



IAVCEI *News* 2008 No: 2

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

FROM THE PRESIDENT

The following address is a slightly modified version of that given at the opening ceremonies in Reykjavik.

Ladies and Gentlemen:

I am Setsuya Nakada, President of IAVCEI, and I would like to give a greeting to all of you on behalf of IAVCEI officers. It was with great pleasure that our association received opening addresses from the President of Iceland (Olafur Grimsson) and IUGG president (Tom Beer) at the Reykjavik General Assembly.

Iceland is the country of Ice and Fire, and is also famous as the country of clean energy. This means that 100% of electricity is generated using water and geothermal power, which of course do not produce CO₂, the major green house gas of global warming.

Knowledge about future global warming is one of great issues for International Year of Planet Earth (IYPE), activities for which are promoted strongly by IUGG, as was emphasized in Tom Beer's address. Of course, the activity of Cities on Volcanoes Conferences, held every two years by IAVCEI and aimed at reduction of volcanic risks across the globe, is an excellent fit within the activity of IYPE. I believe that holding the General Assembly of IAVCEI in the country of clean energy was also of value in the context of IYPE.

From a volcanological point of view, it is curious that the trend of global warming recorded within ice core in Antarctica has not been influenced by any large historical and pre-historical eruptions. That is, we know that a large eruption introduces effects of a volcanic winter due to production of sulfuric acid aerosols in the upper atmosphere, yet despite a number of substantial eruptions the ice-core record shows no major effects. This general assembly offered a good opportunity for each delegate to consider the relationship of global climate change with volcanic eruptions.

IAVCEI started as the volcanological section of IUGG around 1920. Our official journal, *Bulletin of Volcanology*, was previously the *Bulletin Volcanologique*, first published in 1922.

Therefore, our association has a history of collaboration spanning 86 years. The role of IAVCEI has become very important among the 8 associations of IUGG. For example, global scale natural hazards became very serious in this decade. Super-volcano eruption(s) will possibly join these in the near future. A full understanding of the fundamental mechanisms of these natural hazards will not be completed without steady basic research with interdisciplinary points of view. Volcanology itself is, in particular, an interdisciplinary science, including geology, geophysics, geochemistry, meteorology, computer science, engineering, sociology, medical science, psychology, science of law, and so on. With our 2008 meeting, we have surely strengthened our contribution to IUGG, and we would like this strengthening to continue with a strong IAVCEI attendance at the 2011 General Assembly of IUGG.

I would like to summarise quickly the activity for this single year since the Perugia IUGG meeting. We have had several meetings and workshops over this year. Among them, the Cities on Volcanoes conference, which was held in Shimabara, Japan was biggest. This had six hundred registrants and, in addition, as many as 2,000 local people. The Cities on Volcanoes conferences are now the second biggest meetings of IAVCEI.

How about the dimensions of our community? An index by which we can measure the volcanology community's size is the number of registrants to the volcano listserv. The number is about 3,000. However, some friends of mine who attended the Reykjavik meeting are not registered in this listserv. Therefore, our community is larger than this number. Compared to the large numbers attending the IAVCEI General Assemblies at Pucón and Reykjavik, the number of IAVCEI members attending the IUGG General Assemblies is too small. There were only two hundred fifty in Perugia, 2007, and 350 in Sapporo, 2003. These small numbers are a serious issue for IAVCEI, because IAVCEI's main income is provided in four-year blocks from IUGG based on IAVCEI-member attendance at IUGG General Assembly. General meetings of other associations are held in between IUGG General Assemblies, though ours is one year after the IUGG's. In the years of IUGG General Assemblies (2003 and 2007), Cities on Volcanoes conferences were held. In the year of IAVCEI general

assemblies (2000, 2004 and 2008), the International Geological Congress was held. Considering these circumstances, the IAVCEI Executive Committee decided to postpone future IAVCEI general assemblies by one year. That is, the next IAVCEI general assembly is in 2013. Thus, we can hold general assemblies of IAVCEI (or IUGG) every two years.

Finally, I hope, during the Reykjavik meeting and excursions, you were able to have fruitful discussion beyond the walls of your fields in volcanology, and made good friendships with volcanologists from other countries. I would like to express our sincere thanks to the Local Organizing Committee, led by Armann Hoskuldsson and Olafur Gudmundsson, for preparation of a big meeting, like this, in the beautiful country of Ice and Fire.

Don't talk about Volcanoes without seeing Iceland! Thank you for your attention.

AWARD NOMINATION COMMITTEE

The committee selected the winners of 2008, as reported in this newsletter. The committee consisted of the five members listed below. In addition, the representative from the Icelandic Community (this time, Anri Stefansson) joined for evaluation of the Thorarinsson Medal, and Bertrand Krafft joined on behalf of the Krafft family for evaluation of the Krafft Medal. The committee pointed out problems related to age limitations of the Wager Medals and the George Walker Awards, and a lack of clarity in the category on "difficult circumstances" for the George Walker Awards.

Thorarinsson Medal –

Robert Stephen John Sparks

Krafft Medal –

Christopher G. Newhall

Wager Medals –

Alessandro Aiuppa, Joachim Gottsmann

George Walker Awards –

Diana Roman, Fukashi Maeno

Committee members (2007-2010)

Charlie Bacon
Don Dingwell
Setsuya Nakada (Chair)
Hazel Rymer
Claus Siebe

Note:

The Executive Committee at Reykjavik decided the following conditions will be added to the categories of the Wager Medal and George Walker Awards.

- Age limit for the George Walker Award is **thirty-five** years old (presently no age limit).
- Age limit for the Wager Medal is **forty-three** years old (presently forty).
- Nomination package for the George Walker Award should involve a postulation letter describing explicitly the types of "difficult circumstances" encountered by the candidate.

FUTURE IAVCEI MEETINGS

XI International Meeting "VOLCÁN DE COLIMA"

Date: February 2nd-9th, 2009

Contact: Centro Universitario de Estudios e Investigaciones de Vulcanología (CUEIV, Volcano Observatory), Universidad de Colima, Av. Gonzalo Sandoval 444, Colima, Col., 28045, Mexico.

Phone: +52 312 31 61 134 **Fax:** +52 312 31 27 581

e-mail: reunion2009@ucol.mx

website: <http://www.ucol.mx/volcan/reunion2009>

3rd International Maar Conference Malargue, Argentina

Date: April 14th-17th, 2009

Contact: Corina Risso-1, Miguel J. Haller-2, Ulrike Martin-3, Karoly Nemeth-4

1-Buenos Aires University; 2-Patagonia University, Puerto Madryn; 3-Wuerzburg University; 4-Massey University

Phone: +49-931-31-6019 (Martin) **Fax:** +49-931-31-2378 (Martin)

e-mail: corinarisso@fibertel.com.ar / haller@cenpat.edu.ar / martin@geozentrum-ktb.de / k.nemeth@massey.ac.nz

website: <http://www.3imc.org>

Multidisciplinary international volcanological congress to commemorate the 250th anniversary of Volcán Jorullo's birth in Michoacán, México

Date: September 27th – October 4th, 2009

Contact: Claus Siebe & Marie-Noelle Guilbaud (1); Gerardo Bocco & Teresa Ramírez (2); Victor Hugo Garduño Monroy (3); Avto Gogichaishvili (4)

1-Univ Nacional Autónoma de México (UNAM); 2-Centro de Geografía Ambiental, UNAM-Campus Morelia 3- UMSNH-IIM, Departamento de Geología y Mineralogía; 4-Instituto de Geofísica-Sede Michoacán, UNAM

Phone: +(52)-55-56224146 (Siebe) **Fax:** + (52)-55-55502486

e-mail: csiebe@geofisica.unam.mx / m.guilbaud@geofisica.unam.mx / gbocco@ciga.unam.mx / mtramirez@berkeley.edu / vgmonroy@zeus.umich.mx

website: <http://www.geofisica.unam.mx/vulcanologia/jorullo>

The next awarding of the Wager Medal and George Walker Award is scheduled at the IUGG General Assembly at Melbourne, Australia in June 2011. Deadline for nominations is December 1st, 2010.

THE 2008 GEORGE WALKER AWARDS

Citation for Diana Roman by Kathy Cashman

It is my great honor, and pleasure, to present Diana Roman for the George Walker award. It has to be one of the greatest thrills of our profession to have one's student receive recognition in the form of an award. This is particularly true of an award named for George Walker, whose scientific legacy lies as much in the students who worked with him as in his own scientific contributions. A real pleasure of working with students is that you can watch them evolve as scientists in a way that you can never see yourself, and this has certainly been true of the nine years that I have been associated with Diana.

Two components of Diana's background provide insight into who she is, both as a scientist and as a person. First, Diana spent much of her childhood training as a gymnast. If you have watched high-level gymnastic competition, such as that currently on display at the Olympics, you will know that both physical and mental discipline are necessary for success in this field; both of these traits have served Diana well in her career as a volcanologist. Second, Diana's undergraduate training was in Applied Economics – she even worked for two years as a Financial Analyst at Barclay's Bank – which gave her the mathematical and analytical tools that she needed to pursue a scientific career. Importantly, it also gave her the opportunity to try out, and then abandon, one discipline before turning to Volcanology as a profession.

Diana arrived in Oregon in the summer of 1999, in time to travel with me to Alaska for a field season on Augustine Volcano. Little did either Diana or I realize the chain of events that would unfold from that experience:

- a Masters thesis on the petrology of the 1986 eruptive products that included some hard-won volatile data on tiny pyroxene melt inclusions;
- a growing conviction that volcano seismology was her passion and the tool that she wanted to use to query volcanic processes;
- two summer internships at the Alaska Volcano Observatory, where she learned basic volcano seismology under the tutelage of John Power and the power of fault plane solutions from Seth Moran, and developed a lasting love of Alaskan landscapes, climate, and volcanoes;
- a growing scientific maturity as together Diana, John, Seth and I sought to merge perceptions of magma conduits as viewed from the inside (the magma) and the outside (VT earthquakes);
- and finally the day on which both Diana's paper was accepted by the Bulletin of the Seismological Society of American and she received a NERC Postdoctoral Fellowship to work with Prof. Jurgen Neuberg at Leeds University.

At that point both Diana and I realized that the financial analyst

FUTURE IAVCEI MEETINGS (Continued)

Cities on Volcanoes 6 – Tenerife 2010 (Canary Islands, Spain)

Date: May 31st – June 4th, 2010

Contact: Dr. Nemesio M. Pérez

Contact Address: Instituto Tecnológico y de Energías Renovables (ITER), 38611 Granadilla de Abona, Tenerife, Canary Islands, Spain

Phone: +34-922391000 **Fax:** +34-922391001

e-mail: nperez@iter.es

website: <http://www.citiesonvolcanoes6.com>

XXV IUGG General Assembly – 2011: Earth on the Edge: Science for a Sustainable Planet (Melbourne, Australia)

Date: June 27th – July 8th, 2011

Contact: IUGG 2011 General Assembly Managers

Contact Address: 91 - 97 Islington Street
Collingwood, VIC 3066, Australia

Phone: + 61 3 9417 0888 **Fax:** +61 3 9417 0899

e-mail: iugg2011@meetingplanners.com.au

website: <http://www.iugg2011.com>

had indeed transformed into the volcano seismologist, a scientist who, to paraphrase her own words, seeks to understand ways in which physical characteristics of magma transport through the crust are coded into geophysical expressions of volcanic unrest. In my mind, developing this link between the magma and the crust through which it travels is critical for the next generation of models of magmatic processes. At the same time, Diana has maintained her microprobe skills through tephrostratigraphic studies with her husband, Jonathan Wynn, as applied to questions of early hominin evolution in Ethiopia.

In closing, I note that Diana is here at this meeting with students of her own, thus following George Walker's legacy of weaving together the strands of personal research with the education of a the next generation of scientists.



Acceptance speech by Diana Roman

I am deeply honored to be one of the first recipients of the George Walker award, especially here in Iceland where George Walker did so much of his fundamental and pioneering early research in volcanology. For this honor, I would like to express my heartfelt gratitude to IAVCEI and to the awards committee. I hope that I will, in time, live up to the expectations implicit in this early career award.

Exactly ten years ago, I was working in corporate finance at Barclays Bank and just beginning the process of applying to graduate programs, hoping that I would be able to convince just one of the many schools to which I applied to overlook my unorthodox background and give me a chance to pursue a calling that I had stumbled upon towards the end of my undergraduate years. That I have been able, in ten years, to progress from San Francisco's financial district to a point where I am now beginning to develop my own research program in volcano seismology is because of a number of people who took great and generous risks on me, who mentored and guided me with infinite patience and unwavering support, and who encouraged me above all else to follow my instincts both in life and in science. I want to take this opportunity to acknowledge just a few of these people publicly.

It was my greatest fortune to work with Kathy Cashman during my Master's and my Ph.D. at the University of Oregon, and I could not possibly have asked for a better advisor and role model. Kathy, as many of you know, is a fiercely talented and devoted scientist, and most of what I know about volcanoes and about how to conduct research comes from the five years I spent in her group. From Kathy, I learned the importance of developing both a deep and lasting familiarity with the volcanological literature, and of giving careful and fair consideration to the work and opinion of other scientists. Most importantly, Kathy taught me, largely by example, that the best scientific progress is motivated by pure curiosity and fascination with one's subject above all else.

During my Ph.D., I was also closely mentored by John Power and Seth Moran at the USGS Alaska Volcano Observatory, and spent several memorable summers in Anchorage working under their guidance on data collected by the AVO. During this time and in the years since, John taught me the importance of producing only high-quality data even at the expense of producing no data at all, and that a good scientific article is one that thoroughly and clearly documents observations and acknowledges weaknesses in a preferred interpretation. Along with teaching me the bulk of what I know about seismological instrumentation, Seth, now at the Cascades Volcano Observatory, set for me a wonderful example of balance, both between work and family, and between being content with one's accomplishments and always striving for improvement.

During my postdoctoral fellowship at the University of Leeds, Jurgen Neuberg encouraged me to deepen my knowledge of theoretical seismology and time series analysis, pushed me to develop confidence in my work, and taught me how to achieve a perfect resonance when clinking a glass of bordeaux. Also during my postdoc, the staff of the Montserrat Volcano Observatory contributed generously to my research into volcanic stress field monitoring, providing me with an incredibly valuable data set and necessary and constructive feedback on the results of the study.

I want to acknowledge my department chair, Chuck Connor, for his tireless work in support of all of the Geology faculty at the University of South Florida. I greatly admire Chuck's ability to

keep our department running smoothly while at the same time maintaining a productive and diverse research group. Chuck, thank you so much for all of the opportunities you've given me since I came to USF. I am incredibly proud of all of the USF volcanology graduate students who are here presenting their research this week, and glad to be part of such a collegial, hardworking, and dynamic group as USF Volcanology.

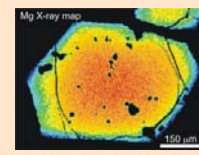
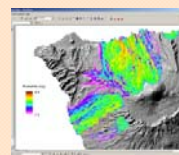
Finally, no one has been more supportive of my career than my husband and collaborator, Jonathan Wynn. I'm lucky to be married to one of the most intelligent scientists I have ever met, and I admire Jonathan's ability to apply the tools of stable isotope geochemistry to a mindboggling range of problems in geology, ecology, and paleoclimatology. Jonathan, thank you for being my partner in every sense of the word, for giving me the opportunity to be involved in the Dikika Project, and for willingly uprooting yourself multiple times for the sake of both of our careers.

Before I end, I would like to thank our Icelandic hosts for what has been an excellent conference so far, and for the opportunity to visit this fascinating country, a true mecca for any volcanologist and a place to which I am already hoping to return.

VOLCANOLOGY SOFTWARE

The IAVCEI website now features a page with downloadable software from the Barcelona research group.

We would like to add links for other sites with volcanology software, or if authors prefer, also add their software to the IAVCEI site. Many programs, small and large, have been written for different elements of petrology, heatflow, and sedimentation that are relevant to volcanologists. If you've produced such programs, or are using them and know the source sites, email the newsletter editor and get them publicised through IAVCEI, and linked through our website.



Citation for Fukashi Maeno by Steve Sparks

Dr Maeno is an outstanding young volcanologist. He graduated and took his PhD at the University of Tohoku under the supervision of Professor Taniguchi. His study of the Kikai caldera-forming eruption at 7.3 ka published in *Journal of Volcanology and Geothermal Research*, derived from his thesis research is a comprehensive, detailed and quantitative investigation of the pyroclastic deposits from one of the largest explosive eruptions of the Holocene. He has published in *Bulletin of Volcanology* a detailed study of the silicic lavas found within the Kikai caldera. These investigations are in the best traditions of George Walker's approach, involving astute field observations, meticulous documentation of field relationships, lots of high quality data, and convincing interpretations of the dynamical processes. George Walker indeed carried out some early work on the Kikai deposits. Maeno-san's paper on the silicic lava contains some novel ideas on the interaction of the fractured margins with the hot lava interior to explain the field relationships.

As well as the field studies, Dr Maeno has made some impressive modeling studies of tsunami generation during major caldera-forming eruptions, using the Kikai eruption as the example. He has developed models of the two possible

explanations, namely entrance of pyroclastic flows into the sea and caldera collapse, He has compared the predictions of the models with observations from which wave-heights have been estimated. He has made a convincing case that the tsunamis must have been generated by caldera collapse. Recently he has expanded his research agenda in studies of the Paektousan caldera-forming eruption project and Vesuvio excavation project, but these research endeavors are not yet published.

Maeno combines a flair for field volcanology with powerful skills as a modeler. His insight to volcanological phenomena in outcrop is outstanding. He has the potential to become an international leader of volcanology. For someone less than 3 years out of his PhD he has already produced top-class physical volcanology studies and has advanced understanding of volcanogenic tsunami generation through modeling. This work marks him as a young scientist of exceptional calibre and an appropriate person to win the Walker Award.

Acceptance speech by Fukashi Maeno

Thank you very much for inviting me up here as the winner of this glorious George Walker Award. I'm very happy to be awarded this prize in this time in this place. In this occasion, let me introduce briefly myself and my researches.

This picture shows a small volcanic island in Japan, Satsuma Iwo-jima Island. This island composes one part of a huge submarine caldera, Kikai caldera, located in southern Kyushu in Japan. During my past eight years, I have studied this Kikai caldera. This caldera is textbook-like, but may have many unsolved problems and the potential to advance volcanology.

This attractive volcanic island hit my heart, and I began to study the fundamentals of volcanology in this caldera; such as bimodal volcanic activities, silicic lava dome growth, latest Holocene caldera-forming eruption, including dynamics of pyroclastic density currents and tsunamis. As mentioned by Prof. Steve Sparks, George Walker had already visited these islands in the 1980's, and studied some deposits of a caldera-forming eruption. When I learned this episode at the beginning of my study, I was very surprised and impressed.

Basically, my interests are in dynamical processes of volcanic eruption, including transportation and emplacement processes of eruptive materials, and reconstruction of past volcanic events, using some techniques of field-based physical volcanology and of modeling in certain cases. One of my other interests is about huge tsunamis generated by caldera-forming eruptions. On the basis of geological-based initial conditions, our studies estimated more potential mechanism is caldera-collapse, rather than pyroclastic flow, for the 7.3 ka Kikai caldera-forming eruption. These above interests are just about pure researches on volcanology. So, in this occasion, I would like to mention another of my interestse. This is not directly linked with my research subjects, so do not listen seriously...

Volcanology often needs some hard works, especially for students; hard field works, laboratory works, brain works, desk works, and lot hard works. Strength and toughness are also needed. So, important thing may be how we get over these works. Actually, in my case, the answer is very simple. That is just running. "When my brain is just so full, I go to running. After that, I will be recovered to be fine." This cycle is very important for my daily life...

Seriously, I would like to mention what we should do for further understanding volcanoes. From physical volcanological viewpoints, developments of new methods for more detail and quantitative descriptions of eruptive materials, recording their history, are important. Construction of more sophisticated models for evaluating dynamical processes such as pyroclastic density currents and fallouts, based on interdisciplinary approaches, are also important. Furthermore, we need to apply above all to real near-future eruptions in worldwide, combined with other geophysical and geochemical researches. And, I would like to apply myself further and to produce and contribute an even better result on developments of volcanology. These above answers, however, may be model ones. So, I will say from viewpoint of another of my interests. That is just interests of volcanologists, excepting volcano, for their becoming more excellent. (Just joking...)

Finally, I'm deeply grateful to Prof. Hiromitsu Taniguchi who was my doctoral supervisor, Prof. Fumihiko Imamura, and nice and impressive people in the volcanological science research group in Tohoku University, and also colleagues in Volcano Research Center on Earthquake Research Institute. And, I would like to express my gratitude to professors; Steve Sparks, Jocelyn McPhie, Cathy Busby, and Mitsuhiro Nakagawa for nominating me. I also very much thank IAVCEI President, Professor Setsuya Nakada. Of course, I thank my family. Without help from these people who have supported and encouraged me, I could not have won the prize. Thank you for your attention.

THE 2008 WAGER MEDALS

Citation for Sandro Aiuppa by David Pyle

I am delighted to introduce Dr Sandro Aiuppa, as one of this year's Wager Medallists. Sandro Aiuppa is a brilliant young volcano geochemist who, through careful and innovative field measurement and the parallel development and application of theory, has transformed the field of gas chemical monitoring of volcanoes. His demonstration of the potential of low-cost high-resolution measurement of multiple gas species in volcanic emissions for eruption prediction is a major practical advance; while his modelling of the link between measured gas compositions and melt inclusion records of degassing is a major intellectual contribution to a long-standing problem. Sandro's significant and growing scientific reputation is based on his considerable contributions to the field of volcanic fluid geochemistry – with over 40 papers published in the international literature over the past decade.

Over the past decade, Sandro's research has focused on developing a deeper understanding of the interactions of volcanoes with the environment; and in the development and application of tools to measure volcanic emissions. While focusing on the laboratory volcanoes of Etna, Vulcano and Stromboli, Sandro has developed a quantitative and holistic understanding of the sources and fates of chemical constituents in the environment: from rainwater and thermal waters to the volcanic gas and aerosol plumes, and their links back to the rising magma. Several of Sandro's early papers (on groundwater and weathering in volcanic environments) have already made a substantial impact; while his most recent work – using the rapid changes in gas composition to identify critical changes in volcano behaviour – will have a major impact on the field in the future.

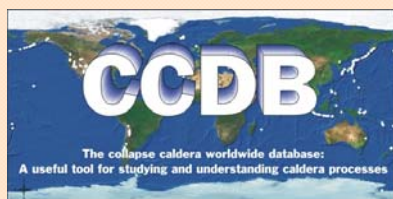
Sandro's work is innovative, meticulous and, above all, applicable: he has made major strides in developing low-cost solutions to the measurement of volcanic gas compositions in real-time. The value of this approach to volcano science and to predictive monitoring is substantial.

In addition to Sandro's qualities as a researcher, another factor stands out: his generous support for collaborations; and his nurturing of young scientists. Sandro's facilitation of international collaborations has been substantial: by opening up his Palermo laboratory (in Palermo) and helping to make the field laboratories of Etna and Vulcano accessible to international co-workers, Sandro has stimulated a wide range of pioneering volcanic gas and aerosol studies. Sandro has also been an enthusiastic supporter of early career scientists, devoting time to graduate students and post-doctoral workers from around the world with their field and laboratory work, and with the analysis and interpretation of their data. The award of the Wager Medal for 2008 is a worthy recognition of Sandro Aiuppa's outstanding contributions to the field of volcanology over the past eight years.

VOLCANOLOGY DATABASES

The IAVCEI website now features a page with a downloadable database from the Barcelona research group.

We would like to add links for other sites with volcanology databases, or if authors prefer, also add their database(s) to the IAVCEI site. If you've produced a volcanological database, or are using one and know the source sites, email the newsletter editor and get them publicised through IAVCEI, and linked through our website.



Acceptance speech by Sandro Aiuppa

I wish to thank the committee and my proposers for considering me for this award which I am very honoured to receive. And even more so, since this is to my knowledge the first time the Wager Medal has been awarded to a gas geochemist, which I take as an acknowledgement of the significant advancements in the field during the last few decades.

Volcanic gas geochemistry has moved forward enormously from the first steps in the middle of the last century thanks to the passionate efforts of a relatively small group of scientists, whose pioneering studies set up the conceptual and methodological foundation for future developments in the following years. Still, it is only quite recently - at least compared to better established geophysical techniques - that the study of volcanic gases has become clearly manifest as a valuable instrument for the comprehension of volcanic processes, and in the monitoring of active volcanoes.

There are essentially two sets of complementary motivations for the recent advances of volcanic gas studies, which I'd like to bring to mind at this stage. On the one hand, the advent of modern techniques has enabled the measurement of volcanic gas composition in real-time and with acquisition frequencies of the order of seconds to minutes - which contrast with older methods

requiring time-consuming analytical determinations in laboratories. These technical advancements are now enabling the design and implementation of networks of fully-automated geochemical instruments at many volcanoes worldwide.

On the other hand, there have been enormous improvements in the way volcanic gas data are modelled and quantitatively interpreted. This improved quantitative approach to volcanic gas data has particularly benefited from the refining of thermodynamic gas-melt saturation models, with better understanding of the physical mechanisms of volcanic degassing, and with improved knowledge of pre-eruptive volatile contents in magmas. The complementary use of this mass of multidisciplinary information has given key insights into our understanding of pre and syn-eruptive magmatic processes.

The gas geochemistry community - coordinated within the IAVCEI Commission on the Chemistry of Volcanic Gases (CCVG) - has actively contributed to all these different research fields, and I feel the joint efforts of the CCVG are at the base of my being here today. Had I time, I feel there would be tens of colleagues I'd like to thank for their critical support to my career. I'm particularly grateful to David Pyle; Dave has been an example of a rigorous and excellent scientist, and I have really appreciated working with him and his group, Tamsin Mather in particular, over the last few years. Patrick Allard in France, Hiroshi Shinohara in Japan, and Andrew McGonigle in the UK, have also been unique research partners and great friends.

To conclude, I am indebted with the Italian volcanological community; and I cannot forget to thank the staff at my Department at Università di Palermo, and at the Istituto Nazionale di Geofisica e Vulcanologia in Palermo, for having been so supportive, and for contributing in so many different ways to my maturation as a scientist and as a man. The fluid geochemistry group in Palermo, numbering now more than 40 scientists who are devoted to the study of volcanic gases, has been a unique environment to grow within. Mariano Valenza, Franco Parello and Sergio Gurrieri are particularly acknowledged in this context, for having been unwavering guides over the years.



Citation for Joachim Gottsmann by Joan Martí

It is a great pleasure to me to introduce Dr. Joachim Gottsmann, the "tall man" as some of us name him, a great and clever scientist and excellent person and friend.

He has developed his successful career in different institutions starting in Bayreuth and Munich (Germany) with Prof. Donald Dingwell, then moving to the Open University (UK) with Dr. Hazel Rymer, later to the Institute of Earth Sciences of Barcelona (Spain) to collaborate with our group of Volcanology, and at present at the University of Bristol (UK) with Prof. Steve Sparks.

His research comprises several of the main fields of Volcanology including magma physics, physical volcanology, geophysics, volcano monitoring, and caldera volcanism, and his scientific results already are a reference for other works and scientists.

I sincerely think that Dr. Gottsmann merits for the Wager medal, so I am really pleased to give it to him.

Thanks Joachim for your great work!

Acceptance speech by Joachim Gottsmann

Thank you, Joan, for the kind introduction. I am grateful to the IAVCEI, the colleagues who put my name down in the first place and the awards committee for this award. It is a great honor receiving the prestigious Wager medal and to join an illustrious group of past recipients.

Of course, I have benefited enormously interacting with numerous outstanding colleagues over the past years from different disciplines be it geology, petrology, experimental volcanology, material science, mathematics, geodesy or geophysics. Without their great collaboration many of the past projects would have simply not succeeded. So, thanks to all co-authors and collaborators for their contributions and inspirations.

I like to, however, mention a few people, who have helped shape my career so far and who thus share this award with me:

First and foremost Don Dingwell, who has introduced me to the enigmatic world of magma rheology and the glass transition. Don continuous to be a great mentor and I am thankful for his continuous support over the past years.

Joining Hazel Rymer's research group at the Open University in 2001, provided me with the outstanding opportunity to completely change subject and to immerse myself into the world of volcano geodesy. Thank you, Hazel, for your bold move of taking me on as a geodesy greenhorn and your continuing support.

I also owe my thanks to Joan Marti, who I value as a great character and friend. I had the pleasure working with him in his research group in Barcelona, Spain, and we were lucky enough to be in time to capture the reactivation of the central volcanic complex on Tenerife in 2004.

Tempted back to the UK in 2005 by a Royal Society University Research Fellowship, I joined Steve Sparks's Volcanology and Geological Fluid Dynamics group at the University of Bristol. Steve and his group provide an immensely stimulating working environment, and a fertile breeding ground for more exciting volcano research in the years to come.

Last but not least, a big chunk of the award belongs to my wife Monika and my daughters Hannah and Leonie, who provide a haven of sanity in the sometimes mad world of volcanology.

In concluding, I thank you all again for this great award.

THE 2008 KRAFFT MEDAL

Citation for Chris Newhall by Grant Heiken

Maurice and Katia Krafft traveled the globe for 25 years, making movies, taking photos, publishing books, and giving public lectures - all about volcanoes and their effects on people at risk. They made good friends in many countries and educated all of us about the beauty and risk of volcanic activity. The Krafft Medal honors those "who have shown altruism and dedication to the humanitarian and applied aspects of volcanology and those who have made selfless contributions to the volcanological community."

The Krafft Medal for 2008 is awarded to Chris Newhall. Those who nominated Chris are a truly international group - Bob Tilling, John Pallister, Shigeo Aramaki, Ima Itikurai, Servando de la Cruz,

Gerald Ernst, Hugo Yepes, Renato Solidum, and David Johnston. Throughout his distinguished career, Dr. Christopher G. Newhall's primary focus has always been to help his fellow man through advancing our understanding of volcanism and through diplomatic collaboration and assistance, as exemplified by multiple contributions to IAVCEI such as leading efforts on mitigation of volcanic disasters, identification of Decade Volcanoes, and developing volcano-crisis protocols. To be closer to the issues of hazard mitigation in developing countries, he has chosen to "retire" to Southern Luzon, Philippines. He has set a nonpareil example of how to utilize excellent science to help mitigate hazards that threaten people. During the past two decades, Chris - in his soft-spoken, unassuming but effective manner - has worked quietly behind the scenes in the development of effective volcano observatories and during successful responses to volcano crises in developing countries. Dr. Newhall clearly has made, and is continuing to make, "selfless contributions" to the "humanitarian aspects of volcanology."

Therefore, it is especially fitting for IAVCEI - with its international scope and combined focus on volcanologic research and mitigation of natural disasters - to award the Krafft Medal to Christopher G. Newhall.

Acceptance Speech by Chris Newhall

Thank you, Grant, for that generous introduction. I think I should be reading the citation for you - since you're a role model of how, in retirement, we can finish all the neat projects we couldn't finish while employed!

The contributions of Maurice and Katia toward hazard mitigation are well known. Better than anyone else of their time, they created unambiguous visual records of eruptive processes. No models, just the real thing, please. They made hazardous phenomena clear for those at risk, especially where long volcanic repose had dulled the memory of residents. Shortly after the tragedy at Nevado del Ruiz, a group of us met in Hilo - including Maurice - searching for ways to prevent this kind of event from happening again. What was decided was to make a video that illustrated each major volcanic hazard - what it is, how fast and far it travels, and what happens when it hits you. The resulting IAVCEI hazards video, for which Maurice and Katia provided most of the footage and all of the editing, was the most effective educational tool we had at long-dormant Pinatubo. Maurice and Katia were en route to the Philippines when they were killed at Unzen... a sad irony that they were killed trying to get better footage of pyroclastic flows at the same time that the footage they did have was saving thousands of lives at Pinatubo. Thank you, Maurice and Katia.

I've been very fortunate in my own career, and owe a hearty thanks to many. An early break was being invited as a Peace Corps Volunteer to teach at the foot of Mayon. Then, in grad school, I found mentors in Ian MacGregor, Tom Simkin, and the late Dick Stoiber and Bob Decker. From Tom, I learned especially to be a student of history and of others' work, in addition to one's own field work. Tom was the worthy first recipient of the Krafft Medal. From Bob Decker, I learned how much one can get done just by planting ideas and letting others run with them! Postdoc Steve Self was a welcome officemate for this graduate student. In the USGS, I was privileged to work with a fantastic group of colleagues. Several times, senior colleagues took a chance with this young kid - opening doors at MSH, in Indonesia, various other countries, and, eventually, full circle back to the Philippines at Pinatubo. I closed out my USGS career with two great gigs.

Working with the VDAP team was (and still is) a delight, as was a chance to find the best of two worlds, academia and government service, while working for USGS at Univ. of Washington. My colleagues at VSI and at PHIVOLCS, including the late Ray Punongbayan, have been a delight to work with and I deeply appreciate their trust. This award also belongs to them.

Among eruptions I've known...Mayon, MSH, Pinatubo... each was an order of magnitude (or 2) larger than the last... and I've just moved this month into a new position in Singapore, which is not far from Toba and Maninjau. For this latest opportunity, I'm very grateful to Kerry Sieh and Steve Sparks.

Last but certainly not least, I'm grateful to my wife Glen for giving me a lot of rope, encouragement, and reality checks about what's really important in life. She has moved or delayed her own career, raised our kids, and helped me to seize opportunities when they came along. Please stand up, Glen!

Over the years, I've been motivated by (1) volcanic tragedies (especially, the preventable ones) (2) friends in villages whose lives and livelihood depend on our advice, (3) by a lingering and troublesome gap between what they and officials need to know for safety and what we can actually say.

Two themes that I've carried through much of my career have been (1) to try to open doors for students and colleagues from other countries just as they have opened doors for me, and (2) to try to gather the collective monitoring experience of volcano observatories around the world into a modern web-accessible database of unrest that can be used for research and reference during volcanic crises. Both are long-running dreams. One positive side of the terrible Sumatran earthquake and tsunami of 2004 was to encourage the government of Singapore to open a new geohazards research institute, the Earth Observatory of Singapore, which opens new opportunities to work on both dreams.

Again, thank you, Grant and colleagues, for the honor of the Krafft Medal. And may each of us, in our own way, honor Maurice and Katia's memory by making our science useful to those at risk.

THE 2008 THORARINSSON MEDAL

Citation for R S J Sparks by Herbert E Huppert

Steve Sparks is a wonderfully imaginative and broadly knowledgeable scientist and a close friend. In my mind there could be no better recipient of the award. Steve's contributions to volcanology are legendary. His work, which is over an enormously broad canvas, and his reputation will without a doubt stand the test of time.

Steve has been consistently at the forefront of volcanological research. A list of his scientific accomplishments could go on for many many pages. His early work, supervised by George Walker, was on pyroclastic flow deposits and the significance of stratigraphic sequences in ignimbrites. He went on to suggest the possibility and importance of magma mixing. With Lionel Wilson, he was the first to make fluid dynamic models of explosive eruptions, explosive degassing and column collapse, elucidating the fundamental principles. Concurrently, he also made contributions to explosive eruption dynamics and investigated Icelandic and Etna eruptions and the structure of lavas that resulted from them.

Around 1980 Steve and I started working closely together. I am proud to say that he has been one of the major influences on my scientific career. Together, we suggested, and demonstrated in the laboratory, the existence of a "density trap" in magma chambers and subsequently showed how, under a variety of different processes, the initially heavier lower magma layer can become unstable, rise into the upper magma layer and possibly trigger a volcanic eruption. Our most referenced work, well over 450 citations by now, was a quantitative model of underplating, suggesting how granites could be formed in the Earth's crust. At about the same time Sparks, along with his students, became interested in Santorini, where he directed a series of studies which mapped out the volcanic structure in detail and allowed for a new interpretation.

In the late 1980s, much to my own personal disappointment, Sparks moved to Bristol University. Quite quickly, because of his enormous scientific input, he was able to establish it as a centre to be reckoned with. Sparks started his scientific work there by becoming interested in the general question of particle-laden flows, such as pyroclastic flows and turbidity currents. Over the last six or so years, he has been collaborating with a Russian mathematician, Melnik, to develop new, nonlinear solutions for eruption flows in conduits and the subsequent dome formation.

A whole book could, and has, been written about Sparks' involvement in the Montserrat eruption since the mid-1990s. He has played a dominant role in virtually all the papers that have emanated from the eruption. He has also recently become interested in hazard assessment and has done an enormous amount from a societal point of view to improve our understanding of hazards from both the fundamental geological point of view and from a statistical point of view.

As if contribution to science is not sufficient, he has also been heavily influential in administrative work for the Earth Sciences. He is a wonderful ambassador for the subject. He has been a very active President of the Geological Society (of Great Britain), President of IAVCEI and the Earth Science representative for the award of the European Young Scientist competition. As fits a man of his distinction, he has received numerous honours and awards, including election to the Royal Society at the early age of 38.

VOLCANO IMAGES

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Sparks has a continual interest in the scientific development of his students, post-docs and colleagues. He shares his ideas absolutely freely with them and could easily expect to have his name on even more papers. I frequently say that he is a man of "almost no ego", being totally interested in the development and expansion of the subject and having very little regard to how he himself is viewed. Sparks is without doubt one of the giants in the field of Earth Sciences, and the world's leading volcanologist. He is an extremely worthy recipient of the 2008 Thorarinsson Medal.

Citation for Steve Sparks in the General Assembly at Iceland was given by Hans Schmincke.

Acceptance speech by Steve Sparks

Thank you Hans for your kind words. I am immensely honoured to be awarded the Thorarinsson medal and thank those who made the nomination and the IAVCEI awards committee. To receive the medal in Iceland is very special as it provides some symmetry to my career and life. In 1968 as a first year student at Imperial College, London George Walker suggested to four of the new geology students that it might be interesting to organise an expedition to Iceland and so we spent the summer of 1969 mapping the southern flanks of Oraefajokull. This trip, which included Geoff Wadge, taught us what geology was about. My recollection is that it rained every day, that fulmars do not like geologists and it is not wise to wade across an Icelandic river with your field note book in hand. Enthused by the volcanic landscape of Iceland, I started my PhD with George but chose a project in Italy. Right at the beginning of my PhD George suggested I read the papers of Sigurdur Thorarinsson as the state-of-the-art in physical volcanology. With George as adviser and the inspiration of Thorarinsson's papers this was a great start. In 1973, when the Heimaey eruption began, luckily for Steve Self and I George was on Tenerife doing field work. Steve and I set out to see our first eruption. We were two very green PhD students, and our greenness was exacerbated by the trip to the island in a particularly small boat in a particularly rough January sea.

Such occasions are the time to thank many colleagues for their advice, companionship and insights. I took an interest in the physics of volcanoes during my PhD, but it wasn't until I got to Lancaster that I started a wonderful collaboration with Lionel Wilson, who pioneered the modelling of volcanic processes. At the Graduate School of Oceanography, Rhode Island I started a lifelong friendship and collaboration with Steve Carey and Haraldur Sigurdsson, and learnt about research on the oceans and the Caribbean. I then got a job at Cambridge. I realised very early on that my maths was not good enough to solve many of the key problems in volcanology, and so I was privileged to develop another long-long collaboration with Herbert Huppert, who with Stewart Turner, taught me the power of analogue experiments and contributed their penetrating mathematical analysis to understanding volcanic and magmatic flows. More recently I have been lucky to work with Oleg Melnik.

In 1989 I moved to Bristol, which has been a wonderful Department and I have many supportive colleagues. The move to Bristol was an exciting time and involved building up the department with Bernie Wood. I started to spend time in Chile and greatly enjoyed working with my colleagues and friends at the Geological Survey of Chile. 1996 was a really pivotal moment as then the eruption of the Soufrière Hills volcano began and I got involved in a truly awesome event. Here I could use my knowledge in a more practical way to help the disaster

management and develop ideas on how to assess volcanic risk with Willy Aspinall. I also started a wonderful stimulating collaboration with Barry Voight, as well working with so many great people at the Montserrat Volcano Observatory.

I have been fortunate to have supervised and guided many brilliant PhD students and young post-doctoral scientists, some of whom have gone on to make their names as innovative scientists as well as become good friends. Last but certainly not least, I have been wonderfully supported by my family. First my father brought my brother and I up in a very bachelor household, where I learnt to cook curry, appreciate music, and become a cricket fanatic. My wife Ann is here today and her love and support has provided the stability for my strange volcano hobby.



IAVCEI GENERAL ASSEMBLY, ICELAND 2008

IAVCEI's General Assembly was held in Reykjavik, Iceland, August 18-22, 2008. The meeting was sponsored by the Ministry of Foreign Affairs in Iceland and ten other institutions including the University of Iceland, and the Icelandic Geosciences Society. The IAVCEI General Assembly is an international forum organized every four years by the IAVCEI executive committee and the host countries' geosciences communities, in which volcanologists worldwide meet and discuss the latest advances in terrestrial and extra-terrestrial volcanological research. For this conference 907 participants registered from 49 countries. One hundred thirty eight grants were given to students and young researchers from 38 countries and 54 grants to researchers from less developed countries. IAVCEI and the European Science Foundation allocated 5000 Euros each to this program.

The main theme of this General Assembly was "Understanding Volcanoes". The meeting was divided into 4 symposiums; From source to vent (13 sessions), Volcanoes and eruptions (14 sessions), Volcano - Ice - water interaction (7 sessions) and Volcano - environment - society (8 sessions). A total of 1238 presentations were given at the meeting, divided into 640 oral and 598 poster presentations. The meeting was conducted in 10 lecture halls over 4 days at the University of Iceland campus. On Wednesday August 20, intra meeting field trips were organized to Pingvellir, Reykjanes, Hengill volcano and Hvalfjörður.

Each conference day began with a communal activity at the University theatre, after which the technical sessions began. The meeting was opened by the President of Iceland, Mr. Ólafur Ragnar Grímsson, on Monday morning, after which Dr. Thor Thordarson and Dr. Kristín Vogfjörð gave an introduction to the volcanoes and geodynamics of Iceland. On Tuesday morning IAVCEI awards were given to the following IAVCEI members; The Kraft medal to Christopher G. Newhall, the Wager medal to Alessandro Aiuppa and Joachim Gottsman, the George Walker medal to Diana C. Roman and Fukashi Maeno, the Thorarinsson medal to Robert Stephen John Sparks. On Thursday morning Prof. Hans Ulrich Schmincke presented a plenary talk on the evolution of volcanological research through the past 50 years. On Friday morning Prof. Stephen Sparks gave the Thorarinsson medal talk. During the conference dinner, held in the restaurant Perlan, three IAVCEI honorary members were announced, Prof. Haraldur Sigurdsson, Prof. Franco Barberi and Prof. Wally Johnson.

Four IAVCEI commission and working group meetings were organized at the IAVCEI 2008 General Assembly: Commission on Explosive Volcanism on August 19th, organized by Shinji Takarada; IAVCEI/IASC Joint Commission on Volcano-Ice Interactions on August 21st, organized by Magnus T. Gudmundsson; IASPEI/IAVCEI Joint Commission on Volcano Seismology on August 21st, organized by Jurgen Neuberger and Hiroyuki Kumagai; and IAVCEI Commission on Tephra Hazard Modelling on August 21st, organized by Costanza Bonadonna.

Three workshops were organized in relation to the meeting. A field workshop at the Askja central volcano on silicic explosive volcanism and near-vent successions was held August 12th to 17th, organized by Rebecca Carey, Bruce Houghton and Thor Thordarson. A workshop on field-based methodologies for quantifying volcanic activity was held August 16th through 17th, organized by Eliza Calder and Matt Watson. At the end of the meeting, on August 23rd-24th, a workshop on "Recent developments in explosive volcanism" was organized by Shinji Takarada, Sharon Allen and Amanda Clarke. Participation in all workshops was good.

Four pre-conference field trips were conducted from 14th to 17th of August, and each was fully booked 3 months prior to departure. The field trips were: Historical flood lavas – The 1783-84 Laki and 934-940 Eldgja events, organized by Thor Thordarson and Gudrun Larsen; Rift zone tectonics, organized by Pall Einarsson, Amy Clifton and Kirby Young; Torfajökull area rhyolites and basalts, organized by Dave McGarvie and Hugh Tuffen; and Sandars and volcanic jökulhlaup deposits in South Iceland, organized by Oskar Knudsen and Kate Smith.

Five fieldtrips were conducted after the meeting, from August 23rd to the 27th. The field trips were: Hekla volcano, organized by Gudrun Sverrisdottir and Rhian Meara; Grímsvötn – volcano-ice interaction – Vatnajökull traverse, organized by Magnus Tumi Gudmundsson and Tanya Shavalia; Phreatomagmatism in the Eastern volcanic zone, organized by Gudrun Larsen and Thor Thordarson; The Neovolcanic Zone, including Askja and Krafla, Organized by Armann Hoskuldsson and Freysteinn Sigmundsson; Tertiary flood basalts and the roots of central volcanoes, organized by Ian L. Gibson, Pall Imsland and Omar Bjarki Smarason. The last field trip was organized in relation to the opening of the George Walker research centre in East Iceland. The research centre is dedicated to the pioneering research of George Walker in Eastern Iceland.

The products of the IAVCEI General Assembly in Iceland, including abstract volumes, meeting program, newsletters, and useful meeting data can be seen at: <http://www.iavcei2008.hi.is>



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*Newsletter compiled by James White
University of Otago, New Zealand*