gabbroic Complex, Namibia: Multiple mingling magma mushes? (***Trishya Owen-Smith***), and

Subsidence, submarine volcanism and the emplacement of the Emeishan CFB of SW China (***Mike Widdowson***).

Excellent attendance (estimated up to 80-100 people) on the last day of the Congress and a suite of interesting presentations made this a first-rate learning experience for those interested in LIPs. During a session break, a meeting of the LIP Commission took place, details below.

IAVCEI LIP Commission, Minutes of the Meeting held at the International Geological Congress, Brisbane Convention Centre 10th August 2012, Plaza Room 9, 11:00 – 12:00.

Attendance: about 20 people

Chair: Richard Ernst (Current Leader of LIPs Commission), with contributions from Ian Campbell (Co-Leader) and Steve Self (Vice President of IAVCEI).

Minutes
1. Richard Ernst provided an introduction to LIPs Commission: the history of the Commission, website/LOTM (LIP of the Month); new twitter feed (https://twitter.com/LargeIgnProv) arranged by Simon Jowitt, for news, conferences, publications sponsoring/advertising of conference sessions and reporting to IAVCEI.

2. Discussion focussed on "going forward" and other/new activities the Commission could undertake, and replacing the current leadership. It was agreed that Richard Ernst would send out an email with position description information for the leadership positions and a request for nominations.

3. To increase the exposure of the LIPs Commission and potentially as a fund raising initiative, it was suggested to develop and advertise field workshops/trips that would have both industry and academic interest and involvement. An updated webpage with upcoming conference and field trip information would support this. It was also suggested a list of potential field trips be collated that could be advertised and offered to industry.

4. Steve Self discussed issues regarding IAVCEI, and that consideration is being given to rationalise the number of commissions. It was recognised that the LIPs Commission is one of the more active commissions, but it is beneficial that each commission has an identified leader, Secretary, web page administrator, etc.

5. Ian Campbell reviewed his experiences with obtaining journal financial support for another Commission – the money was generated through the publication of a thematic issue. He suggested this as a possible course of action for our LIPs Commission.

6. It was suggested that a new initiative for the Commission would be to propose a targeted conference (e.g., GSA Penrose or AGU Chapman); one suggestion was to bring together "igneous" and "structural/geophysical" researchers on the topic of volcanic rifted margins given the increasing industry interest and exploration of energy resources along rifted margins. It was also suggested that we explore links with some groups that have overlapping interests, such as LASI (working group interested in shallow-level tabular igneous intrusions; http://www.dst.unipi.it/dst/rocchi/LASI/Home.html, or http://www.lasi5.com/)

7. Linking the activities of the LIP Commission and the Commission's website on V-HUB (http://vhub.org/) was also recommended.

Scott Bryan, Queensland University of Technology
reported to IAVCEI by
Stephen Self (Open University; IAVCEI VP

CALL FOR BOOK REVIEW ITEMS

Bulletin of Volcanology publishes high quality and informative book review articles. In the past year the book review articles became regular features of the Bulletin and they serve an important role to help and facilitate the global knowledge of newly published high quality publications of volcanology. In addition book reviews can serve an important role to identify strength and weakness of published books that can help to correct future editions of the same books and/or guide educators to choose text books for their under and post-grad teaching courses.

If you come across any interesting newly published books (also if it is published in languages other than English!) that could be an interesting read for IAVCEI members please be ready to prepare a critical, strong but fair review that could be submitted and published in the Bulletin of Volcanology.

Book reviews on books published in other than English language are also welcomed to be submitted to the Bulletin as an attempt to provide ideas, international linkages and feedbacks for non-English book Authors on volcanology books.

Book review articles have to be submitted by the Authors via the on-line submission site of Bulletin of Volcanology:
http://buvo.edmgr.com/
If you are not registered yet, you need to register first and then use your user name and password to access the BV Online Submission site. Please choose Book Review Articles as article style and K Nemeth as Handling Editor.
Wiley-Blackwell offers a 20% discount on books reviewed for Bulletin of Volcanology for IAVCEI members. As such a Promotional Code will be provided that members can use to order the reviewed item from Wiley-Blackwell's website.

FUTURE EVENTS for IAVCEI member's interest

EMSEV-2012 -Gotemba, Shizuoka- Japan
October 1-3, 2012
Contact: EMSEV2012 LOC (emsev2012loc@emsev-iugg.org)
Chair of the LOC
Toshiyasu Nagao, EMSEV secretary Tokai University

Hopi Butte Maar-Diatreme Field Workshop (Winslow, Arizona) – 21 – 27 October 2012
Contact: James DL White – james.white@stonebow.otago.ac.nz
Sponsored by the IAVCEI Commission on Monogenetic Volcanism and Volcanogenic Sediments

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4th International Workshop on Collapse Calderas (Vulsini, Italy) - 23 – 29 September 2012
E-mail: acocella@uniroma3.it , ageyertraver@gmail.com
Website: http://www.gvb-csic.es/CCC.htm
Sponsored by the IAVCEI Commission on Collapse Calderas

2012 El Hierro Conference - International Workshop on Oceanic Island Volcanoes & Society
October 10-15, 2012
Contact: Nemesio Perez Rodriguez nperez@iter.es
Web:
http://www.makavol.com/workshops/2012-El-Hierro-workshop/)

7th Annual Short Course "Fluids in the Earth"
Contact: "Claudia Cannatelli" claudia.cannatelli@unina.it
Napoli, Italy [Department of Earth Sciences, University of Naples "Federico II"],
October 15 – 19th, 2012
Web: http://www.fluidenv.unina.it

2012 GSA Annual Meeting & Exposition:
Investing in the Future (Charlotte, NC) - 4–7 November 2012
Web: http://www.geosociety.org/meetings/2012/

Cities on Volcanoes 7 (Colima, Mexico) - 18-23 November 2012
E-mail: cov7@citiesonvolcanoes7.com
Website: http://www.citiesonvolcanoes7.com
Sponsored by the IAVCEI Cities and Volcanoes Commission

Basalt 2013 - Cenozoic Magmatism in Central Europe

24 – 28 April 2013, Goerlitz, Germany
email: basalt2013@senckenberg.de
web: www.senckenberg.de/basalt2013

Sponsored by the IAVCEI Commission on Monogenetic Volcanism and Volcanogenic Sediments

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IAVCEI Scientific Assembly - 2013: Forecasting Volcanic Activity (Kagoshima, Japan)
July 20-24, 2013
Web: http://www.iavcei2013.com/

Surtsey 50Anniversary Conference 2013
Reykjavík, Iceland - August 12-15, 2013
Contact: Páll Einarsson palli@raunvis.hi.is
Web: http://www.surtsey.is
June 2012: First Circular.
Timeline:
November 1, 2012: Expression of interest deadline
February 2013: Second Circular
February 15, 2013: Registration opens
April 1, 2013: Early registration deadline
May 1, 2013: Abstract deadline
August 12, 2013: Conference starts

IUGG 2015 General Assembly, Prague, Czech Republic. Suggestions for IAVCEI symposia scientific themes are invited. Ideas from IAVCEI Commissions are especially welcomed. Please send your ideas to any of the IAVCEI Executive Committee members and/or Commission leaders.

Next Issue of the **IAVCEI News** will be published on **15th December 2012**. Articles, notes, news or any items relevant to the IAVCEI community must be submitted by **1st December 2012** to be published in the next Issue.
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