

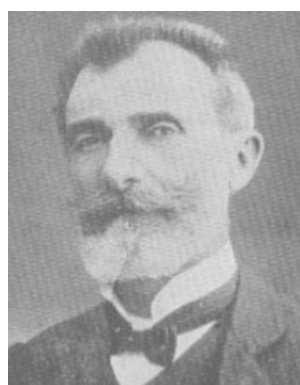
History of IAVCEI 1919 – 2019

From small beginnings to a vibrant international association

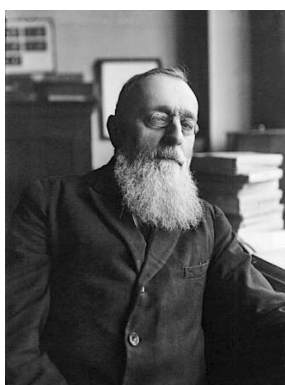
THE EVOLUTION OF IAVCEI

The movers and shakers behind IAVCEI's formation in 1919

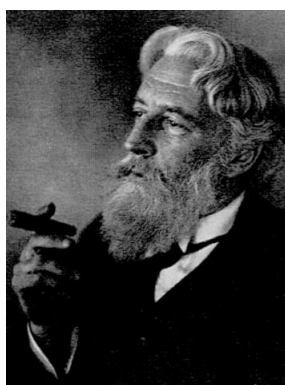
The movers and shakers who are credited with establishing the Section for Volcanology in IUGG in 1919 are Annibale Ricco (Italy), Alfred Lacroix (France), Henry S. Washington (USA), and Alessandro Malladra (Italy) (see photos below; Gasparini and Johnson 1995). Annibale Ricco (Photo 1) was a celebrated Italian astronomer, with interests in other natural sciences, including seismology. He served as an astronomer at the universities of Modena, Napoli, Palermo and at the time of appointment, Catania, all in Italy. Alfred Lacroix (Photo 2) was a French volcanologist at the Museum of Natural History in and was most famous for his account of the 1902 eruption of Mt Pelee, which killed ~30,000 people in the coastal town of St Pierre, Martinique, and for defining the concept of *nuees ardentes* ("glowing clouds" or pyroclastic flows). Henry S. Washington (Photo 3) was a well-known American petrologist and geochemist at the Carnegie Institute in Washington DC, who was integral to introducing the normative mineralogy composition concept. Alessandro Malladra (Photo 4) was an Italian volcanologist from the Vesuvius Observatory in Naples.



Annibale Ricco



Alfred Lacroix



Henry S. Washington



Alessandro Malladra

At that Inaugural General Assembly of the International Research Council in Brussels, Belgium, in 1919, where IUGG was formed as a union of six disciplinary sections, Annibale Ricco was elected as first President of the Section for Volcanology (SV), Alfred Lacroix and Henry Washington as Vice-Presidents, and Alessandro Malladra as Secretary General. The process is not clear, but presumably it was by the consensus of the shakers and movers involved in setting up the SV. Sadly, Ricco died after only 2 months into his term as President. Lacroix took over the duties of President *de facto* but was not formally installed as President until the first IUGG General Assembly in Rome, Italy, in 1922, at which Washington was elected Vice President, and Malladra was confirmed as Secretary General.

How IAVCEI evolved from 1919 onwards

At the 1922 IUGG General Assembly, the SV decided to establish a bureau or office for the Section in Napoli, Italy, where Malladra was based. In his capacity as Secretary General, Malladra also oversaw the introduction of *Bulletin Volcanologique*, the precursor to *Bulletin of Volcanology*. The title in French accords with French being one of the two official languages of

the IUGG. The first volume of BV was published in 1924, with Alessandro Malladra the editor. He continued as editor until 1936, in addition to being Secretary General.

IAVCEI's first scientific conference or meeting, at which scientists presented their research, volcanological issues were discussed and reports were presented by scientists from around the world, was part of the first IUGG General Assembly held in Rome in 1922. The number of participants was not recorded, but representatives from Belgium, Canada, France, Great Britain, Italy, Japan, Norway, Portugal, Spain, Sweden, Switzerland, and USA participated in IAVCEI's first General Assembly (Gasparini and Johnson 1995). Since then IAVCEI has held regular major scientific meetings about every 2 years. The meetings held in conjunction with IUGG General Assemblies were called IAVCEI General Assemblies (GAs) (where business and scientific meetings were held), and these have been held every 2-3 years, and since 1963, every 4 years, except during World War II. In between the GAs, IAVCEI has held its own major conferences called IAVCEI Scientific Assemblies (SAs) (in 1977 together with IASPEI). Attendances have progressively increased from ~500 in 1977 at the Durham, UK SA, to >1,000 at the 2013 Kagoshima SA and 1,400 at the 2017 Portland SA. There was however a decrease in numbers immediately after the global financial crisis of 2008. Over the last 20 years a new conference, initiated by the Commission for Cities and Volcanoes and called "Cities on Volcanoes" conferences have become very popular, attracting over 600 people at recent conferences. These are also held about every 2 years. All conferences are held in different locations and countries, the venue based on interested countries competing to host each conference.

OFFICE BEARERS/COMMITTEE MEMBERS

The principal office bearers of IAVCEI have been its Presidents and Secretaries General (the latter is also the treasurer). In addition, a committee, consisting of variously one, or more recently, two Vice Presidents, and four other members, provide advice and help in the decision-making process. Together with the President, Secretary General and Immediate Past President *ex-officio*, they constitute the Executive Committee of IAVCEI. The current committee is listed on the IAVCEI website (<https://www.iavceivolcano.org>); and the list of past IAVCEI Presidents and Secretaries General can be found in the IUGG Annual Yearbooks (e.g., <http://www.iugg.org/publications/yearbooks/yearbook2018.pdf>, page 48). The lengths of committee terms have varied in the past, but since 1963 the terms for President have been 4 years, and to provide continuity, for the Secretary General, 8 years. Committee members can be re-elected after their first 4-year term, for only one further 4-year term, but they may nominate for the Presidency or Secretary General position thereafter. All committee positions are voluntary, and the IAVCEI community is indebted to those who have given their time to serve as committee members.

Election of IAVCEI Executive Committees by IAVCEI Members, and introduction of individual membership

The IAVCEI Executive Committee is now elected by IAVCEI members in the months before each IAVCEI General Assembly, after an open call for nominations from IAVCEI members. The election is conducted by an Election Oversight Committee appointed by the President, and usually chaired by the past President, two terms earlier. The editor of Bulletin of Volcanology is appointed by the Executive Committee after an open call for expressions of interest.

Prior to 1995, IAVCEI Committees were “agreed to” following enquiries by the outgoing Executive Committee about suitable candidates who were representative of the wide IAVCEI Community world-wide. In 1995, under the Presidency of Grant Heiken, the IAVCEI Executive Committee introduced personal membership in order to develop a stronger sense of community, to help raise funds for the many meetings and workshops that IAVCEI organised every year, which could not be adequately funded by annual budget allocations from IUGG, and to provide a sounder financial base for publication of Bulletin of Volcanology. As a result, IAVCEI members became eligible to nominate and vote for candidates for the IAVCEI Executive Committee. Officially, IUGG did not support individual membership or membership fees in the IUGG associations, and there had been many tense exchanges between IAVCEI and the IUGG Executive before and after the 1995 declaration on individual membership. IUGG Statutes stated that the Executive Committees of the Associations could only be voted on by the official national correspondents to each association who could only come from member countries of IUGG with membership dues paid. The problems with this scheme were many, including the disenfranchisement of many volcanologists who were very active in IAVCEI, but came from countries that were not financial members of IUGG. This was clearly unfair in an increasingly modern, inclusive and democratic world. So, from 1995 onwards IAVCEI Executive Committees were elected by all members of IAVCEI irrespective of their countries of residence, and contrary to the Statutes (or constitution) of IUGG.

Unfortunately, this meant that while IUGG adhered to its Statutes, IAVCEI Executive Committees could be declared illegitimate by IUGG if it chose. To overcome this constitutional impasse, the IAVCEI Executive Committee of 2011-2015 undertook a hard and again at times tense campaign to convince IUGG and its other member associations of the merits of allowing associations to introduce individual membership, the charging of membership fees and democratisation of the elections of association executive committees, if they so wished. This involved allowing all registered members, irrespective of country of residence, to be eligible to nominate candidates, to be nominated as a candidate, and to participate in the election of the committees. At one stage, IAVCEI considered seceding from IUGG if these basic democratic principles were not agreed to. The proposal was overwhelmingly supported by the IUGG Council at its meeting at the IUGG General Assembly in Prague, after it was realised that two other associations also already had a form of personal membership in place, demonstrating that attitudes on personal membership in IUGG are changing. In addition, IAVCEI demonstrated that it was by far the most active association in IUGG in terms of conferences, workshops and short courses, which it could only do using funding generated by personal membership fees.

The only position now on the IAVCEI Executive Committee that must be filled by a representative from an IUGG financial member country is the President. This was a concession to IUGG, since the finances of IUGG, and thus the associations, which all receive an annual monetary allocation from IUGG, are all derived from the subscriptions paid to IUGG by member countries, from the budgets of the national academies of science of those countries. The perceived benefits of being a country member of IUGG is the right to contribute to the formulation of scientific policy at an international level through IUGG, and then through ICSU, now ICS.

From 1995 to 2015, the election of the IAVCEI Executive Committee was conducted by hardcopy ballot papers and snail mail. The election of the 2015-2019 IAVCEI Committee was successfully conducted electronically on-line.

GOVERNANCE and STATUTES

The first mention of Statutes (or constitution) made by Gasparini and Johnson (1995), refers to statutes that were adopted at the IAV General Assembly in Helsinki, Finland in 1960 for what was then still the International Association for Volcanology (IAV). It is assumed that prior to this IAV Statutes mirrored those of IUGG, although information on this is invited from readers. Following these 1960 statutes, IAV's scientific activities in the were managed through four sections, Active Volcanoes, Volcano-Physics, Physics and Chemistry of Magmas, and Paleovolcanology, the Presidents of which were members of the IAV Bureau. At the IUGG General Assembly in Zurich in 1967, IAV became IAVCEI, and more flexible Working Groups on topical research themes were introduced to replace the more rigid sections. There was then a further revision of IAVCEI's statutes at the 1979 IUGG General Assembly, in which "Working Groups were replaced by Commissions and Task Groups, the former having the aim of promoting and co-ordinating scientific activity on large themes on a permanent basis, the latter being focused on temporary problems or on frontier areas of volcanological research" (Gasparini and Johnson 1995).

In 1995 at the IAVCEI General Assembly in Boulder, USA, and again in revised statutes passed at the 2011 IAVCEI General Assembly in Melbourne, Australia, the concept of individual scientists becoming "affiliates" of IAVCEI and making "donations" were introduced. At the 2015 IAVCEI General Assembly in Prague, Czech Republic, the concept of membership for scientists from all countries, involving fee payment, was included in revised Statutes, which are available on the IAVCEI website: <https://www.iavceivolcano.org/>

IAVCEI MAJOR CONFERENCES

IAVCEI has organised major conferences since 1922, interrupted only during World War II. Since 1922, IAVCEI's General Assemblies have been held in conjunction with the IUGG General Assemblies. The timing, locations, and known numbers of delegates from all IUGG associations attending the IUGG GENERAL ASSEMBLIES can be found in the IUGG 2018 YearBook (<http://www.iugg.org/publications/yearbooks/yearbook2018.pdf>; page 14).

IAVCEI'S SCIENTIFIC ASSEMBLY conferences, which occur between the General Assemblies, seem to have only commenced in 1977, and have been held roughly every 4 years since then (IUGG 2018 YearBook; <http://www.iugg.org/publications/yearbooks/yearbook2018.pdf>; page 25-26),

IAVCEI's Commission on Cities and Volcanoes has now organised 10 "Cities on Volcanoes" conferences, as follows (IAVCEI website):

NO.	YEAR	LOCATION
I.	1998	Rome and Napoli, Italy
II.	2001	Auckland, New Zealand
III.	2003	Hilo, Hawaii
IV.	2006	Quito, Ecuador
V.	2007	Shimabara, Japan
VI.	2010	Tenerife, Spain
VII.	2012	Colima, Mexico
VIII.	2014	Yogyakarta, Indonesia
IX.	2016	Puerto Varas, Chile
X.	2018	Napoli, Italy

In addition, IAVCEI Research Commissions have organised many other conferences, workshops and field workshops all over the world, making IAVCEI one of the most active associations in IUGG.

BULLETIN OF VOLCANOLOGY

• Origins and history

Since very early in its history, IAVCEI has produced its own journal, called *Bulletin Volcanologique*, from 1924 to 1984, renamed *Bulletin of Volcanology* from 1986 on. The first volumes were released spasmodically, and in a confusing manner, in two Series. Volume I, Series I, has 8 issues/parts, 6 of which were released over 2 years in 1924-1925 (Photo), and the last, issue 8, in 1931. However, on the Bulletin of Volcanology website of Springer, there is a Volume 1 listed as published in 1937, and then Volume 2, with 2 issues, issue 2 dated as published in 1926, and issue 1 in 1937! The break from 1931 to 1937 presumably represents the impact of the Great Depression of the late 1920's and early 1930's, with Series II beginning in 1937. Volumes 3 and 4 (of Series II) were published in 1938, Volume 5 in 1939, Volumes 6 and 7 in 1940, which is when World War 2 was well under way (continuing until 1945), during which no volumes of BV were published. The first post-WW2 volume appeared in 1949 (vol. 8), and BV has been published more or less continuously since, with some unexplained gaps in 1957, 1961, 1977 and 1985. No volume numbers were however skipped; their publication was just delayed. The cover of post-World War 2 volumes are labelled Series II, suggesting that after the initial Volume I (Series I, 1924-1936), the clock was reset in 1937, with the commencement of Series II, beginning with another Volume 1.

The source of funding to support publication of BV in the early years is unclear, but in the 1950's to early 1960's funding was provided by UNESCO, and then during the 1960's and 1970's from the National Research Council of Italy, as acknowledged on the covers of BV. From the mid-1980s, after publication was handed over to Springer in Germany, funding was provided by IAVCEI and also sourced from journal subscriptions, which continues to the present.

For over 40 years from 1924 to 1966 the Secretary General was also the editor of BV. Up until 1986 the editors were all Italian, but after 1986 scientists from other countries became editors of BV. In 1975, at the IAVCEI General Assembly in Grenoble, France, it was decided that the processes by which BV was produced needed to be more rigorous and so a more inclusive international peer review process for research papers was established, with Volume 39 in 1976, edited by Franco Barberi and F. Esu Cugusi, being the first output under this new regime. It is unclear how reviewing of manuscripts prior to this was undertaken, but presumably largely by the editor. Dissatisfaction amongst the IAVCEI community with the slowness of reviewing and processing of papers and publication of research papers came to a head in the mid-1980's, and a decision was made to transfer publication of BV to Springer in Germany, coinciding with the appointment of the first non-Italian editor of BV, Hans-Ulrich Schmincke, who was also the Secretary General at the time, and was instrumental in the change in direction.

In 1986 BV was renamed as Bulletin of Volcanology, redesigned, took on a new look with the release of Volume 48, and has been continuously produced as a high quality international journal since. From time to time its format has been revised and refreshed by each new editor. BV is now one of the two main-stream international volcanological journals, the other being Journal of Volcanology and Geothermal Research (published by the independent, commercial science publisher Elsevier), which was initiated in the 1970's as a result of dissatisfaction in the international volcanological community with the processes and timescales associated with BV

at the time. Other journals with a focus on volcanology have also emerged more recently (e.g. Journal of Applied Volcanology, Frontiers in Earth Sciences).

Editors of *Bulletin Volcanologique* and *Bulletin of Volcanology*

These are the unsung heroes of IAVCEI! Their efforts, as volunteers, in publishing research by the volcanological community on behalf of IAVCEI has long been undervalued. Until this compilation, IAVCEI did not even have a consolidated record of who the editors of BV have been. The following were editors of BV during its history:

- Alessandro Malladra (Italy; also Secretary General - SG) (1924-1936)
- Francesco Signore (Italy; also SG) (1936-1959)
- Francesco Penta (Italy; also SG) (1959-1966)
- F. Esu Cugusi (Italy) – G. Marinelli (Italy) (1967)
- F. Esu Cugusi (Italy) – M. Mittempergher (Italy) (1968-1975)
- Franco Barberi (Italy) – F. Esu Cugusi (Italy) (1976-1984)
- Hans Schmincke (Germany; also SG) – Steve Sparks (UK) (1986-1989)
- Hans Schmincke (Germany; also SG)– Gail Mahood (USA) (1990-1992)
- Hans Schmincke (Germany; also SG) (1993-1995)
- Don Swanson (USA) – Chris Newhall (USA; 1996-1999)
- Tim Druitt (France) – Jean Francois Lenat (France; 2000-2003)
- John Stix (Canada) - Jean Francois Lenat (France; 2004)
- John Stix (Canada) – JR Clark (Canada) (2005-2010)
- James White (New Zealand)– Linda White (New Zealand) (2011-2016)
- Andrew Harris (France) - Frances van Wyk de Vries (France) (2017-)

In addition, the countless members of the editorial board and reviewers of BV over the years are acknowledged, with thanks.

Publishers of *Bulletin Volcanologique*/*Bulletin of Volcanology*, and years

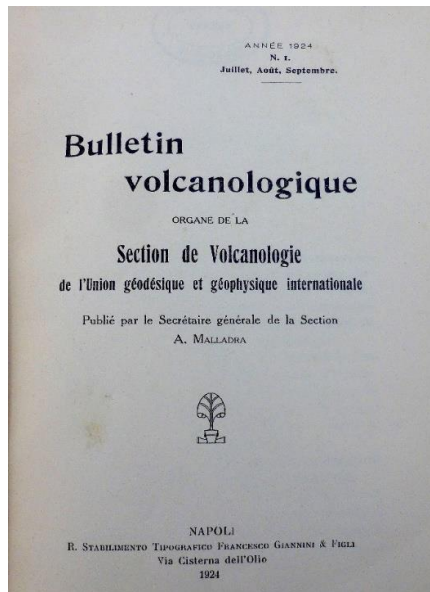
- *Bulletin Volcanologique*: Francesco Giannini e Figli, Napoli, Italy (1924-1984; volumes 1 to 47)
- *Bulletin of Volcanology*: Springer, Berlin, Germany (1986-present; volumes 48 to 80, and still counting in 2018)

• From hardback only to digital only

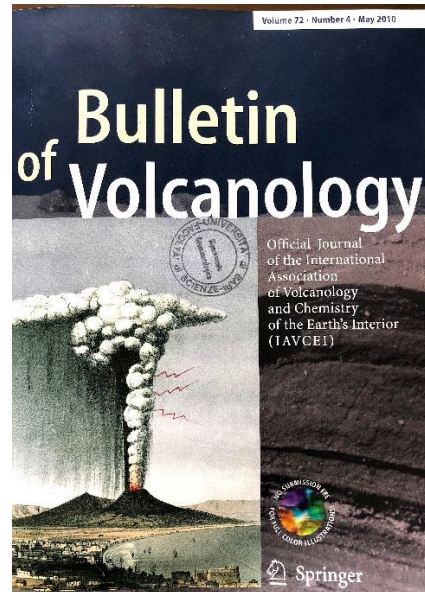
From 1924 to 2013 BV was published in hardcopy, and in the first part of the 21st century in both hardcopy and digital version. From 2013 it became available only in digital form online through the Springer BV website or through institutional libraries.

A Snapshot of the changing face of *Bulletin Volcanologique*/*Bulletin of Volcanology*

BV has been redesigned numerous times since first published in 1924. Following are just some of the incarnations of the cover:



The first! Vol 1, no. 1, July- -September 1924



Cover design, last hardcopy Vol. 10

CATALOGUE OF THE ACTIVE VOLCANOES OF THE WORLD and BULLETIN OF VOLCANIC ERUPTIONS

An initial aim of IAVCEI when it was first formed in 1919-1922 was to establish a record of all the known active volcanoes around the world (Gasparini and Johnson 1995). However, little was done until 1947 when W.Q Kennedy (UK) and J.E. Richey (UK) published a first attempt to catalogue and produce a map of the volcanoes of the world as a supplement in Volume 7 of *Bulletin Volcanologique* (Kennedy and Richey 1947). At the 1948 IAVCEI General Assembly in Oslo, Norway, it was decided to build on the database of the catalogue and map of the volcanoes of the world produced by in 1947, by subdividing the world into 19 regions, with the aim of producing a catalogue for each, under the editorship of Neumann van Padang (Gasparini and Johnson 1995). These were published through the IAV/*Bulletin Volcanologique* bureau in Napoli, Italy, and between 1951 and 1975, 22 volumes were produced:

Part	Region	Year
1	Indonesia,	1951
2	Philippine Islands	1953
3	Hawaiian Islands	1955
4	Africa and the Red Sea	1967
5	Melanesia	1957
6	Central America	1956
7	Kurile Islands	1959
8	Kamchatka, continental Asia	1959
9	United States	1959
10	Antarctica	1960
11	Japan, Taiwan, Marianas	1962
12	Colombia, Ecuador, Peru	1966
13	Kermadec, Tonga, Samoa	1959
14	Archipelago de Colon, Isla San Felix and Islas Juan Fernandez	1962
15	Chile	1962
16	Arabia and Indian Ocean	1963

17 Turkey and the Caucasus	1964
18 Italy	1964
19 Greece	1962
20 New Zealand	1975
21 Atlantic Ocean	1967
22 West Indies	1966

Since 1975, the role of providing updates has been largely taken over by the Smithsonian Institution Museum for Natural Science, which has produced three editions of “Volcanoes of the World”, edited by

- Simkin, T., Siebert, L., McClelland, L., Bridge, D., Newhall, C. and Latter, J. (1981)
- Simkin, T. Siebert, L. and McClelland, L. (1994)
- Siebert, L., Simkin, T. and Kimberly, P. (2011)

The Smithsonian Institution Museum of Natural History also now provides a constantly updated on-line catalogue of volcanoes of the world, through their Global Volcanism Program (GVP) (<https://volcano.si.edu/>) that can be searched. For each volcano there is a record of eruptions, reports, location map and images. The website also provides an up to date list of current eruptions.

In 1961 the Volcanological Society of Japan undertook a program to record annually the eruptions and locations for that year. Their reports were appended to volumes of *Bulletin Volcanologique*. At least 33 volumes up to 1994 were produced.

In addition, the Smithsonian Institution GVP, in collaboration with the United States Geological Survey, Arizona State University, Portland State University and IAVCEI, releases a weekly email report (VOLCANO: Smithsonian / USGS Weekly Volcanic Activity Report) that summarises the activity level, eruption events and crisis management status for volcanoes world-wide that are currently active or in a state of unrest. This report is distributed through an email news service called volcano listserv, which was initiated by Arizona State University under the stewardship of Jonathan Fink in 1984. It continues to provide this service to the volcanological community through the collaboration of the organisations mentioned, also disseminating information about meetings and news raised by members.

IAVCEI NEWSLETTER

In addition to Bulletin of Volcanology, IAVCEI has had a newsletter for several decades that was initially snail-mailed to members, but is now released on the IAVCEI website every 3 to 4 months. “IAVCEI News” summarises past, current and future activities of IAVCEI, including conferences, workshops, and the activities of Commissions. It also acts as a forum to raise issues affecting IAVCEI and its membership. The current editor of the “IAVCEI News” is Karoly Nemeth, from Massey University, New Zealand, who was instrumental in refreshing the newsletter when he became editor in 2011. Prior to this the newsletter was largely prepared by the Secretaries General and assistants.

IAVCEI RESEARCH COMMISSIONS, WORKING GROUPS/TASK GROUPS

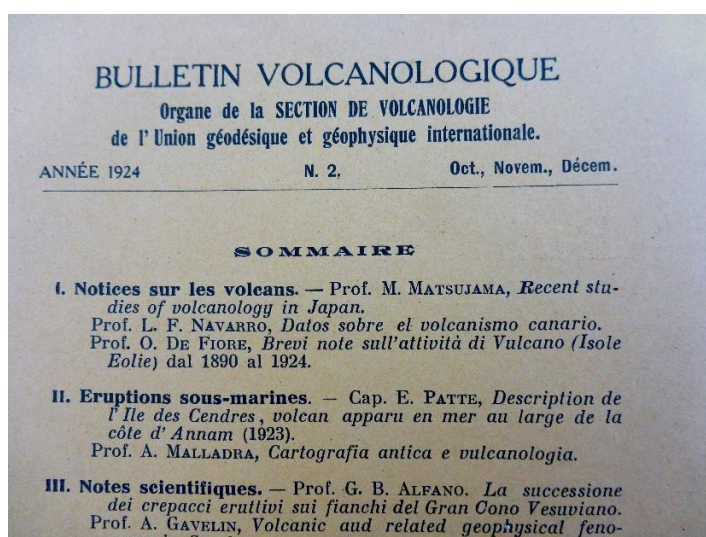
Research Commissions are now an integral part of the fabric of all IUGG Associations. They consist of groups of scientists who have a common interest in a particular research theme or problem. IAVCEI has a large number of commissions, most of whom are active, organising their

own workshops and symposia as parts of IAVCEI's major conferences, as well as independently between IAVCEI's major conferences.

Prior to the advent of research commissions in 1979, IAVCEI had rigid "sections" from 1960 to 1967, covering the fields of Active Volcanoes, Volcano-Physics, Physics and Chemistry of Magmas, and Paleovolcanology (Gasparini and Johnson 1995). In 1967, when IAV became IAVCEI, more flexible Working Groups on topical research themes were introduced to replace sections, and these were changed to Commissions and Task Groups in 1979. According to Gasparini and Johnson (1995), the aim of Commissions was to promote and co-ordinate scientific activity on large themes on a permanent basis, whereas Task Groups would focus "on temporary problems or on frontier areas of volcanological research" over a finite period (Gasparini and Johnson 1995).

In recent decades, all commissions and working/task groups have had a finite life, depending on their level of activity, and especially the leadership of these groups. Working/task groups have addressed specific issues, and then ceased to operate (e.g. 2013 to 2015 IAVCEI Task Group on Crisis Protocols, led by Guido Giordano (Italy), that produced guidelines on the responsibilities, roles and liabilities of scientists involved in volcanic event management). Some commissions have become defunct or been decommissioned or resurrected under new leadership after some time of inactivity, and so the nature and themes of commissions has changed. Unfortunately, IAVCEI has not kept records, but an attempt to record the commissions and their leaders in IAVCEI's past is being made, and will be summarised when completed on the IAVCEI website, and included in IAVCEI's Centenary booklet to be released at the 2019 IUGG General Assembly in Montreal, Canada.

One of the first thematic areas of research or investigation (an informal commission or working group?) undertaken by IAVCEI when it was first formed, was one on Submarine Volcanism, focussing largely, but not exclusively, on activity in the Indonesia archipelago, then part of the Dutch East Indies. There were regular reports in *Bulletin Volcanologique* in a specifically titled section of on submarine volcanic activity listed in the contents of the first volumes.



COLLABORATION WITH OTHER IUGG ASSOCIATIONS

IAVCEI is one of 8 associations in IUGG

(<http://www.iugg.org/publications/yearbooks/yearbook2018.pdf>; p. 25-48) and in addition to collaborating in the organisation of inter-association symposia at each IUGG GAs, IAVCEI also contributes to activities of the following IUGG Union Commissions:

- Climatic and Environmental Change (CCEC)
- Mathematical Geophysics (CMG)
- Geophysical Risk and Sustainability (GRC)
- Study of the Earth's Deep Interior (SEDI)
- Data and Information (UCDI)
- Planetary Sciences (UCPS)

and Inter-Association Commissions

- Joint Tsunami Commission
- International heat Flow Commission
- Commission on Physics and Chemistry of Earth Materials
- Commission on Volcano Seismology and Acoustics
- Working Group on Electromagnetic Studies of Earthquake and Volcanoes (EMSEV)
- Commission on Volcano-Ice Interaction

EARLY CAREER RESEARCHER NETWORK

In 2013 IAVCEI instigated an early career research network to cater for the needs of postgraduate students, postdoctoral researchers, and early career academics in establishing contacts and networks of like minds early in their careers. By engaging with the Early Career Researcher (ECR) Group and giving them a visible status in IAVCEI the executive committee of IAVCEI wanted to establish a communication link with ECRs to help them develop a better understanding of how engaging in IAVCEI conferences and workshops would be beneficial to their careers. A successful scoping workshop was held at the 2013 Kagoshima IAVCEI General Assembly in Japan, together with another at the 2015 Prague General Assembly in the Czech Republic, followed by an evening ECR dinner to which a number of older scientists were invited as mentors. In 2018, the ECR Network Group has been invited to develop a new logo for IAVCEI, and ECR events are being planned for the 2019 Montreal Centenary General Assembly. The prime movers to help instigate the IAVCEI ECR Network were Charlotte Vie (UK) and Sam Poppe (Belgium).

IAVCEI AWARDS

IAVCEI has introduced several awards for outstanding achievements in the latter half of its history.

Wager Medal

The first IAVCEI award, introduced in 1975, was for excellence in research. It was named the *Wager Medal*, after R.L. Wager (1904-1965), a petrologist at Oxford University, most famous for his seminal research on the petrological architecture and origins of the massive Skaergaard layered intrusive complex in Greenland. Although originally awarded every 4 years through a collaboration with the Royal Society of London, “the medal is (now) given every two years (i.e. at both Scientific and General Assemblies), to a scientist up to 15 years

after Ph.D acquisition, who has made outstanding contributions to volcanology, particularly in the eight-year period prior to the Award (IAVCEI Website). Multiple nominations are usually received in each round. A list of past awardees can be found at the IAVCEI webpage: <https://www.iavceivolcano.org/iavcei-awards/wager-medal.html>

Thorarinsson Medal

In 1987 IAVCEI introduced the *Thorarinsson Medal* sponsored by the Geological Society of Iceland. Named after the famous Icelandic volcanologist Sigurdur Thorarinsson (1912-1983), the award is made “every four years at the IAVCEI Scientific Assembly to a scientist of outstanding distinction who has made fundamental contributions to research in volcanology” (IAVCEI website). A list of past Awardees can be found at the IAVCEI webpage: <https://www.iavceivolcano.org/iavcei-awards/thorarinsson-medal.html>

Krafft Medal

The *Krafft Medal*, introduced in 2004, is named after the French husband and wife team Maurice and Katia Krafft, who were tragically killed by a block and ash flow during an eruption of Mt. Unzen in Japan in 1991, together with another volcanologist, Harry Glicken, and 40 people from the media. The Medal is sponsored through a trust fund established by the Krafft family, and “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” (IAVCEI website). A list of past awardees can be found at the IAVCEI webpage: <https://www.iavceivolcano.org/iavcei-awards/krafft-medal.html>

George Walker Award

This award honors George P.L. Walker, originally from the UK, whose largely field based research modernized and pioneered a quantitative approach to understanding volcanic eruptions, especially explosive eruptions. The award was introduced in 2004 and “is given every two years to a scientist up to 7 years after Ph.D acquisition. 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 (IAVCEI website). The award is sponsored from a trust fund established by the Walker family. A list of past awardees can be found at the IAVCEI webpage: <https://www.iavceivolcano.org/iavcei-awards/george-walker-medal.html>

The Fisher Medal

The *Fisher Medal* is in honor of Richard V. Fisher (1928-2002), who made major contributions to understanding the behavior of pyroclastic density currents, based largely on field studies of their deposits. “The medal is given every 4 years at the IAVCEI Scientific Assembly to a scientist who has made outstanding contributions to volcanology based primarily upon field observations” (IAVCEI website). The medal was introduced in 2017, and to date, the first awardee is José Luis Macías Vasquez (Mexico) <https://www.iavceivolcano.org/iavcei-awards/fisher-medal.html>

Volcanic Surveillance and Crisis Management Award

“The *Volcanic Surveillance and Crisis Management Award* honors the personnel from institutions or organisations responsible for monitoring volcanoes (volcano observatories and/or other institutions) that have made a remarkable contribution to the mitigation of volcanic hazards and volcanic risks. Volcano monitoring, eruption forecasting and the mitigation of volcanic hazards are key objectives of volcanologists and a duty of volcano observatories worldwide. Criteria for eligibility include: successful hazard assessment and mitigation efforts, and/or effective volcano surveillance and eruption forecasting and/or effective crisis management. This award will be presented every 2 years at the Cities on Volcanoes Meeting (CoVs)” (IAVCEI website). The first award will be in 2018.
<https://www.iavceivolcano.org/iavcei-awards/volcano-surveillance-and-crisis-management-award.html>

IAVCEI DECADE VOLCANOES Program

The United Nations declared 1990-2000 to be the International Decade for Natural Disaster Reduction. IAVCEI identified 16 volcanoes worldwide to be the focus of studies for the IAVCEI Decade Volcanoes Program (https://en.wikipedia.org/wiki/Decade_Volcanoes). The criteria for choosing these volcanoes included relatively recent eruptive activity, multiple potential hazards, proximity to centres of population, high risk levels to the population in the event of eruptions, reasonable access for study, and support from local scientific and government instrumentalities. IAVCEI had hoped that funding would be made available from the United Nations, but this did not eventuate. Most studies were funded by national research organisations and through international collaborative aid programs. Not surprisingly some volcanoes received greater attention than others, depending on resources available. The 16 Decade Volcanoes selected were:

Volcano	Region	Country
Avachinsky-Koryaksky	Kamchatka	Russia
Colima	Jalisco	Mexico
Galeras	Nariño	Colombia
Mauna Loa	Hawaii	United States
Mount Etna	Sicily	Italy
Mount Merapi	Central Java	Indonesia
Mount Nyiragongo	North Kivu	Democratic Republic of the Congo
Mount Rainier	Washington	United States
Mount Vesuvius	Campania	Italy
Mount Unzen	Nagasaki/Kumamoto	Japan
Sakurajima	Kagoshima	Japan
Santa María	Quetzaltenango	Guatemala
Santorini	South Aegean	Greece
Taal Volcano	Calabarzon	Philippines
Teide	Canary Islands	Spain
Ulawun	East New Britain/West New Britain	Papua New Guinea

A number of these volcanoes have been volcanically active since being declared Decade Volcanoes, including Avachinsky (1991, 2002; Smithsonian Institute Global Volcanism Program - SI GVP website), Koryaksky volcano (2009; SI GVP), Colima (many times), Galerus in 1993, when 6 scientists (during Decades Volcanoes workshop), and 2 tourists were killed, Etna (many times), Merapi (many times). Nyiragongo volcano in the Congo had erupted catastrophically in 1977, involving extremely fast flowing lava that killed 70 people. It experienced another eruption in 1994, during the civil war there, and then another large eruption in 2002, which again produced far flowing lavas that inundated Goma and killed ~150 due to CO₂ asphyxiation and building collapses. Mt Unzen underwent a 4-year long eruption from 1991-1995 (see above), and Sakurajima has been almost constantly active marked by frequent, spaced vulcanian explosions. Santa Maria volcano has also been frequently active, and both Santorini and Teide have experienced seismic crises, without an eruption occurring. Ulawun volcano is frequently active, but is notable for its very high emissions of SO₂.

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REFERENCE MATERIAL USED

Bulletin Volcanologique Volumes 1 to 47.

Bulletin of Volcanology Volumes 48-75

Gasparini, P. and Johnson, R.W. 1995 History of IAVCEI. In: Melchior, P. (ed) *IUGG Chronicle*, 226, 68-72.

Global Volcanism Program, Smithsonian Institution: <http://volcano.si.edu/>

IAVCEI website: <https://www.iavceivolcano.org/>

Ismail-Zadeh, A. 2016. Geoscience international: the role of scientific unions. *History of Geo Space Science* 7, 103-123.

IUGG YearBooks 2004-2018

IUGG Chronicles: 1975 (p. 313-315); 1976 (p. 461-463); 1978 (p. 216-218); 1980 (p. 295-297); 1983 (p. 50-52); 1989 (p. 138-241); 1992 (p. 238-240); 1995 (p. 68-72, 298-299);

IUGG Comptes Rendus: 1968 (p. 206-208); 1975 (p. 313-315)

Kennedy, W.Q. and Richey, J.E. 1947. *Catalogue of the Active Volcanoes of the World*. Supplement in *Bulletin Volcanologique*, vol 7.

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