

**GRANTS PROGRAM (Special Call - IYBSSD2022)
REPORT**

Project title: Celebrating the 80th anniversary of Parícutin volcano (Michoacán, Mexico): Preserving our heritage and preparing for future eruptions; February 19-24, 2023

Received amount (\$): USD 7,000

Lead Applicant (*IUGG Association or Commission*): IAVCEI

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Supporting Applicant(s) Organization(s) (*IUGG Association(s) or Union Commission(s) or Inter-Association Bodies*): IASPEI

Description of the event

The international conference “Commemorating the 80th anniversary of Parícutin volcano: Preserving our heritage and preparing for future eruption” took place at Morelia, Michoacán, México, from Monday 19 to Friday 24 February 2023. In addition to this period, five fieldtrips took place either several days before or after the conference, the entire event lasting from the 16 to the 27th of February. Note that other cultural and scientific activities related to the anniversary occurred on the preceding and following months (some are mentioned below).

Some of the information presented below is displayed on the webpage that was created for the event and is still active: <https://paricutin80.geofisica.unam.mx>.

This conference was organized principally by the Universidad Nacional Autónoma de México (UNAM) and in particular by researchers from the Instituto de Geofísica, with support from la Universidad Michoacana de San Nicolás de Hidalgo (UMSNH). The organizing committee mostly consisted of researchers from both institutions, strengthening existing collaborations across important research and education institutions in Mexico and Michoacán (Note that UNAM has a campus in Morelia in addition to the main one in Mexico City).

In this conference, we aimed to gather scientists from a wide range of discipline to discuss the common theme of monogenetic volcanism, and its relationship with the environment and the society. The general conference program consisted in 3 days of scientific sessions (Monday 20; Tuesday 21 and Thursday 22), with an intra-conference field day (Wednesday 21). On Friday 23 we had a visit to the historical center (which few people assisted to, unfortunately) and the display of historical videos of the eruption in the university campus, commented by experts of UNAM.

The scientific sessions were organized as such:

A) New research on monogenetic volcanism. There, recent and ongoing studies on monogenetic volcanism in Mexico and elsewhere were presented and discussed. This was the largest session, with two keynotes, 25 orals and 34 posters, spread in one day and a half

(Monday all day and Tuesday morning) and organized in three sub-sessions: A1. Distribution and recurrence of the activity; A2. Origin and evolution of magmas, and A3: Eruptive style and hazards.

B) Monogenetic volcanism, environment and society. This session grouped studies on archaeology, geoheritage, climatic and environmental themes in monogenetic fields. This was the most diverse session in terms of the disciplines involved. We had 2 keynote, 18 orals, and 24 posters, spread in two half days (Tuesday afternoon and Thursday morning) and organized in four sub-sessions: B1. Archaeological and environmental aspects of historic and prehistoric eruptions; B2. Geoheritage, culture and communities; B3. Ecology, nature conservation and land use adaptation and management; B4. Paleo-environmental and paleoclimatic aspects; tephrochronology.

C) Precursors, monitoring and crisis management. In this session, studies based on the analysis of the volcanic activity using geophysical methods (mostly seismology but also gas emissions) were prominent. There were 6 orals and 7 posters organized on Thursday afternoon. This session benefited from two outstanding keynote talks on the recent eruptions in Iceland and La Palma, which were given by two of our invitees from abroad (IUGG money was used for this-see below). Images and videos from these eruptions raised a lot of interest and reaction in the audience, and also lead to fruitful discussions afterwards about the lessons of those events for the management of the situation in Mexico, and in particular in Michoacán.

A highlight of the conference was the organization of intra-conference field excursions to the Parícutin volcano on the Wednesday. Most participants (aprox. 80) chose to go on the walk to the cone, which was physically demanding but possibly, the most rewarding experience. Others (aprox. 30) chose the horse-ride option, and most participants to both excursions met on top of the Parícutin (see picture). Another smaller group (aprox. 15) went on a tour of cultural sites around the volcano, organized by a local archaeologist, member of the organizing committee.

Also notable, was the organization of a rich cultural program with activities taking place every day, after the scientific session. This included a series of round tables on literature and art related to volcanoes, organized by the Dirección de Literatura (UNAM), who also organized a contest of the best birthday letter to the volcano, which was opened to all the public, and whose prizes were handed during a nice ceremony at the conference (see videos on the webpage). We also organized an outdoor animation and a giant Parícutin cake on Monday 20, and a farewell party on Thursday 23.

A total of ca. 130 participants gathered from Mexico and 12 other countries, including 35 students which received support for their stay expenses (we discounted their inscription costs and booked them a shared accommodation). Within the authors who submitted abstracts, we noted members of 8 research institutes, faculties and schools at UNAM and 9 other universities and investigation centers in Mexico (Universidad Michoacana de San Nicolás de Hidalgo, CICESE, Universidad Veracruzana, Universidad de Guadalajara, Universidad de Guerrero, Instituto Potosino de Investigación Científica y Tecnológica, Servicio Geológico Mexico, INECOL). Other represented countries included France, Spain, Iceland, New Zealand, Germany, Chile, Colombia, USA, Costa Rica, Australia, United Kingdom and Arabia Saudita.

We hence had a good international participation, although most participants were from Mexico, which in part resulted from the organization of the IAVCEI General Assembly in New Zealand

a month before. This nevertheless highly benefited the consolidation of a community of scientists working on monogenetic volcanism and related issues in Mexico.

Some of the major outcomes of this conference, which were part of the initial objectives, are:

- Creation of a communities of researchers, mostly in Mexico but with contacts abroad, to work on monogenetic volcanism from a range of disciplines
- Formation of high-quality students in the theme of monogenetic volcanism
- Raise in awareness about monogenetic volcanism, in particular in Michoacán, where the occurrence of another eruption in the short term is most likely (numerous press communications were made during the conference, in addition to radio spots).

Follow-up actions that are being organized include:

- the publication of a special volume at Geofísica Internacional, the free and open-access journal published by the Geophysical Institute and the Mexican Geophysical Union (<http://revistagi.geofisica.unam.mx/index.php/RGI>).
- the organization of a special session on monogenetic volcanism at the Mexican Geophysical Union meeting in november this year (<https://www.raugm.org.mx>).
- The nomination of the Paricutin volcano as an IUGS Global Geosite.
- the creation of a committee for the monitoring of the Michoacán monogenetic field.

Financial report

The money received served to pay most of the travel and stay expenses of four international researchers who were invited to the congress. Note that no all expenses are here listed. The remaining were paid from an internal project from UNAM.

Specifically, we sponsored the trip of Patricia Larrea and Xavier Bolos, two mid-career researchers who have worked intensively on Paricutin volcano and other young volcanoes in the area, and Thorvaldur Thordarson and Stavros Meletlidis, two advanced researchers who have been involved in the study and monitoring of the recent eruptions of Geldingadalir in Iceland and Tajogaite in La Palma, respectively (see their keynotes).

Received amount (\$): USD 7,000

Received amount (MXN: mexican pesos): 123,625.40

Concept	Cost (MXN)
Flight tickets	
Patricia Larrea	25545
Xavier de Bolos	17934
Thorvaldur Thordarson	23656
Stavros Meletlidis	27284
Hotel (congress)	
Patricia Larrea	6650
Xavier de Bolos	4250
Thorvaldur Thordarson	4250
Stavros Meletlidis	5100
Others	
Thor - Hotel one night in Mexico City	1195

Thor - Hotel one night in Mexico City	2210
Stavros - Hotel one night in Mexico City	1239.95
Stavros - breakfast in hotel congress	180
Autobus Stavros	594
Autobus Stavros	561
Fuel - transport to congress venue	873.26
Fuel - transport to congress venue	1203.14
Food in Morelia	665
Food in Mexico City	624
Balance	-388.95

Note that we have the invoices associated with those expenses, if needed.

As a conclusion, we received overwhelmingly positive feedbacks from the organization of this conference, and we acknowledge the financial support of the IUGG and the associated partners of IAVCEI and IASPEI that allowed the participation of key researchers on the themes of the conference.

Regards,

Marie-Noëlle Guilbaud, Giovanni Sosa Ceballos, UNAM, México