Cities on VOLCANOES 11

Volcanoes and Society: environment, health and hazards

CULTURAL-CONFERENCE CENTER
OF HERAKLION

12-17 CRETE | GREECE
June, 2022

Final Program

Cities on VOLCANOES 11

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WELCOME LETTER

from the IAVCEI President

Cities on VOLCANOES

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Dear all,

The IAVCEI warmly welcomes your participation to the ***11th Conference Cities on Volcanoes*** (COV11), entitled "Volcanoes and Society: environment, health and hazards", that will happen in Heraklion, in Crete island (Greece), from June 12 to June 17, 2022.

Cities on Volcanoes Conferences are very special meetings, coordinated by the CaV Commission of IAVCEI, which offer a dedicated framework for exchanges between volcano experts, emergency managers and people living around active volcanoes, thereby promoting interactions between Volcanology and social Sciences.

After 9 previous countries (Italy, New Zealand, USA, Ecuador, Japan, Spain, Mexico, Indonesia and Chile), Greece will host for the first time this important IAVCEI Conference. COV11 will also be the first major IAVCEI scientific meeting attended physically for nearly 3 years, owing to the COVID-19 pandemic. It will offer the hybrid opportunity of both in-person and online participation. Therefore, I strongly encourage worldwide volcanologists, emergency managers and stakeholders to participate as many as possible to this event. In addition to scientific Sessions on various topics, COV11's program will include special Sessions dedicated to major volcanic eruptions and emergency crises that occurred in the world in the past two years. COV11 will also host the award ceremony honoring the nominee to the 2022 IAVCEI Award for Volcano Surveillance and Crisis Management.

Crete island is extremely famous in the Mediterranean for its beauty, its ancient history, and its famous archeological remnants of the Minoan civilization. For volcanologists it is also dramatically related to the ca. 1627 BC cataclysm (VEI 6-7) of nearby Santorini (Thera) volcano - target of the post-conference field excursion. The Heraklion Conference will thus provide the opportunity to make updates on the eruptive past and future perspectives in volcanic risk assessment at Santorini and other active volcanoes of the Hellenic arc (Milos, Nysiros, Methana).

Finally, let me acknowledge the great efforts of the Greek Scientific Committee (National and Kapodistrian University of Athens, University of Crete and its Natural History Museum) and the professional organizing partner (CONVIN) in organizing the COV11 Conference despite uncertainties due to the COVID-19 pandemic over the past 2.5 years.
Wishing you a great success and productive participation to COV11 in Heraklion in June 2022!

Patrick ALLARD
IAVCEI President

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WELCOME LETTER

from the President of "Cities on Volcanoes 11"

Cities on VOLCANOES 11

Dear all,

On behalf of the Steering Committee, It is my great pleasure to welcome you to the **11th Conference Cities on Volcanoes (COV11)**, entitled "Volcanoes and Society: environment, health and hazards", that will be held *for the first time* in Greece, in Heraklion (Crete), from the 12th to 17th of June 2022. Cities on Volcanoes Conferences, coordinated by the Cities and Volcanoes (CaV) Commission of IAVCEI, promote networking and face-to-face exchanges between volcanologists and non-volcanologists from all over the world.

COV11 will be also the first major IAVCEI scientific meeting attended physically after the COVID-19 pandemic crisis, offering, nevertheless, the option of online participation. The Conference will be focused on multidisciplinary monitoring volcanic environments in the vicinity of cities and highly touristic areas. At the same time, the ability to recognize the hazards and their impact on people, emergency management by civil protection authorities, community education, case studies and risk mitigation to reduce the impacts of volcanism and its effects on society will undoubtedly be discussed.

In addition to scientific Sessions, the program will include special Sessions dedicated to the recent major volcanic eruptions and emergency crises, such as the eruptions of the Cumbre Vieja volcano in La Palma (2021), the Fagradalsfjall volcano in Iceland (2021) and the Hunga Tonga–Hunga Ha'apai volcano in South Pacific (2021-2022). Additionally, the COV11 will provide the opportunity to update our knowledge on the eruptive past and future perspectives in volcanic risk assessment at Santorini and other active volcanoes of the Hellenic arc.

Greece is a land that was shifted and shaped by its many volcanoes raising islands in the sea and carving off cliffs into the mainland. The Greek volcanoes have ultimately shaped the uniqueness and beauty of many famous Greek islands such Milos, Santorini, Nisyros and Kos. Nisyros has always been shrouded with mystique because of its volcano which has not erupted since 1887 but remains quietly active with spectacular hydrothermal craters. It is considered a jewel of the Dodecanese and we will be glad to be included in the list of Global Geoparks Network of UNESCO. The dormant volcano of Milos has left its mark on the island through the rich mineral deposits and unusual geological formations it created in its beautiful beaches. The Methana peninsula on the Peloponnese, owes its existence to the volcano that still bubbles beneath it. The volcano has created stunning landscapes that showcase the volcanic history of Saronikos Gulf.

The world-known Santorini volcano is a globally significant volcanic center in the South Aegean Sea, with numerous large-volume explosive eruptions over the last 600.000 years. Santorini's caldera is the result of one of the most destructive and the most famous of the eruptions, the iconic Minoan Eruption which occurred approximately 3600 years before present and may have contributed to the fall of the Great Minoan Civilization, leaving its imprint on Greek mythology, archaeology and volcanology in general. Just 7 km north of Santorini, the submarine volcano Kolumbo is currently the most active submarine volcano in the Mediterranean Sea. Its last eruption in 1650 AD caused 70 fatalities in Santorini.

WELCOME LETTER

from the President of "Cities on Volcanoes 11"

Cities on VOLCANOES 11

Those catastrophic events showcase the importance of monitoring both inland and submarine volcanic activity that poses several hazards for the health and the economy of the affected areas. COV11 provides a unique opportunity for volcano experts, emergency managers and citizens of those high-risk areas to discuss, exchange ideas and expand their knowledge about Volcanology and the protection from volcanic hazards.

As the President of the Steering Committee, I would like to thank the President and the Vice-President of IACVEI, all the members of the CaV Commission and the Professional Congress Organizer (CONVIN) that helped to organize the COV11 conference despite the difficulties of the COVID19 pandemic.

Our sincere acknowledge to the Municipality of Heraklion and South Aegean Region for their wonderful hospitality!!

I congratulate you for your commitment and active participation in the last two years and I hope that the experiences in COV11 will be engraved in your memory.

Have a great conference time...

Nomikou Paraskevi
President of "Cities on Volcanoes 11"

ORGANIZERS

International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)

Cities and Volcanoes Commission

In collaboration with

Natural History Museum of Crete
UNIVERSITY OF CRETE

Archaeological Museum Herakleio

With the support of

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MUNICIPALITY OF HERAKLION

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Under the Auspices

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DESTINATION CRETE

Crete

Birthplace of Domenico Theotokopoulos “El Greco”, Nikos Kazantzakis and Eleftherios Venizelos and foremost the place of origin of the world Greek Mikis Theodorakis, “father” of the legendary Zorba and of an invaluable cultural heritage. It is located at the southern end of the county. The Cretan Sea lies to the north and the Libyan Sea to the south of the island. Greece’s economy relies heavily on Crete. The island focuses on tourism and services, as well as agriculture and farming. Crossroad of maritime routes and cultures.

Crete is a unique mosaic of surfaces with steep mountains, dozens of gorges, endemic plants, arable land and plateaus. Its distinctive geophysical form creates contradictory representations as it includes forests, seas and endless beautiful beaches, mountains with high altitude and snow, but also rocky and dry soil. The gorge of Samaria, the palm forest of Preveli, Psiloritis, Dikti, the island of Chrysi are only the prominent ambassadors of the rare and unique biodiversity of Cretan land.

Gastronomy and other customs of Crete

11

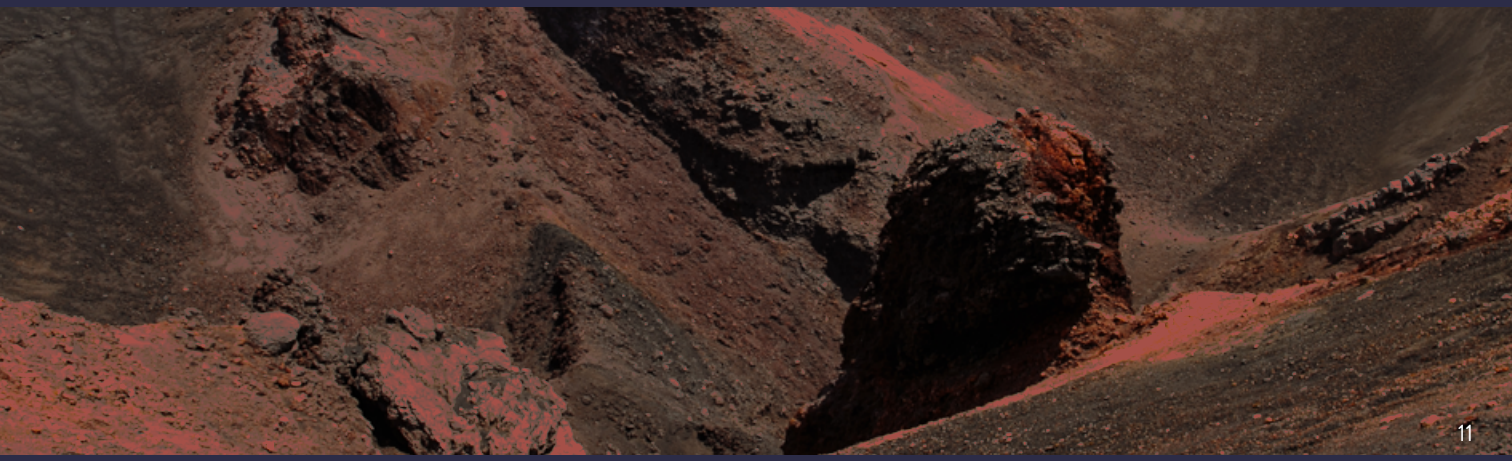
The Cretan diet today is known all over the world as the representative model of Mediterranean cuisine which from 2012 was recognized by UNESCO as Cultural Heritage of Humanity. Olive oil is the greatest secret of the Cretan diet and the longevity of the Cretan people. The most important products of the Cretan land are olives, grapes, fruits, wine and tsikoudia, dairy, apaki, sour sausages, breads and nuts, thyme honey, stamnagathi, wild herbs and vegetables, sultanas, locusts. Furthermore, Cretan cuisine uses a variety of herbs and especially oregano, thyme, rosemary, mint, cumin and fennel. Cretans have a strong preference to brew malotira (mountain tea), erontas (dittany), sage, marjoram and chamomile. Signature of Cretan cuisine is its famous dishes and among them Cretan cheeses, dakos, fried snails (chochlioi boubouristi), Cretan cheese pies (kaltsounia), lamb with stamnagathi, gamopilafo, mountain bulbs (askordoulakous) and smoked pork (hirina apakia).

Cretan wedding ceremony is a reference point of Crete. At the top of Cretan traditions and customs, is still maintained in many villages. Not only a mystery but a bright celebration which lasts even for several days. By keeping family ties very close, they place great emphasis on the approval and participation of the family. The father and the head of the family are responsible for approving the marriage and the bride and groom must not only follow his advice but also accept his possible dissenting opinion. Until the day of the mystery, relatives and friends send gifts, the so-called "kaniskia" which is a basket of oil, cheese, wine and potatoes. On the eve, everyone helps the "dowries" to transport the bride's dowries to the groom's house. The ceremony begins with a procession from the groom's house accompanied by mantinades and rifles and ends at the bride's house.

Mantinades are the most commonly heard folk songs in Cretan villages, a 15-syllable rhyming couplet (similar to a limerick) in a Cretan dialect. They are often performed with an accompanying lyra or laouta (a traditional stringed instrument) and tiskoudia (Cretan tsipouro or raki) and have lyrics that speak of every emotion and value (love, birth, death, friendship etc). What makes them even more special is that the performer often improvises mid-song. Another type of Cretan music is the Rizitika songs (the oldest type of music in Crete), which are similar to epic poems.

Crete is also famous for its own dances, although some have some similarities with other parts of Greece. You can attend a show of pendozalis, an incredible dance exclusively danced by men. Conversely, the sousta is danced as a couple to the delight of lovers. Furthermore, local Cretan art, with among others Venetian and Ottoman influences, is undoubtedly worth the attention. Locals have always have always been fascinated by crafts, be it weaving, pottery or even leather. You can find trinkets of all kinds in the many souvenir shops on the island. Especially don't leave Crete without take with you a souvenir from Cretan jewels, made through an Etruscan process. These original creations are found in Réthymno and Chania.

THE HOSTING CITY: HERAKLION, CRETE



THE HOSTING CITY: HERAKLION, CRETE

Heraklion is the capital of Crete. With more than 170,000 inhabitants, Heraklion forms the largest urban area on the island, as well as its administrative, economic, and commercial center. Over one fourth of Crete's total population lives there, placing Heraklion in the top five largest cities in Greece.

Lying at the center of Crete's northern coastline, Heraklion is connected with all major cities on the island via its national road. The economy of Heraklion focuses on tourism, services and agriculture. The whole island is among the most popular tourist destinations in the Mediterranean and Heraklion is its international hub. The "Nikos Kazantzakis" Airport is the second busiest in Greece, whereas the port of the city welcomes daily numerous ferries along with cruise and cargo ships. Many of the products that are transported are rooted in agriculture. Supported by its mild climate, Crete is home to fruits, legumes and olive oil, the basis of the Cretan diet, famous for its benefits on health and span of life.

The city has many attributes, various styles of architecture as well as a rich cultural life. Some of the main attractions of Heraklion are the Venetian fortress and loggia, the Archaeological Museum and the site of Knossos, arguably the oldest city in Europe. Many artists come from Heraklion, the most famous one being Domenicos Theotokopoulos, commonly known as El Greco, the works of whom are known all around the world.

In its long history Heraklion not always had joyful periods. The city has been marked by numerous conquerors and physical phenomena that have literally changed the flow of its history. Some of its biggest catastrophes have been caused by earthquakes and volcano eruptions.

Earthquakes are very common in Crete as the island lies on the southern edge of the Aegean Sea Plate, under which the African Plate is submerging. The fault length created by this ongoing activity has subjected Heraklion, and Crete as a whole, to numerous earthquakes, sometimes with catastrophic results. For example, it is estimated that in 1810 one third of the buildings of the city had suffered multiple damages during an earthquake that was felt all the way to Cyprus and northern Africa.

Even though Crete isn't known for its eruptions, Heraklion is only 110 km (around 68 miles) south of Santorini, an island in the Aegean Sea marked by volcanic action. This has been proven quite unfortunate in the past. For instance, historians mention that there was an eruption on September 1650 at Kolumbo, a submarine volcano, around 8 km (almost 5 miles) northeast of Santorini. Consequently, a tsunami was created, which reached the shores of Heraklion. As the city was under siege at the time by the Ottomans, its defenders regarded the incident as a bad omen.

Nevertheless, the most prominent eruption in the area had already happened more than 3000 years before. In the 16th century BCE, the volcano of Santorini produced one of the largest explosions in human history. The results were dire: a large part of the island plunged into the sea, earthquakes and tsunamis emerged and the coasts within reach were severely hit. Crete was no exception. The Minoan civilization was affected to such a degree that the phenomenon is mostly known today as the "Minoan eruption".

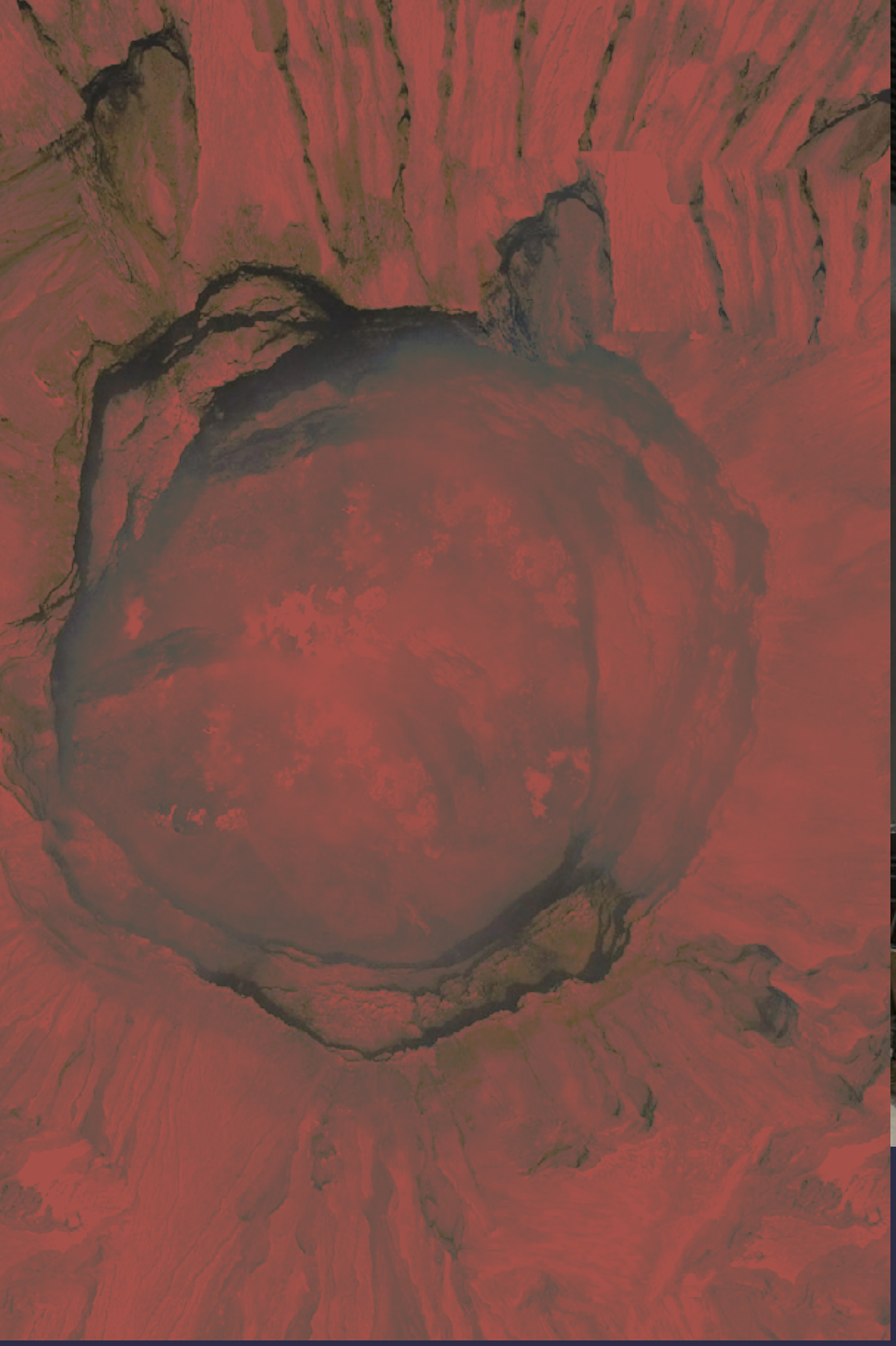
THE HOSTING CITY: HERAKLION, CRETE

All these natural catastrophes have shaped the landscape of Crete. As a result, its inhabitants have shown numerous times their will to endure every adversity that has come their way. For example, during the Second World War, the Battle of Crete is regarded as the first time that the German army faced such a strong resistance from the local population. Perhaps Nikos Kazantzakis (1883-1957), one of the biggest Greek writers and a native of Heraklion, has summed up best the continuous battle of Crete for survival. Buried on the Venetian walls of the city, his epitaph reads: “I hope for nothing. I fear nothing. I am free”.

Heraklion and its chief port are full of history and attractions in and around the Old City.

The most notable monument along the port is the 16th-century Venetian Fort of Koules. Fishing boats line the shore, where a walkway runs along the waterfront. Across the road but fronting the port are the Venetian Arsenals, easily recognizable by the stone facade and huge archways. is where the Venetians repaired their ships. To the west of the harbor, the scenic promenade stretches along the sea and is lined with seafood restaurants.

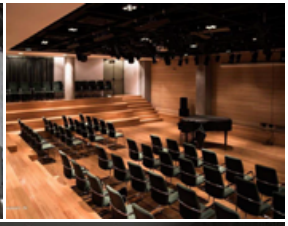
Five kilometers southeast of Heraklion lies Crete’s biggest and best-preserved Minoan site and one of the most important tourist attractions, the Palace of Knossos. A vast monumental palace, with four wings built around a spacious central courtyard, Knossos is believed to have been the mythical Labyrinth of King Minos. Remarkably sophisticated, it included ceremonial spaces, living areas, storage rooms, elaborate decoration, and a complex drainage system. Buses from the Old Town leave every 15 minutes for Knossos during the summer season, making it extremely easy to visit. If you have your own car, parking is free.



CONFERENCE VENUE








Cultural – Conference Center of Heraklion

Plastira & Romanou Street
71201, Heraklion Crete
W. https://www.cccc.gr/en

How to reach the congress venue

https://citiesonvolcanoes11.com/conference-venue/

The Cultural and Conference Center of Heraklion is a modern venue in Crete dedicated to performing arts and scientific meetings. Under construction for many years has finally been inaugurated in 2019 and handed over to the public. Is located close to historical landmarks of the city of Heraklion, such as the remnants of the Venetian walls and the burial site of the Greek writer and philosopher – one of the greatest of 20th century – and Heraklion native Nikos Kazantzakis.
The conference center is a five-building complex housing multiple facilities:

COV11 Meeting Halls

- **Thira Volcano Main Hall** (Andreas & Maria Kalokairinou Hall)
- **Milos Volcano Parallel Hall** (Concert Hall)
- **Nysiros Volcano Parallel Hall** (Experimental Hall)
- **Methana Volcano Parallel Hall** (Small Theater)

Venue extra spaces include guest rooms, dressing rooms, test rooms, VIP rooms, a restaurant, ATM, shops, car parking spaces, etc.

How to

download **CONFERENCE APP**

access **VIRTUAL PLATFORM**

Cities on VOLCANOES 11

Conference App Download Instructions

1 > Use your device to scan the following image

Scan for iOS

Scan for Android

2 > Download The **Event App by EventsAIR**

3 > When you are prompted for a code upon launching the App, insert **volcanoes11**

There is a free wifi network in all venue spaces

COV11
WI-FI
Password
2022

Access to the Virtual Platform Instructions

All registered participants are welcome to have access to the Virtual Platform by using the **email and password provided by the Professional Conference Organizer**

To enter the virtual platform **click here**

@CoV11Crete

#COV11

#citiesonvolcanoes11

COVID-19

Health and Safety protocols for the conference, following the restrictive measures taken due to COVID-19:

Non-registered delegates will not be allowed into the Conference Areas

Participants with symptoms such as fever, cough, shortness of breath, etc., will not be allowed into all Conference Venue premises.

All participants must respect physical/social distancing. Maintain at least a 1.5 meter distance between yourself and others.

Wearing a mask is mandatory for all present at the Venue throughout the Conference. The appropriate use (both nose and mouth covered), storage and cleaning or disposal are essential to make masks as effective as possible.

Hand sanitizer will be available in several places of the Conference Venue.

...and don't forget the basics of good hygiene

Regularly and thoroughly wash your hands with soap and water.

Avoid touching your eyes, nose and mouth.

Cover your mouth and nose with your bent elbow or tissue when you cough or sneeze.

Cities on VOLCANOES 11

CASH BAR

A cash bar will be operating throughout Congress dates in the Congress Venue.
Delegates are welcome to purchase food and beverage items, at the respective costs.

CLOARKROOM

A Cloakroom will be operating outside the Main Conference Hall, in close proximity with the Registration Desk. Delegates' items (such as coats, luggages, etc.) can be left at the Cloakroom only on a daily basis and during Congress operating hours.

ELECTRICITY

The electrical power supply voltage in Greece is 220-240 Volts (US/Canada 110-120 Volts)

EMERGENCY CONTACTS

Police:100
Fire department: 199
Medical emergency (ambulance) 166
European emergency contact number (all above) :122

EXHIBITION AREA

Exhibition will operate outside the Main meeting Hall Thira Volcano Main Hall throughout the congress.

INSURANCE & LIABILITY

The Organisers will accept no liability for personal injuries sustained by or for loss or damage to property belonging to Congress participants either during or as a result of the Congress or during all related events. Only written agreements shall be valid. All disputes are subject to resolution under Greek Law and the place of jurisdiction shall be Crete.

LANGUAGE

The COV11 Congress language is English. No simultaneous translation will be provided.

REGISTRATION DESK

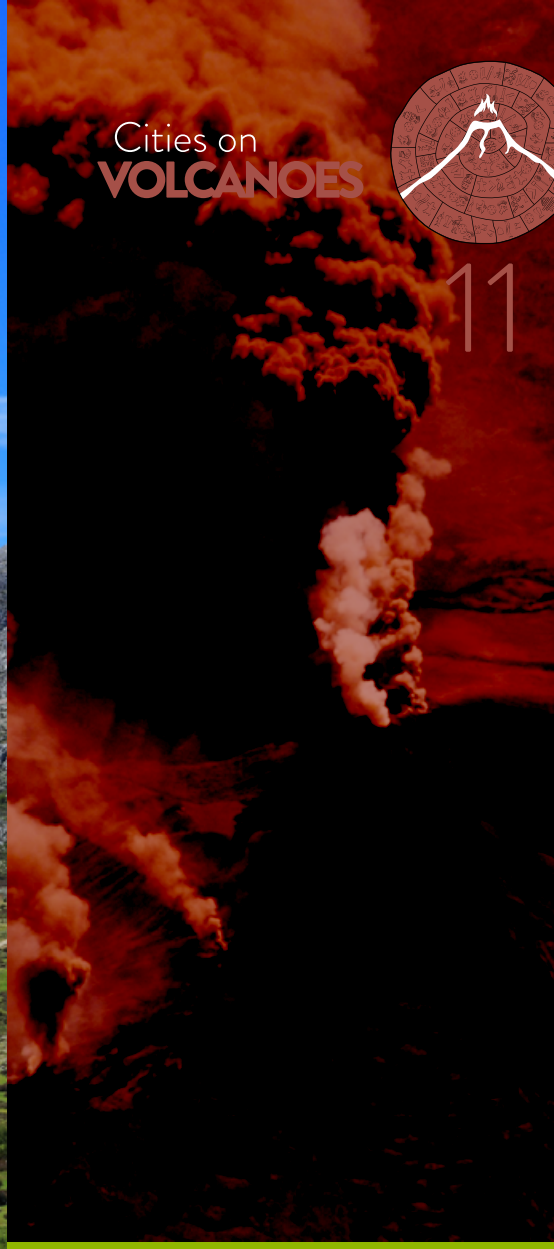
The Registration Desk and on site Secretariat is located outside the Thira Volcano Main Hall.
Virtual Participants' Live support will operate same dates and hours.

Operating Hours

Sunday, 12 June 2022	16.00 – 20.00
Monday, 13 June 2022	07.30 – 20.00
Tuesday, 14 June 2022	07.30 – 20.00
Wednesday, 15 June 2022	08.00 – 20.00
Thursday, 16 June 2022	08.00 – 20.00

SELF CHECK IN STATION

Congress delegates who do not have outstanding payments may collect their name badges through the Self-check-in station, located near the main entrance of the Congress venue, thus avoiding queues for badge pick-up.



Cities on
VOLCANOES

11

NETWORKING & CSR ACTIVITIES

Date: 12 June 2022
Participants: Delegates, citizens, and volunteer groups
Aim: Communication and cooperation

On Sunday 12th of June, delegates, citizens, and volunteer groups will meet to participate and support an action of love for the environment. Keri Forest opens its "arms" to receive the care of visitors and residents of Crete. An action implemented under the auspices of the Region of Crete and the Municipality of Maleviziou, which will provide all the necessary cleaning materials. Moreover, participants will be informed on the way in which the process of guarding and monitoring of the forest during the fire-fighting period takes place.

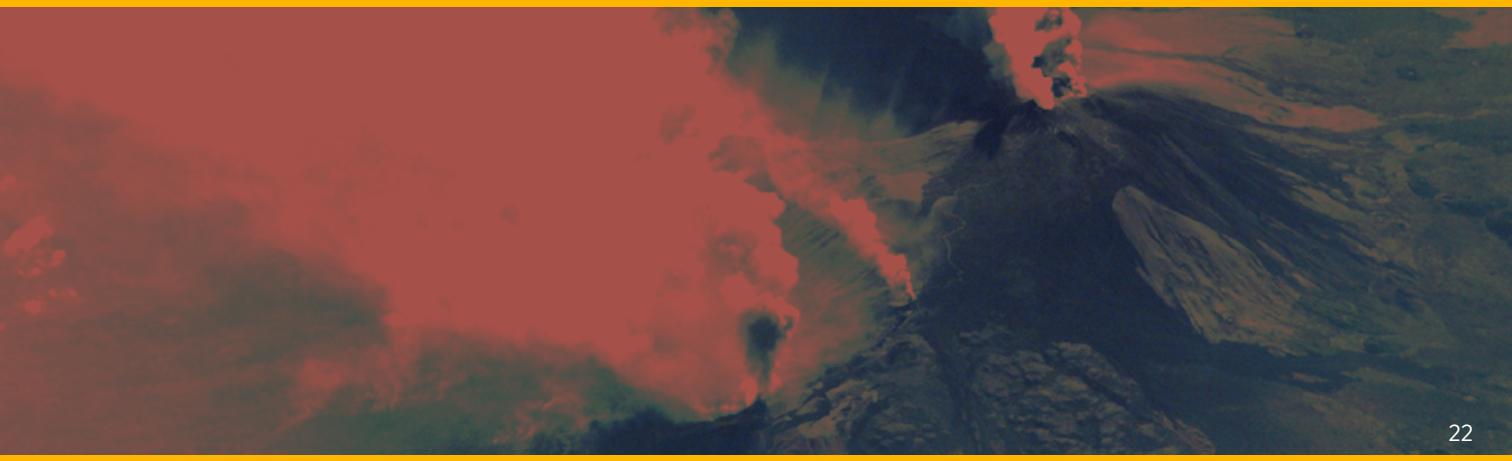
The action touches on the objectives and themes of the Conference which aspires to function as a channel of communication and cooperation between the Geoscientific Community and the Crisis and Emergency Management Staff. Civils' Protection central role in the Conference sends a strong and clear message. Managing a natural disaster starts with the way Civil Protection handles the situation, but mainly, how it organizes and develops environmental prevention policies in each case of danger.

The action will begin at 11:00 in the morning, with the meeting point being the 1st Forest Outpost. The participants will be assisted by the volunteer groups that are active in the specific area, LEFED (Armed Forces Reserve Club), the ECC (Red Cross) and the ESA (Hellenic Rescue Team).

For more information contact us at

registrations@citiesonvolcanoes11.com

TOURS & FIELD TRIPS



Guided Tour to the Natural History Museum of Crete (NHMC)

Tuesday June 14,2022
1st group | 10.00-11.00
2nd group | 16.00-17:00

Wednesday June 15, 2022
1st group | 12.00-13.00
2nd group | 16.00-17:00

HOW TO BOOK:

Each group can accommodate up to 20 people. Registrations can be made to the COV11 Registration Desk until Monday, June 13, 2022 on a first come first served basis.

Group start time: You have to be at the Museum 5 minutes prior to your groups start time
Exhibition Halls of Natural History Museum of Crete
Sofokli Venizelou Avenue Heraklion Crete, Greece
Tel: (+30) 2810 282740

The Natural History Museum of Crete (NHMC) of the University of Crete demonstrates with an impressive manner the natural environment of eastern Mediterranean area with special emphasis on Greece and Crete. The exhibition is located at Sofokli Venizelou Avenue, the coastal road of Heraklion. Interesting exhibition units are:
the Mega-Dioramas that constitute the biggest part of the Museum's exhibition. These are realistic representations of ecosystems found in the Eastern Mediterranean region.
the "Living Museum" which is a special arranged area with small scale aquariums and terrariums housing living animals that can be found in Eastern Mediterranean region.
the educational seismic table (earthquake simulator) which offers visitors the opportunity to learn about earthquakes and experience, in a safe environment, and feel real earthquakes.
the Stavros Niarchos Discovery Center which is specially designed for children up to the age of 15. It is where cutting edge technology is combined with more traditional educational methods, in order to make the learning process more appealing to children.
All educational activities are taking place in a set designed to the detail, to imitate the natural environment of the east Mediterranean, with emphasis on the island of Crete.

For more information contact us at

https://www.nhmc.uoc.gr/en/

Archaeological Museum of Heraklion & Knossos
17 June 2022

HOW TO BOOK:

As there is a limitation in participation delegates are requested to re-confirm their participation at the Registration Desk until **Monday, June 13, 2022 at 13.00** and pick up their ticket to be able to participate. You are kindly requested to confirm your participation only if you are planning to attend the Trip.

Meeting Point and Time: Friday, June 17, 2022 at 08.30 at Eleftherias Square (Heraklion Centre)
Return Time: Approximately at 14.30
Do not forget: Comfortable clothes and shoes, hat, and bottle of water are recommended
We will start the guide from the Archaeological Museum and then depart for Knossos.

The Heraklion Archaeological Museum is regarded as one of Europe's most important museums hosting unique samples of Cretan archaeology. The museum brings together archaeological finds from all over Crete, covering over 5500 years of the island's history. Pride of place is given to the treasures of Minoan civilization, the entire historical course of which can thus be appreciated. Justly regarded as the home of Minoan civilization par excellence, the museum houses the most important collection of Minoan antiquities the world over. The Museum is located at the center of the town and was recently renovated. A temporary exhibition on Daedalus is also hosted at present.
Knossos is the largest Bronze Age archaeological site on Crete and has been called Europe's oldest city. Settled as early as the Neolithic period, the name Knossos survives from ancient Greek references to the major city of Crete. The palace of Knossos eventually became the ceremonial and political centre of the Minoan civilization and culture. The palace was abandoned at some unknown time at the end of the Late Bronze Age, c. 1380–1300 BC.
A guided visit to Knossos will be offered and then a visit will be made at the Archaeological museum where the archaeologists of the Museum will present and interpret the value of the various exhibits.


Archaeological Museum


Archaeological Museum


Knossos

CONFERENCE PROGRAM AT A GLANCE

Cities on VOLCANOES

	12|06 SUNDAY		13|06 MONDAY				14|06 TUESDAY				15|06 WEDNESDAY				16|06 THURSDAY				17|06 FRIDAY	
	Thira Volcano Main Hall	Seminar1 Hall	Thira Volcano Main Hall	Milos Volcano Hall	Methana Volcano Hall	Nysiros Volcano Hall	Thira Volcano Main Hall	Milos Volcano Hall	Methana Volcano Hall	Nysiros Volcano Hall	Thira Volcano Main Hall	Milos Volcano Hall	Methana Volcano Hall	Nysiros Volcano Hall	Thira Volcano Main Hall	Milos Volcano Hall	Methana Volcano Hall	Nysiros Volcano Hall		
08:30-10:30			S1.08	S2.03	S3.01	S1.14 S1.16	S1.09	S3.10	S2.08	S2.05	S1.15	S2.09	S3.04	S1.18	S4.01 S4.07 S4.08	S4.03	S3.05 S3.09	S3.11	Visit Archaeological Museum & Knossos (08:30 - 14:30)	08:30-10:30
10:30-11:00			Coffee Break				Coffee Break				Coffee Break				Coffee Break					10:30-11:00
11:00-12:00			Plenary Lecture 2				Plenary Lecture 4				Plenary Lecture 6				S1.23 11.00-12.30	S1.21 11.00-12.30	S4.04 11.00-12.30	S1.11 S1.17 11.00-12.30		11:00-12:00
12:00-13:30			S2.06	PS2	PS4	IAVCEI-WOVO Workshop	S1.04	S3.10	S1.05	S1.03 S1.20 S2.10 S3.19	S2.13	S1.06	S2.02	S2.15	S1.19 S2.07 12.30-14.00	S3.08 12.30-14.00	S3.03 S3.07 12.30-14.00	S2.16 12.30-14.00		12:00-13:30
13:30-14:30			Lunch Break				Lunch Break				Lunch Break				14.15-14.45 Lunch Break					13:30-14:30
14:30-17.30	Registration opens at 16:00	IAVCEI Executive meeting (15:00 - 17:00)	PSS2	PS1	PS4	S2.05	S1.04	S1.01	S3.15	S1.12	S1.10	S2.18	S3.17	S1.07 S2.17 S4.02	S2.12 S3.13 15.00-16.30	S3.13 15.00-16.30	S3.03 S3.07 15.00-16.30	S2.16 15.00-16.30		14:30-17.30
17:30-18:00			Coffee Break				Coffee Break				Coffee Break				Coffee Break					17:30-18:00
18:00-19:00	Opening Ceremony		S3.12	PS1	S2.06			S3.13	S1.05	S1.03 S1.20 S2.10 S3.19	S2.13	S2.18	S3.17	S2.15	CaV Commission Meeting 17.00-17.30 S3.02 17.30-18.30					18:00-19:00
19:00-20:00	Plenary Lecture 1		Plenary Lecture 3	The Volcanic Arc of the Aegean			Plenary Lecture 5 19:00-19:30 CaV Commission presentation results 19.30-20.00				Plenary Lecture 7				Awards & Closing Ceremony 18.30-20.00					19:00-20:00
20:00	Welcome reception														Cretan Night					20:00

Cities on
VOLCANOES

11

SCIENTIFIC PROGRAM

Image by WikiImages from Pixabay

Thira Volcano — Main Hall

18:00 – 19:00 **Opening Ceremony**
Welcome Addresses

19:00 – 20:00 **Plenary Lecture 1**
Convener: Patrick Allard | *IAVCEI President*

50 years of volcanic risk mitigation: Remarkable progress, but challenges remain
Chris Newhall | *Mirisbiris Garden And Nature Center, Philippines*

Thira Volcano — Main Hall

08:30 – 10:30 S1.08 > The role of geosciences in monitoring and managing volcanic hazard

Conveners:

Konstantinos Kyriakopoulos | *National and Kapodistrian University of Athens, Greece*
Walter D'Alessandro | *Instituto di Geofisica e Vulcanologia-Sezione di Palermo, Italy*
Antonios E. Marsellos | *Department of Geology, Environment and Sustainability, Hofstra University, USA*
Katerina Tsakiri | *Department of Information Systems and Supplied Chain Management, Rider University, USA*

Overview of the 2019 eruptive crisis at Ubinas volcano (Peru)
Rigoberto Aguilar Contreras[1], Mayra Ortega[1], Fredy Apaza[1], Nélida Manrique[1], Christopher Harpel[2]
[1]Instituto Geológico Minero y Metalúrgico, Arequipa, Peru, [2]Volcano Disaster Assistance Program, US Geological Survey, Vancouver, United States

What are the Volcanic hazards to Ships: How can you Risk Assess if you don't know?
Paul Cragg[1]
[1]Private, Songkhla, Thailand

Volcanic ash plumes monitoring by a deep learning architecture based on multi-sensor remote sensing
Jose Francisco Guerrero Tello[1], Maria Marsella[1], Mauro Coltelli[2]
[1]Università di Roma La Sapienza, Roma, Italy, 2Istituto Nazionale di Geofisica e Vulcanologia, Catania, Italy

Contribution of microgravity monitoring to volcanic activity control
Jan Mrlina[1]
[1]Institute of Geophysics, Prague, Czech Republic

Subsurface anatomy of the Irazú-Turrialba volcanic complex, inferred from comparing local and ambient seismic tomographic methods
Elliot Jiwani-Brown[1], Ivan Koulakov[2], Thomas Planes[1], Mauricio Mora[3], Javier Pacheco[4], Matteo Lupi[1]
[1]Département des Sciences de la Terre et de Géophysique, Université de Genève, Plainpalais, Switzerland, [2]Institute of Petroleum Geology and Geophysics, Siberian Branch of the Russian Academy of Sciences, Novosobirsk, Russia, [3]Red Sismológica Nacional (RSN), Escuela Centroamericana de Geología, Universidad de Costa Rica, San José, Costa Rica, [4]Observatorio Vulcanológico y Sismológico de Costa Rica (OVSICORI), Universidad Nacional Costa Rica, Heredia, Costa Rica

Analysis of stability and risks associated with the volcanic caves of the Galapagos Islands: comparison of empirical and numerical methods
Gustavo Gilmar Bastidas Pesámtez[2], Oliver André Soria Sánchez[2], Maurizio Mulas[2], **Luis Jorda-Bordehore**[1], Erwin Larreta[2], Daniel Falquez[2], Daniel Garcés[2]
[1]Universidad Politécnica De Madrid, Madrid, Spain, [2]Escuela Superior Politécnica del Litoral, ESPOL, Guayaquil, Ecuador

Milos Volcano — Parallel Hall

08:30 – 10:30 S2.03 > Looking at eruptive style transitions and patterns of cyclicity in volcanic activity

Conveners:

Silvia Massaro | *Instituto Nazionale di Geofisica e Vulcanologia, Bologna, Italy*
Sylvain Charbonnier | *University of South Florida, School of Geosciences, Tampa, USA*

Baked host sediments extruded during the AD 1944-1945 eruption at the Showa-Shinzan cryptodome, Usu volcano, Japan: An indicator of ascending magma
Yoshihiko Goto[1], Tohru Danhara[2], Akihiko Tomiya[3]
[1]Muroran Institute Of Technology, Muroran, Japan, [2]Kyoto Fission Track, Kyoto, Japan, [3]Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan

Transitions from strombolian to phreatomagmatic eruptive styles in monogenetic volcanic systems – The case of Flores Island (Azores)

Mariana Andrade[1,2], Ricardo Ramalho[3,1,4], Adriano Pimentel[5,6], Armand Hernández[7], Steffen Kutterolf[8]

[1]Instituto Dom Luiz (IDL), Faculdade de Ciências, Universidade de Lisboa, Campo Grande, 1749-016, Lisboa, Portugal, [2]Departamento de Geologia, Faculdade de Ciências da Universidade de Lisboa, Campo Grande, Lisboa, Portugal, [3]School of Earth and Environmental Sciences, Cardiff University, Park Place, Cardiff, CF10 3AT, United Kingdom, [4]Lamont-Doherty Earth Observatory of Columbia University, New York, USA, [5]Centro de Informação e Vigilância Sismovulcânica dos Açores (CIVISA), 9501-801 Ponta Delgada, Azores, Portugal, [6]Instituto de Investigação em Vulcanologia e Avaliação de Riscos (IVAR), Universidade dos Açores, 9501-801 Ponta Delgada, Azores, Portugal, [7]GRICA group, Centro de Investigacións Científicas Avanzadas (CICA), Faculty of Sciences, University of Coruña, A Coruña, Spain, [8]GEOMAR Helmholtz Centre for Ocean Research, Kiel, Germany

Eruptive Style Transition at La Fossa Cone, Vulcano (Aeolian Islands, Italy)

Jisoo Kim[1], Amanda Clarke[1,2], Kurt Roggensack[1], Marco Pistolesi[3], Costanza Bonadonna[4]

[1]Arizona State University, Tempe, United States of America, [2]Istituto Nazionale di Geofisica e Vulcanologia, Pisa, Italy, [3]University of Pisa, Pisa, Italy, [4]University of Geneva, Geneva, Switzerland

The multi-parametric signatures of explosive and effusive eruptions (Invited Lecture)

Mike Cassidy[1], Mike Ebmeier[2], Sebastian Watt[3]

[1]University Of Oxford, Oxford, United Kingdom, [2]University Of Leeds, United Kingdom, [3]University of Birmingham, United Kingdom

Pathways of oxidation state, sulfur degassing, sulfide saturation and their link to eruptive style at Mt. Etna volcano

Roberto Moretti[1,2], Nicole Métrich1, Valeria Di Renzo3, Patrick Allard1, Alessandro Aiuppa4, Charles Le Losq1, Daniel Neuville1

[1]Université de Paris, Institut de Physique du Globe de Paris, UMR 7154 CNRS, Paris, France, [2]Observatoire Volcanoloigque et Sismologique de Guadeloupe, Insitut de Physique du Globe de Paris, Gourbeyre, France, 3DISTAV-Università di Napoli "Federico II", Napoli, Italy, 4Dipartimento di Scienze della Terra e del Mare, Università di Palermo, Palermo, Italy

Mt. Etna tephras in marine sediments: Key to a refined history of explosive eruptions

Mirja Heinrich[1], Thor Hansteen[1], Steffen Kutterolf[1], Paola Del Carlo[2], Rosa Anna Corsaro[3], Alessandro Bonforte[3], Henriette Kolling[4], Felix Gross[4]

[1]Geomar Helmholtz Center For Ocean Research, Kiel, Kiel, Germany, [2]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Pisa, Pisa, Italy, [3]Istituto Nazionale di Geofisica e Vulcanologia, Sezione die Catania, Catania, Italy, [4]Christian-Albrechts University of Kiel, Kiel, Germany

Using tephra records as a proxy to discern the response of stratovolcanoes to edifice collapse

Shannen Mills[1], Jonathan Procter[1], Anke Zernack[1], Garbor Kereszturi[1], Stuart Mead[1], Georg Zellmer[1], Shane Cronin[2], Ian Schipper[3]

[1]Massey University, Palmerston North, New Zealand, [2]The University of Auckland, Auckland, New Zealand, [3]Victoria University of Wellington, Wellington, New Zealand

On the origins of intracrateral eruption dynamics at Nyiragongo volcano (D.R. Congo) in the period 2002-2021

Julien Barrière[1], Nicolas d'Oreye[1,2], Benoît Smets[3,4], Adrien Oth[1], Louise Delhaye[3,4], Jos Subira[5,6], Niche Mashagiro[5], Dominique Derauw[7,8], Delphine Smittarello[1], Adalbert Muhindo Syavulisembo[5], François Kervyn[4]

[1]European Center For Geodynamics And Seismology, Walferdange, Luxembourg, [2]National Museum of Natural History, Walferdange, Luxembourg, [3]Vrije Universiteit Brussel, Brussels, Belgium, [4]Royal Museum for Central Africa, Tervuren, Belgium, 5Goma Volcano Observatory, Goma, D.R. Congo, [6]Université de Liège, Liège, Belgium, [7]Centre Spatial de Liège, Liège, Belgium, [8]Universidad Nacional de Rio Negro, Viedma, Argentina

Methana Volcano — Parallel Hall

08:30-10:30 **S3.01 > Health hazards and environmental impacts associated with volcanic eruptions: emissions, exposure and response**

Conveners:
Ines Tomašek | *Université Clermont Auvergne, France*
David E. Damby | *US Geological Survey, USA*
Claire J. Horwell | *Durham University, UK*
Carol Stewart | *Massey University, New Zealand*

Physicochemical properties of respirable volcanic ash from the 2006 Tungurahua eruption (Ecuador) and alveolar epithelium response in-vitro

Julia Eychenne[1,2], Lucia Gurioli[1], Corinne Belville[2], Federica Schiavi[1], David Damby[3], Geoffroy Marceau[2,4], Claire Szczepaniak[5], Christelle Blavignac[5], Jean-Luc Le Pennec[6], Jean-Marie Nedelec[7], Loïc Blanchon[2], Vincent Sapin[2,4]

[1]University Clermont-Auvergne, Laboratoire Magmas et Volcans, Clermont-Ferrand, France, 2University Clermont-Auvergne, Institut de Génétique Reproduction et Développement, Clermont-Ferrand, France, [3]U.S. Geological Survey, California Volcano Observatory, Moffett Field, USA, 4Clermont-Ferrand University Hospital, Biochemistry and Molecular Genetic Department, Clermont-Ferrand, France, [5]University Clermont Auvergne, Centre Imagerie Cellulaire Santé, Clermont-Ferrand, France, 6Université de Bretagne Occidentale, UMR Geo-Ocean, Plouzané, France, [7]Université Clermont Auvergne, SIGMA Clermont, Clermont-Ferrand, France

Getting ready for the next eruption in Iceland: the newly developed system to forecast the dispersal of tephra and volcanic gas

Sara Barsotti[1], Davið S. Guðjónsson[1]

[1]Icelandic Meteorological Office, Reykjavík, Iceland

2018 Eruption of Kīlauea Volcano, Hawai'i: Summary of the Multi-Agency Health-Facing Response

David Damby[1], Al Bronstein[2], Ben Castellana[3], Tamar Elias[1], Diana Felton[2], Fenix Grange[2]

[1]US Geological Survey, United States of America, [2]Hawaii Department of Health, United States of America, [3]US Environmental Protection Agency, United States of America

Pediatric oral health burden in Vanuatu influenced by volcanigenic fluoride

Elizabeth Webb[2], Elaine Dennison[2], **Carol Stewart**[1]

[1]College Of Health, Massey University, New Zealand, Wellington, New Zealand, [2]Victoria University of Wellington, Wellington, New Zealand

Deleterious organic compounds on volcanic ash: a pilot screening study using the CALUX bioassay

Ines Tomašek[1,2,9,10], Imke Boonen[1], Manolis Romanias[3], David Damby[4], Claire Horwell[5], Peter Baxter[6], Ulrich Kueppers[7], Daniele Andronico[8], Matthieu Kervyn[2], Philippe Claeys[1], Marc Elskens[1]

[1]AMGC, Department of Chemistry, Vrije Universiteit Brussel, Belgium, [2]FARD, Department of Geography, Vrije Universiteit Brussel, Belgium, [3]IMT Lille Douai, SAGE, University Lille, France, [4]US Geological Survey, USA, [5]IHRR, Department of Earth Sciences, Durham University, United Kingdom, [6]Institute of Public Health, University of Cambridge, United Kingdom, [7]Department for Earth and Environmental Sciences, LMU Munich, Germany, 8INGV Catania, Italy, [9]Laboratoire Magmas et Volcans, Universite Clermont Auvergne, France, [1]Institute de Génétique, Reproduction et Développement, Universite Clermont Auvergne, France

Metallome deregulation and health-related impacts due to long-term exposure to recent volcanic ash deposits: new chemical and isotopic insights

Lucie Sauzéat[1,2], Julia Eychenne[1,2], Lucia Gurioli[1,3,4], Maud Boyet[1], David Jessop[1,3,4], Roberto Moretti[3,4], Mélusine Monrose[2], Hélène Holota[2], Claude Beaudoin[2], David H. Volle[2]

[1]Laboratoire Magmas et Volcans (LMV), Clermont-Ferrand, France, [2]Institut de Génétique, Reproduction et Développement (iGReD), Clermont-Ferrand, France, [3]Institut de physique du globe de Paris (IPGP), Paris, France, [4]Observatoire volcanologique et sismologique de Guadeloupe (OVSG), Gourbeyre / Guadeloupe, France

Facemask use for community protection from inhaling volcanic ash: An ethical overview and framework to guide agency decision making

Fiona McDonald[2], **Claire J. Horwell**[1], Richard Wecker[3], Lena Dominelli[4], Miranda Loh[5], Robie Kamanyire[6], Ciro Ugarte[7]

[1]Durham University, Durham, United Kingdom , [2]Australian Centre for Health Law Research, School of Law, Queensland University of Technology, Brisbane, Australia, [3]Disaster Management, Climate Change Adaptation and Mitigation Unit, United Nations Children's Fund (UNICEF), Jakarta, Indonesia, [4]Faculty of Social Sciences, University of Stirling, Stirling, United Kingdom, 5Institute of Occupational Medicine, Edinburgh, United Kingdom, [6]Environmental Hazards and Emergencies Department, Centre for Radiation Chemicals and Environmental Hazards, Public Health England, London, United Kingdom, [7]Department of Health Emergencies, Pan American Health Organization, Regional Office for the Americas of the World Health Organization, Washington, D.C., USA

Using Pneumatic Cannon Experiments to Understand Volcanic Ballistic Hazard Footprints

Rebecca Fitzgerald[1,3], Ben Kennedy[2], Thomas Wilson[2], Graham Leonard[3]

[1]Massey University, Palmerston North, New Zealand, [2]University of Canterbury, Christchurch, New Zealand, [3]GNS Science, Wellington, New Zealand

Nysiros Volcano — Parallel Hall

08:30-10:30 **S1.14 > Volcano Seismology and Geodesy: Recent Advances in Understanding Volcanic Processes in Methana Volcano, Greece &**
S1.16 > Seismicity and ground deformation link in volcanic areas: multidisciplinary approaches and joint investigation over different timescales

Conveners:

Athanassios Ganas | *NOA Institute of Geodynamics, Athens, Greece*
Christos Evangelidis | *NOA Institute of Geodynamics, Athens, Greece*
Konstantinos Kyriakopoulos | *University of Athens, Department of Geology, Athens, Greece*
Mariarosaria Falanga | *Dipartimento di Ingegneria dell'Informazione ed Elettrica e Matematica applicata/DIEM, Università degli Studi di Salerno, Fisciano, Italy*
Paola Cusano | *Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Napoli, Osservatorio Vesuviano, Naples, Italy*
Simona Petrosino | *Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Napoli, Osservatorio Vesuviano, Naples, Italy*
Ciro Ricco | *Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Napoli, Osservatorio Vesuviano,Italy*

Forecasting eruptions from integrated patterns of deformation and seismicity

Christopher Kilburn[1,2], Alexander Steele[1], Jessica Appleton[1], Richard Wall[1]

[1]UCL Hazard Centre, Department of Earth Sciences, University College London, London, United Kingdom, [2]INGV Osservatorio Vesuviano, Naples, Italy

Methana volcanic observatory: An effort to monitor seismicity, seismic velocity changes and deformation
Christos Evangelidis[1], Ioannis Fountoulakis[1], Efthimios Sokos[2], Kyriakos Kontakos[1], Spyros Liakopoulos[1]
1National Observatory Of Athens, Institute of Geodynamics, Athens, Greece, 2University of Patras, Department of Geology, Patras, Greece

Monitoring a zombie volcano: Seismic, gravity, ground deformation, and gas measurements at the Pleistocene age Uturuncu volcano, Bolivia
Matthew Pritchard[1], Patricia G. MacQueen[1], Ying Liu[2], Jo Gottsmann[3], Gonzalo Fernandez[4], J. Mike Kendall[5], Jon D. Blundy[3], Tobias Fischer[6], Tom Hudson[5], Scott Henderson[7], Elizabeth Eiden[1]
[1]Cornell University, Ithaca, United States of America, [2]University of Science and Technology of China, Hefei, China, [3]University of Bristol, Bristol, United Kingdom, [4]Observatorio San Calixto, La Paz, Bolivia, [5]Oxford University, Oxford, United Kingdom, [6]University of New Mexico, Albuquerque, United States, [7]University of Washington , Seattle, United States

Repeating earthquakes and ground deformation reveal the structure and triggering mechanisms of the Pernicana fault, Mt. Etna
Adriana Iozzia[1], Andrea Cannata[1], Salvatore Alparone[2], Alessandro Bonforte[2], Flavio Cannavò[2], Simone Cesca[3], Stefano Gresta[1], Eleonora Rivalta[4], Andrea Ursino[2]
[1]Università degli Studi di Catania, Catania, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Etneo, Catania, Italy, [3]Helmholtz Centre Potsdam GFZ German Research Centre for Geosciences, Potsdam, Germany, [4]Università di Bologna, Bologna, Italy

Spatial and temporal variations of ambient noise polarization on Piton de La Fournaise volcano
Marta Pischiutta[1], Rodolfo Puglia[1], Valérie Ferrazzini[2], Martha Savage[3], Zacharie Duputel[2], Cyril Journeau[4], Andrea Di Muro[2], Aline Peltier[2]
[1]INGV - Istituto Nazionale di Geofisica e Vulcanologia, Italy, [2]Observatoire Volcanologique du Piton de la Fournaise - IPGP, La Réunion, France, [3]Victoria University of Wellington, Wellington, New Zealand, [4]Université Grenoble Alpes, Grenoble, France

10:30 – 11:00 **Break**

Thira Volcano — Main Hall

11:00 – 12:00 **Plenary Lecture 2**

Convener: **Paraskevi Nomikou** | *Department of Geology and Geoenvironment, National and Kapodistrian University of Athens, Zografou, Greece*

The Life and Death of a Bronze Age City by Volcanism – Akrotiri
Prof. Floyd McCoy
Professor of Geology and Oceanography with the Department of Natural Sciences
University of Hawaii, Windward Community College

Thira Volcano — Main Hall

12:00 – 13:30 **S2.06 > Uncertainty quantification in volcanic phenomena: an essential component for modeling physical processes and for hazard/risk assessment Part 1**

Conveners:
Alessandro Tadini | *Laboratoire Magmas et Volcans, Université Clermont Auvergne, Aubiere Cedex, France*
Andrea Bevilacqua | *Istituto Nazionale di Geofisica e Vulcanologia, Pisa, Italy*
Pablo Tierz | *British Geological Survey, The Lyell Centre, Edinburgh, United Kingdom*
Mary Grace Bato | *NASA Jet Propulsion Laboratory, Pasadena, CA, United States of America*
Sebastien Biasse | *Earth Observatory of Singapore, Nanyang Technological University, Singapore*
Samantha Engwell | *British Geological Survey, The Lyell Centre, Edinburgh, United Kingdom*

A new statistical model for interpretation and comparison of temporal modulations in volcanic activity: application to the Neapolitan volcanoes
Jacopo Selva[1], Laura Sandri[1], Matteo Taroni[2], Roberto Sulpizio[3], Pablo Tierz[4], Antonio Costa[1]
[1]Istituto Nazionale di Geofisica e Vulcanologia, Bologna, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Roma, Italy, [3]Università di Bari, Bari, Italy, [4]British Geological Survey, Edinburgh, United Kingdom

The impact of uncertainty associated with eruption source parameters on volcanic ash dispersion simulations

Fabio Dioguardi[1], Frances Beckett[2], Tobias Dürig[3], John A. Stevenson[1]

[1]British Geological Survey, now at University of Bari, Dipartimento di Scienze della Terra e Geoambiental, Bari, Italy, Edinburgh, United Kingdom , [2]UK Met Office, Exeter, United Kingdom, [3]University of Otago, Dunedin, New Zealand

Eruption Source Parameters and Uncertainties: The IVESPA example

Thomas Aubry[1,2], Samantha Engwell[3], The IVESPA working group

[1]Sidney Sussex College, Cambridge, United Kingdom , [2]Department of Geography, University Of Cambridge, Cambridge, United Kingdom , [3]British Geological Survey, Edinburgh, United Kingdom

A new fast three-dimensional dispersion model for probabilistic simulation of tephra hazards

Mark Woodhouse[1,2], Andrew Hogg[2], Jeremy Phillips[1], Natalia Lipiejko[3], Susanna Jenkins[4], Mathis Joffrain[5]

[1]School of Earth Sciences, University Of Bristol, Bristol, United Kingdom , [2]School of Mathematics, University of Bristol, Bristol, United Kingdom, [3]Department of Civil & Environmental Engineering, University of Auckland, Auckland, New Zealand, [4]Earth Observatory of Singapore, Nanyang Technological University, Singapore, Singapore, SAXA GIE, Paris, France

Pyroclastic density currents and tephra fallout hazard assessment at Tungurahua volcano, Ecuador: hazard maps with uncertainty quantification

Alessandro Tadini[1], Alvaro Aravena[1], Andrea Bevilacqua[2], Pablo Samaniego[1,3], Benjamin Bernard[3], Silvana Hidalgo[3], Nourddine Azzaoui[4], Olivier Roche[1]

[1]Université Clermont Auvergne, Laboratoire Magmas et Volcans, France, [2]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Pisa, Pisa, Italy, [3]Escuela Politécnica Nacional, Instituto Geofísico, Quito, Ecuador, [4]Université Clermont Auvergne, Laboratoire de Mathématiques Blaise Pascal, Aubière, France

Implementation of a data assimilation system for volcanic ash into the FALL3D model

Leonardo Mingari[1], Andrew Prata[1], Arnau Folch[1]

[1]Barcelona Supercomputing Center, Barcelona, Spain

Milos Volcano — Parallel Hall

12:00 – 13:30 PS2 > Special session on recent eruptions : crisis management &

PS3 > Special session on covid-19 and volcanoes : lessons and adaptation

Conveners:

Angela Doherty | *Auckland Emergency Management*
Stacey Edwards | *Seismic Research Center, The University of the West Indies*
Erouscilla Joseph | *Seismic Research Center, The University of the West Indies*
Jorge Romero Moyano | *University of Manchester*
Carol Stewart | *Massey University*

Global multi-hazard detection for aviation from SACS/ALARM early warning system to improve situational awareness and mitigate the risk of recent eruptions

Hugues Brenot[1], Nicolas Theys[1], Erwin de Donder[1], Michel Van Roozendael[1], Lieven Clarisse[2], Pierre de Buyl[3], Nicolas Clerbaux[3], Ritthik Bhattacharya[4], Riccardo Biondi[5], Sigrun Matthes[6], Tanja Bolić[7,8], Manuel Soler[9]

[1]Royal Belgian Institute for Space Aeronomy (BIRA-IASB), Brussels, Belgium, [2]Université Libre de Bruxelles (ULB), Brussels, Belgium, [3]Royal Meteorological Institute of Belgium (KMI-IRM), Brussels, Belgium, [4]SATAVIA, Cambridge, UK, [5]University of Padova, Padova, Italy, [6]German Aerospace Center (DLR), Oberpfaffenhofen, Germany, [7]SymOpt, Trieste, Italy, [8]University of Westminster, London, UK, [9]University Carlos III of Madrid (UC3M), Madrid, Spain

The 2021 eruption in La Palma Island (Canary Islands, Spain): Volcano monitoring, eruptive processes and crisis management. The tale of an urban eruption

Stavros Meletlidis[1], Alicia Felpeto Rielo[2], Marta Moreno[3]

[1]Centro Geofísico de Canarias, Instituto Geográfico Nacional, Santa Cruz De Tenerife, Spain, [2]Observatorio Geofísico Central, Instituto Geográfico Nacional, Madrid, Spain, [3]Dirección General de Seguridad y Emergencia, Gobierno de Canarias, Las Palmas de Gran Canaria, Spain

To go or not to go when the lava flow is coming: understanding of evacuation decision of Goma inhabitants during the 2021 Nyiragongo eruption crisis

Blaise Mafuko Nyandwi[1,2,3], Matthieu Kervyn[2], Muhashy Habiyaremye[1], François Kervyn[3], Caroline Michellier[3]

[1]Université De Goma, Goma, Democratic Republic of Congo, [2]Geography department, Vrije Universiteit Brussel , Brussels, Belgium, [3]Earth Sciences department, Royal Museum of Central Africa , Tervuren, Belgium

The challenging crisis management during the Nyiragongo 22nd May 2021 eruption (D. R. Congo)

Adalbert Muhindo Syavulisembo[1], Julien Barrière[3], Nicolas d'Oreye[3,4], Caroline Michellier[2], Adrien Oth[3], Benoît Smets[2,5], Delphine Smittarello[3], Francois Kervyn[2]

[1]Goma Volcano Observatory, Goma, Democratic Republic of Congo, [2]Royal Museum For Central Africa, Tervuren, Belgium , [3]European Center for Geodynamics and Seismology, Walferdange, Grand Duchy of Luxembourg, [4]National Museum of Natural History, Luxembourg, Grand Duchy of Luxembourg, [5]Vrije Universiteit Brussel, Brussels, Belgium

Virtual volcanoes: Flipped classroom on geotechnics of volcanic materials through Virtual and Augmented Reality

Luis Jorda-Bordehore[1], Rubén Ángel Galindo Aires[1], Salvador Senent Domínguez[1], Jesús González Galindo[1], Ramiro García Luna[1], Ignacio González Tejada[1], Jesús Page Antequera[1], Roberto Tomás Jover[2], Miguel Cano[2], José Luis Pastor[2], Adrián Riquelme Guill[2], Maurizio Mulas[3], Mishel Tatiana García Vela[3], César Patricio Borja Bernal[4], Luis E. Hernández Gutiérrez[5], Rafael Jordá Bordehore[6]

[1]Universidad Politécnica De Madrid, Madrid, Spain, [2]Universidad de Alicante, Alicante, Spain, [3]Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador, [4]Universidad de Guayaquil, Guayaquil, Ecuador, [5]Gobierno de Canarias, Spain, [6]Ilustre Colegio Oficial de Geólogos, Spain

Lessons learned from the 2021 Cumbre Vieja eruption: effective international scientific cooperation during a volcanic crisis

Luca D'Auria[1,2], Nemesio M. Pérez[1,2], Pedro A. Hernández[1,2], Matthew J. Pankhurst[1,2], Cumbre Vieja Eruption International Collaborative Research Team INVOLCAN's[1]

[1]Instituto Volcanológico de Canarias (INVOLCAN), San Cristóbal de La Laguna, Spain, [2]Instituto Tecnológico y de Energías Renovables (ITER), Granadilla de Abona, Spain

Management of the crisis response to the 2020 – 2021 eruption of La Soufrière volcano, St. Vincent

Erouscilla Joseph[1], Michelle Forbes[2], Stacey Edwards[1], Elizabeth Riley[3]

1Seismic Research Centre, The University of the West Indies, St. Augustine, Trinidad and Tobago, 2The National Emergency Management Organisation, Kingstown, St. Vincent and the Grenadines, 3Caribbean Disaster Emergency Management Agency, Lower Estate St. Michael, Barbados

Managing the 2021 concomitant crises of Etna and Vulcano volcanoes (Italy)

Stefano Branca[1], Francesca Bianco[2], Mauro Coltelli[1], Francesco Italiano[3], Augusto Neri[4], Carlo Doglioni[4]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Catania, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Napoli, Italy, [3]Istituto Nazionale di Geofisica e Vulcanologia, Palermo, Italy, [4]Istituto Nazionale di Geofisica e Vulcanologia, Roma, Italy

Methana Volcano — Parallel Hall

12:00 – 13:30 PS4 > Special session on lessons from social sciences and related disciplines Part 1

Conveners: **Jenni Barclay** | *University of East Anglia*
Jazmin Scarlett | *University of East Anglia*

Geological constraints on the dynamics, hazards and landscape evolution of the Late-Bronze-Age (LBA) eruption of Santorini

Tim Druitt[1], Paraskevi Nomikou[2], **David Karatson**[3]

[1]Laboratory Magmas-Volcanoes, Clermont Auvergne University & CNRS, Clermont Ferrand, France, [2]National and Kapodistrian University of Athens, Department of Geology and Geoenvironment, Athens, Greece, [3]Eötvös University, Department of Physical Geography, Hungary

Did you see it? A citizen science app to report volcanic activity in real time

Arianna Soldati[1]

[1]LMU , Munich , Germany

A demonstration of PlumeRise - a web-based model for eruption columns

Mark Woodhouse[1,2], Jeremy Phillips[1], Andrew Hogg[2]

[1]School of Earth Sciences, University Of Bristol, Bristol, United Kingdom , [2]School of Mathematics, University Of Bristol, Bristol, United Kingdom

The First ALVO Congress and volcanology in the current Latin American situation

Lizzette Rodriguez[1], Mariana Jacome[2], Lizeth Caballero[3], Mariano Agusto[4], Pablo Forte[4], Emilce Bustos[5], Silvia Vallejo[6], Eveling Espinoza[7], Constanza Perales[8], Gustavo Cordoba[9]

[1]Geology Dept., University of Puerto Rico-Mayaguez, Mayaguez, Puerto Rico, [2]Institute of Geophysics, National Autonomous University of Mexico, Mexico City, Mexico, [3]Science Faculty, National Autonomous University of Mexico, Mexico City, Mexico, [4]GESVA - Institute of Andean Studies "Don Pablo Groeber", University of Buenos Aires-CONICET, Buenos Aires, Argentina, [5]IBIGEO- UNSa CONICET, Salta, Argentina, [6]Geophysical Institute, National Polytechnic School, Quito, Ecuador,[7]Volcanology Section, Instituto Nicaraguense de Estudios Territoriales (INETER), Managua, Nicaragua, [8]Department of Earth Sciences, Faculty of Chemical Sciences, University of Concepcion, Chile, [9]Department of Engineering, University of Nariño, Colombia

Volcanism and Inclusivity

Jazmin Scarlett[1]

[1]University Of East Anglia, Norwich, United Kingdom

How to effectively use the content available on the GVP website

Edward Venzke[1]

[1]Smithsonian Institution - Global Volcanism Program, Washington, United States of America

13:30 - 14:30 **Lunch Break**

Thira Volcano — Main Hall

14:30 - 17:30 **Plenary / Special session 2 > Impact of volcanic activity crises in places of tourist interest: Stromboli, Vulcano, White Island, Cumbre Vieja and other case studies**

Conveners:

Elisabetta Del Bello | *Istituto Nazionale di Geofisica e Vulcanologia, Italy*
Daniele Andronico | *Istituto Nazionale di Geofisica e Vulcanologia, Italy*
Piergiorgio Scarlato | *Istituto Nazionale di Geofisica e Vulcanologia, Italy*
Luca D'Auria | *INVOLCAN – Instituto Volcanológico de Canarias, Spain*
ITER – Instituto Tecnológico y de Energías Renovables, Spain

Identification and quantification of CO2 and SO2 emission from fumarolic and diffuse sources of La Fossa caldera (Vulcano, Italy) to contribute to the gas hazard assessment in Vulcano Porto village in the present unrest crisis

Maria Luisa Carapezza[1], Iole Serena Diliberto[2], Domenico Granieri[3]

[1]Ingv Roma 1, Rome, Italy, [2]Ingv Palermo, Palermo, Italy, [3]Ingv Pisa, Pisa, Italy

Hazard associated with the diffuse release of CO2 in the village of Vulcano Porto during the 2021-2022 unrest crisis of La Fossa volcano (Vulcano Island, Italy)

Maria Luisa Carapezza[1], Domenico Granieri[2], Antonio Patera[1], Lucia Pruiti[3], Massimo Ranaldi[1], Cosimo Rubino[4], Francesco Sortino[4], Luca Tarchini[1]

[1]Ingv Roma 1, Rome, Italy, [2]Ingv Pisa, Pisa, Italy, [3]Ingv Catania, Catania, Italy, [4]Ingv Palermo, Palermo, Italy

Modeling and numerical simulation of phreatic eruptions scenarios at Vulcano (Aeolian islands, Italy)

Tomaso Esposti Ongaro[1], Silvia Giansante[1,3], Marco Pistolesi[2], Raffaello Cioni[3], Mattia de' Michieli Vitturi[1]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Pisa, Pisa, Italy, [2]Dip.to di Scienze della Terra, Università degli Studi di Pisa, Pisa, Italy, [3]Dip.to di Scienze della Terra, Università di Firenze, Firenze, Italy

Geodetic imaging of pre-eruptive magma ascent process during 2021 at Cumbre Vieja (La Palma, Spain) (Invited Lecture)

Monika Przeor[1,2], José Barrancos Martínez[1,2], Raffaele Castaldo[3], Luca D'Auria[1,2], Antonio Pepe[3], Taheski Sagiya[4], Giuseppe Solaro[3], Pietro Tizzani[3]

[1]Instituto Volcanológico de Canarias (INVOLCAN), San Cristóbal de La Laguna, Spain, [2]Instituto Tecnológico y de Energías Renovables (ITER), Granadilla de Abona, Spain, [3]Istituto per il Rilevamento Elettromagnetico dell'Ambiente (CNR-IREA), Napoli, Italy, [4]Nagoya University, Nagoya, Japan

The impact of the 2021 eruption of Cumbre Vieja volcano (La Palma, Canary Islands) on the landscape: morphological changes and observation of volcanic activity from UASs surveys

Riccardo Civico[1], Tullio Ricci1, Piergiorgio Scarlato[1], Jacopo Taddeucci[1], Daniele Andronico[2], Elisabetta Del Bello[1], Luca D'Auria[3,4], Pedro A. Hernández[3,4], Nemesio M. Pérez[3,4], María Asensio-Ramos[3], José Barrancos[3,4], David Calvo[3], David Martínez van Dorth[3,4], Eleazar Padrón[3,4], Antonio Álvarez[3], Carlo Doglioni[1]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Roma, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Catania, Italy, [3]Instituto Volcanológico de Canarias - INVOLCAN, 38320 San Cristóbal de La Laguna, Tenerife, Spain, [4]Instituto Tecnológico y de Energías Renovables - ITER, 38600 Granadilla de Abona, Tenerife, Spain

Monitoring Cumbre Vieja 2021 eruption with HDAS (High-Fidelity Distributed Acoustic Sensing)

José Barrancos[1,2], **Luca D'Auria**[1,2], Iván Cabrera[1,2], Germán D. Padilla[1,2], Javier Preciado-Garbayo[3], Nemesio M. Pérez[1,2]

[1]Instituto Volcanológico de Canarias, Granadilla de Abona, Spain, [2]Instituto Tecnológico y de Energías Renovables, Granadilla de Abona, Spain, [3]Aragon Photonics Labs. S.L.U. C. , Zaragoza, Spain

Management of the eruption crisis in Stromboli (Italy) during summer 2019 (Invited Lecture)

Eugenio Privitera[1]

[1]Istituto Nazionale di Geofisica e Vulcanologia - Osservatorio Etneo, Catania, Italy

The two powerful explosions during the summer of 2019 at Stromboli

Daniele Andronico[1], Elisabetta Del Bello[2], Francesco Ciancitto[1], Antonino Cristaldi[1], Mattia de' Michieli Vitturi[3], Claudia D'Oriano[3], Patrizia Landi[3], Federica Pardini[3], Francesco Pennacchia[2], Tullio Ricci[2], Piergiorgio Scarlato[2], Jacopo Taddeucci[2], Federico Valentini[4]

[1]INGV, Osservatorio Etneo-Sezione di Catania, Catania, Italy, [2]INGV, Sezione di Roma 1, Roma, Italy, [3]INGV, Sezione di Pisa, Pisa, Italy, 4Piazza Santa Maria Ausiliatrice, 10, Roma, Italy

Magma-mush dynamics controls paroxysmal eruptions at basaltic volcanoes: the summer 2019 eruptions at Stromboli volcano (Italy)

Chiara Maria Petrone[1], Silvio Mollo[2,3], Ralf Gertisser[4], Yannick Buret[1], Piergiorgio Scarlato[3], Elisabetta Del Bello[3], Daniele Andronico[5], Ben Ellis[6], Alessio Pontesilli[2], Gianfilippo De Astis[3], Pierpaolo Giacomoni[7], Massimo Coltorti7

[1]The Natural History Museum, London, United Kingdom, [2]Department of Earth Sciences, Sapienza – University of Rome, Rome, Italy, [3]INGV, Sezione di Roma, Rome, Italy, [4]Keele University, Staffordshire, United Kingdom, [5]INGV, Sezione di Catania, Catania, Italy, [6]ETH , Zurich, Switzerland, [7]University of Ferrara, Ferrara, Italy

Probabilistic hazard mapping of secondary pyroclastic density currents occurred during paroxysm events at Stromboli (Italy)

Andrea Bevilacqua, Zeno Geddo[3], Mattia de' Michieli Vitturi[1], Alessio Di Roberto[1], Tomaso Esposti Ongaro[1], Marina Bisson[1], Federico Di Traglia[2], Alessandro Fornaciai[1], Antonella Bertagnini[1], Massimo Pompilio[1], Paola Del Carlo[1], Patrizia Landi[1], Augusto Neri[1]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Pisa, Pisa, Italy, [2]Centro Ricerche Sismologiche - OGS, Trieste, Italy, [3]Scuola Normale Superiore, Pisa, Italy

Emergency management and risk reduction measures after the 2019 explosive paroxysms at Stromboli volcano, Italy

Domenico Mangione[1], Antonio Ricciardi[1], Salvatore Zaia[1], Filippo Bonvegna[2], Luigi Coppola[1], Salvatore Di Mauro[2], Maria Cusolito[3], Michele Ciervo[1], Stefano Ciolli[1], Fabio D'Amato[1], Andrea Mazo[1], Damiano Piselli[1], Juri Pittaluga[1], Chiara Cristiani[1], Antonella Scalzo[1], Vittorio Bosi[1], Roberto Canuti[1]

[1]Presidenza del Consiglio dei Ministri - Dipartimento della protezione civile, Rome, Italy, [2]Regione Siciliana - Dipartimento della protezione civile, Palermo, Italy, [3]Comune di Lipari, Italy

INGVvulcani: an (attempted) paroxysm of information

Micol Todesco[1], Emanuela Bagnato[2], Boris Behncke[3], Alessandro Bonforte[3], Gianfilippo De Astis[4], Maddalena De Lucia[2], Sandro De Vita[2], Mauro Di Vito[2], Fausto Grassa[5], Chiara Montagna[6], Rosella Nave[2], Caterina Piccione[7], Tullio Ricci[4], Dmitri Rouwet[1], Laura Sandri[1], Piergiorgio Scarlato[7]

[1]Ingv, Sezione Di Bologna, Bologna, Italy, [2]INGV, Osservatorio Vesuviano , Napoli, Italy, [3]INGV, Osservatorio Etneo, Catania, Italy, [4]INGV, Sezione di Roma 1, Roma, Italy, [5]INGV, Sezione di Palermo, Palermo, Italy, [6]INGV, Sezione di Pisa, Pisa, Italy, [7]INGV, Amministrazione Centrale, Roma, Italy

Milos Volcano — Parallel Hall

14:30 - 17:30 PS1 > Special session on recent eruptions : hazards, impacts, and consequences Part 1

Conveners:

Omari Graham | *Seismic Research Center, The University of the West Indies*
Victoria Miller | *Seismic Research Center, The University of the West Indies*
Nemesio Perez | *Instituto Volcanológico de Canarias*
Richard Robertson | *Seismic Research Center, The University of the West Indies*
Giuseppe Salerno | *Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Etneo*

Challenges from structural failure and shallow dike intrusion at Nyiragongo

Delphine Smittarello[1], Benoit Smets[2,3], Julien Barrière[1], Adrien Oth[1], Caroline Michellier[2], Tara Shreve[4], Raphael Grandin[5], Valérie Cayol[6], Nicolas Theys[7], Hugues Brenot[7], Halldor Geirsson[8], Dominique Derauw[9,10], Olivier Namur[11], M. Sander Molendjik[11], M. Ephrem Kamate Kaleghetso[11,12], Martin Schmid[13], Nicolas d'Oreye[1,14], François Kervyn[2], Adalbert Syavulisembo Muhindo[12]

[1]European Center for Geodynamics and Seismology, Walferdange, Luxembourg, [2]Royal Museum for Central Africa, Department of Earth Sciences, Belgium, [3]Vrije Universiteit Brussel, Department of Geography, Belgium, [4]Earth and Planets Laboratory, Carnegie Institution for Science, Washington DC, U.S.A., [5]Université de Paris, Institut de Physique du Globe de Paris, Paris, France, [6]Université Clermont Auvergne, CNRS, IRD, OPGC, Laboratoire Magmas et Volcans, Clermont-Ferrand, France, [7]Royal Belgian Institute for Space Aeronomy, Brussels, Belgium, [8]Institute of Earth Sciences, University of Iceland, Iceland, [9]Centre Spatial de Liège, Liège, Belgium, [10]Universidad Nacional de Río Negro. Instituto de Investigación en Paleobiología y Geología., Rio Negro, Argentina, [11]Department of Earth and Environmental Sciences, KU Leuven , Leuven, Belgium, [12]Goma Volcano Observatory, Goma, D.R. Congo, [13]Eawag, Swiss Federal Institute of Aquatic Science and Technology, Surface Waters– Research and Management, Kastanienbaum, Switzerland, [14]National Museum of Natural History, Luxembourg, Luxembourg

The 2021 eruption in La Palma (Canary Islands): Unexpected threat from the reactivation of aa lava flows

Carmen Solana[1,2], Christopher Kilburn[3]

[1]University of Portsmouth, Portsmouth, United Kingdom , [2]INVOLCAN, Tenerife, Spain, [3]University College London, London, United Kingdom

Gas hazard assessment at urbanized areas of Puerto Naos and La Bombilla, Cumbre Vieja, La Palma (Canary Islands)

Pedro Hernández[1,2], Germán Padilla[1,2], José Barrancos[1,2], José M. Pacheco[3], Eleazar Padrón[1,2], Gladys V. Melián[1,2], María Asensio-Ramos[1], Daniel Di Nardo[1], Maud Smit[4]

[1]Instituto Volcanológico De Canarias (INVOLCAN), San Cristóbal de La Laguna, Spain, [2]Instituto Tecnológico y de Energías Renovables (ITER), Granadilla de Abona, Spain, [3]Instituto de Investigação em Vulcanologia e Avaliação de Riscos (IVAR), San Miguel, Portugal, [4]Earth Science Department, University of Iceland, Reikiavik, Iceland

Impacts of tephra fall on buildings: ground-truthing laboratory tests with building surveys in La Palma

Sara Osman[1], Julio López Gutiérrez[2], Javier Martínez Martínez[2], Inés Galindo Jiménez[3], Mark Thomas[1], Julia Crummy[4], Stephen Carver[1]

[1]University of Leeds, Leeds, United Kingdom , [2]Instituto Geológico y Minero de España-CSIC, Madrid, Spain, [3]Instituto Geológico y Minero de España-CSIC, Las Palmas de Gran Canaria, Spain, [4]British Geological Survey, Edinburgh, United Kingdom

Insight in ground deformation patterns in Koa'e fault zone on Kīlauea volcano

Bruce Enki Oscar Thomas[1], James Foster[1]

[1]Institute of Geodesy (GIS), University of Stuttgart, Stuttgart, Germany

The 2022 Eruption of Hunga Tonga-Hunga Ha'apai Volcano: Explosion Precursors and Post-Eruptive Earthquake Swarm

Stephanie Prejean[1], Jeremy Pesicek[2], William Yeck[3], Paul Earle[3], Jonas Kintner[4], John Ewert[2], Steve Sherburn[5]

[1]USGS-USAID Volcano Disaster Assistance Program, Anchorage, United States of America, [2]USGS-USAID Volcano Disaster Assistance Program, Vancouver, United States of America, [3]USGS National Earthquake Information Center, Golden, United States of America, [4]Los Alamos National Laboratory, Los Alamos, United States of America, [5]GNS Science, New Zealand

Characterization and Risk Analyses of the Possible Minoan Phenomenon in Muğla - Yatağan Basin, Western Anatolia

Ali Duman[1], Ökmen Sümer[1], Semih Eski[1]

[1]Dokuz Eylul University, Faculty of Engineering, Department of Geological Engineering, Tinaztepe Campus, 35390, Turkey

Simple tools for fast estimation of volcanic eruption climate impacts: Application to the La Soufrière (2021) and Hunga Tonga-Hunga Ha'apai (2022) eruptive crises

Thomas Aubry[1,2], Anja Schmidt[3,4,5]

[1]Sidney Sussex College, Cambridge, United Kingdom , [2]Department of Geography, University Of Cambridge, Cambridge, United Kingdom, [3]Yusuf Hamied Department of Chemistry, University of Cambridge, Cambridge, United Kingdom, [4]German Aerospace Center (DLR), Institute of Atmospheric Physics (IPA), Oberpfaffenhofen, Germany, [5]Metrological Institute, Ludwig-Maximilians University Munich, Germany

The Hunga Tonga Hunga Ha'apai eruption, Tonga, January 15th 2022

Mr. Taaniela Kula

Deputy Secretary, Natural Resources Division/ Tonga Geological Services, Ministry of Lands and Natural Resources

Impact and damage to societal assets of the 2020-21 La Soufriere volcano eruption

Victoria Miller[1,2], Susanna Jenkins[3], Monique Johnson[1], Christina Magill[4], Tom Wilson[5]

[1]The University of the West Indies Seismic Research Centre, St. Augustine, Trinidad and Tobago, [2]Montserrat Volcano Observatory, Flemmings, Montserrat, [3]Earth Observatory of Singapore and Asian School of the Environment, Nanyang Technological University, Singapore, [4]GNS Science, Lower Hutt, New Zealand, [5]University of Canterbury, Christchurch, New Zealand

Lava flows in the city: the challenging assessment of the human impact of May 2021 Nyiragongo eruption (DRCongo)

Caroline Michellier[1], Celestin Ruriho Kimanuka[2], Ildephonse Kambale Nguomoja[3], Innocent Mutazihara Bahati[3], François Kervyn[1], Joseph Kambale Makundi[3]

[1]Royal Museum For Central Africa, Tervuren, Belgium, [2]Institut National de la Statistique du Nord Kivu, Goma, Democratic Republic of Congo, [3]North Kivu Civil Protection , Goma, Democratic Republic of Congo

The 2021-Cumbre Vieja eruption, La Palma, Spain: multi-hazard phenomena and its cascading impacts

Lucia Dominguez[1], Corine Frischknecht[1], Maria Paz Reyes-Hardis[1], Luigia Di Maio[1], Costanza Bonadonna[1], Claudia Rodríguez-Pérez[2,3], Nemesio Pérez[2,3]

[1]Department of Earth Sciences, University of Geneva, Geneva, Switzerland, [2]Instituto Volcanológico de Canarias (INVOLCAN), San Cristóbal de La Laguna, Spain, [3]Instituto Tecnológico y de Energías Renovables (ITER), Granadilla de Abona, Spain

Methana Volcano — Parallel Hall

14:30 - 17:30 PS4 > Special session on lessons from social sciences and related disciplines Part 2

Conveners:

Jenni Barclay | *University of East Anglia*
Jazmin Scarlett | *University of East Anglia*

Where do they come from? Where do they go? Where do they come from? Volcanologists: a bibliometric study

Geoffrey Lerner[1], George Williams[1], Elinor Meredith[1,2], Susanna Jenkins[1,2], Jenni Barclay[3]

[1]Earth Observatory of Singapore, Nanyang Technological University, Singapore, Singapore, [2]Asian School of the Environment, Nanyang Technological University, Singapore, Singapore, [3]School of Environmental Sciences, University of East Anglia, Norwich, UK

"A leaden snow": Volcanic imaginaries of risk and reward from Malalcahuello, Chile

Rory Walshe[1], Francisca Vergara-Pinto, Julie Morin, Amy Donovan

[1]University Of Cambridge, Cambridge , United Kingdom

Animal evacuation at Popocatépetl volcano, Mexico: What are the implications for vulnerability and civil protection?

Mihaiela Swift[1]

[1]Geography Department, King's College London, London, United Kingdom , [2]Earth Sciences Department, Natural History Museum, London, United Kingdom

Upcycle Your Geology Data. Join the Knowledge Revolution

Debra Parcheta[1]

[1]Blue Marble Enterprises, Inc., Aurora, United States of America, [2]University of Colorado at Denver, Denver, United States

Combatting Cultural Corrosion: An Archaeological Perspective on the Material Culture and Heritage of Montserrat's Soufrière Hills Volcano

Miriam Rothenberg[1]

[1]Brown University, Providence, United States of America

Forensic Analysis of Information Access for Evacuation Decisions During the 3 June 2018 Eruption of Fuego Volcano, Guatemala

Beth Bartel[1], Rüdiger Escobar Wolf[1], Benjamin Andrews[2], Sara McBride[3], Sally Sennert[4]

[1]Michigan Technological University, Houghton, United States, [2]Smithsonian Institution Global Volcanism Program, Washington, United States, [3]United States Geological Survey, Moffett Field, United States of America, [4]United States Geological Survey, Washington, United States of America

Changing Landscapes SVG - experiences in post disaster community engagement and monitoring extensive hazards

Monique Johnson[1], Jenni Barclay[2], Teresa Armijos[2], Roger Few[3], Jeremy Phillips[4], Richard Robertson[1]

[1]Seismic Research Centre, St. Augustine, Trinidad and Tobago, [2]School of Environmental Sciences, University of East Anglia, United Kingdom, [3]School of International Development, University of East Anglia, United Kingdom, [4]School of Earth Sciences, University of Bristol, United Kingdom

Why does social science seem so annoyingly political, and what are the implications for interdisciplinary projects? (Or, at least the rocks don't talk back!)

Amy Donovan[1], Julie Morin[1], Rory Walshe[1], Alvaro Amigo[2]

[1]University of Cambridge, Cambridge, United Kingdom , [2]SERNAGEOMIN, Santiago, Chile

Towards a community-based volcanic hazard-risk communication approach

Jorge Romero[1], Francisca Vergara-Pinto[2]

[1]*The University Of Manchester, Manchester, United Kingdom* , [2]*Universidad de Los Lagos, Osorno, Chile*

Infrasound tools for detecting and monitoring volcanic eruptions

John Lyons[1], David Fee[2], Aaron Wech[1], Matthew Haney[1]

[1]*Usgs Alaska Volcano Observatory, Anchorage, Alaska, United States of America,* [2]*Geophysical Institute - University of Alaska, Fairbanks, Fairbanks, United States of America*

Nysiros Volcano — Parallel Hall

14:30 - 17:30 S2.05 > Rates and dates: magmatic and volcanic processes from source to surface Part 1

Conveners:

Katie Preece | *Swansea University, United Kingdom*
Ralf Gertisser | *Keele University, United Kingdom*
Heather Handley | *Macquarie University, Australia*
Chiara Petrone | *The Natural History Museum, United Kingdom*

Timescales and mechanisms of paroxysm initiation at Stromboli volcano, Aeolian islands, Italy

Michel Pichavant[2], Ida Di Carlo[2], **Massimo Pompilio**[1], Nolwenn Le Gall[3,4]

[1]*Ingv-Pisa, Pisa, Italy,* [2]*Institut des Sciences de la Terre d'Orléans (ISTO), UMR 7327 UO/CNRS/BRGM, Orléans, France,* [3]*Department of Mechanical Engineering, University College London, London, United Kingdom,* [4]*Research Complex at Harwell, Rutherford Appleton Laboratory, Harwell, United Kingdom*

Constraining the timing, tempo and scale of past Japanese explosive volcanism: insights from the Lake Suigetsu sedimentary archive (Honshu Island, Japan)

Paul Albert[1,2], Danielle McLean[2], Takehiko Suzuki[3], Takeshi Nakagawa[4], SG06/SG14 Project Members[4], Victoria Smith[2]

[1]*Swansea University, Swansea, United Kingdom* , [2]*University of Oxford, Oxford, United Kingdom,* [3]*Tokyo Metropolitan University , Tokyo, Japan,* [4]*Ritsumeikan University , Kyoto, Japan*

Insights into timescales of magmatic processes during the 2013-17 eruption at Volcán de Colima, Mexico

Gerallt Hughes[1,2], Chiara Maria Petrone[1], Hilary Downes[2], Nick Varley[3], Dulce Bracamontes[4], Raúl Arámbula-Mendoza[4]

[1]*Department of Earth Sciences, Natural History Museum, London, United Kingdom* , [2]*Department of Earth and Planetary Science, Birkbeck, University of London, London, United Kingdom,* [3]*Colima Intercambio e Investigación en Vulcanología (CIIV), Facultad de Ciencias, Universidad de Colima, Colima, Mexico,* [4]*Centro Universitario de Estudios Vulcanológicos (CUEV), Universidad de Colima, Colima, Mexico*

Rate of magma differentiation under Mt. Hekla, Iceland

Olgeir Sigmarsson[1]

[1]*Cnrs, Aubière, France*

Crystallization kinetics in peralkaline rhyolitic melts simulating magma ascent toward Earth's surface (Invited lecture)

Paola Stabile[1], Fabio Arzilli[2], Ernestina Appiah[1], Alessandro Fabbrizio[3], Michael Robert Carroll[1]

[1]*University Of Camerino, School of Science and Technology, Geology Division, Camerino, Italy,* [2]*University of Manchester, Department of Earth and Environmental Sciences, Manchester, UK,* [3]*Institute of Petrology and Structural Geology, Charles University, Faculty of Science, Prague, Czech Republic*

Geochemistry of lavas from the submarine lower caldera walls of Santorini Volcano (Greece)

Katharina Pank[1], Thor Hansteen[1], Jörg Geldmacher[1], Dieter Garbe-Schönberg[2], Brian Jicha[3], Kaj Hoernle[1,2], Paraskevi Nomikou[4]

[1]*Geomar Helmholtz Centre for Ocean Research Kiel, Kiel, Germany,* [2]*Institute for Geoscience, University of Kiel, Kiel, Germany,* [3]*Department of Geoscience, University of Wisconsin-Madison, Madison, USA,* [4]*National and Kapodistrian University of Athens, Department of Geology and Geoenvironment, Panepistimioupoli Zografou, Athens, Greece*

New insights into the recent magma dynamics under Campi Flegrei caldera (Italy) from petrological and geochemical evidence

Gianmarco Buono[1], Antonio Paonita[1], **Lucia Pappalardo**[1], Stefano Caliro[1], Anna Tramelli[1], Giovanni Chiodini[1]

[1]*Istituto Nazionale Geofisica e Vulcanologia, Italy*

Explosive felsic eruptions on ocean islands: a case study from Ascension Island (South Atlantic)

Katie Preece[1], Richard Brown[2], Jenni Barclay[3], Katy Chamberlain[4], Darren Mark[5]

[1]*Dept. of Geography, Swansea University, UK,* [2]*Dept. of Earth Sciences, Durham University, UK,* [3]*School of Environmental Sciences, University of East Anglia, UK,* [4]*School of Health and Life Sciences, Teesside University, UK,* [5]*Scottish Universities Environmental Research Centre, UK*

Þingmúli (Iceland) Revisited: A Zircon Perspective of Rhyolite Petrogenesis

Tenley Banik[1], Tamara L. Carley[2], Cameron D. Essex[1]

[1]*Illinois State University, Normal, United States of America,* [2]*Lafayette College, Easton, United States of America*

Preservation of a unique Lower Miocene habitat by a 'wet' mega-eruption: the case of the Ipolytarnóc Fossil Track Site

David Karatson[1], Tamas Biro[1], Maxim Portnyagin[2], Balázs Kiss[1], Jean-Louis Paquette[3], Zoltán Cseri[1], Mátyás Hencz[1], Károly Németh[10], Pierre Lahitte[4], Emő Márton[5], László Kordos[6], Sándor Józsa[1], Lilla Hably[7], Samuel Müller[8], Imre Szarvas[9]

[1]Eötvös University, Faculty of Sciences, Budapest, Hungary, [2]GEOMAR Helmholtz Centre for Ocean Research, Kiel, Germany, [3]Université Clermont Auvergne, Laboratoire Magmas et Volcans, Clermont-Ferrand, France, [4]Université Paris-Saclay, CNRS, Orsay, France, [5]Interactive Geothermal Information Platform, Paleomagnetic Laboratory, Budapest, Hungary, [6]Eötvös University, Savaria University Centre, Szombathely, Hungary, [7]Botanical Department, Hungarian Natural History Museum, Budapest, Hungary, [8]Institute of Earth Sciences, Christian-Albrecht University of Kiel, Kiel, Germany, [9]Ipolytarnóc Fossils Nature Conservation Area, Ipolytarnóc, Hungary, [10]Massey University, Palmerston North, New Zealand

The medial offshore record of Plinian arc volcanism in the Eastern Aegean Sea: Implications for tephrostratigraphy, correlations, ages and volumes

Steffen Kutterolf[1], Armin Freundt[1], Thor H. Hansteen[1], Rebecca Dettbarn[1], Fabian Hampel[1], Carina Sievers[6], Cathrin Wittig[1], Timothy Druitt[2], Paraskevi Nomikou[3], Jocelyn McPhie[4], Katharina Pank[1], Julie C. Schindlbeck-Belo[1], Sharon R Allen[4], Kuo-Lung Wang[5], Hao-Yang Lee[5]

[1]Geomar Helmholtz Centre For Ocean Research, Kiel, Kiel, Germany, [2]University of Clermont-Ferrand, Clermon-Ferrand, France, [3]University of Athens, Athens, Greece, [4]University of Tasmania, Hobart, Australia, [5]Academia Sinica, Taipeh, Taiwan, [6]University of Hamburg, Hamburg, Germany

Magmatic evolution of small-volume rhyolite eruptions within the Yellowstone Volcanic Field, USA

Tiffany Rivera[1], Mark Schmitz[2], Brian Jicha[3]

[1]Westminster College, Salt Lake City, United States, [2]Boise State University, Boise, United States, [3]University of Wisconsin-Madison, Madison, United States

17:30 - 18:00 **Break**

Thira Volcano — Main Hall

18:00 - 19:00 **S3.12 > International Risk Communication to mitigate Transboundary effect caused by Volcanic Eruption Part 1**

Conveners:

Mayumi Sakamoto | *Graduate School of Disaster Resilience and Governance, University of Hyogo, Japan*
Haruhisa Nakamichi | *Sakurajima Volcano Observatory, Kyoto University, Japan*
Masaru Arakida | *University of Edinburgh, United Kingdom*

Formation of International Risk Communication Systems for Volcanic Eruption in Europe after the 2010 Eyjafjallajökull Eruption

Mayumi Sakamoto[1]

[1]University of Hyogo, Kobe, Japan

What and how the affordable ICT tools can help in the strengthening the volcanic disaster resilience.

Masaru Arakida[1], Kuo-Yu slayer Chuang[2]

[1]Asian Disaster Reduction Center (ADRC), Kobe, Japan, [2]GeoThings, Hsinchu, Taiwan

Improving interactions and communications between the Volcano Observatories and VAACs in Europe

Claire Witham[1], **Sara Barsotti**[2], Lucia Gurioli[3], Franck Donnadieu[3], Nina Kristiansen[1], Simona Scollo[4], Samantha Engwell[5], EUROVOLC WP4 Participants

[1]UK Meteorological Office, Exeter, United Kingdom , 2Icelandic Meteorological Office, Reykjavik, Iceland, 3Université Clermont Auvergne – OPGC, Aubière, France, 4Istituto Nazionale di Geofisica e Vulcanologia, Catania, Italy, 5British Geological Survey, Edinburgh, United Kingdom

Milos Volcano — Parallel Hall

18:00 - 19:00 PS1 > Special session on recent eruptions : hazards, impacts, and consequences Part 2

Conveners:

Omari Graham | *Seismic Research Center, The University of the West Indies*
Victoria Miller | *Seismic Research Center, The University of the West Indies*
Nemesio Perez | *Instituto Volcanológico de Canarias*
Richard Robertson | *Seismic Research Center, The University of the West Indies*
Giuseppe Salerno | *Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Etneo*

Understanding fragmentation mechanism(s) during the 15 January 2022 Hunga Volcano (Tonga) eruption through particle characteristics
Joali Paredes-Mariño[1], James D.L. White[2], Tobias Dürig[3], Rachael Baxter[2], Shane Cronin[1], Taaniela Kula[4], Ingrid Ukstins[1], Jie Wu[1], David Adams[1], Marco Brenna[2], Isabelle Brooks-Clarke[1]
[1]The University Of Auckland, School of Environment, Auckland, New Zealand, [2]The University of Otago, Department of Geology, Dunedin, New Zealand, [3]University of Iceland, Institute of Earth Sciences., Reykjavík, Iceland, [4]Tonga Geological Services, Nuku'alofa, Tonga

Early evidence of magmatic rise through 3He/4He ratio measurements at Dos Aguas cold mineral spring, La Palma, Canary Islands.
Eleazar Padrón[1,2], Gladys V. Melián[1,2], Hirochika Sumino[3], María Asensio-Ramos[1], Pedro A. Hernández[1,2], Claudia Rodríguez[1,2], José H. Lorenzo[4], Guillermo Recio[1], Mar Alonso[1], Fátima Rodríguez[1], Luca D'Auria[1,2]
[1]Instituto Volcanológico de Canarias (INVOLCAN), San Cristóbal de La Laguna, Spain, [2]Instituto Tecnológico y de Energías Renovables (ITER), Granadilla de Abona, Spain, [3]Department of General Systems Studies, Graduate School of Arts and Sciences, The University of Tokyo, Tokyo, Japan, [4]Centro de Coordinación Operativa Insular (CECOPIN) , La Palma, Spain

Modelling PDCs of the April 2021 La Soufrière eruption: from rapid invasion maps to field-constrained numerical simulations
Valentin Gueugneau[1], Sylvain Charbonnier[1], Paul Cole[2], Victoria Miller[3]
[1]University Of South Florida, Tampa, USA, [2]Plymouth University, Plymouth, UK, [3]Montserrat Volcano Observatory - University of West Indies, Montserrat (UK)

Lessons learned from the 2021 Cumbre Vieja eruption: the need for a Canary Islands Strategy to Reduce Volcanic Risk
Nemesio Pérez[1,2], Pedro A. Hernández[1,2], Luca D'Auria[1,2]
[1]Instituto Volcanológico De Canarias (INVOLCAN), San Cristóbal de La Laguna, Spain, [2]Instituto Tecnológico y de Energías Renovables (ITER), Granadilla de Abona, Spain

Methana Volcano — Parallel Hall

18:00 - 19:00 S2.06 > Uncertainty quantification in volcanic phenomena: an essential component for modeling physical processes and for hazard/risk assessment Part 2

Conveners:

Alessandro Tadini | *Laboratoire Magmas et Volcans, Université Clermont Auvergne, Aubiere Cedex, France*
Andrea Bevilacqua | *Istituto Nazionale di Geofisica e Vulcanologia, Pisa, Italy*
Pablo Tierz | *British Geological Survey, The Lyell Centre, Edinburgh, United Kingdom*
Mary Grace Bato | *NASA Jet Propulsion Laboratory, Pasadena, CA, United States of America*
Sebastien Biasse | *Earth Observatory of Singapore, Nanyang Technological University, Singapore*
Samantha Engwell | *British Geological Survey, The Lyell Centre, Edinburgh, United Kingdom*

New insights on the stratigraphy of Neapolitan Yellow Tuff from Campi Flegrei, Italy
Gino Gonzalez[1,2], Roberto Sulpizio[1], Antonio Costa[2], Federico Lucchi[3], Roberto Isaia[4], Biagio Giaccio[5], Jacopo Natale[6], Daniela Mele[1], Vito Diana[1]
[1]Dipartimento di Scienze della Terra e Geoambientali, University of Bari Aldo Moro, Bari, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Bologna, Italy, [3]BIGEA, University of Bologna, Bologna, Italy, [4]Istituto Nazionale di Geofisica e Vulcanologia, Sezione Osservatorio Vesuviano, Naples, Italy, [5]Istituto di Geologia Ambientale e Geoingegneria - CNR, Monterotondo, Italy, 6Dipartimento di Scienze della Terra, dell'Ambiente e delle Risorse - Università degli Studi di Napoli Federico II, Naples, Italy

A revised spatial probability map for lateral eruptions at Mt. Etna volcano, Italy
Laura Sandri[1], Alexander Garcia[1], Stefano Branca[2], Mauro Coltelli[2], Gaetana Ganci[2], Cristina Proietti[2], Annalisa Cappello[2]
[1]Istituto Nazionale Di Geofisica e Vulcanologia, Sezione di Bologna, Bologna, Italy, [2]Istituto Nazionale Di Geofisica e Vulcanologia, Osservatorio Etneo, Catania, Italy

Thira Volcano — Main Hall

19:00 - 20:00 Plenary Lecture 3

Convener: **Paraskevi Nomikou** | *Department of Geology and Geoenvironment, National and Kapodistrian University of Athens, Zografou, Greece*

Forty years of volcano health research and practice: from Mount St. Helens 1980 to Tonga 2022
Prof. Claire J. Horwell
Professor
Durham University

Thira Volcano — Main Hall

8:30 - 10:30 S1.09 > Management of the Volcanological Data: from the production to the curation

Conveners:

Giuseppe Puglisi | *Istituto Nazionale di Geofisica e Vulcanologia, Italy*
Benjamin Andrews | *Global Volcanism Program, Smithsonian Institution, United States of America*
Silvia Massaro | *IUGG- Union Commission for Data and Information / Istituto Nazionale di Geofisica e Vulcanologia, Italy*
Christina Widiwijayanti | *WOVOdat, Earth Observatory of Singapore*

Generating time series of events from narrative reports

Benjamin Andrews[1], Edward Venzke[1], Kadie Bennis[1], A. Elizabeth Crafford[1]

[1]*Smithsonian Global Volcanism Program, Washington, DC, United States of America*

Contribution of the volcanology community to the implementation of the EPOS pan-European infrastructure

Giuseppe Puglisi[1], Patrick Bachelery[2], Adelina Geyer Traver[3], Jean-Christophe Komorowski[4], Kristín Vogfjörd[5], Georges Vougioukalakis[6]

[1]*Istituto Nazionale Di Geofisica E Vulcanologia, Catania, Italy,* [2]*Université Clermont Auvergne, Clermont Ferrand, France,* [3]*Consejo Superior de Investigaciones Científicas, Barcelona, Spain,* [4]*Institut the Physique du Globe, Paris, France,* [5]*Icelandic Meteorological Office, Reykjavik, Iceland,* [6]*Hellenic Survey of Geology and Mineral Exploration, Athens, Greece*

Modern strategies for data collection and analysis for the better understanding of volcanic systems

Silvia Massaro[1], Anatoly Soloviev[2,3], Boris Dzeboev[3]

[1]*Istituto Nazionale Di Geofisica e Vulcanologia, Bologna, Italy,* [2]*Schmidt Institute of Physics of the Earth, Russian Academy of Sciences, Moscow, Russia,* [3]*Geophysical Center, Russian Academy of Sciences , Moscow, Russia*

Understanding the capabilities and limits of global volcano monitoring on the ground and in space: Results from an online workshop and the CEOS volcano demonstrator project

Matthew Pritchard[1], Mike P. Poland[2], Susanna K. Ebmeier[3], Juliet Biggs[4], Sarah Brown[4], Fidel Costa[5], Francisco Delgado[6], Eisuke Fujita[7], Tarsilo Girona[8], Ian Hamling[9], Yosuke Aoki[10], Sue Loughlin[11], Paul R. Lundgren[8], Kevin Reath[1], Diana Roman[12], Eugenio Sansosti[13], Chistelle Wauthier[14], Rick Wessels[15], Christina Widiwijayanti[5]

[1]*Cornell University, Ithaca, United States of America,* [2]*USGS, Vancouver, United States,* [3]*University of Leeds, Leeds, United Kingdom,* [4]*University of Bristol, Bristol, United Kindgom,* [5]*Earth Observatory of Singapore, Singapore,* [6]*Institut de Physique du Globe, France,* [7]*National Research Institute for Earth Science & Disaster Resilience, Japan,* [8]*Jet Propulsion Laboratory, Pasadena, United States,* [9]*GNS, Lower Hut, New Zealand,* [10]*University of Tokyo, Tokyo, Japan,* [11]*British Geologic Survey, United Kingdon,* [12]*Carnegie Institute for Science, Washington, DC, United States,* [13]*IREA, National Research Council of Italy, Naples, Italy,* [14]*Penn State University, State College, United States,* [15]*USGS, Reston, United States*

Challenges and opportunities of global databases on volcanology

Fidel Costa[1], Christina Widiwijayanti[1]

[1]*Earth Observatory Of Singapore, Nanyang Technological University, Singapore, Singapore*

Geologic Data Management at the Alaska Volcano Observatory, 2022 Update

Cheryl Cameron[1], Kristi Wallace, Matthew Loewen, Scott Crass, Jessica Larsen

[1]*State Of Alaska, Alaska Volcano Observatory, Fairbanks, United States of America*

Gas emissions in volcanic islands: from data acquisition to warning information

Sergio Gurrieri[1], **Roberto M. R. Di Martino**[1], Marco Camarda[1], Vincenzo Francofonte[1]

[1]Istituto Nazionale Di Geofisica E Vulcanologia, Palermo, Italy

Milos Volcano — Parallel Hall

8:30 - 10:30 **S3.10 > Volcanic risk analysis as a tool for crisis management & S3.18 > Application of geological mapping in volcanic areas for hazard assessment, geothermal potential evaluation and ore geology Part 1**

Conveners:

Domenico Mangione | *Dipartimento della protezione civile, Italy*
Costanza Bonadonna | *University of Geneva, Switzerland*
Fatima Viveiros | *IVAR - Research Institute For Volcanology And Risks Assessment, University of Azores, Ponta Delgada, Portugal*

Hazard and risk communication between civil protection authorities, volcano observatories and volcano research institutions: recommendations for good practice

Sue C. Loughlin[1], Melanie Duncan[1], Lara Smale[1], s EUROVOLC project partner

[1]British Geological Survey, Edinburgh, United Kingdom

Preparing for volcanic eruptions: insights from Hawai'i and Aotearoa New Zealand (Invited Lecture)

Natalia Deligne[1], Kyle Anderson[2], Bobby Camara[3], Angela Doherty[4], Nico Fournier[5], Hollei Gabrielsen[6], Ken Hon[1], James Kauahikaua[1], Graham Leonard[5], Talmadge Magno[7], Brad Scott[5], Carol Stewart[8], Frank Trusdell[1], Alana Weir[9], Thomas Wilson[9]

[1]U.S. Geological Survey – Hawaiian Volcano Observatory, Hilo, United States of America, [2]U.S. Geological Survey - California Volcano Observatory, Moffett Field, United States of America, [3]Private, Volcano, United States of America, [4]Auckland Emergency Management, Auckland, New Zealand, [5]GNS Science, New Zealand, [6]Department of Conservation, New Zealand, [7]Hawai'i County Civil Defense Agency, Hilo, United States of America, [8]Massey University, Wellington, New Zealand, [9]University of Canterbury, Christchurch, New Zealand

The 9 December 2019 Whakaari / White Island eruption, New Zealand: science at the front line

Nico Fournier[1], GNS Science Volcano Monitoring Group[1], everyone involved in the response

[1]GNS Science, Taupo, New Zealand, [2]New Zealand universities and Government agencies, New Zealand

The role of operational forecasts during the 2021 Cumbre Vieja eruption (La Palma, Canary Islands)

Alicia Felpeto[1], Arnau Folch[2], Stavros Meletlidis[3], IGN Volcano Monitoring Group[1,3]

[1]National Geographic Institute (IGN), Madrid, Spain, [2]GEO3BCN (CSIC), Barcelona, Spain, [3]Centro Geofísico de Canarias (IGN), Santa Cruz de Tenerife, Spain

Updating the 1992 Island of Hawai'i Lava-Flow Hazard Zone map

James Kauahikaua[1], Frank Trusdell[1], **Natalia Deligne**[1], Kyle Anderson[2], Jessica Ball[2], Hannah Dietterich[3], David Hyman[1], Katherine Mulliken[1]

[1]U.S. Geological Survey – Hawaiian Volcano Observatory, Hilo, Hawaii, United States of America, [2]U.S. Geological Survey - California Volcano Observatory, Moffett Field, United States of America, [3]U.S. Geological Survey - Alaska Volcano Observatory, Anchorage, United States of America

'Multi-hazard' impact/risk assessment methodological framework: the Napoli case study.

Agnese Turchi[1], Nicola Addabbo[1], Mattia Federico Leone[1], Giulio Zuccaro[2]

[1]Department of Architecture (DiARC), PLINIVS - LUPT Study Centre, University of Naples Federico II, Naples, Italy, [2]Department of Structures for Engineering and Architecture, LUPT - PLINIVS Study Center, University of Naples Federico II, Italy

Quantifying soil degassing and atmospheric dispersion of CO2 at Caldeiras da Ribeira Grande, São Miguel Island (Azores archipelago)

Eleonora Baldoni[1,2], Fatima Viveiros[1,2], **Silvia Massaro**[3,4], Manuel Stocchi[4], Antonio Costa[4], Stefano Caliro[5], Giovanni Chiodini[4], Cesar Andrade[1,6]

[1]IVAR - Research Institute For Volcanology And Risks Assessment, University of Azores, Ponta Delgada, Portugal, [2]FCT - Faculty of Sciences and Technology, University of the Azores, Ponta Delgada, Portugal, [3]Dipartimento di Scienze della Terra e Geoambientali, Università degli Studi di Bari, Bari, Italy, [4]Istituto Nazionale di Geofisica e Vulcanologia (INGV), Sezione di Bologna, Bologna, Italy, [5]Istituto Nazionale di Geofisica e Vulcanologia (INGV), Sezione di Napoli, Osservatorio Vesuviano, Napoli, Italy, [6]CIVISA - Centre for Information and Seismovolcanic Surveillance of the Azores, University of the Azores, Ponta Delgada, Portugal

Methana Volcano — Parallel Hall

8:30 - 10:30 S2.08 > Source to surface magma transport at small-volume intraplate basaltic volcanoes

Conveners:
Heather Handley | *Macquarie University, Australia*
Hugo Murcia | *Universidad de Caldas, Colombia*

Physical and chemical evolution of El Negrillar monogenetic lava field, Central Andes (Chile)
Daniela Parra-Encalada[1,2], Patricia Larrea[1,2], Camila Loaiza[1], Rubén Cartagena[1], MS Sergio Salinas[3], Benigno Godoy[2], Pablo Grosse[4,5], Petrus Le Roux[6]
[1]Department of Geology, Facultad de Ciencias Físicas y Matemáticas (FCFM), Universidad de Chile, Plaza Ercilla 803, Santiago, Chile, [2]Centro de Excelencia en Geotermia de los Andes (CEGA), FCFM, Universidad de Chile, Plaza Ercilla 803, Santiago, Chile, [3]Facultad de Ingeniería, División de Ingeniería en Ciencias de la Tierra, Universidad Nacional Autónoma de México, Ciudad Universitaria, CP. 04510, Coyoacán, Ciudad de México, México, [4]Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina, [5]Fundación Miguel Lillo, Miguel Lillo 251, T4000JFE San Miguel de Tucumán, Argentina, [6]Department of Geological Sciences, University of Cape Town, Rondebosch 7700, South Africa

Eruptive Dynamic of the maar of Lechmine n'Aït el Haj (Middle Atlas, Morocco) Volcanological study and geoheritage appropriation
Sara Mountaj[1], Toufik Remmal[1], Samira Makhoukhi[1]
[1]University Hassan II-Faculty of Sciences Aïn Chock, Casablanca, Morocco

Olivine morphology and zoning patterns reveal the magmatic system feeding Waitomokia Volcano (Auckland Volcanic Field, New Zealand)
Rosa Didonna[1], Heather Handley[1], Fidel Costa[2]
[1]Department of Earth and Environmental Sciences, Macquarie University, Sydney, Australia, [2]Earth Observatory of Singapore, Nanyang Technological University, Singapore, Singapore

Geophysical imaging of a continental intraplate basaltic volcanic system from source to surface
Matthew Joseph Comeau[1], Michael Becken[1], Alexey V. Kuvshinov[2]
[1]Universität Münster (WWU), Institut für Geophysik, Münster, Germany, [2]ETH Zürich, Institute of Geophysics, Zürich, Switzerland

Distribution of monogenetic volcanism in the Sierra Chichinautzin monogenetic volcanic field, Mexico: processes and dynamics.
Carmen Jaimes Viera[1], Charles Connor[1], Ana Lillian Martin Del Pozzo[2]
[1]University of South Florida, School of Geosciences., Tampa Bay, USA, [2]Instituto de Geofísica, Universidad Nacional Autónoma de México, Coyoacán, Mexico

Nysiros Volcano — Parallel Hall

8:30 - 10:30 S2.05 > Rates and dates: magmatic and volcanic processes from source to surface Part 2

Conveners:
Katie Preece | *Swansea University, United Kingdom*
Ralf Gertisser | *Keele University, United Kingdom*
Heather Handley | *Macquarie University, Australia*
Chiara Petrone | *The Natural History Museum, United Kingdom*

Critical assessment of pressure estimates in volcanic plumbing systems: the case study of Popocatépetl volcano, Mexico
Simone Tommasini[1], Luca Bindi[1,2], Lorenzo Savia[1], Martin Mangler[3], Andrea Orlando[2], **Chiara Maria Petrone**[4]
[1]University of Florence, Dept Earth Sciences, Florence, Italy, [2]CNR-IGG Sezione di Firenze, Florence, Italy, [3]Department Earth Sciences, Durham University, Durham, United Kingdom, [4]The Natural History Museum, Department of Earth Sciences, London, United Kingdom

A Taste of the Poorly Known Volcanic Activity in Campania (Southern Italy) before 110 Ka.
Federica Totaro[1], Ilenia Arienzo[2], Massimo D'Antonio[1], Mauro Antonio Di Vito[2], Biagio Giaccio[3], Brian R. Jicha[4], Maurizio Petrelli[5], Danilo Mauro Palladino[6], Paola Petrosino[1], Gianluca Sottili[6], Roberto Sulpizio[7,8,9], Giovanni Zanchetta[10]
[1]Dipartimento Di Scienze Della Terra, Dell'Ambiente E Delle Risorse - Università Degli Studi Di Napoli Federico II, Naples, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia – sezione di Napoli Osservatorio Vesuviano, Naples, Italy, [3]CNR – Istituto di Geologia Ambientale e Geoingegneria (IGAG), Monterotondo (Rome), Italy, [4]Department of Geoscience, University of Wisconsin-Madison, Madison, Wisconsin, USA, [5]Dipartimento di Fisica e Geologia, Università degli Studi di Perugia, Perugia, Italy, [6]Dipartimento di Scienze della Terra, Università di Roma La Sapienza, Rome, Italy, [7]Dipartmento di Scienze della Terra e Geoambientali, Università di Bari, Bari, Italy, [8]Istituto Nazionale di Geofisica e Vulcanologia – sezione di Bologna, Bologna, Italy, [9]IGAG-CNR, Area della Ricerca di Roma 1 , Montelibretti, Rome, Italy, [10]Dipartimento di Scienze della Terra, Università degli Studi di Pisa, Pisa, Italy

Magma flow regimes within active dykes: The role of viscosity
Janine Kavanagh[1], Thomas Jones[2], David Dennis[1]
[1]University Of Liverpool, Liverpool, United Kingdom , [2]Rice University, Houston, USA

A database of crystal-bearing magmas for the calibration of a rheological model

Alessandro Frontoni[1], Antonio Costa[2], Alessandro Vona[1], Claudia Romano[1]

[1]*Università degli Studi Roma Tre, Rome, Italy,* [2]*Istituto Nazionale di Geofisica e Vulcanologia, Bologna, Italy*

Kinetic crystallization of a high-K basalt melt undercooled in laboratory: Implications for modeling open conduit dynamics at Stromboli volcano (Aeolian Islands, Italy)

Simone Costa[1], Fabio Colle[1], Matteo Masotta[1], Silvio Mollo[2], Patrizia Landi[3], Alessio Pontesilli[4], Stefano Peres[5], Thomas Griffiths[5], Lucia Mancini[6]

[1]*Department of Earth Sciences, University of Pisa, Pisa, Italy,* [2]*Department of Earth Sciences, University of Roma La Sapienza, Rome, Italy,* [3]*Istituto Nazionale di Geofisica e Vulcanologia, sezione di Pisa, Pisa, Italy,* [4]*Istituto Nazionale di Geofisica e Vulcanologia, sezione di Roma, Rome, Italy,* [5]*Department of Lithospheric Research, University of Vienna, Vienna, Autria,* [6]*Elettra-Sincrotrone Trieste SCpA, Trieste, Italy*

A data driven approach to the study of the most frequent volcanic eruptions

Simone Costa[1], Luca Caricchi[2], Marco Pistolesi[1], Anna Gioncada[1], Matteo Masotta[1], Costanza Bonadonna[2], Mauro Rosi[1]

[1]*Department of Earth Sciences, University of Pisa, Pisa, Italy,* [2]*Department of Earth Sciences, University of Geneva, Geneva, Switzerland*

The dynamics of partial column collapse during the largest known eruption of Mt. Pelée volcano

Guillaume Carazzo[1], Stephen Tait[1], Audrey Michaud-Dubuy[1], Allan Fries[2], Edouard Kaminski[1]

[1]*Institut De Physique Du Globe De Paris, Paris, France,* [2]*Université de Genève, Genève, Switzerland*

The role of a pre-eruptive fluid phase for the volatile budget and atmospheric influence of large explosive eruptions in Central America

Thor H. Hansteen[1], Cosima Burkert[1], Armin Freundt[1], Steffen Kutterolf[1]

[1]*Geomar Helmholtz Centre For Ocean Research Kiel, Kiel, Germany*

10:30 - 11:00 **Break**

Thira Volcano — Main Hall

11:00 - 12:00 Plenary Lecture 4

Chair: **Paraskevi Nomikou** | *Department of Geology and Geoenvironment, National and Kapodistrian University of Athens, Zografou, Greece*

The 9 December 2019 eruption of Whakaari / White Island, New Zealand: Volcano science, monitoring, response and key learnings

Dr. Graham Leonard
Principal Scientist
GNS Science

Thira Volcano — Main Hall

12:00 - 13:30 S1.04 > Gaseous emissions from volcanic systems – science, monitoring, and impacts Part 1

Conveners: **Florian Schwandner** | *Jet Propulsion Laboratory, California Institute of Technology, United States of America*
Walter D'Alessandro | *National Institute of Geophysics and Volcanology (INGV), Palermo, Italy*
Kyriaki Daskopoulou | *GFZ Potsdam, Germany*
Orlando Vaselli | *University of Florence, Italy*

Synergistic use of satellite measurements for the real time monitoring of volcanic emissions. Test case: December 2018 Etna activity

Stefano Corradini[1], Lorenzo Guerrieri[1], Nicolas Theys[2], Luca Merucci[1], Dario Stelitano[1], Alfred Prata[3], Matteo Picchiani[4], Giuseppe Salerno[5], Simona Scollo[5], Michele Prestifilippo[5]

[1]*INGV - ONT, Rome, Italy,* [2]*BIRA-IASB, Bruxelles, Belgium,* [3]*AIRES Tech Ltd, Melbourne, Australia,* [4]*GMATICS, Rome, Italy,* [5]*INGV - OE, vatania, Italy*

Volcanic CO2-degassing and its effects on vegetation. Specific plants as possible early warning indicators

Hardy Pfanz[1]

[1]*Institute Of Volcano Biology And Applied Botany, University Of Duisburg-essen, 45117 Essen, Germany*

Volcanic/Geothermal methane: a significant source of Greenhouse Gas to the atmosphere?

Walter D'Alessandro[1], Sergio Calabrese[1,2], Kyriaki Daskalopoulou[3], Konstantinos Kyriakopoulos[4], Marcello Tagliavia[5,6], Lorenza Li Vigni[2], **Walter D'Alessandro**[1]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Palermo, Italy, [2]University of Palermo, Dipartimento di Scienze della Terra e del Mare, Palermo, Italy, [3]GFZ German Research Centre for Geosciences, Potsdam, Germany, [4]National and Kapodistrian University of Athens, Department of Geology and Geoenvironment, Athens, Greece, [5]University of Palermo, Department of Biological, Chemical and Pharmaceutical Sciences and Technologies, Palermo, Italy, [6]Consiglio Nazionale delle Ricerche, Istituto per la Ricerca e l'innovazione Biomedica, Palermo, Italy

Monitoring CH4 gas flow rate in the Black Sea seafloor: Chemical and acoustic evidences

Manfredi Longo[1], Cinzia Caruso[1], Gianluca Lazzaro[1], Vlad Radulescu[2], Davide Romano[1], Sergio Scirè[1], Sorin Balan[2], Dominique Birot[3], Francesco italiano[1]

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Meteoric waters affected by Copahue volcano gas and ash emissions

Joaquin Llano[1], Sergio Calabrese[2], Walter D'Alessandro[3], María Clara Lamberti[1], Fabricio Carbajal[4], Sebastián García[4], Mariano Agusto[1]

[1]Instituto De Estudios Andinos "don Pablo Groeber" - Universidad De Buenos Aires/CONICET, Ciudad Autónoma De Buenos Aires, Argentina, [2]Dipartimento di Scienze della Terra e del Mare - DiSTeM, Università degli Studi di Palermo, Palermo, Italia, [3]Istituto Nazionale di Geofisica e Vulcanologia - Sezione di Palermo, Palermo, Italia, [4]Observatorio Argentino de Vigilancia Volcánica (OAVV), Servicio Geológico Minero Argentino, Buenos Aires, Argentina

The geochemical monitoring of volcanic activity: the role of scientific community (Invited lecture)

Marcello Liotta[1]

[1]Istituto Nazionale Di Geofisica E Vulcanologia, Palermo, Italy

Milos Volcano — Parallel Hall

12:00 - 13:30 **S3.10 > Volcanic risk analysis as a tool for crisis management & S3.18 > Application of geological mapping in volcanic areas for hazard assessment, geothermal potential evaluation and ore geology Part 2**

Conveners:

Domenico Mangione | *Dipartimento della protezione civile, Italy*
Costanza Bonadonna | *University of Geneva, Switzerland*
Fatima Viveiros | *IVAR - Research Institute For Volcanology And Risks Assessment, University of Azores, Ponta Delgada, Portugal*
Gianluca Groppelli | *CNR Istituto per la Dinamica dei Processi Ambientali, sezione di Milano, Italy*
Paola Del Carlo | *INGV Sezione di Pisa, Italy*

What is the highest-risk volcano in Latin América?

Amiel Nieto Torres[1], Leticia Freitas, Costanza Bonadonna[3], Corine Frischknecht[3]

[1]Universidad Nacional Autónoma De México, Mexico City, Mexico, [2]University of Sao Paulo, Sau Paulo, Brazil, [3]University of Geneva, Geneva, Switzerland

A proposal of a theoretical framework for volcanic risk management in Mexico

Ana María Alarcón-Ferreira[1]

[1]IGEF-UNAM, Mexico, Mexico

The fatal case of a false alert at Cotopaxi Volcano in Ecuador in 2015 and implications for the future reactivation of the volcano

Theofilos Toulkeridis[1]

[1]UNIVERSIDAD DE LAS FUERZAS ARMADAS ESPE, Sangolqui, Ecuador

Evaluation of the Perception of the Misti'S Volcanic Risks in the Population of Arequipa City

María Cristina Ruelas[1], Luisa Macedo[1], Britsey Teves[2], Fernando Azalgara[4], Francisco Huerta[3], Jorge Concha[1], Ivonne Lazarte[1], Cristina Cancho[2]

[1]Instituto Geofisico Del Perú, Arequipa, Peru, [2]Universidad Tecnológica del Perú, Arequipa, Peru, [3]Universidad Catòlica del Norte, Antofagasta, Chile, [4]Cuerpo General de Bomberos Voluntarios del Perú, Arequipa, Peru

Submarine Geomorphologic Mapping of the Santorini Volcanic Group, Greece, to Investigate Submarine Application of Planetary Geologic Mapping Methods

Alexandra Huff[1], Paraskevi Nomikou[2], Lisa Thompson[3]

[1]Arizona State University, Tempe, United States of America, [2]National and Kapodistrian University of Athens, Athens, Greece, [3]Arizona Geological Survey at the University of Arizona, United States of America

The Late Quaternary tephro-stratigraphy of Meru volcano, Northern Tanzania

Mary Kisaka[1,2], Karen Fontijn[3], Ines Tomasek[4,5], Ceven Shemsanga[2], Vinciane Debaille[3], Audray Delcamp[1], Sankaranna Gaduputi[2], Matthieu Kervyn[1]

[1]Physical Geography (FARD), Department of Geography, Vrije Universiteit Brussel, Brussels, Belgium, [2]College of Earth Sciences, University of Dodoma, Dodoma, Tanzania, [3]Laboratoire G-Time, Department of Geosciences, Environment, and Society, Universitélibre de Bruxelles, Brussels, Belgium, [4]Analytical, Environmental and Geochemistry (AMGC), Department of Chemistry, Vrije Universiteit Brussel, Brussels, Belgium, [5]Laboratoire Magmas et Volcans, CNRS, IRD, OPGC, Université Clermont Auvergne, Clermont-Ferrand, France

Methana Volcano — Parallel Hall

12:00 - 13:30 S1.05 > Reconstructing the topography of active volcanic areas by using Geomatics techniques: volcanic phenomena investigation and hazard mapping Part 1

Conveners:

Marina Bisson | *Istituto Nazionale di Geofisica e Vulcanologia, Pisa, Italy*
Marcello De Michele | *Risks and Prevention Division, BRGM – French Geological Survey, Orleans, France*
Claudia Spinetti | *Istituto Nazionale di Geofisica e Vulcanologia, Roma, Italy*
Alessandro Tadini | *Laboratoire Magmas et Volcans, Université Clermont Auvergne Aubiere Cedex, France*
Sebastien Biasse | *Earth Observatory of Singapore, Nanyang Technological University, Singapore*

40 years of lava dome growth at Shiveluch volcano, Kamchatka, studied from aerial and satellite data

Alina V. Shevchenko[1], Thomas R. Walter[1], Magdalena S. Vassileva[1,2], Edgar U. Zorn[1]

[1]GFZ German Research Centre For Geosciences, Potsdam, Germany, [2]Institute of Photogrammetry and Geoinformation, Leibniz University Hannover, Hannover, Germany

High-resolution satellite radar shadow analysis for pyroclastic flows thickness estimation: Shiveluch 2018-2019 dome growth and collapse case study

Magdalena Vassileva[1,2], Edgar U. Zorn[1], Alina V. Shevchenko[1,3], Mahdi Motagh[1,2], Priv. Doz. Thomas R. Walter[1]

[1]German Research Centre for Geosciences GFZ, Potsdam, Germany, [2]Leibniz University Hannover, Institute of Photogrammetry and GeoInformation, Hannover, Germany, [3]Institute of Volcanology and Seismology FEB RAS, Petropavlovsk-Kamchatsky, Russia

Slope instability mapping by InSAR data: the case study of Ischia Island (Italy)

Lisa Beccaro[1], Tolomei Cristiano[1], Claudia Spinetti[1], Marina Bisson[2], Laura Colini[1], Riccardo De Ritis[1], Roberto Gianardi[2], Vincenzo Sepe[1]

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Radargrammetry DEM Generation Using High-resolution SAR Imagery over La Palma Island during the 2021 Cumbre Vieja Volcanic Eruption

Riccardo Palamà[1], **Oriol Monserrat**[1], Bruno Crippa[2], Michele Crosetto[1], Guadalupe Bru[3], Pablo Ezquerro[3], Marta Bejar-Pizarro[3]

[1]Geomatics Research Unit, Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Castelldefels, Spain, [2]Department of Geophysics, University of Milan, Milan, Italy, [3]Geohazards InSAR laboratory and Modelling group (InSARlab), Geological Survey of Spain (IGME-CSIC), Madrid, Spain

The Use of Sentinel 2 to extract the Digital Elevation Model and the velocity of the volcanic ash cloud: comparison with multi sensors analysis on Etna volcano.

Marcello De Michele[1], Daniel Raucoules[1], Stefano Corradini[2], Claudia Spinetti[2]

[1]Brgm, Orleans, France, [2]INGV, Roma, Italy

Nysiros Volcano — Parallel Hall

12:00 - 13:30 **S1.03 > Unmanned robotic autonomous platforms on volcanoes for research, monitoring and rapid crisis response, S1.20 > Submarine Volcanism: volcanic hazards, seafloor monitoring and public awareness, S2.10 > Extant and extinct shallow submarine hydrothermal geobiology laboratories and ore-forming systems in volcanic-arcs, S3.19 > Innovative and cutting-edge techniques for geological exploration, data collection and teaching in onshore and offshore volcanic areas Part 1**

Conveners:

Florian Schwandner | *Jet Propulsion Laboratory, California Institute of Technology, United States of America*
Paraskevi Nomikou | *Faculty of Geololgy and Geoenvironment, NKUA, Athens, Greece*
Steffen Kutterolf | *GEOMAR, Helmholtz Center for Ocean Research, Kiel, Germany*
Stephanos Kilias | *National and Kapodistrian University of Athens, Greece*

Morphostructural analysis of the Graham Volcanic Field offshore southwestern Sicily (Italy) by means of bathymetric data and ROV images

Danilo Cavallaro[1], Mauro Coltelli[1]
[1]*Ingv Osservatorio Etneo, Catania, Italy*

Eruption History, Caldera Formation, and Hazards Potential at Niuatahi Submarine Volcano (Tonga)

Kenneth Rubin[1], Robert Embley[2], Melissa Anderson[3], Rebecca Carey[4], Karsten Haase[5], Bettina Storch[5]
[1]*Dept. of Earth Sciences, University of Hawaii, Honolulu, United States,* [2]*CIMRS, Oregon State University, Newport, United States,* [3]*Dept. of Earth Sciences, Univ. of Toronto, Toronto, Canada,* [4]*Dept. of Earth Sciences, Univ. of Tasmania, Hobart, Australia,* [5]*Friedrich-Alexander-Universität, Erlangen, Germany*

Detecting volcanic CO2 emissions hidden in tropical volcanic forests using fixed-wing sUAS

Florian M. Schwandner[1], Jack S. Elston[2], J. Andres Diaz[3], Maciej Stachura[2], Ernesto Corrales[3], Joshua Fromm[2], David Pieri[4], Joshua Fisher[4], Charles E. Miller[4], Ryan Pavlick[4]
[1]*NASA Ames Research Center, Moffett Field, USA,* [2]*Black Swift Technologies LLC, Boulder, USA,* [3]*Gas Lab, CICANUM, Universidad de Costa Rica, San Jose, Costa Rica,* [4]*NASA Jet Propulsion Laboratory, Pasadena, USA*

Revising the volume of the Minoan eruption (Santorini) based on new marine geophysical and sedimentological data

Jens Karstens[1], Jonas Preine[2], Gareth J. Crutchley[1], Steffen Kutterolf[1], Willem van der Bilt[3], Emilie Hooft[4], Timothy Druitt[5], Jan Magne Cederstrøm[3], Christian Hübscher[2], Paraskevi Nomikou[6], Steven Carey[7], Michel Kühn[1], Judith Elger[1], Christian Berndt[1]
[1]*GEOMAR Helmholtz Centre for Ocean Research Kiel, Kiel, Germany,* [2]*University of Hamburg, Hamburg, Germany,* [3]*University of Bergen, Bergen, Norway,* [4]*University of Oregon, Eugene, USA,* [5]*CNRS, IRD, OPGC, Laboratoire Magmas et Volcans, Clermont-Ferrand, France,* [6]*National and Kapodistrian University of Athens, Athens, Greece,* [7]*University of Rhode Island, Kingston, USA*

Robotic technology aids novel data collection for examining volcanic processes – but scientists must help engineers develop those capabilities

Carolyn Parcheta[1]
[1]*Usgs Hawaiian Volcano Observatory, Hilo, United States of America*

13:30 - 14:30 **Lunch Break**

Thira Volcano — Main Hall

14:30 - 17:30 S1.04 > Gaseous emissions from volcanic systems – science, monitoring, and impacts Part 2

Conveners:

Florian Schwandner | *Jet Propulsion Laboratory, California Institute of Technology, United States of America*
Walter D'Alessandro | *National Institute of Geophysics and Volcanology (INGV), Palermo, Italy*
Orlando Vaselli | *University of Florence, Italy*

The impact of CO2-water rock interaction in basaltic volcanic aquifers

Pierangelo Romano[1], Marcello Liotta[1]

[1]Istituto Nazionale di Geofisica e Vulcanologia (INGV), Palermo, Italy

Diffuse CO2 degassing precursors of the January 2020 eruption of Taal volcano, Philippines

Nemesio Pérez[1,2], Gladys V. Melián[1,2], Pedro A. Hernández[1,2], Germán D. Padilla[1,2], Ma. Criselda Baldago[3], José Barrancos[1,2], Fátima Rodríguez[1], María Asensio-Ramos[1], Mar Alonso[1,2], Carlo Arcilla[3], Alfredo M. Lagmay[3], Claudia Rodríguez-Pérez[1], Cecilia Amonte[1], Mathew J. Pankhurst[1], David Calvo[1], Renato U. Solidum[4]

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Soil gas 4He/CO2 ratio and volcanic activity

Eleazar Padrón[1,2], Nemesio M. Pérez[1,2], Pedro A. Hernández[1,2], Gladys V. Melián[1,2], María Asensio-Ramos[1], Fátima Rodríguez[1], Mar Alonso[1]

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Evidencing the main structural boundaries and strategical monitoring areas coupling soil diffuse degassing and self-potential techniques; the case study of Santa Ana - Cerro Verde - Izalco volcanic complex (El Salvador)

José Efraín Benítez León[1], Anthony Finizola[2], Benancio Henrriquez[1], Rachel Gusset[2], Diego Tobias[1], Robin Aguilar Aguilar[1], Karla Alvarenga[1], Lissette Flores[1]

[1]Universidad de El Salvador, Santa Ana, El Salvador, [2]University of La Reunion - IPGP, Saint-Denis, France

CO_2 budget of Furnas Lake, São Miguel Island, Azores: 3D chemical tomography of a degassing volcanic lake

Giancarlo Tamburello[1], Dmitri Rouwet[1], César Andrade[2,3], Fátima Viveiros[2,4], José Virgílio Cruz[2,4]

[1]Istituto Nazionale di Geofisica e Vulcanologia, sezione di Bologna, Bologna, Italy, [2]IVAR – Research Institute for Volcanology and Risks Assessment, University of the Azores, Ponta Delgada, [3]CIVISA – Centre for Information and Seismovolcanic Surveillance of the Azores, University of the Azores, Ponta Delgada, Portugal, [4]FCT – Faculty of Sciences and Technology, University of the Azores, Ponta Delgada, Portugal

Monitoring gas dynamics in underwater volcanic environments using iXblue SeapiX multi split beam echosounder: an example from the Laacher See (Eifel, Germany)

Guillaume Jouve[1], Corentin Caudron[2], Guillaume Matte[1], Frédéric Mosca[1], Mario Veloso[3]

[1]Ixblue Sonar Systems, La Ciotat, France, [2]Département Géosciences, Environnement et Société, Université Libre de Bruxelles, Bruxelles, Belgium, [3]GEOMAR, Kiel, Germany

Geochemical markers for solicited hydrothermal systems: the case of La Soufrière of Guadeloupe (FWI) unrest

Roberto Moretti[1,2], Séverine Moune[3,1], Vincent Robert[1,2], Magali Bonifacie[1], David E. Jessop[3,1], Manuel Inostroza[1], Chagnon Glynn[1], Franco Tassi[4], Orlando Vaselli[4]

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Decoding water-rock interaction and volatile input at La Soufriere de Guadeloupe hydrothermal system

Manuel Inostroza[1,2], Séverine Moune[1,2,3], Roberto Moretti[1,2], Arnaud Burtin[2]

[1]Observatoire Volcanologique Et Sismologique De La Guadeloupe, Gourbeyre, Guadeloupe, [2]Université de Paris, Institut de Physique du Globe de Paris, Paris, France, [3]CNRS, IRD, OPCG Laboratoire Magmas et Volcans, Université Clermont Auvergne, Clermont-Ferrand, France

Observation and Quantification of CO2 degassing at Sulphur Banks from Kilauea Volcano in Hawaii using thermal Infrared Multispectral Imaging

Stephane Boubanga Tombet[1], Jean-Philippe Gagnon[1], Benjamin Saute[1]

[1]Telops Inc, Morangis, France

Emission of diffuse carbon dioxide and thermal energy in the crater of Mount St. Helens: What can glaciovolcanic cave systems tell us about heat fluxes in an active volcanic crater?

Linda Sobolewski[1], Christian Stenner[2], Artur Ionescu[3], Lee Florea[4], Sarah Burgess[5], Andreas Pflitsch[1]

[1]Ruhr-University Bochum, Bochum, Germany, [2]Alberta Speleological Society, Calgary, Canada, [3]Universita di Perugia, Perugia, Italy, [4]Washington State Geological Survey, Department of Natural Resources, Olympia, USA, [5]Bloomington Indiana Grotto, National Speleological Society, Bloomington, USA

HCN emissions from the explosive volcanic eruption of Mt. Pinatubo, Philippines, in June 1991

Armin Kleinboehl[1], Danica Adams[2], Max Coleman[1], Florian Schwandner[3], Geoffrey Toon[1], Debra Weisenstein[4], Yuk Yung[2], Tamsin Mather[5], Vlada Stamenkovic[1]

[1]Jet Propulsion Laboratory, California Institute of Technology, Pasadena, United States of America, [2]California Institute of Technology, Pasadena, United States of America, [3]NASA Ames Research Center, Moffett Field, United States of America, [4]Harvard University, Cambridge, United States of America, [5]Oxford University, Oxford, United Kingdom

Processes related to the differences in the degassing of active volcanoes in the Central Volcanic Zone of the Andes (CAVZ)

Felipe Aguilera[1], Susana Layana[1], Manuel Inostroza[1,2,3], Cristobal Gonzalez[1], Mauricio Aguilera[1], Felipe Rojas[1,4]

[1]Nucleo de Investigación en Riesgo Volcánico - Ckelar Volcanes, Universidad Católica del Norte, Antofagasta, Chile, [2]Observatoire Volcanologique et Sismologique de Guadeloupe, Guadeloupe, France, [3]Université de Paris, Institut de Physique du Globe de Paris, Paris, France, [4]University of New Mexico, Earth and Planetary Sciences Department, Albuquerque, USA

Milos Volcano — Parallel Hall

14:30 - 17:30 **S1.01 > Volcano hazard modelling & S1.02 > Cosmic-ray geotomography for volcanic hazard assessment**

Conveners:

Gabor Kereszturi | *Massey University, New Zealand*
Constantinos D. Athanassas | *Department of Geological Sciences, NTUA, Athens, Greece*
Dezsõ Varga | *Wigner Research Centre for Physics, Budapest, Hungary*

Simulating the collective settling of volcanic ash using the Lattice-Boltzmann method

Jonathan Lemus[1,2], Allan Fries[1], Paul Jarvis[1,3], Costanza Bonadonna[1], Bastien Chopard[2], Jonas Lätt[2]

[1]Department of Earth Sciences, University Of Geneva, Geneva, Switzerland, [2]Department of Computer Science, University Of Geneva, Geneva, Switzerland, [3]GNS Science, Lower Hutt, New Zealand

Model sensitivities in the case high-resolution Eularian modelling of volcanic ash transport

Alexandros Poulidis[1,2], Masato Iguchi[1]

[1]Disaster Prevention Research Institute, Kyoto University, Kagoshima, Japan, [2]Institute of Environmental Physics, University of Bremen, Bremen, Germany

Tephra segregation profiles from Vulcanian eruptions on Sakurajima volcano, Japan, based on settling velocity observations

Kosei Takishita[1], Masato Iguchi[2], Alexandros Poulidis[2]

[1]Graduate School Of Science, Kyoto Univ., Kagoshima, Japan, [2]DPRI, Kyoto Univ., Kagoshima, Japan

Temperature and Conductivity as Indicators of the Activity of a Submarine Volcano: The case of Avyssos (Nisyros), Greece

Ana Dura[1], Martín Manuel Gómez-Míguez[2,3], Teo Mertzimekis[2], Paraskevi Nomikou[1], Evaggelos Bakalis[4]

[1]Department of Geology and Geoenvironment, National & Kapodistrian University Of Athens, Zografou Campus, 15784, Athens, Greece, [2]Department of Physics, National Kapodistrian University of Athens, Zografou Campus, 15784, Athens, Greece, [3]Departamento de Astrofisica, Universidad de La Laguna, E-38200 La Laguna, Tenerife, Spain, [4]Department of Chemistry "G. Ciamician", University of Bologna, Bologna, Italy

Field and experimental investigation of settling-driven gravitational instabilities formed at the base of volcanic clouds

Allan Fries[1], Jonathan Lemus[1,2], Paul A. Jarvis[3], Amanda B. Clarke[4,5], Jeremy C. Phillips[6], Irene Manzella[7], Costanza Bonadonna[1]

[1]Department of Earth Sciences, University Of Geneva, Geneva, Switzerland, [2]Department of Computer Science, University of Geneva, Geneva, Switzerland, [3]GNS Science, Taupo, New Zealand, [4]School of Earth and Space Exploration, Arizona State University, Tempe, United States, [5]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Pisa , Pisa, Italy, [6]School of Earth Sciences, University of Bristol, Bristol, United Kingdom, [7]Department of Applied Earth Sciences, University of Twente, Twente, Netherlands

Volcano muography with MWPC cosmic ray detectors

Gábor Nyitrai[1,2], László Oláh[3], Gergő Hamar[1], Dezső Varga[1]

[1]Wigner Research Centre for Physics, Budapest, Hungary, [2]Budapest University of Technology and Economics, Budapest, Hungary, [3]Earthquake Research Institute, University of Tokyo, Tokyo, Japan

Muography instrumentation: imaging the interior of volcanos using cosmic muons

Dezso Varga[1], Gergo Hamar[1], Gabor Nyitrai[1], Laszlo Olah[2], Hiroyuki Tanaka[2]

[1]Wigner Research Centre For Physics, Budapest, Hungary, [2]The University of Tokyo, Earthquake Research Institute, Tokyo, Japan

Muography as a new complementary tool in monitoring volcanic hazard: implications for early warnings

Giovanni Leone[1], Hiroyuki Tanaka[2], Dezső Varga[3], Domenico Lo Presti[4], Carmelo Ferlito[4], László Oláh[2], Giovanni Bonanno[5], Carmelo Monaco[6], Lee Thompson[7], Giuseppe Gallo[5], Giuseppe Romeo[5], Danilo Luigi Bonanno[5], Gergő Hamar[3], Francesco Riggi[4], Carlos Gonzalez[1], Paola La Rocca[4]

[1]Universidad De Atacama, Copiapó, Chile, [2]Earthquake Research Institute (ERI), University of Tokyo, Tokyo, Japan, [3]Wigner Research Center for Physics (WRCP), Budapest, Hungary, [4]Dipartimento di Fisica ed Astronomia "Ettore Majorana", Universitá degli Studi di Catania, Catania, Italy, [5]Catania Astrophysical Observatory Laboratory for Detectors (COLD) – Istituto Nazionale di Astrofisica (INAF), Catania, Italy, [6]Dipartimento di Scienze Biologiche, Geologiche e Ambientali, Universitá degli Studi di Catania, Catania, Italy, [7]Department of Physics and Astronomy, University of Sheffield, Sheffield, United Kingdom

Clustering Volcanoes into Analogues: Challenges and Application for Hazard Assessment at Data-Limited Volcanoes

Vanesa Burgos[1,2], Susanna Jenkins[1,2], Mark Bebbington[3], Chris Newhall[4], Alvaro Amigo[5], Benoit Taisne[1,2]

[1]Earth Observatory Of Singapore, Singapore, Singapore, [2]Asian School of the Environment, Nanyang Technological University, Singapore, Singapore, [3]School of Agriculture and Environment, Massey University, Palmerston North, New Zealand, [4]Mirisbiris Garden and Nature Center, Philippines, [5]Servicio Nacional de Geología y Minería (SERNAGEOMIN), Red Nacional de Vigilancia Volcánica, Santiago, Chile

Modeling and Simulation as a Service (MSaaS): a tool for hazard assessment from volcanic fallout.

Alejandra Guerrero[1], Arnau Folch

[1]Csic, Barcelona, Spain

Building a Volcano Hazard Assessment for the Jemez Mountains Region, Northern New Mexico, USA

Charlotte Rowe[1], Jolante van Wijk[1], Matthew Sweeney[1], Anita Lavadie-Bulnes[1], Clara Stanbury[1]

[1]Los Alamos National Laboratory, Los Alamos, United States of America

A finite element code for the assessment of volcanic risk

Andrea Montanino[1], Alessandro Franci[2], Giulio Zuccaro[1]

[1]University Of Naples Federico Ii, Napoli, Italy, [2]Universitat politecnica de Catalunya, Barcelona, Spain

Methana Volcano — Parallel Hall

14:30 - 17:30 S3.15 > Creating "volcano-ready" communities: communicating for resilience and response

Conveners:

Angela Doherty | *Auckland Emergency Management, New Zealand*
Beth Bartel | *UNAVCO, United States of America*
Mylene Villegas | *Philippine Institute of Volcanology and Seismology, the Philippines*
Wendy K. Stovall | *USGS, United States of America*

Ready, steady..... listen! Bringing diverse knowledge into conversation about volcanic risk

Jenni Barclay[1], Teresa Armijos[1]

[1]University Of East Anglia, Norwich, United Kingdom

Volcanic crisis in the age of social media: Challenges and lessons in communication during the Taal Volcano 2020 event

Mylene Martinez-Villegas[1], Lucille Rose Sanico[1], Charmaine Villamil[1], Melissa Mae Tamayo[1], Jeffrey Perez[1], Renato Solidum Jr[1]

[1]Department of Science and Technology-Philippine Institute Of Volcanology And Seismology- Up Diliman, Quezon City, Philippines, Diliman, Quezon City, Philippines

Developing key messages on living with volcanic ash, gas and acid rain for a small, isolated Pacific island community: lessons learned from Ambae 2017-2018 eruption, Vanuatu

Graham Leonard[1], Sandrine Cevuard[2], Esline Garaebiti[2], Carol Stewart[3], Ame McSporran[4], Thomas Wilson[4], Susanna Jenkins[5], Natalia Deligne[6]

[1]GNS Science, Lower Hutt, New Zealand, [2]Geo-Hazards division, Vanuatu Meteorology and Geo-Hazards Department , Port Vila, Vanuatu, [3]Massey University, Wellington, New Zealand, [4]University of Canterbury , Christchurch, New Zealand, [5]Nanyang Technological University, Singapore, Singapore, [6]U.S. Geological Survey – Hawaiian Volcano Observatory, Hilo, USA

Lessons from the 2020-2021 eruption of La Soufriere St. Vincent on 'what works' for volcanic crisis communications

Lara Mani[1], Stacey Edwards[2], Alia Juman[2], Thalia Thomas[2], Erouscilla Joseph[2]

[1]Centre for the Study of Existential Risk, University Of Cambridge, Cambridge, United Kingdom , [2]Seismic Research Centre, The University of the West Indies, St Augustine, Trinidad

An Insight into the Volcano Ready Communities Project in St. Vincent and the Grenadines

Richard Robertson[1], Monique Johnson[1]

[1]The UWI Seismic Research Centre, St. Augustine, Trinidad and Tobago

Stirring the embers: understanding previous experience of activity of Volcán de Fuego as a factor in the decision to evacuate during eruptive crisis

Teresa Armijos[2], Edgar Antonio Escobar Barrios[3], William Chigna[4], Matthew Watson[1], **Ailsa Naismith**[1]

[1]University Of Bristol, Bristol, United Kingdom, [2]University of East Anglia (UEA), Norwich, United Kingdom, [3]Instituto Nacional de Sismologia, Vulcanologia, Hidrologia y Meteorologia (INSIVUMEH), Ciudad de Guatemala, Guatemala, [4]Coordinadora Nacional para la Reduccion de Desastres (CONRED), Ciudad de Guatemala, Guatemala

Dialling down disaster: volcanic risk communication in rarely-active areas

Angela Doherty[1], Elaine R. Smid[2], Jan M. Lindsay[2], Graham S. Leonard[3], Kate Lewis[4]

[1]Auckland Emergency Management, Auckland, New Zealand, [2]The University of Auckland, Auckland, New Zealand, [3]GNS Science, Wellington, New Zealand, [4]Auckland Council, Auckland, New Zealand

Volcanic risk management and journalists: Improvement of the resielence via workshops and SWOT analysis

David Calvo[1], Germán Cervigón-Tomico[1], Nemesio M. Pérez[1,2], Luca D'Auria[1,2], Fátima Rodríguez[1], Pedro A. Hernández[1,2], William Hernández[1], Claudia Rodríguez-Pérez[1,2]

[1]Instituto Volcanológico De Canarias (INVOLCAN), San Cristóbal de La Laguna, Spain, [2]Instituto Tecnológico y de Energías Renovables (ITER), Granadilla de Abona, Spain

Nysiros Volcano — Parallel Hall

14:30 - 17:30 S1.12 > Pyroclastic density current transport and emplacement mechanisms: insights from field, experimental, and modelling studies

Conveners:

Alessandra Pensa | *Roma Tre University, Italy*
Benjamin Andrews | *Global Volcanism Program, Smithsonian Institution, United States of America*
Matteo Cerminara | *Istituto Nazionale di Geofisica e Vulcanologia, Pisa, Italy*

Recent advances on depositional mechanisms and air entrainments in pyroclastic density currents from large-scale experiments

Fabio Dioguardi[1], Pierfrancesco Dellino[2], Daniela Mele[2], Domenico Maria Doronzo[3]

[1]British Geological Survey, now at University of Bari, Dipartimento di Scienze della Terra e Geoambiental, Bari, Italy, Edinburgh, United Kingdom , [2]University of Bari, Dipartimento di Scienze della Terra e Geoambientali, Bari, Italy, [3]Institute of Earth Sciences, Department of Geological Modelling and Geohazards, CSIC, Barcelona, Spain

Pyroclastic density currents: from the field to the f(x) to the forecast

Sarah Ogburn[1]

[1]USGS-USAID Volcano Disaster Assistance Program, Vancouver, United States

Experimental modelling of the entrance of pyroclastic flows into water

Natalia Lipiejko[1], Colin Whittaker[1], Emily Lane[2], William Power[3]

[1]The University Of Auckland, Auckland, New Zealand, [2]NIWA, Christchurch, New Zealand, [3]GNS, Wellington, New Zealand

Velocity profiles in sedimenting pyroclastic density currents

Gregory Smith[1], **Pete Rowley**[2], Rebecca Williams[1], Dan Parsons[3]

[1]University of Hull, Hull, United Kingdom , [2]UWE Bristol, Bristol, United Kingdom, [3]Earth and Environment Institute, Hull, United Kingdom

Inverting sediment bedforms for evaluating the hazard of dilute pyroclastic density currents in the field

Pierfrancesco Dellino[1], Fabio Dioguardi, Anna Rinaldi, Roberto Sulpizio, Daniela Mele

[1]University Of Bari, Bari, Italy

Benchmarking of concentrated pyroclastic current models using synthetic topographies and large-scale experiments

Valentin Gueugneau[1], **Sylvain Charbonnier**[1]

[1]University of South Florida, School of Geosciences, Tampa, United States

Does water enhance pyroclastic flow's traveling? –Multifaceted study on deposition temperature of Aso-4 pyroclastic flow, Japan–

Kent Osawa[1], **Tomohiro Tsuji**[1], Hyeon-Seon Ahn[2], Yuji Yamamoto[3]

[1]Yamaguchi University, Yamaguchi, Japan, [2]Korea Institute of Geoscience and Mineral Resources, Daejeon, Republic of Korea, [3]Kochi University, Kochi, Japan

Reconstruction of the pyroclastic density currents during April 1993 eruption on Lascar volcano by use of computational physical models

Alfredo Esquivel[1,2,3], Felipe Aguilera[1,3,4]

[1]Núcleo de Investigación en Riesgo Volcánico - Ckelar Volcanes, Universidad Católica del Norte, Antofagasta, Chile, [2]Programa de Doctorado en Ciencias Mención Geología, Facultad de Ingeniería y Ciencias Geológicas, Universidad Católica del Norte, Antofagasta, Chile, [3]Centro de Investigación para la Gestión Integrada del Riesgo de Desastres (CIGIDEN), Santiago, Chile, [4]Departamento de Ciencias Geológicas, Facultad de Ingeniería y Ciencias Geológicas, Universidad Católica del Norte, Antofagasta, Chile

Channel-edge effects in gas-fluidized pyroclastic density currents

Pete Rowley[1], Nemi Walding[2], Thomas Johnston[2], Matthew Johnson[2], Natasha Dowey[3], Rebecca Williams[2]

[1]University Of Bristol, Bristol, United Kingdom , [2]University of Hull, Hull, United Kingdom, [3]University of Sheffield, Sheffield, United Kingdom

The lethal high temperature of early ash cloud surge entering the ancient city of Herculaneum, during 79CE Vesuvius eruption

Alessandra Pensa[1,3], Guido Giordano[1], Sveva Corrado[1], Pier Paolo Petrone[2]

[1]Roma Tre University, Rome, Italy, [2]University of Naples Federico II, Department of Advanced Biomedical Sciences, Naples, Italy, [3]ISPRA - Italian Institute for Environmental Protection and Research, Rome, Italy

17:30 - 18:00 **Break**

Thira Volcano — Main Hall

18:00 - 19:00 S3.12 > International Risk Communication to mitigate Transboundary effect caused by Volcanic Eruption Part 2

Conveners:

Mayumi Sakamoto | *Graduate School of Disaster Resilience and Governance, University of Hyogo, Japan*
Haruhisa Nakamichi | *Sakurajima Volcano Observatory, Kyoto University, Japan*
Masaru Arakida | *University of Edinburgh, United Kingdom*

Establishing the European network for volcanic monitoring after 2010 Eyjafjallajokull eruption as part of international risk communication - from the perspective of International and European Union law –

Chizu Arashima[1]

[1]Kobegakuin University, Kobe, Japan

Facilitating Communication through Interaction – Participatory Stakeholder Workshop on Aviation and Volcanic Ash Scenarios

Uta Reichardt[1], Guðmundur Freyr Ulfarsson[2], Guðrún Pétursdóttir[1]

[1]Institute for Sustainability Studies, University of Iceland, Reykjavik, Iceland, [2]Faculty of Civil and Environmental Engineering, University of Iceland, Reykjavik, Iceland

A post-Hunga Tonga–Hunga Ha'apai roadmap for accelerating implementation of international arrangements for supporting operational volcanology

Andrew Tupper[1,2], Adele Bear-Crozier[2]

[1]Natural Hazards Consulting, Melbourne, Australia, [2]Bureau of Meteorology, Melbourne, Australia

Risk ranking of the Central Volcanic Zone of the Andes

María-Paz Reyes-Hardy[1], Luigia Di Maio[1], Lucia Dominguez[1], Corine Frischknecht[1], Sébastien Biass[1], Leticia Freitas Guimarães[2], Amiel Nieto-Torres[3], Manuela Elissondo[4], Maira Figueroa[5], Álvaro Amigo[5], Sebastián García[4], Costanza Bonadonna[1]

[1]Department of Earth Sciences, University of Geneva, 1205 Geneva, Switzerland, [2]Geoscience Institute, University of São Paulo, São Paulo, Brazil, [3]Departamento de Vulcanología, Instituto de Geofísica, Universidad Nacional Autónoma de México, Ciudad de México, Mexico, [4]Servicio Geológico Minero Argentino, SEGEMAR, Argentina, [5]Servicio Nacional de Geología y Minería, Red Nacional de Vigilancia Volcánica, Temuco, Chile

Milos Volcano — Parallel Hall

18:00 - 19:00 **S3.13 > Volcanic ashfall, gas and acid rain impacts: current and future research and resources in support of preparedness, assessment and mitigation &**
S3.14 > Emergency planning tools in inhabited volcanic risk areas Part 1

Conveners:

Thomas Wilson | *University of Canterbury, New Zealand*
Pierre Delmelle | *Université Catholique de Louvain, Belgium*
Susanna Jenkins | *Nanyang Technological University, Singapore*
Carol Stewart | *Massey University, New Zealand*
David Damby | *USGS, United States of America*
Graham Leonard | *GNS Science, New Zealand*
Natalia Deligne | *USGS, United States of America*
Antonio Colombi | *Civil Protection Regional Agency of Latium Region, Italy*

Revisiting the presence of soluble fluoride in volcanic ash

Pierre Delmelle[1], Elena Maters[2], François Gaspard[1], Sophie Opfergelt[1]

[1]Environmental Sciences, Earth & Life Institute, UClouvain, Louvain-la-Neuve, Belgium, [2]Department of Chemistry, University of Cambridge, Cambridge, UK

Volcanic ash impacts on water transport networks after three widespread tephrafalls in Patagonian lakes, Argentina

Pablo Agustín Salgado[1], Gustavo Villarosa[1], Débora Beigt[1], Valeria Outes[1], Thomas Wilson[2], Carol Stewart[3]

[1]IPATEC (Instituto Andino Patagónico de Tecnologías Biológicas y Geoambientales), CONICET-UNCO, San Carlos De Bariloche, Argentina, [2]School of Earth and the Environment, University of Canterbury, Private Bag 4800, Christchurch, 8140, New Zealand, Christchurch, New Zealand, [3]Massey University Wellington, Wallace Street, Mt Cook, Wellington 6021, New Zealand, New Zealand

Insights into the vulnerability of vegetation to tephra fallouts from interpretable machine learning and big Earth observation data

Sebastien Biasse[1], William Aeberhard[2], Susanna Jenkins[1,5], Pierre Delmelle[6], Thomas Wilson[3], Matthieu Kervyn[4]

[1]Earth Observatory Of Singapore, Singapore, Singapore, [2]Swiss Data Science Center, ETH Zurich, Switzerland, Switzerland, [3]School of Earth and Environment, University of Canterbury, New Zealand, [4]Department of Geography, Earth System Science, Vrije Universiteit Brussel, Belgium, [5]Asian School of the Environment, Nanyang Technological University, Singapore, [6]Environmental Sciences, Earth and Life Institute, UCLouvain, Belgium

Particle size, leaf pubescence and condition of humidity at leaf surfaces are key factors determining the retention of volcanic ash on crop foliage.

Noa Ligot[1], Patrick Bogaert[1], Guillaume Lobet[2,3], Sébastien Biasse[4], Pierre Delmelle[1]

[1]Earth and Life Institute, Environmental Sciences, UCLouvain, Louvain-la-Neuve, Belgium, [2]Earth and Life Institute, Agricultural Sciences, UCLouvain, Louvain-la-Neuve, Belgium, [3]Agrosphere Institute, IBG3, Forschungszentrum Jülich, Jülich, Germany, [4]Department of Earth Sciences, University of Geneva, Geneva, Switzerland

Methana Volcano — Parallel Hall

18:00 - 19:00 **S1.05 > Reconstructing the topography of active volcanic areas by using Geomatics techniques: volcanic phenomena investigation and hazard mapping Part 2**

Conveners:

Marina Bisson | *Istituto Nazionale di Geofisica e Vulcanologia, Pisa, Italy*
Marcello De Michele | *Risks and Prevention Division, BRGM – French Geological Survey, Orleans, France*
Claudia Spinetti | *Istituto Nazionale di Geofisica e Vulcanologia, Roma, Italy*
Alessandro Tadini | *Laboratoire Magmas et Volcans, Université Clermont Auvergne Aubiere Cedex, France*

Tracking the evolution of summit lava domes of Merapi volcano using DEMs obtained from TanDEM-X and Pleiades data

Shan Grémion[1], Virginie Pinel[1], Tara Shreve[2], François Beauducel[3], Raditya Putra[4], Akhmad Solikhin[4], Agus Budi Santoso[4], Hanik Humaida[4]

[1]University Grenoble Alpes, University Savoie Mont Blanc, CNRS, IRD, Université. Gustave Eiffel, ISTerre, Grenoble, France, [2]Earth and Planets Laboratory, Carnegie Institution for Science, Washington, DC, USA, [3]Université de Paris, Institut de physique du globe de Paris, CNRS, France, [4]Center for Volcanology and Geological Hazards Mitigation, Indonesia

Characterizing and Mapping Volcanic Flows on Mount St Helens via Dual-band SAR Imagery

Nikola Rogic[1], Sylvain J. Charbonnier[1], Franco Villegas-Garin[1], Guy W. Dayhoff II[1], Mel Rodgers[1], Charles Connor[1]

[1]University of South Florida, Tampa, United States of America

Nysiros Volcano — Parallel Hall

18:00 - 19:00 **S1.03 > Unmanned robotic autonomous platforms on volcanoes for research, monitoring and rapid crisis response,**
S1.20 > Submarine Volcanism: volcanic hazards, seafloor monitoring and public awareness,
S2.10 > Extant and extinct shallow submarine hydrothermal geobiology laboratories and ore-forming systems in volcanic-arcs,
S3.19 > Innovative and cutting-edge techniques for geological exploration, data collection and teaching in onshore and offshore volcanic areas Part 2

Conveners:

Florian Schwandner | *Jet Propulsion Laboratory, California Institute of Technology, United States of America*
Paraskevi Nomikou | *Faculty of Geololgy and Geoenvironment, NKUA, Athens, Greece*
Steffen Kutterolf | *GEOMAR, Helmholtz Center for Ocean Research, Kiel, Germany*
Stephanos Kilias | *National and Kapodistrian University of Athens, Greece*

Pumice rafts and seafloor tephra deposits: Tackling interpretive bias from analysing microtextural data and sampling localities

Samuel Mitchell[1], Kristen Fauria[2]

[1]University of Bristol, Bristol, United Kingdom , [2]Vanderbilt University, Nashville, USA

UAS applications for enhancing the mapping, modeling, and hazard assessment of volcanic mass flows: a case study at Mount St. Helens (USA)

Franco Villegas-Garin[1], Sylvain Charbonnier[1], Nikola Rogic[1], Guy Dayhoff II[1], Mel Rodgers[1], Charles Connor[1]

[1]University of South Florida, Tampa, United States of America

A review of island-building eruptions and their frequency

Jean-Marie Prival[1]

[1]Université Clermont Auvergne, Aubière, France

SANTORini's seafloor volcanic observatorY (SANTORY)

Paraskevi Nomikou[1], Paraskevi Polymenakou[2], Rizzo Andrea[3], Sven Petersen[4], Mark Hannington[5], Stephanos Kilias[1], Dimitris Papanikolaou[1], Javier Escartin[6], Konstantinos Karantzalos[7], Theodoris Mertzimekis[8], Varvara Antoniou[1], Mel Krokos[9], Lazaros Grammatikopoulos[10], Francesco Italiano[3], C. G. Caruso[3], G Lazzaro[3], M Longo[3], S. S. Scire[3], W D'Alessandro[3], F Grassa[3], Konstantina Bejelou[1], Danai Lampridou[1], Anna Katsigera[1], Anna Dura[1]

[1]Department of Geology and Geoenvironment, National and Kapodistrian University of Athens, Greece, [2]Hellenic Centre for Marine Research, Institute of Marine Biology, Biotechnology and Aquaculture, Greece, [3]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Palermo, Italy, [4]GEOMAR - Helmholtz Center for Ocean Research Kiel, D-24148 Kiel, Germany, [5]Department of Earth and Environmental Sciences, University of Ottawa, K1N 6N5, Ottawa, Canada, [6]Laboratoire de Géologie – CNRS, UMR 8538, École Normale Supérieure, PSL University, Paris, France, [7]Remote Sensing Laboratory, National Technical University of Athens, 15780, Athens, Greece, [8]Department of Physics, National Kapodistrian University of Athens, Zografou Campus, GR-15784, Athens, Greece, [9]School of Creative Technology, University of Portsmouth, Eldon Building, Winston Churchill Ave, Portsmouth, PO1 2UP, United Kingdom, [10]Department of Surveying and Geoinformatics Engineering University of West Attica Athens, Greece

Thira Volcano — Main Hall

19.00 – 19.30 **Plenary Lecture 5**

Convener:

Paraskevi Nomikou | *Assistant Professor Department of Geology and Geoenvironment, National and Kapodistrian University of Athens*

ALOS - The Volcanic Emergency Management Plan for Santorini Volcanic Complex

Mr. Andreas Antonakos

Head of Natural Disasters Department in the Ministry of Climate Crisis & Civil Protection, Athens, Greece

19:30 – 20:00 **CaV Commission presentation results on survey "How past participants of COV conferences would like to see future COV conferences proceed"**

Conveners:

Danielle Charlton | *Hazard and Risk Researcher GNS Science*
Carina Fearnley | *Associate Professor in Science and Technology Studies UCL*

Thira Volcano — Main Hall

8:30 - 10:30 S1.15 > Volcanic Degassing: Insights into Volcanic Processes, Impacts and Hazard

Conveners: **Giuseppe Salerno** | *Istituto Nazionale di Geofisica e Vulcanologia, Italy*

The 2021-2022 volcanic unrest crisis of La Fossa volcano (Vulcano Island, Italy): a new CO2-H2S-SO2 air concentration-monitoring network at Vulcano Porto

Maria Luisa Carapezza[1], Detlef Amend[2], Fabio Di Gangi[3], Christian Fisher[2], Nicola Mauro Pagliuca[1], Lucia Pruiti[4], Massimo Ranaldi[1], Luca Tarchini[1], Massimiliano Vallocchia[1], Konradin Weber[2]

[1]Ingv Roma 1, Rome, Italy, [2]Department of Mechanical and Process Engineering, Environmental Measurement Techniques, University of Applied Sciences Düsseldorf, Düsseldorf, Germany, [3]Ingv Palermo, Palermo, Italy, [4]Ingv Catania, Catania, Italy

Soil CO2 flux surveys during 2021 at Vulcano – Aeolian Island, Italy

Marco Camarda[1], Giorgio Capasso[1], **Roberto M. R. Di Martino**[1], Sergio Gurrieri[1], Vincenzo Prano[1]

[1]Istituto Nazionale Di Geofisica E Vulcanologia, Palermo, Italy

Gas constraints on the source mechanisms of Mt. Etna 2021 paroxysmal lava fountains sequence

Giuseppe Salerno[1], Alessandro La Spina[1], Patrick Allard[2], Stefano Corradini[1], Luca Merucci[1], Lorenzo Guerrieri[1], Dario Stelitano[1], Pietro Bonfanti[1]

[1]Ingv, Catania, Italy, [2]IPGP, Paris, France

Measuring particle size and sampling of volcanic clouds from unmanned aerial systems: examples from Sinabung (Indonesia) and Villarrica (Chile) volcanoes

Loyc Vanderkluysen[1], Danielle Moyer[1], Brett Carr[2], Gayatri Marliyani[3], Agung Harijoko[3]

[1]Drexel University, Philadelphia, United States of America, [2]Lamont-Doherty Earth Observatory, Columbia University, Palisades, United States of America, [3]Universitas Gadjah Mada, Yogyakarta, Indonesia

Novel TIR ground based systems for volcanic cloud monitoring. Tests on Etna and Stromboli volcanoes and products validation

Stefano Corradini[1], Lorenzo Guerrieri[1], Fred Prata[2], Luca Merucci[1], Dario Stelitano[1], Giuseppe Salerno[3], Tullio Ricci[4], Giancarlo Tamburello[5]

[1]INGV-ONT, Rome, Italy, [2]AIRES Tech Ltd, Melbourne, Australia, [3]INGV-OE, Catania, Italy, [4]INGV-RM1, Rome, Italy, [5]INGV-BO, Bologna, Italy

Etna eruption of 18 March 2012: new strategies for chemistry-transport modelling of volcanic plumes and comparison with satellite data.

Mathieu Lachatre[1], Sylvain Mailler[1,2], Laurent Menut[1], Solène Turquety[1], Pasquale Sellitto[3], Henda Guermazi[3], Giuseppe Salerno[4], Elisa Carboni[5]

[1]LMD/IPSL, École Polytechnique, Université Paris Saclay, ENS, PSL Research University; Sorbonne Universités, Sorbonne université, CNRS, Palaiseau, France, [2]École des Ponts ParisTech, Université Paris-Est, Champs-sur-Marne, France, [3]Laboratoire Inter-Universitaire des Systèmes Atmosphériques (LISA), UMR CNRS 7583, CNRS, Université Paris Est Créteil et Université de Paris, Institut Pierre Simon Laplace, Créteil, France, [4]Istituto Nazionale di Geosica e Vulcanologia, Osservatorio Etneo, Catania, Italy, [5]Rutherford Appleton Laboratory, Chilton, Didcot, OX11 0QX, UK

Milos Volcano — Parallel Hall

8:30 - 10:30 S2.09 > Magma fragmentation: primary volcanic deposits, their clasts, experiments and models, and an open discussion

Conveners: **Pierre-Simon Ross** | *Institut national de la recherche scientifique, Québec, Canada*
Pier Paolo Comida | *Institut national de la recherche scientifique, Quebec City, Canada*

Characteristics of Sub-Aerially Emplaced Pyroclasts in the Surtsey Eruption Deposits: Implications for Diverse Surtseyan Eruptive Styles

Andrea Verolino[1], James D. L. White[2], Rachael J. M. Baxter[2,3], C. Ian Schipper[4], Thor Thordarson[5]

[1]Earth Observatory Of Singapore, Nanyang Technological University, Singapore, Singapore, [2]Geology Department, University of Otago, Dunedin, New Zealand, [3]Department of Earth Sciences, University of Cambridge, Cambridge, United Kingdom, [4]School of Geography, Environment and Earth Sciences, Victoria University of Wellington, Wellington, New Zealand, [5]Institute of Earth Sciences, University of Iceland, Reykjavík, Iceland

The formation of inflated pyroclasts during explosive mafic eruptions

Thomas Jones[1], Yannick Le Moigne[2,3], Kelly Russell[4], Glyn Williams-Jones[2], Daniele Giordano[5], Donald Dingwell[6]

[1]Department of Earth, Ocean and Ecological Sciences, University of Liverpool, Liverpool, UK, [2]Department of Earth Sciences, Simon Fraser University, Burnaby, Canada, [3]Laboratoire Magmas et Volcans, Université Clermont-Auvergne, Clermont-Ferrand, France, [4]Department of Earth, Ocean and Atmospheric Sciences, University of British Columbia, Vancouver , Canada, [5]Universitá degli studi di Torino, Dipartimento di Scienze della Terra, Torino, Italy, [6]Department of Earth and Environmental Science, Ludwig-Maximilians-Universität, Munich, Germany

From jets of magma to pyroclasts: using experiments to link hydrodynamic fragmentation and fluidal morphologies in lava fountains

Pier Paolo Comida[1], Pierre-Simon Ross[1], Bernd Zimanowski[2], Ralf Büttner[2], Tobias Dürig[3]

[1]Institut national de la recherche scientifique, Quebec City, Canada, [2]Physikalisch-Vulkanologisches Labor, Universität Würzburg, Würzburg, Germany, [3]Institute of Earth Sciences, University of Iceland, Reykjavík, Iceland

Mafic ignimbrites: A story of disequilibrium crystallisation and fast ascent rates

Olivier Bernard[1,2], Caroline Bouvet de Maisonneuve[1,2], Laurent Arbaret[3]

[1]Earth Observatory Of Singapore, NTU, Singapore, [2]Asian School of the Environment, NTU, Singapore, [3]Université d'Orléans-CNRS/INSU-BRGM, ISTO, UMR 7327, Orléans, France

Internally conflicted: Ascent dynamics of the mingled basalt-rhyolite pumice fall deposit on Ascension Island, South Atlantic.

Bridie Verity Davies[1], Katherine J Dobson[2], Matthew Andrew[3], Jenni Barclay[1], Katy Chamberlain[4], Richard Brown[5]

[1]School of Environmental Sciences, University Of East Anglia, Norwich, United Kingdom, [2]Department of Civil and Environmental Engineering, University Of Strathclyde, Glasgow, United Kingdom, [3]Carl Zeiss X-Ray Microscopy, Pleasanton, United States of America, [4]School of Environmental Sciences, University of Derby, Derby, United Kingdom, [5]Department of Earth Sciences, University of Durham , Durham, United Kingdom

Total grain size distribution of components of fallout deposits and implications for magma fragmentation mechanisms: examples from Campi Flegrei caldera (Italy)

Daniela Mele[1], Antonio Costa[2], Pierfrancesco Dellino[1], Roberto Sulpizio[1], Fabio Dioguardi[3], Roberto Isaia[4], Giovanni Macedonio[4]

[1]Dipartimento di Scienze della Terra e Geoambientali, Università degli Studi di Bari "Aldo Moro", via E. Orabona 4, 70125 , Bari, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Bologna, via D. Creti 12, 40128 , Bologna, Italy, [3]British Geological Survey, The Lyell Centre, Edinburgh, United Kingdom, [4]Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Vesuviano, via Diocleziano 328, 80124, Napoli, Italy

A Detailed Quantitative Investigation into the Physical Properties of Tephra in the Transitional Stratigraphy of the Taupo 232 CE Y4/Y5 Eruption Phases

Sarah Tapscott[1], Gert Lube[1], Colin Wilson[2]

[1]Massey University, Palmerston North, New Zealand, [2]Victoria University of Wellington, Wellington, New Zealand

Characterizing juvenile particles for studies of primary fragmentation: why we need to standardize our methods

Pierre-Simon Ross[1], Tobias Dürig[2], Pier Paolo Comida[1], James D.L. White[3], Lucia Gurioli[4], Danielle Andronico[5], Julia Eychenne[4], Simon Thivet[6], Nathalie Lefebvre[7]

[1]Institut national de la recherche scientifique, Quebec, Canada, [2]Institute of Earth Sciences, University of Iceland, Reykjavík, Iceland, [3]Geology Department, University of Otago, Dunedin, New Zealand, [4]Laboratoire Magmas et Volcans, Université Clermont Auvergne, Aubière, France, [5]Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Etneo, Catania, Italy, [6]Department of Earth and Environmental Sciences, Ludwig-Maximilians-University Munich, Munich, Germany, [7]Institute of Geochemistry and Petrology, ETH Zurich, Zurich, Switzerland

Methana Volcano — Parallel Hall

8:30 - 10:30 S3.04 > State of the Volcanic Hazard Map: Crisis and scenario mapping

Conveners: **Graham Leonard** | *GNS Science, New Zealand*
Sarah Ogburn | *USGS, United States of America*

The different steam-driven incidents and mitigations between Ioyama and Ontake activities

Yasuhisa Tajima[1], Setsuya Nakada[2], Masashi Nagai[2], Fukashi Maeno[3], Takeshi Matsushima[4]

[1]Nippon Koei, Tsukuba, Japan, [2]NIED, Tsukuba, Japan, [3]ERI, the Univ. Tokyo, Tokyo, Japan, [4]SEVO, Kyushu Univ., Shimabara, Japan

Volcanic hazard mapping framework for New Zealand: A co-design approach to hazard and risk maps

Danielle Charlton[1,2], Jan Lindsay[1], Graham Leonard[2], Mary Anne Clive[2], Michael Martin[1]

[1]School of the Environment, University of Auckland, Auckland, New Zealand, [2]GNS Science, Avalon, New Zealand

A revisited hazard map for tephra fallout in Martinique

Audrey Michaud-Dubuy[1], Guillaume Carazzo[1], Edouard Kaminski[1]

[1]Institut de Physique du Globe de Paris, Paris, France

IAVCEI Commission on Volcanic Hazard and Risk (CVHR) Volcanic Hazard Map Database

Sarah Ogburn[1], Diana Norgaard[1], Danielle Charlton[2]

[1]USGS-USAID Volcano Disaster Assistance Program, Vancouver, United States, [2]University of Auckland, Auckland, New Zealand

[1]MapAction, UK, [2]University of Edinburgh, UK, [3]University of the West Indies, Jamaica, [4]INSIVUMEH, Guatemala

Crisis hazard assessment for snow-related lahars from an unforeseen new vent eruption: The 2018 phreatic eruption of Kusatsu-Shirane volcano, Japan

Kyoko Kataoka[1], Kae Tsunematsu[2], Takane Matsumoto[1], Atsushi Urabe[1], Katsuhisa Kawashima[1]

[1]Niigata University, Niigata, Japan, [2]Yamagata University, Yamagata, Japan

Assessing lava flow susceptibility at neighbouring volcanoes: Nyamulagira and Nyiragongo volcanoes, Virunga Volcanic Province

Matthieu Kervyn[1], Florian Barette[1], Sam Poppe[2], Benoit Smets[1,3], Caroline Michellier[3], Adalbert Syavulisembo Muhindo[4], Joseph Kambale Makundi[5], Yves Ngunzi Kahashi[6], Sophie Mossoux[1]

[1]Vrije Universiteit Brussel, Brussels, Belgium, [2]Centrum Badań Kosmicznych Polskiej Akademii Nauk (CBK PAN) , Bartycka 18A, 00-716 Warszawa, Poland, [3]Department of Earth Sciences, Royal Museum for Central Africa, Tervuren, Belgium, [4]Goma Volcano Observatory, Goma, Democratic Republic of Congo, [5]Protection civile du Nord Kivu, Goma, Democratic Republic of Congo, [6]Catholic Agency for Overseas Development , Democratic Republic of Congo

Nysiros Volcano — Parallel Hall

8:30 - 10:30 **S1.18 > Integrating knowledge of tectonic and magmatic processes with monitoring during periods of volcanic unrest**

Conveners:

Kyriaki Drymoni | *Department of Earth Sciences, Royal Holloway University of London*
Fabio Luca Bonali | *Department of Earth and Environmental Sciences, University of Milan-Bicocca*

Real-time seismic monitoring and observations of Taal Volcano prior and during its 2020 eruption.

Winchelle Ian Sevilla[1], Lois Abigail Jumawan[1], Paolo Reniva[1], Allan Loza[1], Ricardo Seda[1], Juan Cordon Jr.[1], Lawrence Aaron Bañes[1], Louie Velasco[1], Rudy Lacson Jr.[1], Dave Benedict Emerenciana[1], Allan Bernardo[1], Christian Joseph Clarito[1], April Angelique Dominguiano[1], Mari-Andylene Quintia[1], Gerald Malipot[1], Antonia Bornas[1], Renato Solidum Jr.[1]

[1]Philippine Institute Of Volcanology And Seismology (DOST-PHIVOLCS), Quezon City, Philippines

Volcano-tectonic interaction on Reykjanes Peninsula, Iceland and the 2021 Mt. Fagradalsfjall eruption

Kristín Vogfjörd[1], Michelle Parks[1], Halldór Geirsson[2], Benedikt G. Ófeigsson[1], Vincent Drouin[1], Sigurlaug Hjaltadóttir[1], Freysteinn Sigmundsson[2]

[1]Icelandic Meteorological Office, Reykjavik, Iceland, [2]Institute of Earth Sciences, University of Iceland, Reykjavik, Iceland

Differentiation of volcanically- and tectonically-driven seismicity at Kilauea

John Wilding[1], Zachary Ross[1]

[1]California Institute Of Technology, Pasadena, United States of America

Frequency-magnitude distribution of earthquakes at Etna volcano unravels critical stress changes along magma pathways

Marco Firetto Carlino[1], Luciano Scarfì[1], Flavio Cannavò[1], Graziella Barberi[1], Domenico Patanè[1], Mauro Coltelli[1]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Etneo, Catania, Italia

Earthquake cycles and the increment of the volcanic eruptions in Central America in the last two centuries

Gino Gonzalez[1,2,3], Eisuke Fujita[4], Joan Marti[5], Bunichiro Shibazaki[6], Dmitri Rouwet[2], Takumi Hayashida[6], Giovanni Chiodini[2], Wilfredo Rojas[7], Federico Lucchi[8], Rodolfo Castro[9], Roberto Sulpizio[1], Angélica Muñoz[10], Antonio Costa[2], Gustavo Chigna[11], Karoly Nemeth[12], Aaron Moya[13], Marco Viccaro[14], Mario Fernandez[15] Raul Mora-Amador[3], Adolfo García[3], Izumi Yokoyama[16]

[1]Dipartimento di Scienze della Terra e Geoambientali, University of Bari Aldo Moro, Bari, Italy, Bari, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Bologna, Italy, [3]Volcanes sin Fronteras, Costa Rica, [4]National Research Institute for Earth Science and Disaster Resilience, Tsukuba, Japan, [5]CSIC, Barcelona, Spain, [6]International Institute of Seismology and Earthquake Engineering, Building Research Institute, Tsukuba, Japan, [7]University of Costa Rica., Costa Rica, [8]BIGEA, University of Bologna, Bologna, Italy, [9]MARN, El Salvador, [10]Private Consultant in Geology, Nicaragua, [11]INSIVUMEH, Guatemala, [12]Institute of Earth Physics and Space Science, Sopron, Hungary, [13]Laboratorio de Ingeniería Sísmica (LIS-UCR), Universidad de Costa Rica, San José, Costa Rica, [14]Dipartimento di Scienze Biologiche Geologiche e Ambientali , Catania, Italy, [15]PREVENTEC, Costa Rica, [16]The Japan Academy, Ueno Park, Tokyo, Japan

10:30 - 11:00 **Break**

Thira Volcano — Main Hall

11:00 - 12:00 Plenary Lecture 6

Convener: **Paraskevi Nomikou** | *Department of Geology and Geoenvironment, National and Kapodistrian University of Athens, Zografou, Greece*

The 22nd December 2018 Anak Krakatau Tsunami in Sunda Straits, Indonesia: What we know and don't know
Dr. Gegar Prasetya
Director
Tsunami Research Foundation Indonesia

Thira Volcano — Main Hall

12:00 - 13:30 S2.13 > Interdisciplinary reconstructions of the impact of past volcanic eruptions on climate and society Part 1

Convener: **Karen Holmberg** | *New York University, New York, NY, United States of America*

Low Latitude Explosive Eruptions on Partially Submerged Volcanic Edifices- Are They Unusually Hazardous?
Dallas Abbott[1]
[1]Lamont Doherty Earth Observatory, Palisades, United States of America

Toba volcano super eruption destroyed the ozone layer and caused a human population bottleneck
Sergey Osipov[1], Georgiy Stenchikov[2], Kostas Tsigaridis[3,4], Allegra LeGrande[4,3], Susanne Bauer[4,3], Mohamed Fnais[5], Jos Lelieveld[1]
[1]Max Planck Institute for Chemistry, Mainz, Germany, [2]King Abdullah University of Science and Technology, Thuwal, Saudi Arabia, [3]Center for Climate Systems Research, Columbia University, New York, USA, [4]NASA Goddard Institute for Space Studies, New York, USA, [5]King Saud University, College of Science, Riyadh, Saudi Arabia

Constraining the Samalas 1257 Eruption: A Model and Multi-Proxy Approach
Laura Wainman[1], Lauren Marshall[2], Anja Schmidt[3]
[1]Department of Earth Sciences, University Of Cambridge, Cambridge, United Kingdom , [2]Department of Chemistry, University Of Cambridge, Cambridge, United Kingdom, [3]Department of Chemistry, University Of Cambridge. Department of Geography, University Of Cambridge, Cambridge, United Kingdom

What do prehistoric sites of 'managed retreat' look like? Querying the archaeology, volcanology, and geoheritage of Chaitén, Chile
Karen Holmberg[1], Javiera Letelier Cosmelli[2]
[1]New York University, New York, United States of America, [2]Universidad Austral de Chile, Puerto Montt, Chile

Milos Volcano — Parallel Hall

12:00 - 13:30 S1.06 > The application of drones in volcano monitoring, volcanological research and volcanic emergency management

Conveners: **Karen Strehlow** | *GEOMAR Helmholtz Centre for Ocean Research Kiel, Kiel, Germany*

UAS-based tracking of the Santiaguito Lava Dome, Guatemala
Edgar Zorn[1], Thomas R. Walter[1], Jeffrey B. Johnson[2], René Mania[1]
[1]GFZ-Potsdam, Potsdam, Germany, [2]Boise State University, Boise, United States

The benefit of unmanned aerial vehicles for volcano monitoring and emergency management - a case study for the 2019 paroxysms at Stromboli volcano, Italy

Karen Strehlow[1], Emanuela De Beni[2], Daniele Andronico[2], Massimo Cantarero[2], Riccardo Civico[3], Elisabetta Del Bello[3], Federico Di Traglia[4], Malte Eggersgluess[1], Thor Hansteen[1], Kaj Hoernle[1], Jeffrey Johnson[5], Tom Kwasnitschka[1], Luca Pizzimenti[3], Tullio Ricci[3], Piergiorgio Scarlato[3], Jacopo Taddeucci[3]

[1]GEOMAR Helmholtz Centre for Ocean Research Kiel, Kiel, Germany, [2]Istituto Nazionale di Geofisica e Vulcanologia - Sezione di Catania, Osservatorio Etneo, Catania, Italy, [3]Istituto Nazionale di Geofisica e Vulcanologia - Sezione Roma 1, Rome, Italy, [4]Istituto Nazionale die Oceanografia e di Geofisica Sperimentale, Centro Ricerche Sismologiche, Udine, Italy, [5]Boise State University, Department of Geosciences, Boise, USA

Topographic evolution of Nyiragongo's main crater from 2002 to 2021 using Structure-from-Motion (SfM) photogrammetry

Benoît Smets[1,2], Louise Delhaye[1,2], Julien Barrière[3], Nicolas d'Oreye[3,4], François Kervyn[1]

[1]Natural Hazards and Cartography Service, Royal Museum For Central Africa, Tervuren, Belgium, [2]Department of Geography, Vrije Universiteit Brussel, Brussels, Belgium, [3]European Center for Geodynamics and Seismology, Walferdange, Luxembourg, [4]Department of Geophysics/Astrophysics, National Museum of Natural History, Walferdange, Luxembourg

Methana Volcano — Parallel Hall

12:00 - 13:30 S2.02 > Towards innovative models describing the complex mechanics of debris flows and lahars

Conveners:

Fabio Dioguardi | *British Geological Survey, The Lyell Centre, Edinburgh, United Kingdom*
Lizeth Caballero | *Science Faculty, Universidad Nacional Autónoma de México, Mexico City, Mexico*
Roberto Sulpizio | *Universitá degli Studi di Bari "Aldo Moro", Dipartimento di Scienze della Terra e Geoambientali, Bari, Italy*

Modelling lahars for hazard assessments (Invited Lecture)

Mark Woodhouse[1,2], Jake Langham[2], Andrew Hogg[2], Jeremy Phillips[1]

[1]School of Earth Science, University Of Bristol, Bristol, United Kingdom , [2]School of Mathematics, University Of Bristol, Bristol, United Kingdom

A multidisciplinary study for the definition of lahars probabilistic hazard maps at Vesuvius

Mattia de' Michieli Vitturi[1], Laura Sandri[2], **Antonio Costa**[2], Mauro Antonio Di Vito[3], Marina Bisson[1], Tomaso Esposti Ongaro[1], Roberto Gianardi[1], Giovanni Macedonio[3], Ilaria Rucco[3], Roberto Sulpizio[4]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Pisa, Pisa, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Bologna, Bologna, Italy, [3]Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Vesuviano, Napoli, Italy, [4]Università di Bari, Bari, Italy

IMEX_SfloW2D 2.0: a depth-averaged numerical flow model for subaerial volcanic flows

Mattia de' Michieli Vitturi1, **Tomaso Esposti Ongaro1**

1Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Pisa, Pisa, Italy

Slush avalanches, flows and lahars on the slopes of Mt. Fuji volcano

Satoshi Goto[1]

[1]University of Yamanashi, Kofu, Japan

On the influence of pore fluid pressure and volcano topography on the run-out of pyroclastic flows: Insights from numerical simulations at laboratory scale

Alvaro Aravena[3], Thierry Dubois[2], Laurent Chupin[2], Olivier Roche[1]

[1]Laboratoire Magmas et Volcans, Université Clermont Auvergne, CNRS, IRD, OPGC, Clermont-Ferrand, France, [2]Laboratoire de Mathématiques Blaise Pascal, Université Clermont Auvergne, CNRS, Clermont-Ferrand, France, [3]Facultad de Ciencias Básicas, Universidad Católica del Maule, Talca, Chile

Nysiros Volcano — Parallel Hall

12:00 - 13:30 S2.15 > The Role of Tectonics on the Emergence and Evolution of Volcanic Features Part 1

Conveners: **Dimitrios Papanikolaou** | *National and Kapodistrian University of Athens, Greece*

Tectonic grabens and volcanism in the Aegean
Dimitrios Papanikolaou[1], Paraskevi Nomikou[1]
[1]National & Kapodistrian University of Athens, Athens, Greece

Volcanism and tectonics in an island-arc rift environment: proposal to drill at Christiana-Santorini-Kolumbo marine volcanic field, Greece
Tim Druitt[1], Christian Hübscher[2], **Steffen Kutterolf**[3], Paraskevi Nomikou[4], Dimitris Papanikolaou[4], and participants of the 2017 Athens MagellanPlus workshop
[1]Laboratory Magmas-Volcanoes, Clermont Auvergne University & CNRS, Clermont Ferrand, France, [2]CEN, Institute of Geophysics, University of Hamburg, Hamburg, Germany, [3]GEOMAR, Helmholtz Center for Ocean Research, Kiel, Germany, [4]National and Kapodistrian University of Athens, Department of Geology and Geoenvironment, Athens, Greece

Two subparallel rift zones in the South Aegean Sea (Invited Lecture)
Dimitrios Papanikolaou[1], Paraskevi Nomikou[1], Danai Lambridou[1], Christian Hubscher[2]
[1]National & Kapodistrian University of Athens, Athens, Greece, [2]Department of Geophysics, University of Hamburg , Hamburg, Germany

Volcano-tectonic evolution and structure of Milos, Aegean Sea, Greece and related volcanic hazard
Konstantina Bejelou[1], Dimitrios Papanikolaou[1], Paraskevi Nomikou[1], Stephanos Kilias[1], Jonathan Naden[2]
[1]National and Kapodistrian University of Athens, Athens, Greece, [2]British Geological Survey, Nottingham/Keyworth, United Kingdom

Spatial and temporal volcanotectonic evolution of Santorini volcano
Kyriaki Drymoni[1], John Browning[2,3], Agust Gudmundsson[1]
[1]Department of Earth Sciences, Royal Holloway University Of London, Queen's Building,Egham, Surrey, TW20 0EX, United Kingdom , [2]Department of Mining Engineering and Department of Structural and Geotechnical Engineering, Pontificia Universidad Católica de Chile, Santiago, Chile, [3]Andean Geothermal Centre of Excellence (CEGA – FONDAP 15090013), Santiago, Chile

13:30 - 14:30 Lunch Break

Thira Volcano — Main Hall

14:30 - 17:30 S1.10 > Volcano monitoring and eruption forecasting in the presence of uncertainty

Conveners: **Andrew Bell** | *University of Edinburgh, United Kingdom*
Laura Sandri | *INGV, Italy*

Noneruptive Unrest at the Caldera of Alcedo Volcano (Galápagos Islands) Revealed by InSAR Data and Geodetic Modeling
Federico Galetto[1,4], Marco Bagnardi[2,3], Valerio Acocella[1], Andrew Hooper[2]
[1]Università degli Studi di Roma Tre, Rome, Italy, [2]University of Leeds, Leeds, United Kingdom, [3]NASA, Greenbelt, USA, [4]Cornell University, Ithaca, USA

Correlation of lava extrusion with seismic energy at Mt. Merapi volcano in the presence of uncertainties in the eruption time-line
Tania Espinosa-Ortega[1], Agus Budi-Santoso[2], Sulistiyani[2], Nang Thin Zar Win[1], Christina Widiwijayanti[1], Fidel Costa[1,3]
[1]Earth Observatory Of Singapore, Nanyang Techonological University, Singapore, Singapore, [2]Balai Penyelidkan dan Pengembangan Teknologi Kebancanaan Geologi, Centre for Volcanology and Geological Hazard Mitigation, Geological Agency, Indonesia, Bandung, Indonesia, [3]Asian School of the Environment, Nanyang Technological University, Singapore, Singapore, Singapore

Forecasting volcanic eruption at volcanoes with short precursors: the Hekla case (Iceland)
Michelle Parks[1], Sara Barsotti[1], Melissa A. Pfeffer[1], Matthew J. Roberts[1], Benedikt G. Ófeigsson[1], Gunnar B. Guðmundsson[1], Kristín Jónsdóttir[1], Kristín S. Vogfjörd[1], Ingvar Kristinsson[1], Bergur H. Bergsson[1], Ragnar H. Þrastarson[1]
[1]Icelandic Meteorological Office, Reykjavík, Iceland

Quantifying the ground displacement's acceleration by using the Failure Forecast Method during the increased unrest of Vulcano (Italy) in 2021-2022.

Andrea Bevilacqua[1], Valentina Bruno[2], Mario Mattia[2], Massimo Rossi[2], Mauro Coltelli[2], Augusto Neri[1]
[1]*Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Pisa, Pisa, Italy,* [2]*Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Catania - Osservatorio Etneo, Catania, Italy*

Monitoring Volcanic Unrest Using Infrasound: Why, When, and How is it Useful?

Jeffrey Johnson[1], Robin Matoza[2], David Fee[3]
[1]*Boise State University, Boise, United States of America,* [2]*University of California, Santa Barbara, Santa Barbara, United States of America,* [3]*University of Alaska Fairbanks, Fairbanks, United States of America*

On the capabilities of networked infrasound arrays for tracking lahars

Jeffrey Johnson[1], Jacob Anderson[1], Ashley Bosa[1], Rudiger Wolf[2], Armando Pineda[3], John Lyons[4], Silvio De Angelis[5]
[1]*Boise State University, Boise, United States of America,* [2]*Michigan Technological University, Houghton, United States of America,* [3]*INSIVUMEH, Guatemala City, Guatemala,* [4]*Alaska Volcano Observatory, Anchorage, United States of America,* [5]*University of Liverpool, Liverpool, United Kingdom*

New insights into real-time detection of tephra grainsize, settling velocity and sedimentation rate

Valentin Freret-lorgeril[1], Costanza Bonadonna[1], Alexandros Poulidis[2], Eduardo Rossi[1]
[1]*University Of Geneva, Genève, Switzerland,* [2]*Institute of Environmental Physics, University of Bremen, Germany, Bremen, Germany*

Stochastic modelling of clustered eruptive activity at Galeras volcano, Colombia

Alexander Garcia[1], Alexander Garcia-Aristizabal[1], Antonio Costa[1], Alejandra Guerrero[2], Gustavo Cordoba[3], **Laura Sandri**[1]
[1]*Istituto Nazionale Di Geofisica E Vulcanolgia, Sezione di Bologna, Bologna, Italy,* [2]*Barcelona Supercomputing Center, Barcelona, Spain,* [3]*Universidad di Nariño, Department of Engineering, Pasto, Colombia*

From eruption scenarios to probabilistic volcanic hazard analysis: An example of the Auckland Volcanic Field, New Zealand

Pei Shan Ang[2], Mark Bebbington[1], Jan Lindsay[3], **Susanna Jenkins**[2]
[1]*Massey University, Palmerston North, New Zealand,* [2]*Nanyang Technological University, Singapore,* [3]*University of Auckland, Auckland, New Zealand*

Role of Supersite initiative in improving volcano research, volcano monitoring and hazards in low income countries: the case of Virunga Volcanoes Supersite in DR Congo, East Africa

Charles Balagizi[1]
[1]*Goma Volcano Observatory, Goma, Congo-Kinshasa (The Democratic Republic of the Congo)*

Lessons Learned by Volcano Disaster Assistance Program (VDAP) Engagement in in Low- to Middle- Income Countries

Gari Mayberry[1], Jacob Lowenstern[2], David Ramsey[2], Murizio Battaglia[6], Angie Diefenbach[2], John Ewert[2], Julia Griswald[2], Christopher Harpel[2], Peter Kelly[2], Christoph Kern[2], Martin LaFevers[2], Andrew Lockhart[2], Jeffrey Marso[2], Wendy McCausland[2], Diana Norgard[2], Sarah Ogburn[2], Jeremy Pesicek[2], Stephanie Prejean[3], Aaron Rinehart[2], Sally Sennert[4], John Wellik[2], Richard Wessels[5], Heather Wright[2]
[1]*USGS and USAID, Washington, United States,* [2]*US Geological Survey, Vancouver, United States,* [3]*US Geological Survey, Anchorage, United States,* [4]*USGS and Smithsonian Institution, Washington, United States,* [5]*US Geological Survey, Reston, United States ,* [6]*US Geological Survey , Mountain View, United States*

Milos Volcano — Parallel Hall

14:30 - 17:30 **S2.18 > Linking remote and local monitoring data through physical volcano models to understand and forecast unrest Part 1**

Conveners:
Paul Lundgren | *Jet Propulsion Laboratory, California Institute of Technology, CA, United States of America*
Társilo Girona | *Jet Propulsion Laboratory, California Institute of Technology, CA, United States of America*
Mary Grace Bato | *Jet Propulsion Laboratory, California Institute of Technology, CA, United States of America*

Unrest dynamics of Domuyo volcano, Argentina, constrained by InSAR and thermal time series

Paul Lundgren[1], Társilo Girona[2], Mary Grace Bato[1]
[1]*Jet Propulsion Laboratory, California Institute Of Technology, Pasadena, United States of America,* [2]*2Geophysical Institute, University of Alaska, Fairbanks, United States of America*

The 2008 eruptive unrest at Cerro Azul volcano (Galápagos) revealed by InSAR data and a novel method for geodetic modelling

Federico Galetto[1,4], Andrew Hooper[2], Marco Bagnardi[2,3], Valerio Acocella[1]
[1]*Università di Roma Tre, Rome, Italy,* [2]*University of Leeds, Leeds, United Kingdom,* [3]*NASA, Greenbelt, USA,* [4]*Cornell University, Ithaca, United States*

Unravelling the link between passive gas emissions, reservoir depressurization and eruption at Ambrym volcano (Vanuatu) (Invited Lecture)

Tara Shreve[1,2], Raphaël Grandin[9], Marie Boichu[2], Esline Garaebiti[3], Yves Moussallam[4,5], Valérie Ballu[6], Francisco Delgado[10], Frédérique Leclerc[7], Nicolas Henriot[2], Martin Vallée[9], Sandrine Cevuard[3], Dan Tari[3], Pierre Lebellegard[8], Bernard Pelletier[8], Diana Roman[1], Hélène Le Mével[1]

[1]Earth and Planets Laboratory, Carnegie Institution for Science, Washington, USA, [2]Université de Lille, Laboratoire d'Optique Atmosphérique, UMR 8518, Villeneuve d'Ascq, France, [3]Vanuatu Meteorology and Geohazards Department, Port Vila, Vanuatu, [4] Laboratoire Magmas et Volcans, Université Clermont Auvergne, Clermont-Ferrand, France, [5]Lamont-Doherty Earth Observatory, Columbia University, Palisades, USA, [6]Laboratoire Littoral Environnement et Sociétés, Université de La Rochelle, La Rochelle, France, [7]Géoazur, Univ. Nice Sophia Antipolis (Univ. Côte d'Azur, CNRS, IRD, Observatoire de la Côte d'Azur), Géoazur UMR 7329, Valbonne, France, [8]Géoazur, Institut de recherche pour le développement, Nouméa, New Caledonia, [9]Université de Paris, Institut de Physique du Globe de Paris, Paris, France, [10]University of Santiago, Santiago, Chile

Modeling caldera collapse at Kīlauea Volcano in 2018

Kyle Anderson[1], Helge Gonnermann[2], Paul Segall[3], Ingrid Johanson[4], Matthew Patrick[4], Joshua Crozier[1]

[1]U.S. Geological Survey, Moffett Field, United States of America, [2]Rice University, Houston, United States of America, [3]Stanford University, Stanford, United States of America, [4]U.S. Geological Survey Hawaiian Volcano Observatory, Hilo, United States of America

Geodetic constraints on source dynamics of unrest at Rabaul Caldera, Papua New Guinea

Paul Lundgren[1], Alberto Roman[1], Mary Grace Bato[1], Steve Saunders[2], Eric Tenor[2], Richard Stanaway[3]

[1]Jet Propulsion Laboratory, California Institute Of Technology, Pasadena, United States of America, [2]Rabaul Volcano Observatory, Rabaul, Papua New Guinea, [3]Quickclose Pty Ltd, Carlton, Australia

Thermal Remote Sensing of Crises at Hydrothermal Systems: ASTER and La Fossa di Vulcano

Sophie Pailot-Bonnétat[1], Andrew Harris[1], Michail Giannoulis[2], Vincent Barra[2], Iole Serena Diliberto[3], Fausto Grassa[3], Alessandro Gattuso[3], Michael Ramsey[4]

[1]Laboratoire Magmas Et Volcans, Clermont-Ferrand, France, [2]Laboratoire d'Informatique, de Modélisation et d'Optimisation des Systèmes, Clermont-Ferrand, France, [3]Istituto Nazionale di Geofisica e Vulcanologia, Palermo, Italy, [4]University of Pittsburgh, Pittsburgh, United States of America

Low-temperature thermal anomalies as a precursor to volcanic eruptions

Társilo Girona[1], Claire Puleio[1]

[1]Geophysical Institute, University of Alaska Fairbanks, Fairbanks , United States of America

Study of the shallow structure of Tenerife (Canary Islands, Spain) through analysis of gravity data

Olivia Lozano Blanco[1,2], Olaya Dorado[1,3], Sergio Sainz-Maza Aparicio[4,5]

[1]Geosciences Barcelona, GEO3BCN-CSIC, Barcelona, Spain, [2]Departmento de Geología, Universidad de Salamanca, Spain, [3]Departament de Mineralogia, Petrologia i Geologia Aplicada, Universitat de Barcelona, Spain, [4]Observatorio Geofísico Central, Instituto Geográfico Nacional, Madrid, Spain, [5]Grupo de Investigación Geodesia, Universidad Complutense de Madrid, Spain

Methana Volcano — Parallel Hall

14:30 - 17:30 **S3.17 > Strategies and tools for communicating geohazards and georisks, raising public awareness and enhancing preparedness to natural disasters Part 1**

Conveners:

Federico Pasquaré Mariotto | University of Insubria, Varese, Italy
Susanna Falsaperla | *Istituto Nazionale di Geofisica e Vulcanologia, Catania, Italy*
Dimitrios Papanikolaou | *University of Athens, Greece*

Modelling Spatial Population Exposure and Evacuation Clearance Time in the Auckland Volcanic Field, New Zealand

Alec Wild[1], Jan Lindsay[1], Mark Bebbington[2], Natalia Deligne[3,4], Thomas Wilson[4]

[1]School of Environment, University of Auckland, Auckland, New Zealand, [2]Volcanic Risk Solutions, Massey University, New Zealand, [3]GNS Science, Wellington, New Zealand, [4]U.S. Geological Survey – Hawaiian Volcano Observatory, Hilo, Hawaii, New Zealand, [5]Geological Sciences, University of Canterbury, New Zealand

Augmented and Virtual Reality: new tools for communicating volcanic hazards and risks

Danilo Reitano[1], Susanna Falsaperla[1]

[1]Istituto Nazionale Di Geofisica E Vulcanologia, Sezione Di Catania, Osservatorio Etneo, Catania, Italy

Scientific institutions vs the media: communicating volcanic hazard in the Vesuvius-Phlegrean Fields area, southern Italy

Federico Pasquaré Mariotto[1]

[1]Insubria University, Italy, Varese, Italy

Detailed eruption information provided by the Smithsonian's Global Volcanism Program

Edward Venzke[1], Benjamin Andrews[1], Janine B. Krippner[1], A. Elizabeth Crafford[1], Kadie Bennis[1]

[1]Smithsonian Institution - Global Volcanism Program, Washington, United States of America

Participatory Maps to Communicate Volcanic Risk in Colombia

Lina Dorado[1], Marta Calvache[2], Diana Caho[3]

[1]National Unit For Disaster Risk Management - Ungrd - Colombia, Bogotá D.C., Colombia, [2]Colombian Geological Survey, Bogotá D.C., Colombia, [3]Observatorio Colombiano de Ciencia y Tecnología, Bogotá D.C., Colombia

A multidisciplinary strategy for emergency and evacuation planning at the Neapolitan area: mitigating the highest volcanic risk in the World

Giuseppe De Natale[1], Paolo Massimo Buscema[2,3], Antonio Coviello[4], Giuseppe De Pietro[5], Adriano Giannola[6], Guido Maurelli[2], Alfonso Morvillo[4], Stefano Maria Petrazzuoli[1], Francesco Santoianni[7], Renato Somma[1], Alfredo Trocciola[8], Claudia Troise[1], Salvatore Villani[9]

[1]Osservatorio Vesuviano - INGV, Naples, Italy, [2]SEMEION Research Center, Rome, Italy, [3]University of Colorado, Denver, USA, [4]IRISS-CNR, Naples, Italy, [5]ICAR-CNR, Naples, taly, [6]SVIMEZ, Rome, Italy, [7]Associazione Vivere tra i Vulcani, Naples, Italy, [8]ENEA, Portici (NA), Italy, [9]Università Federico II - Dept. Social Sciences, Naples, Italy

Protracted displacement of the population of Ambae Island, Vanuatu, during the 2017-2018 eruptions of Manaro Voui volcano: lessons for future forced migration in the Pacific

Carol Stewart[1], Jane Rovins[2]

[1]College Of Health, Massey University, Wellington, New Zealand, [2]Joint Centre for Disaster Research, Massey University, Wellington, New Zealand

Spatio-Temporal Location of Population, a Factor for Strengthening the Capacities of Population Discharge Facing the Lave Flows in Goma, DR Congo

Adalbert Muhindo Syavulisembo[1,2,3], Caroline Michellier[2,3], Moritz Lennert[2], Eléonore Wolff[2], François Kervyn[3]

[1]Observatoire Volcanologique de Goma, Goma, Congo-Kinshasa (The Democratic Republic of the Congo), [2]ANAGEO/IGEAT, Université Libre de Bruxelles, Brussels, Belgium, [3]Service Risques Naturels et Cartographie, Département de Géologie, Musée Royal de l'Afrique Centrale, Brussels, Belgium

CME: the INGV Center for Monitoring the Aeolian Islands, Italy - A new facility to raise volcanic hazard awareness of inhabitants and visitors

Mauro Coltelli[1]

[1]Ingv Osservatorio Etneo, Catania, Italy

Video Mapping application on volcanic hazards in 3D polystyrene models as a communication tool for the community.

Nicolas Mendoza[1], Virginia Toloza[2], Felipe Fuentes[2], Cristian Mardones[2], Alejandro Bordeu[1], Javiera Cortes[3]

[1]CEGA, Universidad De Chile, Santiago, Chile, [2]Geological And Mining Survey Of Chile (sernageomin), Santiago, Chile, [3]Universidad de Chile, Santiago, Chile

Near Field and Far Field Effects of Volcanic Eruptions

Paraskevi Nomikou[1]

[1]Department of Geology and Geoenvironment, National and Kapodistrian University of Athens, Zografou, Greece

Volcano Hazard Awareness Films and Images

Benjamin Andrews[1], Sarah Brown[2], Edward Venzke, Janine Krippner[1]

[1]Smithsonian Global Volcanism Program, Washington, DC, United States of America, [2]University of Bristol, Bristol, United Kingdom

Nysiros Volcano — Parallel Hall

14:30 - 17:30 **S1.07 > Progression of unrest in volcanic systems: An evaluation and a multiparameter update of the Generic Volcanic Earthquake Swarm Model (GVESM),**
S2.17 > Time after Time &
S4.02 > Building resilience to volcanic eruptions by providing timely financial resources for observatories and government agencies during periods of heightened unrest

Conveners:
Arthur Jolly | *GNS Science, New Zealand*
Takao Ohminato | *Earthquake Research Institute, University of Tokyo, Tokyo, Japan*
Helena Albert | *Central Geophysical Observatory (IGN), Madrid, Spain*
Társilo Girona | *Jet Propulsion Laboratory, California Institute of Tehcnology, CA, United States of America*

Holocene mush disaggregation timescales in the Bárðarbunga-Veiðivötn volcanic system, Iceland: evidence from olivine diffusion modelling

Alberto Caracciolo[1,3], Maren Kahl[2], Enikő Bali[1,3], Guðmundur H. Guðfinnsson[3], Sæmundur A. Halldórsson[3]

[1]Faculty of Earth Sciences, University of Iceland, Sturlugata 7, Reykjavik, Iceland, [2]Institut für Geowissenschaften, Universität Heidelberg, Heidelberg, Germany, [3]Nordic Volcanological Center, Institute of Earth Sciences, University of Iceland, Sturlugata 7, Reykjavik , Iceland

The Generic Volcanic Earthquake Swarm Model: History and Development of a Conceptual Model of Seismicity and Processes During Precursory Sequences

Stephen McNutt[1], John Benoit[2]

[1]*University of South Florida, Tampa, United States of America,* [2]*Chevron USA, Houston, United States of America*

The Generic Volcanic Earthquake Swarm Model: Timing and Duration of Components of Seismicity During Precursory Sequences

Stephen McNutt[1], Tianyu Rong[1], Glenn Thompson[1], Jochen Braunmiller[1]

[1]*University of South Florida, Tampa, United States of America*

Correlation between petrological data and gravimetric models (Tenerife, Canary Islands)

Helena Albert[1], Sergio Sainz-Maza[1]

[1]*Instituto Geográfico Nacional, Madrid, Spain*

Seismic activity immediately before and after resuming lava-effusing eruption at remote volcanic island, Nishinoshima, Japan

Takao Ohminato[1]

[1]*Earthquake Research Institute, University of Tokyo, Tokyo, Japan*

Identification of seismo-volcanic regimes at Whakaari (New Zealand) via systematic tuning of an unsupervised classifier

Bastian Steinke[1], Arthur D. Jolly[2], Roberto Carniel[3,4], David E. Dempsey[5], Shane J. Cronin[1]

[1]*University Of Auckland, Auckland, New Zealand,* [2]*Hawaiian Volcano Observatory, U.S. Geological Survey, Hilo, USA,* [3]*Dipartimento Politecnico di Ingegneria e Architettura, Università degli Studi di Udine, Udine, Italy,* [4]*Earthquake Research Institute, The University of Tokyo, Tokyo, Japan,* [5]*University of Canterbury, Christchurch, New Zealand*

Classification of long-term, very long period volcanic earthquakes at White Island (Whakaari) volcano, New Zealand

Arthur Jolly[1], **Iseul Park**[2], Ivan Lokmer[3], Ben Kennedy[4]

[1]*USGS, Hilo, United States of America,* [2]*KIGAM, Daejeong, Republic of Korea,* [3]*University College of Dublin, Ireland,* [4]*University of Canterbury, Christchurch, New Zealand*

Precursors to phreatic and phreato-magmatic eruptions in New Zealand

Arthur Jolly[1], Ivan Lokmer[2], Corentin Caudron[3], Bruce Christenson[4], Ian Hamling[4], Iseul Park[5], Ben Kennedy[6], Martha Savage[7], Roberto Carniel[8]

[1]*USGS, Hilo, United States of America,* [2]*University College of Dublin, Dublin, Ireland,* [3]*University Libre de Brussels, Brussels, Belgium,* [4]*GNS Science, Avalon, New Zealand,* [5]*KIGAM, Daejeon, Korea,* [6]*University of Canterbury, Christchurch, New Zealand,* [7]*Victoria University Wellington, Wellington, New Zealand,* [8]*University of Udine, Udine, Italy*

A structured approach for assessing and acting on the capacity development needs of natural hazard agencies – the Country Hydromet Diagnostics and the Systematic Observations Financing Facility

Andrew Tupper[1,2], Markus Repnik[2], Deon Terblanche[2], Robert Varley[2]

[1]*Natural Hazards Consulting, Melbourne, Australia,* [2]*World Meteorological Organization, Geneva, Switzerland*

17:30 - 18:00 **Break**

Thira Volcano — Main Hall

18:00 - 19:00 **S2.13 > Interdisciplinary reconstructions of the impact of past volcanic eruptions on climate and society Part 2**

Convener: **Karen Holmberg** | *New York University, New York, NY, United States of America*

Petrologic estimate of sulfur outgassed from the 43 BCE eruption of Okmok Volcano, Alaska

Ally Peccia[1], Yves Moussallam[1], Terry Plank[1], Jessica Larsen[2], Alain Burgisser[3]

[1]*Columbia University– Lamont Doherty Earth Observatory, New York, United States of America,* [2]*University of Alaska Fairbanks, Alaska Volcano Observatory, United States of America,* [3]*CNRS Institute of Earth Sciences (ISTerre), Chambéry, France*

3D numerical simulations of large eruptions at Vesuvius: the 79AD volcanic scenario, deposit, and modern remote sensing observations

Matteo Cerminara[1], Benedetta Calusi[1,2], Stefano Corradini[1], Mauro A. Di Vito[1], Domenico Doronzo[1], Federica Pardini[1], Micol Todesco[1]

[1]*Istituto Nazionale di Geofisica e Vulcanologia, Italy,* [2]*Università di Firenze, Department of Mathematics, Florence, Italy*

The A.D. 79 eruption of Vesuvius - lesson from the past and future perspectives

Mauro Antonio Di Vito[1], Domenico Doronzo[1], Ilenia Arienzo[1], Monica Bini[2], Benedetta Calusi[1], Matteo Cerminara[1], Stefano Corradini[1], Sandro de Vita[1], Biagio Giaccio[3], Lucia Gurioli[4], Giorgio Mannella[2], Giovanni Pasquale Ricciardi[1], Ilaria Rucco[5], Domenico Sparice[1], Micol Todesco[1], Elisa Trasatti[1], Giovanni Zanchetta[2]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Italy, [2]Dipartimento di Scienze della Terra, Università di Pisa, Pisa, Italy, [3]Istituto di Geologia Ambientale e Geoingegneria, Consiglio Nazionale delle Ricerche, Roma, Italy, [4]Université Clermont Auvergne, CNRS, IRD, OPGC, Laboratoire Magmas et Volcans, Clermont-Ferrand, France, [5]Heriot-Watt University, School of Engineering and Physical Sciences, Edinburgh, United Kingdom

Milos Volcano — Parallel Hall

18:00 - 19:00 **S2.18 > Linking remote and local monitoring data through physical volcano models to understand and forecast unrest Part 2**

Conveners:

Paul Lundgren | *Jet Propulsion Laboratory, California Institute of Technology, CA, United States of America*
Társilo Girona | *Jet Propulsion Laboratory, California Institute of Technology, CA, United States of America*
Mary Grace Bato | *Jet Propulsion Laboratory, California Institute of Technology, CA, United States of America*

Cyclic eruptive, thermal and degassing behavior of Lascar volcano (northern Chile) between 2013 and early 2022: A multi parametric approach

Susana Layana[1], **Felipe Aguilera**[1], Pablo Salazar[1], Felipe Rojas[1,2]

[1]Nucleo de Investigación en Riesgo Volcánico - Ckelar Volcanes, Universidad Católica del Norte, Antofagasta, Chile, [2]University of New Mexico, Earth and Planetary Sciences Department, Albuquerque, USA

Remote Sensing of Thermal and Sulphur Dioxide Emissions at Manam Volcano, Papua New Guinea

Adam Cotterill[1], Emma Liu[1], Christopher Kilburn[1], Catherine Hayer[2], Ima Itikarai[3], Kila Mulina[3]

[1]UCL Hazard Centre, Department of Earth Sciences, University College London, London, United Kingdom , [2]Department of Earth and Environmental Sciences, University of Manchester, Manchester, United Kingdom, [3]Rabaul Volcanological Observatory, Rabaul, Papua New Guinea

Joint analysis of geodetic and gas emission datasets to monitor and understand restless volcanoes: Case of Taal volcano, Philippines

Mary Grace Bato[1], Paul Lundgren[1], Tarsilo Girona[2], Vince Realmuto[1], Virginie Pinel[3]

[1]Jet Propulsion Laboratory, California Institute of Technology, Pasadena, United States of America, [2]Geophysical Institute, University of Alaska, Fairbanks, United States of America, [3]Université Savoie Mont Blanc, ISTerre Sciences Institute, Chambery, France

The ASTER Volcano Archive (AVA): Over twenty years of global monitoring of active volcanoes

Ashley Davies[1], Michael Abrams[1], Alexander Torres[1]

[1]Jet Propulsion Laboratory - California Institute of Technology, Pasadena, United States of America

Methana Volcano — Parallel Hall

18:00 - 19:00 **S3.17 > Strategies and tools for communicating geohazards and georisks, raising public awareness and enhancing preparedness to natural disasters Part 2**

Conveners:

Federico Pasquaré Mariotto | University of Insubria, Varese, Italy
Susanna Falsaperla | *Istituto Nazionale di Geofisica e Vulcanologia, Catania, Italy*
Dimitrios Papanikolaou | *University of Athens, Greece*

StorySpheres, a fun and inclusive tool to share knowledge on volcanic environments

Julie Morin[1], Álvaro Amigo[2], Katerine Barría[3], Amy Donovan[1], Constanza Gomez[3], Constanza Jorquera Flores[2], Martin Lucas-Smith[1], Constanza Perales Moya[2], Rory Walshe[1]

[1]University of Cambridge - Department of Geography, Cambridge, UK, [2]Servicio Nacional de Geología y Minería, Santiago de Chile, Chile, [3]Fundacion Procultura - Museo de Sitio, Chaitén, Chile

Lessons from social sciences and related disciplines. First-hand experience and lessons learned from social media communication during a volcanic crisis

Jazmin Scarlett[1]

[1]*University Of East Anglia, Norwich, United Kingdom*

The mental health and well-being of researchers and science communicators on social media during volcanic crises

Samuel Mitchell[1], Jazmin Scarlett[2], Janine Krippner[3]

[1]*University of Bristol, Bristol, United Kingdom* , [2]*University of East Anglia, Norwich, United Kingdom,* [3]*University of Waikato, Hamilton, New Zealand*

Nysiros Volcano — Parallel Hall

18:00 - 19:00 S2.15 > The Role of Tectonics on the Emergence and Evolution of Volcanic Features Part 2

Conveners: **Dimitrios Papanikolaou** | *National and Kapodistrian University of Athens, Greece*

This Rift is on Fire: Volcano-Tectonic Evolution of the Christiana-Santorini-Kolumbo volcanic field, Aegean Sea

Jonas Preine[1], Christian Hübscher[1], Jens Karstens[2], Tim Druitt[3], Gareth Crutchley[2], Emilie Hooft[4], Florian Schmid[5], Parakevi Nomikou[6]

[1]*University of Hamburg, Hamburg, Germany,* [2]*GEOMAR Helmholtz-Zentrum für Ozeanforschung, Kiel, Germany,* [3]*Université Clermont Auvergne, Clermont-Ferrand, France,* [4]*University of Oregon, Oregon, USA,* [5]*K.U.M, Umwelt und Meerestechnik Kiel GmbH, Kiel, Germany,* [6]*National and Kapodistrian University of Athens, Athens, Greece*

Investigating chemistry, activity style transitions, and cyclicity at migrating volcanic centres using the Atitlán volcanic centre, Guatemala

Finley Gilchrist[1], Chiara Petrone[1], Hilary Downes[2], Sam Hammond[3], Ian Millar[4]

[1]*Natural History Museum, London, London, United Kingdom* , [2]*Birkbeck, Univeristy of London, London, United Kingdom,* [3]*Open University, Milton Keynes, United Kingdom,* [4]*British Geological Survey, Keyworth, United Kingdom*

Middle-Late Pleistocene volcano-tectonic activity in carbonate mountains (southern Apennines, Italy): evidence of tectonic control on dike emplacement and rift-like monogenetic eruption

Jacopo Natale[1], Stefano Vitale[1], Guido Giordano[2], Roberto Isaia[3], Ernesto Paolo Prinzi[4], Francesco d'Assisi Tramparulo[5], Sabatino Ciarcia[6]

[1]*Department of Earth, Environmental and Resources Sciences - University of Naples Federico II, Naples, Italy,* [2]*Dipartimento di Scienze, Università di Roma Tre, Rome, Italy,* [3]*Istituto Nazionale di Geofisica e Vulcanologia - Sezione di Napoli - Osservatorio Vesuviano, Naples, Italy,* [4]*ISPRA - Istituto Superiore Protezione Ricerca Ambientale, Rome, Italy,* [5]*Free lance geologist, Naples, Italy,* [6]*Dipartimento di Scienze e Tecnologie - Università degli Studi del Sannio, Benevento, Italy*

Thira Volcano — Main Hall

19:00 - 20:00 Plenary Lecture 7

Convener: **Paraskevi Nomikou** | *Department of Geology and Geoenvironment, National and Kapodistrian University of Athens, Zografou, Greece*

Not Always Murder Mountains: Communicating the Exciting Reality of Volcanoes

Mr Robin Andrews

Freelance

Freelance science journalist

Thira Volcano — Main Hall

8:30 - 10:30 **S4.01 > Legal and ethical issues surrounding the provision of knowledge and advice during periods of volcanic unrest by scientists and agencies &**
S4.07 > Geoparks in and near volcanic areas, geotouristic activities and raising awareness on geophysical hazards &
S4.08 > Volcanic tourism

Conveners:

Claire J. Horwell | *Department of Earth Sciences, Durham University, Durham, United Kingdom*
Charalampos Fassoulas | *University of Crete, Natural History Museum of Crete, Greece*

Cutting-edge Underwater Virtual Reality Tours in the Island of Santorini, Greece: The VirtualDiver project

Konstantinos Karantzalos[1], Paraskevi Nomikou[2], George Pechlyvanidis[3], Andreas Saer[5], Varvara Antoniou[2], Michalis Sarantinos[4], Ioannidis Giotis[3], Christos Stentoumis[5], George Katopodis[3], Ilias Kalisperakis[5], Katerina Plessa[5], Anna Dura[2], Konstantina Bejelou[2], Othonas Vlassopoulos[5]

[1]National Technical University Of Athens, Athens, Greece, [2]National and Kapodistrian University of Athens, Athens, Greece, [3]TETRAGON, Thessaloniki, Greece, [4]STEFICON, Athens, Greece, [5]up2metric , Greece

The ethics of volcano geoengineering

Mike Cassidy[1,2], Anders Sandberg[3], Lara Mani[2]

[1]Department of Earth Sciences, University Of Oxford, Oxford, United Kingdom , [2]Centre for the Study of Existential risk, University of Cambridge, Cambridge, United Kingdom, [3]Future of Humanity Institute, Department of Philosophy, University of Oxford, Oxford, United Kingdom

Understanding the Risk: Volcanic and other natural hazards in Iceland and implications for international tourists

Julia Crummy[1], Guðrún Jóhannesdóttir[2], Sara Barsotti[3], Melanie Duncan[1], Susan Loughlin[1], Björn Oddsson[2]

[1]British Geological Survey, Edinburgh, United Kingdom , [2]National Commissioner of the Icelandic Police, Department of Civil Protection and Emergency Management, Reykjavík, Iceland, [3]Icelandic Meteorological Office, Reykjavík, Iceland

INVOLC : The IAVCEI International Network for the Advancement of Global Volcanology in Resource-Constrained Settings

Gezahegn Yirgu[1], Supriyati Andreastuti[2], Maria-Antonia Bornas[3], Gezahegn Yirgu[4], Esline Garaebiti[5], Omari Graham[6], Victoria Miller[7], Adalbert Syavulisembo Muhindo[8], José Luis Palma[9], Natalia Pardo[10], Claudia Inés Rivera[11], Amdemichael Zafu Tadesse[4], Blas Ureña[12]

[1]Addis Ababa University, Addis Ababa, Ethiopia, [2]Center for Volcanology and Geological Hazard Mitigation, Bandung, Indonesia, [3]Philippines Institute for Volcanology and Seismology, Manila, The Philippines, [4]Université libre de Bruxelles, Brussels, Belgium, [5]Vanuatu Meteorology and Geo-Hazard Department, Vanuatu, [6]The University of the West Indies Seismic Research Centre, Trinidad and Tobago, [7]Montserrat Volcano Observatory / The University of the West Indies Seismic Research Centre, Flemmings, Montserrat, [8]Goma Volcano Observatory, Goma, Democratic Republic of Congo, [9]University of Concepción, Concepción, Chile, [10]Universidad de los Andes, Bogotá, Colombia, [11]Universidad Nacional Autónoma de México, Mexico City, Mexico, [12]National Committee for Risk Prevention and Emergency Management, Costa Rica

Human-induced hazard vs. natural hazard: microplastic and volcanic pumice drifting in the sea

Setsuya Nakada[1]

[1]National Research Institute For Earth Science And Disaster Resilience, Tsukuba, Japan

UNESCO Global Geoparks promoting risk mitigation and resilience in their territories: The case of Psiloritis UGGp, Crete, Greece

Dr. Charalampos Fassoulas

Natural History Museum University Of Crete

Milos Volcano — Parallel Hall

8:30 - 10:30 **S4.03 > Where history, archaeology, and geology intercept: multidisciplinary approaches to document the chronology, impacts, and legacy of volcanic events**

Conveners:

Christopher Harpel | *US Geological Survey Volcano Disaster Assistance Program, United States of America*
Florian Schwandner | *Jet Propulsion Laboratory, California Institute of Technology, United States of America*

Disaster Aid? Mapping historical responses to volcanic eruptions from 1800-2000 in the English-speaking Eastern Caribbean: their role in creating vulnerabilities

Jenni Barclay[1], Richie Robertson[3], Jazmin Scarlett[1], David Pyle[2], Teresa Armijos[4]

[1] School of Environmental Sciences, University Of East Anglia, Norwich, United Kingdom , [2]Department of Earth Sciences, University of Oxford, Oxford, United Kingdom, [3]Seismic Research Centre, University of West Indies, St Augustine, Trinidad, [4]School of International Development, University of East Anglia, Norwich, United Kingdom

Deciphering historical accounts of unknown eruptions: Makaturing c. 1765, Philippines

Susanna Jenkins[1], Marcus Phua[1], James Warren[2], Sébastien Biass[1], Caroline Bouvet de Maisonneuve[1]

[1]Earth Observatory Of Singapore, Asian School of the Environment, Singapore, [2]Asia Research Centre, Murdoch University, Perth, Australia

Prehistoric use and origin of ocean-rafted pumice found in Mesolithic to Medieval archaeological sites in Northern Norway

Anke Verena Zernack[1,2], Erlend Kirkeng Jørgensen[3], Anthony Newton[4], Felix Riede[2]

[1]Massey University, Palmerston North, New Zealand, [2]Aarhus University, Aarhus, Denmark, [3]UiT Norges Arktiske Universitet, Tromsø, Norway, [4]University of Edinburgh, Edinburgh, United Kingdom

Storytelling through deep time: the living archaeology of culture

Caitlin Berrigan[2]

[1]Academy of Fine Arts Vienna, Vienna, Austria, [2]New York University, New York, United States of America

Cerro Quemado volcano: historical, cultural and hazard assessment implications

Edgar Roberto Mérida Boogher[1]

[1]INSIVUMEH, Guatemala, Guatemala, Guatemala

Bronze Age escape from the Theran eruption

Krista Evans[1],Floyd McCoy[2]

[1]Student, University Of Hawaii At Mánoa, [2]Windward Community College, Kaneohe, Hawaii

Methana Volcano — Parallel Hall

8:30 - 10:30 **S3.05 > Evaluation and quantification of errors and uncertainty in models and data to support volcanic hazard and risk assessment &**
S3.09 > Probabilistic volcanic hazard assessment: from numerical modeling to benefits for society

Conveners:

Valentin Gueugneau | *School of Geosciences, University of South Florida, Tampa, United States of America*
Andrea Bevilacqua | *National Institute of Geophysics and Volcanology (INGV) Pisa, Italy*
Sylvain Charbonnier | *School of Geosciences, University of South Florida, Tampa, United States of America*
Silvia Massaro | *Istituto Nazionale di Geofisica e Vulcanologia, Bologna, Italy*
Pablo Tierz | *British Geological Survey, The Lyell Centre, Edinburgh, United Kingdom*
Mattia de' Michieli Vitturi | *Istituto Nazionale di Geofisica e Vulcanologia, Pisa, Italy*
Sarah Ogburn | *USGS/USAID, Volcano Disaster Assistance Program, United States of America*
Karen Strehlow | *GEOMAR Helmholtz Centre for Ocean Research Kiel, Kiel, Germany*

Challenges in uncertainty treatment in volcanic hazard analyses (Invited Lecture)

Jacopo Selva[1]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Bologna, Italy

What is the role of probability in tephra-fall hazard assessments?

Larry Mastin[1], Carolyn Driedger, Jessica Ball

[1]*U.s. Geological Survey, Vancouver, United States*

Supercomputers and PVHA: emerging perspectives

Arnau Folch[1], Laura Sandri[2], Sara Barsotti[3], Jacopo Selva[2], Manuel Titos[3], Beatriz Montesinos[2], Leonardo Mingari[1], Antonio Costa[2], Giovanni Macedonio[4]

[1]*Barcelona Supercomputing Center (BSC), Barcelona, Spain,* [2]*Istituto Nazionale di Geofisica e Vulcanologia (INGV), Bologna, Italy,* [3]*Icelandic Meteorological Office (IMO), Iceland,* [4]*Istituto Nazionale di Geofisica e Vulcanologia (INGV), Napoli, Italy*

VIGIL: a Python tool for forecasting and probabilistic gas dispersion modelling

Fabio Dioguardi[1], Silvia Massaro[2], Giovanni Chiodini[2], Antonio Costa[2], Arnau Folch[3], Giovanni Macedonio[4], Laura Sandri[2], Jacopo Selva[2]

[1]*British Geological Survey, now at University of Bari, Dipartimento di Scienze della Terra e Geoambiental, Bari, Italy, Edinburgh, United Kingdom ,* [2]*Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Bologna, Bologna, Italy,* [3]*Geociencias Barcelona (GEO3BCN-CSIC), Barcelona, Spain,* [4]*Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Vesuviano, Naples, Italy*

FlowDIR: A simple tool for objectively and probabilistically assessing the travel directions of topographically controlled hazardous flows

Eleanor Tennant[1], Susanna Jenkins[1], Sebastien Biasse[1]

[1]*Earth Observatory of Singapore, and Asian School of the Environment, Nanyang Technological University, Singapore, Singapore*

Assessing long-term tephra fallout hazard from Neapolitan volcanoes for southern Italy

Manuel Stocchi[1], Silvia Massaro[2], Beatriz Martinez Montesinos[1], Antonio Costa[1], Laura Sandri[1], Jacopo Selva[1], Roberto Sulpizio[2], Biagio Giaccio[3], Massimiliano Moscatelli[3], Marco Nocentini[3,4], Edoardo Peronace[3], Roberto Isaia[5]

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Evaluating and ranking Southeast Asia's exposure to explosive volcanic hazards

Susanna Jenkins[1], **Sebastien Biasse**[1], George T Williams[1], Josh L Hayes[1], Eleanor Tennant[1], Qingyuan Yang[1], Vanesa Burgos[1], Elinor S Meredith[1], Geoffrey A Lerner[1], Magfira Syarifuddin[1], Andrea Verolino[1]

[1]*Earth Observatory Of Singapore, Asian School of the Environment, Nanyang Technological University, Singapore*

A new tephra-fall hazard dataset for Japan

Christina Magill[1], Delioma Oramas-Dorta[2], Stuart Mead[3]

[1]*GNS Science, Lower Hutt, New Zealand,* [2]*Guy Carpenter & Company Limited, London, United Kingdom,* [3]*Volcanic Risk Solutions, Massey University, Palmerston North, New Zealand*

Nysiros Volcano — Parallel Hall

8:30 - 10:30 S3.11 > The path from volcanic hazard to risk analysis

Conveners:

Costanza Bonadonna | *University of Geneva, Switzerland*
Alvaro Amigo | *SERNAGEOMIN, Chile*
Melanie Duncan | *British Geological Survey, United Kingdom*
Julie Morin | *University Clermont Auvergne, France*

Considering vulnerability for long-term risk assessment: does it really matter? (Invited Lecture)

Matthieu Kervyn[1], Caroline Michellier[2], Sophie Mossoux[1]

[1]*Vrije Universiteit Brussel, Brussels, Belgium,* [2]*Royal Museum for Central Africa, Tervuren, Belgium*

Technical risk framework and volcanic-related hazards

Modesto Portilla Gamboa[1]

[1]*National University of Colombia, Bogota, Colombia*

Volcanic hazards and the re/insurance industry: working towards a robust risk assessment framework

Josh Hayes[4], Susanna Jenkins[4], **Mathis Joffrain**[1], Karim Kelfoun[5], John Wardman[2], Mark Woodhouse[3]

[1]*AXA GIE, Paris, France,* [2]*AXA XL, London, UK,* [3]*School of Earth Sciences, University of Bristol, Bristol, UK,* [4]*Earth Observatory of Singapore at Nanyang Technological University, Singapore,* [5]*LMV, UCA, Clermont, France*

Towards a Uniform Approach for Risk Assessment due to Volcanoes and Earthquakes. A case study for the Nevado del Ruiz Volcano

Catalina Yepes Estrada[1], Julio Garcia-Pelaez[1], Mónica Arcila[2], Julián Andrés Ceballos[2], Luis Jerónimo Valencia[2], Carlos Andrés Laverde[2], Anirudh Rao[1]

[1]GEM Foundation, Pavia, Italy, [2]Servicio Geológico Colombiano, Bogota, Colombia

Risk assessment for Chichinautzin monogenetic volcanic field, southern México City

Amiel Nieto Torres[1], Ana Lillian Martin Del Pozzo[1], Gianluca Groppelli[2]

[1]Universidad Nacional Autónoma de México, Mexico City, Mexico, [2]Istituto per la Dinamica dei Processi Ambientali, Sezione di Milano, Milano, Italia

Risk assessment for tephra fallout associated with potential eruptions at Villarrica and Quetrupillán volcanoes, Chile

Rodrigo Calderon[1], Virginia Toloza[2], Costanza Bonadonna[3], Sebastien Biass[4], Corine Frischknecht[3]

[1]University Of Canterbury, Christchurch, New Zealand, [2]National Geology and Mining Service (SERNAGEOMIN), Santiago, Chile, [3]Department of Earth Sciences, University of Geneva, Geneva, Switzerland, [4]Earth Observatory of Singapore, Singapore, Republic of Singapore

Assessing the underappreciated hazard of fire following volcanic eruption: A modelling approach for ballistic projectile impacts

Jia Yong Quah[1], Josh Hayes[2,3], Rebecca Fitzgerald[3], **Geoffrey Lerner**[2], Susanna Jenkins[1,2], Thomas Wilson[4], Finn Scheele[3], Biljana Lukovic[3], Charles Fleischmann[5]

[1]Asian School of the Environment, Nanyang Technological University, Singapore, Singapore, [2]Earth Observatory of Singapore, Nanyang Technological University, Singapore, Singapore, [3]GNS Science, Lower Hutt, New Zealand, [4]School of the Environment, University of Canterbury, Christchurch, New Zealand, [5]Department of Civil and Natural Resources Engineering, University of Canterbury, Christchurch, New Zealand

What Can We Learn from Past Eruption Impacts? Insights from Lava Flow Building Damage Assessments

Elinor Meredith[1,2], Susanna Jenkins[1,2], Josh Hayes[1,2], Natalia Deligne[3], David Lallemant[1,2], Matthew Patrick[3], Christina Neal[4]

[1]Earth Observatory Of Singapore, Singapore, [2]Asian School of the Environment, Nanyang Technological University, Singapore, [3]U.S. Geological Survey, Hawaiian Volcano Observatory, USA, [4]U.S. Geological Survey, Alaska Volcano Observatory, USA

10:30 - 11:00 **Break**

Thira Volcano — Main Hall

11:00 - 12:30 **S1.23 > Fissure eruptions: processes and products**

Conveners: **Thomas J. Jones** | *Department of Earth, Environmental and Planetary Sciences, Rice University, USA*
Carolyn Parcheta | *U.S. Geological Survey, Hawaiian Volcano Observatory, Hawaii Volcanoes National Park, HI, USA*

Fissure eruptions in Vesuvius activity - eruption dynamic and hazard scenario

Claudia Principe[1], Annarita Paolillo[2], Daniele Giordano[3], Simone Arrighi[2], Debora Brocchini[2]

[1]IGG-CNR, Pisa, Italy, [2]Archaeomagnetic Laboratory of CNR-IGG, Viareggio, Italy, [3]Department of Earth Science, University of Torino, Torino, Italy

Fissural eruptions as gauges of maturity of the Main Ethiopian Rift

Eugenio Nicotra[1], Marco Viccaro[2,3], Paola Donato[1], Valerio Acocella[4], Rosanna De Rosa[1]

[1]University of Calabria, Rende, Italy, [2]University of Catania, Catania, Italy, [3]INGV OE, Catania, Italy, [4]University of Roma Tre, Roma, Italy

Kīlauea 2018 lower East Rift Zone eruptive fissure sequence and vigor: relationship to dike propagation and reactivation processes

Carolyn Parcheta[1]

[1]USGS Hawaiian Volcano Observatory, Hilo, United States of America

The 10th century Eldgjá fissure eruption, Iceland: eruptive styles and resulting hazards

William Moreland[1], Thor Thordarson[2], Bruce Houghton[3], Gudrun Larsen[2]

[1]Istituto Nazionale Di Geofisica E Vulcanologia - Osservatorio Etneo, Catania, Italy, [2]Institute of Earth Sciences, University of Iceland, Reykjavik, Iceland, [3]Department of Geology and Geophysics, University of Hawaii at Manoa, Honolulu, United States of America

Propagation and arrest of the dike during the May 2021 eruption of Nyiragongo volcano

Delphine Smittarello[1], Julien Barrière, Benoit Smets[2,3], Adrien Oth[1], Tara Shreve[4], Valérie Cayol[5], Raphael Grandin[6], Christelle Wauthier[7], Dominique Derauw[8,9], Halldor Geirsson[10], Nicolas Theys[11], Hugues Brenot[11], Caroline Michellier[2], Jean-Luc Froger[12], Adalbert Syavulisembo Muhindo[13], Nicolas d'Oreye[1,14], François Kervyn[2]

[1]European Center for Geodynamics and Seismology, Walferdange, Luxembourg, [2]Royal Museum for Central Africa, Department of Earth Sciences, Belgium, [3]Vrije Universiteit Brussel, Department of Geography, Belgium, [4]Earth and Planets Laboratory, Carnegie Institution for Science, U.S.A, [5]Université Clermont Auvergne, CNRS, IRD, OPGC, Laboratoire Magmas et Volcans, Clermont-Ferrand, France, [6]Université de Paris, Institut de Physique du Globe de Paris, Paris, France, [7]Department of Geosciences, Pennsylvania State University, U.S.A, [8]Centre Spatial de Liège, Liège, Belgium, [9]Universidad Nacional de Río Negro. Instituto de Investigación en Paleobiología y Geología. , Río Negro, Argentina, [10]Institute of Earth Sciences, University of Iceland, Iceland, [11]Royal Belgian Institute for Space Aeronomy , Brussels, Belgium, [12]Laboratoire de Géologie de Lyon – Terre, Planète Environnement, UMR 5276, Université de Lyon, Université Jean Monnet, Saint-Etienne, France, [13]Goma Volcano Observatory, Goma, D.R. Congo, [14]National Museum of Natural History, Luxembourg, Luxembourg

Insights into Vesicle Evolution from the Ahu'ailā'au (fissure 8) flow of the 2018 Kilauea Lower East Rift Zone Eruption

Brenna Halverson[1], Alan Whittington[1]

[1]University of Texas, San Antonio, San Antonio, United States of America

The role of subsurface gas localization in basaltic fissure eruptions

Ariane Loisel[1], Ed Llewellin[1], Antonio Capponi[2]

[1]Durham University, Durham, United Kingdom , [2]Lancaster University, Lancaster, United Kingdom

Milos Volcano — Parallel Hall

11:00 - 12:30 S1.21 > Volcanogenic tsunamis: Generation mechanisms and hazard assessment

Conveners:

Samantha Engwell | *British Geological Survey, United Kingdom*
David Tappin | *British Geological Survey, United Kingdom*
Sebastian Watt | *University of Birmingham, United Kingdom*
Jacopo Selva | *National Institute of Geophysics and Volcanology, Italy*

Landslide induced tsunami hazard at volcanoes – the case of Santorini Island

Ocal Necmioglu[1,2], Mohammad Heidarzadeh[3], Georgios E. Vougioukalakis[4], **Jacopo Selva**[5]

[1]Kandilli Observatory and Earthquake Research Institute, Istanbul, Turkey, [2]European Commission, Joint Research Centre (JRC), Ispra, Italy, [3]Department of Civil and Environmental Engineering, Brunel University, London, UK, [4]Hellenic Survey of Geology and Mineral Exploration, Greece, [5]Istituto Nazionale di Geofisica e Vulcanologia, Bologna, Italy

Simulations of slide and tsunami generation from the 12/22/18 lateral collapse of Anak Krakatau volcano: comparison with recent field surveys

Stephan Grilli[1], Cheng Zhang[2], James Kirby[2], Lauren Schambach[1], Annette Grilli[1], **David Tappin**[3], Sebastian Watt[4], James Hunt[5], Alessandro Novellino[3], Simon Day[6], Samantha Engwell[3]

[1]University Of Rhode Island, Narragansett, United States of America, [2]University of Delaware, Newark, United States of America, [3]British Geological Survey, Keyworth, United Kingdom, [4]University of Birmingham, Birmingham, United Kingdom, [5]National Oceanography Centre, Southampton, United Kingdom, [6]University College London , London, United Kingdom

Potential tsunami mechanisms from the HH-HT, Tonga eruption of 15th January 2022

David Tappin[1], Stephan Grilli[2], Sebastian Watt[3], Maryam Mohammadpour[2], Sam Engwell[1], C. Zhang[4], Alessandro Novelino[1]

[1]British Geological Survey, Nottingham, United Kingdom , [2]University of Rhode Island, Narragansett, USA, [3]University of Birmingham, Birmingham, UK, [4]University of Delaware, Newark, United States of America

Potential mega-tsunami as a result of a future sector collapse at Volcano Roca Redonda, Galapagos Islands – Implications and consequences

Theofilos Toulkeridis[1]

[1]Universidad de las Fuerzas Armadas ESPE, Sangolqui, Ecuador

Challenges in volcanogenic tsunami forecasting and management: insights from the Anak Krakatau 2018 and Hunga Tonga–Hunga Ha'apai 2022 events

Sebastian Watt[1], David Tappin[2], Stephan Grilli[3], Samantha Engwell[2], Mike Cassidy[4], Mirzam Abdurrachman[5], Alessandro Novellino[2]

[1]University Of Birmingham, Birmingham, United Kingdom , [2]British Geological Survey, UK, [3]University of Rhode Island, USA, [4]University of Oxford, UK, [5]Bandung Institute of Technology, Indonesia

Methana Volcano — Parallel Hall

11:00 - 12:30 **S4.04 > Volcano Geoheritage,**
S4.05 > Geoscience education and place-based learning for youth: informing and inspiring the next generation &
S4.09 > Volcanoes in the museums

Conveners:

Paula Naomi Sacro Irapta | *University of the Philippines*
Konstantina Bejelou | *National and Kapodistrian University of Athens, Athens, Greece*
Elizabeth Westby | *U.S. Geological Survey Cascades Volcano Observatory, United States of America*
Nikos Zouros | *Department of Geography, University of the Aegean, Greece*
Charalampos Fassoulas | *University of Crete, Natural History Museum of Crete, Greece*
Maria Manousaki | *Earthquake Planning & Protection Organization, Greece*

GIS based evaluation of volcanic geoheritage in the urban geodiversity of Auckland, New Zealand
Boglarka Nemeth[1], Karoly Nemeth[1], Jonathan Procter[1], Trisia Farrelly[2]
[1]Volcanic Risk Solutions, School of Agriculture and Environment, Massey University, Palmerston North, New Zealand, [2]School of People, Environment and Planning, Massey University, Palmerston North, New Zealand

The Cyclopean Islands (Acitrezza, Catania): a volcanic protected area, crucial to investigate the onset of activity of Etna volcano (Italy)
Rosa Anna Corsaro[1], Stefano Branca[1], Gianfranco Di Vincenzo[2], Lucia Miraglia[1]
[1]Istituto Nazionale di Geofisica e Vulcanologia, sezione di Catania, Osservatorio Etneo, Catania, Italy, [2]Istituto di Geoscienze e Georisorse – CNR, Pisa, Italy

The effectiveness of geotrails to support sustainable development in the Campi Flegrei active volcanic area
Ines Alberico[1], Giuliana Alessio[2], Massimo Fagnano[3], **Paola Petrosino**[4]
[1]CNR ISMAR, Napoli, Italy, [2]INGV OV, Napoli, Italy, [3]Dip. Agraria University of Napoli Federico II, Napoli, [4]DiSTAR - University of Napoli Federico II, Napoli, Italy

Nevado del Ruiz volcano and Armero town ruins: Colombian geoheritage
Marta Calvache[1], Maria Luisa Monsalve[2], Cristian Lopez[2], Gloria Cortes[2], Marcela Gomez[3]
[1]Colombian Geological Survey - SGC, Bogota, Colombia, [2]Colombian Geological Survey - Manizales Volcano Observatory , Manizales, Colombia, [3]Colombian Geological Survey – Geological Museum, Bogota, Colombia

Huaynaputina: The Day the Volcano Woke Up
Luisa Macedo Franco[1], Pedro Peralta[2], Jorge Concha[1], Benjamín Van Wyk de Vries[3], Jeffrey Marso[4], Ivonne Lazarte[1]
[1]Instituto Geofísico Del Perú, Arequipa, Peru, [2]Universidad Nacional de Moquegua, Moquegua, Perú, [3]Universidad Clermont Auvergne, Clermont Ferrand, Francia, Clermont, Francia, [4]Volcano Disaster Assitance Program, Washington, Estados Unidos de Norte América

Nysiros Volcano — Parallel Hall

11:00 - 12:30 **S1.11 > Large- to small-scale instability-to-collapse processes and mass wasting: dynamics, models and hazard implications &**
S1.17 > Advances in understanding volcanic debris avalanche processes and hazards - from field studies to experimental and numerical modelling applications

Conveners:

Alessandro Bonforte | *Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Catania – Osservatorio Etneo, Catania, Italy*
Irene Manzella | *University of Plymouth, School of Geography, Earth and Environmental Sciences (Faculty of Science and Engineering), United Kingdom*
Matteo Roverato | *Yachay Tech University, Ibarra, Ecuador*
Anke Zernack | *Volcanic Risk Solutions, Massey University, Palmerston North, New Zealand*

Numerical modelling of tsunamigenic mass flows at Stromboli Volcano
Irene Manzella[1], Symeon Makris[1], Paul Cole[1], Karim Kelfoun[2], Federico Di Traglia[3], Daniele Casalbore[4], Francesco Latino Chiocci[5]
[1]School of Geography, Earth and Environmental Sciences, University Of Plymouth, Plymouth, United Kingdom , [2]Laboratoire Magmas et Volcans, Université Clermont Auvergne, Clermont-Ferrand, France, [3]Dipartimento di Scienze della Terra, Università degli Studi di Firenze, Florence, Italy, [4]Istituto di Geologia Ambientale e Geoingegneria, Consiglio Nazionale delle Ricerche (IGAG-CNR), Rome, Italy, [5]Dipartimento Scienze della Terra, Sapienza Università di Roma, Rome, Italy

Relationship between textural characteristics of debris flow deposits and flow physical properties

Lizeth Caballero[1], Omar Hernández-Rivas[2], Jesús Eduardo de la Cruz-Azuara[3], Fernanda Cerca[4], Carla Tranquilino[1], Luis Angel Rodriguez-Sedano[4], Damiano Sarocchi[4], Oscar Segura[4], Lorenzo Borselli[4], Fabio Dioguradi[5]

[1]Departamento de Física, Facultad de Ciencias UNAM, Mexico, Mexico, [2]UNAM, Mexico, Mexico, [3]UNACAR, Ciudad del Carmen, Mexico, [4]UASLP, San Luis Potosí, Mexico, [5]BGS, Edinburgh , Scotland

Volcanic debris avalanches - from collapse to hazards

Matteo Roverato[1], Anja Dufresne[2], Jon Procter[3]

[1]Department of Earth Sciences, University of Geneve, Switzerland, [2]Department of Engineering Geology and Hydrogeology, RWTH-Aachen University, Aachen, Germany, [3]INR, Massey University, Palmerston North, New Zealand

Evidence of volcanic debris avalanche propagation dynamics from sedimentological analysis of the Tenteniguada and Abona deposits, Canary Islands

Symeon Makris[1], Matteo Roverato[2], Alejandro Lomoschitz[3], Paul Cole[1], Irene Manzella[1,4]

[1]School of Geography, Earth and Environmental Science, University Of Plymouth, Plymouth, United Kingdom, [2]Department of Earth Sciences, University of Geneva, Geneva, Switzerland, [3]Instituto de Oceanografía y Cambio Global, IOCAG, Universidad de Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Spain, [4]Department of Applied Earth Sciences (AES), Faculty of Geo-Information Science and Earth Observation (ITC), University of Twente, Enschede, The Netherlands

How likely is a future volcanic debris avalanche at Parinacota volcano (Southern Andes)? Implications for hazard assessment.

Laura Becerril[1], Camila Muñoz[1], Lizette Bertin[2], Alejandra Serey[1], Matteo Roverato[3]

[1]Institute of Engineering Sciences. University of O'Higgins, Rancagua, Chile, [2]Southern Andes Volcanological Observatory (OVDAS). Chilean Geological and Mining Survey (SERNAGEOMIN)., Temuco, Chile, [3]Department of Earth Sciences, University of Geneva., Switzerland

Flank collapse mechanisms at coastal and ocean island volcanoes: Insights from shoreline-crossing investigations

Morelia Urlaub[1], Jens Karstens[1], Christian Berndt[1]

[1]Geomar Helmholtz Centre For Ocean Research Kiel, Kiel, Germany

Thira Volcano — Main Hall

12:30 - 14:00 S1.19 > Volcano deformation: data integration, models, ambiguities and implications for eruption forecasting & S2.07 > Multidisciplinary approaches to caldera deformation studies

Conveners:

Alessandro Bonforte | *Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Catania – Osservatorio Etneo, Catania, Italy*
Emily Montgomery-Brown | *U.S. Geological Survey California Volcano Observatory, Menlo Park, CA, United States of America*

A major destabilization structure revealed by 22 years of InSAR monitoring at Piton de la Fournaise volcano

Quentin Dumont[1], Valérie Cayol[1], Jean-Luc Froger[2], Aline Peltier[3]

[1]Université Clermont Auvergne, CNRS, IRD, OPGC, Laboratoire Magmas et Volcans, Clermont-Ferrand, France, [2]Université Jean Monnet - Faculté des Sciences et Techniques Laboratoire de géologie de Lyon : Terre, Planètes, Environnement - UMR CNRS 5276 LGL-TPE, Saint-Etienne, France, [3]Observatoire Volcanologique du Piton de la Fournaise, Université de Paris, Institut de Physique du Globe de Paris, CNRS, Paris, France

Follow the gas. Another look at poroelastic deformation at Campi Flegrei (Italy)

Micol Todesco[1]

[1]Ingv, Sezione Di Bologna, Bologna, Italy

Magma storage and transport along rift zones and volcanic conduits

Alberto Roman[1], Paul Lundgren

[1]Jet Propulsion Laboratory, California Institute of Technology, Pasadena, United States of America

Source model for the 2020 Pururuni-Casiri (southwest Peru) earthquake sequence by InSAR surface deformation

Katherine Vargas[1], Juan Villegas[1], Maurizio Battaglia[2,3]

[1]IGP- Geophysical Institute of Peru, Arequipa, Perú, [2]US Geological Survey, Volcano Disaster Assistance Program, Moffett Field, United States of America, [3]Department of Earth Sciences, Sapienza University of Rome, Italy

Milos Volcano — Parallel Hall

12:30 - 14:00 **S3.08 > Mt. Baekdu volcano: Risk Perception and Preparedness (Volcanic risk: evaluation and mitigation)**

Conveners:

Sung-Hyo Yun | *Volcano Specialized Research Center, Pusan National University, Republic of Korea*
Changwook Lee | *Kangwon National University, Chuncheon, Republic of Korea*

Analysis of the Surface Displacement from 2014 to 2019 at Mt. Baekdu (Changbaishan) using EDM

Jeonghyun Lee[1], Sung-Hyo Yun[1], Cheolwoo Chang[1]
[1]*Pusan National University (VSRC), Busan, Korea, Republic of*

Predicting Lahar inundation areas from future eruption of Mt. Baekdu Using Laharz_py

Cheolwoo Chang[1,2], Sung Hyo Yun[1,3]
[1]*Volcano Specialized Research Center, Pusan National University, Busan, Republic of Korea,* [2]*Institute of Environmental Studies, Pusan National University, Busan, Republic of Korea,* [3]*Department of Earth Science Education, Pusan National University, Busan, Republic of Korea*

Microlites in the Baekdusan and Kyushu obsidians with implication for the differing cooling condition of rhyolitic magmas

Yong-Joo Jwa[1]
[1]*Gyeongsang National University, Jinju, Korea, Republic of*

Numerical Assessment of Hazard incurred by Reservoir Collapse

Seulgi Lee[1], Sungsu Lee[1], Waon Ho Yi[2]
[1]*Chungbuk National University, Cheongju, Korea, Republic of,* [2]*Kwangwoon University, Seoul, Korea, Republic of*

Potential Volcanic Risk of Mount Baekdu by Monitoring of Ice Dimension on Caldera Lake and Generation of Artificial DInSAR using Radar Satellite Imagery

Arief Rizqiyanto Achmad[1], Sungjae Park[1], Seulki Lee[1], **Changwook Lee**[1]
[1]*Kangwon National University, Chuncheon, Korea, Republic of*

Detecting regional thermal activity in deep depth which causes volcanic and seismic activities using the CHAMP and SWARM satellite-derived magnetic field recordings

Chang Whan Oh[1], Sungchan Choi[2], Ingo Michaelis[3]
[1]*Jeonbuk National University, Jeonju, Korea, Republic of,* [2]*Kyungpook National University, Daegu, Korea, Republic of,* [3]*German Research Center for Geosciences, Potsdam, Germany*

Methana Volcano — Parallel Hall

12:30 - 14:00 **S3.03 > Communicating across the science, policy, and user domains: considering relevance, legitimacy, and credibility of communication tools &**
S3.07 > How the arts and humanities can improve warnings of eruptions: innovation in engaging communities at risk Part 1

Conveners:

Carina Fearnley | *University College London, United Kingdom*
Sarah Beaven | *University of Canterbury, New Zealand*
Amy Donovan | *University of Cambridge, United Kingdom*
Micol Todesco | *INGV, Italy*
Karen Holmberg | *New York University, United States of America*
Christopher Kilburn | *University College London, United Kingdom*
Anna Hicks | *University of Cambridge, Cambridge, United Kingdom*

La Cité du Volcan: making science accessible, reinforcing the link with the community

Florence Fontaine[1], Eugénie Robert[1], Patrice Huet[1]
[1]*La Cite Du Volcan / SPL Réunion des Musées Régionaux, Le Tampon, Reunion*

MUSO: Communicating Volcano Hazards and Generating Innovative Public Engagement by Drawing on Improvised Opera

Carina Fearnley[1], Chiara Ambrosio[1]

[1]*Department of Science and Technology Studies, UCL, London, United Kingdom*

Practical templates will help prepare your observatory for intense news media attention

Carolyn Driedger[1], Elizabeth Westby[1]

[1]*USGS Cascades Volcano Observatory, Vancouver, United States*

The past, present, and future (?) disaster site: The new Chaitén museum

Karen Holmberg[1], Constanza Gomez[2], Andres Burbano[3]

[1]New York University, New York, United States of America, [2]Fundacion Procultura, Chaiten, Chile, [3]Universidad de los Andes, Bogota, Colombia

Tour guides as frontline communicators of volcanic hazard, risk and response information

Deanne Bird[1], Guðrún Gísladóttir[1,2], Emmanuel Pagneux[3]

[1]*Faculty of Life and Environmental Sciences, University of Iceland, Reykjavik, Iceland,* [2]*Nordvulk, Institute of Earth Sciences, University of Iceland, Reykjavik, Iceland,* [3]*Faculty of Environmental and Forest Sciences, Agricultural University of Iceland, Iceland*

'The Electric Volcano' : a place to explore effective knowledge for managing future disaster risk

Karen Pascal[1,2], Jenni Barclay[3], James Christie[3], Teresa Armijos Burneo[3], Wendy Mcmahon[3], Martin Mangler[3], Jonathan Hogg[4], Andy D'Cruz[4], Kathleen Retourné[1], Richie Robertson[2]

[1]*Montserrat Volcano Observatory, Salem, Montserrat,* [2]*Seismic Research Center, The University of the West Indies, St. Augustine, Trinidad & Tobago,* [3]*University of East Anglia, Norwich, U.K.,* [4]*Output Arts, London, U.K.*

Nysiros Volcano — Parallel Hall

12:30 - 14:00 S2.16 > What do volcano seismo-acoustic signals mean? Part 1

Conveners:

Társilo Girona | *Jet Propulsion Laboratory, California Institute of Technology, California, United States of America*
Arthur Jolly | *GNS Science, Lower Hutt, New Zealand*
Philippe Lesage | *Université Grenoble Alpes, Université Savoie Mont Blanc, CNRS, IRD, IFSTTAR, ISTerre, Chambéry, France*

A laboratory approach to unravel the link between seismo-acoustic signals and eruptive parameters

Laura Spina[1], Daniele Morgavi[2], Andrea Cannata[3], Jacopo Taddeucci[1], Elisabetta Del Bello[1], Diego Perugini[2], Piergiorgio Scarlato[1]

[1]*Istituto Nazionale Di Geofisica e Vulcanologia, Sezione di Roma1, Roma, Italy,* [2]*Dipartimento di Fisica e Geologia, Università di Perugia, Perugia, Italy,* [3]*Dipartimento di Scienze Biologiche, Geologiche e Ambientali, Università di Catania, Catania, Italy*

Infrasound from giant bubbles during shallow, explosive submarine eruptions

John Lyons[1], Matthew Haney[1], David Fee[2], Aaron Wech[1], Christopher Waythomas[1]

[1]*USGS Alaska Volcano Observatory, Anchorage, United States of America,* [2]*Geophysical Institute - University of Alaska Fairbanks, Fairbanks, United States of America*

Source Parameter Estimation from Local to Regional Infrasound for Ash Dispersion Modelling

Benoit Taisne[1,2], Dorianne Tailpied[1], Sebastien Biasse[1], Anna Perttu[1]

[1]*Earth Observatory of Singapore, Singapore, Singapore,* [2]*Asian School of the Envrionment, Singapore, Singapore*

Migration of mechanical perturbations estimated by seismic coda wave interferometry during the 2018 pre-eruptive period at Kilauea volcano, Hawaii

Philippe Lesage[1], Titouan Muzellec[2], Corentin Caudron[3], Jean-Luc Got[1]

[1]*Université Savoie Mont Blanc, Le Bourget-du-lac, France,* [2]*University of Naples Federico II, Naples, Italy,* [3]*Université Libre de Bruxelles, Bruxelles, Belgique*

Seismoacoustic characterization of very large ice–rock avalanches on Iliamna Volcano, Alaska, USA

Liam Toney[1,2], David Fee[1], Kate Allstadt[2], Matthew Haney[3], Robin Matoza[4]

[1]*Alaska Volcano Observatory and Wilson Alaska Technical Center, Geophysical Institute, University of Alaska Fairbanks, Fairbanks, United States of America,* [2]*U.S. Geological Survey, Geologic Hazards Science Center, Golden, United States of America,* [3]*U.S. Geological Survey, Alaska Volcano Observatory, Anchorage, United States of America,* [4]*Department of Earth Science and Earth Research Institute, University of California, Santa Barbara, Santa Barbara, United States of America*

Generating long period and tremor-like seismicity without fluids in volcanic materials

Pete Rowley[1], Philip Benson[2], Chris Bean[3]

[1]*UWE Bristol, Bristol, United Kingdom ,* [2]*University of Portsmouth, Portsmouth, United Kingom,* [3]*Dublin Institute for Advanced Sciences, Dublin, Ireland*

The renewal of a lava lake activity inside Nyiragongo's crater after the 2021 flank eruption as heard by nearby acoustic and seismic sensors

Julien Barrière[1], Adrien Oth[1], Jos Subira[2,3], Nicolas d'Oreye[4]

[1]European Center For Geodynamics And Seismology, Walferdange, Luxembourg, [2]Goma Volcano Observatory, Goma, D.R. Congo, [3]Université de Liège, Liège, Belgium, [4]National Museum of Natural History, Walferdange, Luxembourg

14:00 - 15:00 **Lunch Break**

Thira Volcano — Main Hall

15:00 - 16:30 **S2.12 > Pre-eruptive magmatic processes and their timescales: how to utilize them for the mitigation of volcanic risk?**

Conveners: **Eugenio Nicotra** | *Università della Calabria, Italy*
Paraskevi Nomikou | *Department of Geology and Geoenvironment, National and Kapodistrian University of Athens, Zografou, Greece*

Statistical analysis of olivine diffusion profiles quantifies rise rate and magma storage, Pupuke Maar, Auckland Volcanic Field.

Ingrid Ukstins[1], Jie Wu[1], Marco Brenna[2], Shane Cronin[1], Madison Anae[1], Victoria Cassady[1], Ian Smith[1]

[1]University of Auckland, New Zealand, [2]University of Otago, Dunedin, New Zealand

Water supersaturated magma chambers favor effusive eruptions: the case of Nisyros-Yali volcanoes, South Aegean Arc

Razvan-Gabriel Popa[1], Olivier Bachmann[1], Ben Ellis[1], Peter Tollan[1], Jörg Hermann[2], Marcel Guillong[1], Julien Allaz[1], Dawid Szymanowski[3], Vanessa Schenker[4], Wim Degruyter, Konstantinos Kyriakopoulos[5]

[1]Institute of Geochemistry and Petrology, ETH Zürich, Zurich, Switzerland, [2]Geological Institute, University of Bern, Bern, Switzerland, [3]Department of Geosciences, Princeton University, Princeton, United States, [4]Institute of Environmental Engineering, ETH Zürich, Zurich, Switzerland, [5]Department of Geology and Geoenvironment, University of Athens, Athens, Greece

Syn-eruptive carbonate assimilation: How does it influence eruption dynamics?

Marco Knüver[1], Daniela Mele[1], Alessandro Pisello[2], Roberto Sulpizio[1], Francesco Vetere[2], Diego Perugini[2], Antonio Costa[3]

[1]Università di Bari - Dipartimento di Scienze della Terra e Geoambientali, Bari, Italy, [2]Università di Perugia - Dipartimento di Fisica e Geologia, Perugia, Italy, [3]Istituto Nazionale di Geofisica e Vulcanologia (INGV) - Sezione di Bologna, Bologna, Italy

Pre-eruptive processes prior to the 1650 CE explosive eruption at the Kolumbo submarine volcano, Greece

Filippo Mastroianni[1,2], Iacopo Fantozzi[2], Chiara Maria Petrone[3], Georges E. Vougioukalakis[4], Eleonora Braschi[5], Alessandro Bragagni[2], Lorella Francalanci[2]

[1]University Of Pisa, Pisa, Italy, [2]University of Florence, Florence, Italy, [3]The Natural History Museum, London, United Kingdom, [4]HSGME, Athens, Greece, [5]CNR-IGG, Florence, Italy

The inception of large explosive eruptions: a detailed study of the opening phases of the Avellino Plinian eruption (Vesuvius, Italy).

Alessia Falasconi[1], Raffaello Cioni[1], Chiara Maria Petrone[2], Roberto Sulpizio[3]

[1]Dipartimento di Scienze della Terra, Università di Firenze, Firenze, Italy, [2]Department of Earth Sciences, The Natural History Museum, London, United Kingdom, [3]Dipartimento di Scienze della Terra, Università di Bari, Bari, Italy

Simulating dyke propagation in real-time with a phase field approach

Caitlin Chalk[1], Adria Quintanas-Corominas[2], Janine Kavanagh[1], Guillaume Houzeaux[2], Antonio Costa[3], Arnau Folch[2,4]

[1]Earth, Ocean and Ecological Sciences, University Of Liverpool, Liverpool, United Kingdom , [2]Barcelona Supercomputing Centre (BSC), Barcelona, Spain, [3]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Bologna, Bologna, Italy, [4]Geociencias Barcelona, Consejo Superior Investigaciones Científicas (CSIC), Barcelona, Spain

Milos Volcano — Parallel Hall

15:00 - 16:30 **S3.13 > Volcanic ashfall, gas and acid rain impacts: current and future research and resources in support of preparedness, assessment and mitigation &**
S3.14 > Emergency planning tools in inhabited volcanic risk areas Part 2

Conveners:

Thomas Wilson | University of Canterbury, New Zealand
Pierre Delmelle | *Université Catholique de Louvain, Belgium*
Susanna Jenkins | *Nanyang Technological University, Singapore*
Carol Stewart | *Massey University, New Zealand*
David Damby | *USGS, United States of America*
Graham Leonard | *GNS Science, New Zealand*
Natalia Deligne | *USGS, United States of America*
Antonio Colombi | *Civil Protection Regional Agency of Latium Region, Italy*

Ashfall impact and mitigation strategies in central México

Ana Lillian Martin-del Pozzo[1], Amiel Nieto Torres[1], Alberto Paz[1], Monserrat Luna[1], Sandra Gonzalez[1], Mario Díaz[1], Mariana Sandoval[1]
[1]*Instituto De Geofísica, Universidad Nacional Autónoma De México, Ciudad De México, Mexico*

DEVORA, ECLIPSE and TTVF: Emergency Management-Researcher partnerships across New Zealand volcanic risk

Teresa Gordon[1], **Angela Doherty**[2], Graham Leonard[3], Nico Fournier[3], Jan Lindsay[4], Shane Cronin[4], Garry McDonald[5]
[1]*Taranaki Emergency Management, New Plymouth, New Zealand,* [2]*Auckland Emergency Management, Auckland, New Zealand,* [3]*GNS Science, Wellington, New Zealand,* [4]*University of Auckland, Auckland, New Zealand,* [5]*Market Economics, Auckland, New Zealand*

Scenarios for Disaster risk Management in large silicic calderas: Taupo Volcanic Zone, New Zealand

Rodrigo Calderon[1], Thomas Wilson[1], Sarah Beaven[1], Graham Leonard[2], Thomas Robinson[1]
[1]*University Of Canterbury, Christchurch, New Zealand,* [2]*GNS Science, Lower Hutt, New Zealand*

Livestock emergency preparedness and response for areas at high risk of volcanic eruptions in Asia and the Pacific

Katinka De Balogh[1], Andrew Sobey[1], Ian Dacre[1], Norma Sofisa Hurif[1], **Gari Mayberry**[2], Christine Jost[3]
[1]*Food And Agriculture Organization Of The United Nations, Bangkok, Thailand,* [2]*U.S. Geological Survey and USAID's Office of U.S. Foreign Disaster Assistance (USAID/OFDA), Washington, United States of America,* [3]*Global Health Support Initiative III, Social Solutions International, supporting USAID's Office of U.S. Foreign Disaster Assistance (USAID/OFDA), Washington, United States of America*

Scientific Contributions for the Development of the Evacuation Plan in the Event of the Eruption of the Misti Volcano in the District of Mariano Melgar (Arequipa)

Ivonne Alejandra Lazarte Zerpa[1], Luisa Macedo Franco[1], Marco Rivera Porras[1], Katherine Vargas Alva[1], John Cruz Igme[1], Samir Barreda[2], Sofia Zapana[2]
[1]*Instituto Geofísico del Peru, Lima, Peru,* [2]*Universidad Tecnologica del Peru , Arequipa, Peru*

Methana Volcano — Parallel Hall

15:00 - 16:00 **S3.03 > Communicating across the science, policy, and user domains: considering relevance, legitimacy, and credibility of communication tools &**
S3.07 > How the arts and humanities can improve warnings of eruptions: innovation in engaging communities at risk Part 2

Conveners:

Carina Fearnley | *University College London, United Kingdom*
Sarah Beaven | *University of Canterbury, New Zealand*
Amy Donovan | *University of Cambridge, United Kingdom*
Micol Todesco | *INGV, Italy*
Karen Holmberg | *New York University, United States of America*
Christopher Kilburn | *University College London, United Kingdom*
Anna Hicks | *University of Cambridge, Cambridge, United Kingdom*

Localizing a Volcano Preparedness Game for Heterogeneous Communities
Isaac Kerlow[1], Gabriela Pedreros[2]
[1]Tropical Media, Los Angeles, United States of America, [2]SERNAGEOMIN, Santiago de Chile, Chile

The medium is the message – Lessons from Japan on visualizing danger
Uta Reichardt[1]
[1]Frau, Reykjavík, Iceland

Planning the respond for the volcanic risk reduction in Colombia
Marta Calvache[1], Maria Luisa Monsalve[2], Adriana Agudelo[3], Diego Gomez[4], Cristian Lopez[2], Gloria Cortes[2]
[1]Colombian Geological Survey - Geohazard Division, Bogota, Colombia, [2]Colombian Geological Survey - Manizales Volcano Observatory , Manizales, Colombia, [3]Colombian Geological Survey - Popayan Volcano Observatory, Popayan, Colombia, [4]Colombian Geological Survey - Pasto Volcano Observatory, Pasto, Colombia

Strategies for Weaving Experience and Expertise of Communities Near and Downstream from Volcanoes into Curriculum: Mount St. Helens and the Toutle River Watershed
Sonja Melander[1], Abigail Groskopf, Gina Roberti
[1]Mount St. Helens Institute, AMBOY, United States of America

Nysiros Volcano — Parallel Hall

15:00 - 16:00 **S2.16 > What do volcano seismo-acoustic signals mean? Part 2**

Conveners:

Társilo Girona | *Jet Propulsion Laboratory, California Institute of Technology, California, United States of America*
Arthur Jolly | *GNS Science, Lower Hutt, New Zealand*
Philippe Lesage | *Université Grenoble Alpes, Université Savoie Mont Blanc, CNRS, IRD, IFSTTAR, ISTerre, Chambéry, France*

A new machine learning-based data assimilation technique to detect volcanic unrest from tremor
Társilo Girona[1], Corentin Caudron[2]
[1]Geophysical Institute, Alaska Volcano Observatory, University of Alaska Fairbanks, Fairbanks, United States of America, [2]Université Libre de Bruxelles, Bruxelles, Belgium

Characterization of the 2021-2022 Great Sitkin dome-building eruption through the inversion of LP seismicity
Kyungmin Kim[1], Társilo Girona[1]
[1]Geophysical Institute, Alaska Volcano Observatory, University Of Alaska Fairbanks, Fairbanks, United States of America

Tornillos as a monitoring tool, what do they mean?

Leonardo van der Laat[1,2,3], Mauricio Mora[2], Javier Pacheco[3], Philippe Lesage[4]

[1]University Of Michigan, Ann Arbor, United States of America, [2]Red Sismológica Nacional, Escuela Centroamericana de Geología, Universidad de Costa Rica, San Pedro de Montes de Oca, Costa Rica, [3]Observatorio Vulcanológico y Sismológico de Costa Rica, Universidad Nacional, Heredia, Costa Rica, [4]Université Grenoble Alpes, Université Savoie Mont Blanc, CNRS, IRD, Université Gustave Eiffel, ISTerre, Savoie, France

Continuous monitoring via Volcano-Independent Seismic Recognition (VI.VSR): outcomes from the VULCAN.ears project

Guillermo Cortés[1], Roberto Carniel[1], **Philippe Lesage**[2], M. Ángeles Mendoza[3], Ivo Della Lucia[3], Francesca Di Luccio[4]

[1]Dipartimento Politecnico di Ingegneria e Architettura, Università degli Studi di Udine, Udine, Italy, [2]ISTerre, Université Savoie Mont Blanc, Université Grenoble Alpes, CNRS, IRD, Université Gustave Eiffel, Grenoble, France, [3]Universidad de Granada, Granada, Spain, [4]Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy

16:30 - 17:00 Break

Thira Volcano — Main Hall

17:00 - 18:30

17.00 – 17.30 CaV Commission Meeting

17.30 – 18.30 S3.02 > Outreach Exchange

18:30 - 20:00 Awards & Closing Ceremony

Cities on
VOLCANOES

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POSTERS

PP001 Forecast of volcanic eruptions and management of the eruptive crisis of the Ubinas volcano, period 2019

Mr. Jose Del Carpio[1], Ms. Luisa Macedo[1], Mr. Roger Machacca[1], Mr. Nino Puma[1], Mr. Riky Centeno[1], Mr. Jose Torres[1], Mr. John Cruz[1], Mr. Jorge Concha[1], Ms. Ivonne Lazarte[1], Ms. Katherine Vargas[1], Ms. Lizbeth Velarde[1]

[1]Instituto Geofisico Del Perú, Arequipa, Peru

PP002 How to remove the seasonal atmospheric effect: An application on a surface temperature at Nisyros volcanic monitoring station, Hellenic Volcanic Arc.

Mr. Konstantinos Hantzis[2], Dr. Antonios Marsellos[1], Prof. Katerina Tsakiri[3], Prof. Konstantinos Kyriakopoulos[2]

[1]Hofstra University, Hempstead, United States of America, [2]National and Kapodistrian University of Athens, Athens, GREECE, [3]Rider University, Lawrenceville, United States of America

PP003 An advanced volcanic hazard evaluation by understanding the atmospheric effect on a surface-temperature: An application at Santorini volcano monitoring station, South Aegean Active Volcanic Arc.

Prof. Katerina Tsakiri[2], Prof. Antonios Marsellos[1], Prof. Konstantinos Kyriakopoulos[3], Mr. Konstantinos Hantzis[3]

[1]Hofstra University, Hempstead, United States of America, [2]Rider University, Lawrenceville, United States of America, [3]National and Kapodistrian University of Athens, Athens, Greece

PP004 Geoscience education in action: A review of an international collaboration between Hofstra University (USA) and European Universities (EU)

Dr. Antonios Marsellos[1], Prof. Konstantinos Kyriakopoulos[2], Prof. Vassilis Sakkas[2], Prof. Panagiotis Papadimitriou[2], Prof. Konstantinos Athanassas[3]

[1]Hofstra University, Hempstead, United States of America, [2]National and Kapodistrian University of Athens, Athens, Greece, [3]National Technical University of Athens, Athens, Greece

PP005 A volcanic hazard evaluation challenge in a low-temperature hydrothermal system: An application to Sousaki volcanic monitoring station, Korinthos, Hellenic Volcanic Arc

Prof. Antonios Marsellos[1], Mr. Konstantinos Hantzis[2], Prof. Katerina Tsakiri[3], Prof. Konstantinos Kyriakopoulos[2]

[1]Hofstra University, Hempstead, United States, [2]National and Kapodistrian University of Athens, Athens, Greece, [3]Rider University, Lawrenceville, United States of America

PP007 Detecting multiscale periodicity from the secular effusive activity at Santiaguito lava dome complex (Guatemala)

Dr. Silvia Massaro[1,2], Dr. Antonio Costa[2], Dr. Diego Coppola[3], Dr. Roberto Sulpizio[1,2], Dr. Anatoly Soloviev[4]

[1]Dipartimento di Scienze della Terra e Geoambientali, Università di Bari, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Bologna, Italy, [3]Dipartimento di Scienze della Terra, Università di Torino, Italy, [4]Geophysical Center / Schmidt Institute of Physics of the Earth, Russian Academy of Sciences, Moscow, Russia

PP008 Styles and patterns of different eruptive cyclicity at Etna inferred by high precision borehole strain-meters data

Dr. Alessandro Bonaccorso[1], Dr. Gilda Currenti[1], Dr. Luigi Carleo[1], Mr. Antonino Sicali[1]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Catania, Italy

PP009 Combining quantitative imaging of volcanic eruptions with pyroclasts microtextures to understand short-term variations in eruptive parameters: the May 2019 explosive activity of Stromboli Volcano (Italy)

Dr. Alessio Pontesilli[1], Dr. Elisabetta Del Bello[1], Daniele Andronico[2], Jacopo Taddeucci[1], Silvio Mollo[3,1], Piergiorgio Scarlato[1]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Roma1, Roma, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Catania - Osservatorio Etneo, Catania, Italy, [3]Università La Sapienza, Roma, Italy

PP010 The ongoing eruption of Nevados de Chillan Volcanic Complex (NChVC) (2016- present): Evidence of linked surface and internal processes in a cyclic and prolonged volcanic eruption.

Geologist, MSc Maria Angelica Contreras[1], geologist Gabriela Pedreros[1], geographer, Mg Maira Figueroa[1], Geologist, MSc Angela Diefenbach[2,3], Geologist, PhD Carlos Cardona[1], Geophysicist, BCs Loreto Córdova[1], Geologist, PhD Alvaro Amigo[1], Chemist, MSc Claudia Bucarey[1], Seismologist Juan Jose San Martin[1], Geologist, PhD Cintia Bengoa[1]

[1]SERNAGEOMIN - Southern Andean Volcano Observatory (OVDAS), temuco, Chile, [2]USGS Cascades Volcano Observatory, Vancouver, United States , [3]Volcano Disaster Assistance Program, United States

PP011 A global database of erupted mass: an important tool for the spatial and temporal quantification of volcanism from 1980-2019

Dr. Federico Galetto[1], Prof. Matt Pritchard[1]

[1]Cornell University, Ithaca, United States

PP012 Spatiotemporal variations of eruptive parameters and styles at Stromboli volcano (Italy) from high frequency thermal imaging.

Dr. Elisabetta Del Bello[1], Jacopo Taddeucci[1], Piergiorgio Scarlato[1], Emilio Falcone[2], Daniele Andronico[3], Danilo Palladino[2], Tullio Ricci[1]

[1]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Roma1, Roma, Italy, [2]Sapienza-Università di Roma, Dipartimento di Scienze della Terra, Roma, Italy, [3]Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Etneo, Catania, Italy

PP013 Magmatic drivers of a 200-year-long high-magnitude explosive flare-up from Mt. Tongariro, New Zealand

Dr. Mirja Heinrich[1], Prof. Shane J. Cronin[2], Associate Prof. Thor H. Hansteen[1]

[1]Geomar Helmholtz Center For Ocean Research, Kiel, Kiel, Germany, [2]School of Environment, The University of Auckland, Auckland, New Zealand

PP014 Naturally occurring potentially toxic elements in groundwater on the flanks of Meru volcano, Arusha, Tanzania

Dr. Ines Tomašek[1,2,9,10], Prof. Hassina Mouri[3], Dr. Antoine Dille[2], Mr George Bennett[4,5], Prof. Prosun Bhattacharya[6], Dr. Natacha Brion[1], Prof. Marc Elskens[1], Dr. Karen Fontijn[7], Prof. Yue Gao[1], Dr. Patrick Gevera[3], Dr. Julian Ijumulana[6], Ms Mary Kisaka[2], Prof. Martine Leermakers[1], Dr. Ceven Shemsanga[4], Prof. Kristine Walraevens[5], Dr. Joanna Wragg[8], Prof. Matthieu Kervyn[2]

[1]AMGC, Department of Chemistry, Vrije Universiteit Brussel, Belgium, [2]FARD, Department of Geography, Vrije Universiteit Brussel, Belgium, [3]Department of Geology, University of Johannesburg, South Africa, [4]Department of Geology, University of Dodoma, Tanzania, [5]Department of Geology, Ghent University, Belgium, [6]KTH Royal Institute of Technology, Sweden, [7]Laboratoire G-Time, Université libre de Bruxelles, Belgium, [8]British Geological Survey, United Kingdom, [9]Laboratoire Magmas et Volcans, Universite Clermont Auvergne, France, [10]Institute de Génétique, Reproduction et Développement, Universite Clermont Auvergne, France

PP015 In vitro lung bioaccessibility of potentially toxic elements in volcanic ash using simulated lung fluid extraction

Dr. Ines Tomašek[1,2,8,9], Prof. Martine Leermakers[1], Dr. David Damby[3], Dr. Carol Stewart[4], Prof. Claire Horwell[5], Dr. Christopher Ottley[6], Prof. Pierre Delmelle[7], Dr. Geoff Plumlee[3], Dr. Suzette Morman[3], Prof. Matthieu Kervyn[2], Prof. Marc Elskens[1], Prof. Philippe Claeys[1]

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PP016 Legal issues associated with the provision of personal protective interventions (facemasks) to reduce exposure to ash during eruptions

Dr. Fiona McDonald[1], **Prof. Claire J. Horwell**[2]

[1]Faculty of Law, Queensland University Of Technology, Brisbane, Australia, [2]Department of Earth Sciences, Durham University , Durham, Australia

PP017 Potential sources and release of fluoride from volcanic deposits along the slopes of Mount Meru, Northern Tanzania

Ms. Mary Kisaka[1,2], Dr. Ines Tomašek[1,3,4,5], Prof. Karen Fontijn[6], Dr. Ceven Shemshanga[2], Mr. George Bennett[2,7], Mr Wilson Mahene[8], Mr. Jean-Luc Devidald[4], Prof. Kristine Walraevens[7], Prof. Pierre Delmelle[9], Prof. Matthieu Kervyn[1]

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PP018 Development and Status of Active Volcano Monitoring in China

Dr. Bo Pan[1], Prof. Guoming Liu[2], Prof. Tao Cheng[3]

[1]Institute Of Geology, China Earthquake Administration, Beijing, China, [2]Changbaishan Volcano Observation, Antu, China, [3]National Geomatics Center of China, Beijing, China

PP020 Dynamical state characterization of Ischia Volcanic Island (Italy) through the analysis of seismicity and ground tilt patterns

Dr. Paola Cusano[1], Dr. Simona Petrosino[1], Dr. Enza De Lauro[2], Dr. Mariarosaria Falanga[2], Dr. Ciro Ricco[1], Dr. Ida Aquino[1]

[1]INGV-Sezione di Napoli 'Osservatorio Vesuviano', Naples, Italy, [2]Università degli Studi di Salerno, DIEM, Fisciano, Italy

PP021 Towards a machine leaning and semantic approach to seismic events in volcanic areas

Prof. Mariarosaria Falanga[1], Prof. Sabrina Senatore[1]

[1]Salerno University, dept. Ingegneria dell'Informazione ed Elettrica e Matematica applicata/DIEM, Fisciano, Italy

PP022 A deep investigation of medium and long period tidal effects in tiltmetric time series

Mrs. Enza De Lauro[1], Dr Simona Petrosino[2], Dr. Ciro Ricco[2], **Prof. Mariarosaria Falanga**[1]

[1]Salerno University, Fisciano, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Napoli – Osservatorio Vesuviano, Naples, Italy

PP023 A study on the interplay between seismicity and deformation over tidal scales in volcanic areas

Prof. Salvatore De Martino[1], **Prof. Mariarosaria Falanga**[1], Prof. Enza De Lauro[1], Dr. Simona Petrosino[2]

[1]Salerno University-Dipartimento di Ingegneria dell'Informazione ed Elettrica e Matematica applicata/DIEM, Fisciano, Italy, [2]Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Napoli – Osservatorio Vesuviano , Naples, Italy

PP024 Monitoring of the Mount Vesuvius using tiltmeters: Tilt pattern inferred by surface and borehole tiltmetric data.

Dr. Ciro Ricco[1], Dr. Ida Aquino[1], Dr. Simona Petrosino[1]

[1]INGV-OV, Naples, Italy

PP025 Investigations on a Possible Relationship between Ground Deformation and Seismic Activity at Campi Flegrei caldera (Southern Italy)

Dr. Simona Petrosino[1], Dr. Ciro Ricco[1], Dr. Ida Aquino[1], Prof. Mariarosaria Falanga[2]

[1]INGV, Sezione di Napoli - Osservatorio Vesuviano, Naples, Italy, [2]Università di Salerno, Dip. di Ingegneria dell'Informazione ed Elettrica e Mat. applicata/DIEM, Fisciano, Italy,

PP026 Long-term patterns of unrest before eruption at large calderas

Prof. Christopher Kilburn[1,2], Dr Stefano Carlino[2], Dr Nicola Alessandro Pino[2]

[1]UCL Hazard Centre, Department of Earth Sciences, University College London, London, United Kingdom , [2]INGV Osservatorio Vesuviano, Naples, Italy

PP027 The growth of the Methana Volcano within the Epidavros tectonic graben in the western Saronikos gulf, Aegean Sea

Ms. Danai Lampridou[1], Paraskevi Nomikou[1], Dimitrios Papanikolaou[1], Haase Karsten[2], Christoph Beier[3]

[1]Faculty of Geology and Geoenvironment, National and Kapodistrian University of Athens, Athens, Greece, [2]GeoZentrum Nordbayern, Friedrich-Alexander Universität Erlangen-Nürnberg, Erlangen, Germany, [3]Department of Geosciences and Geography, University of Helsinki, Helsinki, Finland

PP029 Fluid migrations and volcanic earthquakes from depolarized ambient noise

Dr. Simona Petrosino[1], Prof. Luca De Siena[2]

[1]*INGV, Sezione di Napoli - Osservatorio Vesuviano, Naples, Italy,* [2]*Institute of Geosciences, Johannes Gutenberg University, Mainz, Germany*

PP030 Seismological temporal patterns at Mefite d'Ansanto CO_2 emission field in the frame of FURTHER multidisciplinary project

Dr. Simona Morabito[1], Dr. Lucia Nardone[1], Dr. Simona Petrosino[1], Dr. Paola Cusano[1]

[1]*Istituto Nazionale Di Geofisica E Vulcanologia, Sezione Di Napoli - Osservatorio Vesuviano, Naples, Italy, Naples, Italy*

PP031 Inversion of seismological datasets to retrieve stress fields in volcanic environments

Dr. Bruno Massa[1], **Dr. Luca D'Auria**[2]

[1]*Università Degli Studi Del Sannio, Benevento, Italy,* [2]*Instituto Volcanológico de Canarias (INVOLCAN) - Instituto Tecnológico y de Energías Renovables (ITER), Environmental Research Division, Santa Cruz de Tenerife, Spain*

PP033 Livelihoods, wellbeing and their role in evacuation behaviour: a global analysis

Prof. Jenni Barclay[1], Prof Few Roger[1], Dr M. Teresa Armijos[1], Dr Jerry Phillips[2], Prof Richie Robertson[5], Prof David Pyle[3], Dr Anna Hicks[4], Dr Sarah Brown[2]

[1]*University Of East Anglia, Norwich, United Kingdom ,* [2]*University of Bristol, Bristol, United Kingdom,* [3]*University of Oxford, Oxford, United Kingdom,* [4]*British Geological Survey, Edinburgh, United Kingdom,* [5]*Seismic Research Centre, University of the West Indies, Trinidad*

PP034 "Ballista": an open source simulator of ballistic projectile transport

Dr. Kae Tsunematsu[1], Ms. Nanami Sugishita[1], Mr. Yuta Abe[1], Prof. Masao Ban[1]

[1]*Yamagata University, Yamagata, Japan*

PP035 Contrasts in volcanic risk perception and protection behaviour among Goma population before the Nyiragongo eruption of May 2021

Mr. Blaise Mafuko Nyandwi[1,2,3], Prof. Matthieu Kervyn[2], Dr. Muhashy Habiyaremye[1], Dr. François Kervyn[3], Dr. Caroline Michellier[3]

[1]*Geology department, Université de Goma , Goma, Democratic Republic of Congo,* [2]*Geography department, Vrije Universiteit Brussel , Brussels, Belgium,* [3]*Earth Sciences department, Royal Museum of Central Africa , Tervuren, Belgium*

PP036 Stability analysis of touristic lava tube to reduce the social risk on the Santa Cruz population: case study El Mirador.

Ing. Guido Javier Rodríguez Paredes[2], **Dr. Luis Jorda-Bordehore**[1], Dr. Maurizio Mulas[2], Ing. Erwin Larreta[2], Ing. Angel Amable Yánez Vinueza[3], Ing. Mishel Tatiana García - Vela[2], Dra. Paola Leonor Romero Crespo[2]

[1]*Universidad Politécnica De Madrid, Madrid, Spain,* [2]*Escuela Superior Politécnica del Litoral, ESPOL, Guayaquil, Ecuador,* [3]*Alcaldía, Santa Cruz (Galápagos), Ecuador*

PP037 Analysing end-to-end warnings for recent eruptions using the WMO World Weather Research Programme's Value Chain Approach

Dr. Andrew Tupper[1,2], Dr Elizabeth Ebert[2], Dr David Hoffmann[2], Dr Carla Mooney[2], Dr Sally Potter[3], Dr Brian Golding[4]

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PP038 Perceived risk vs. objective risk: understanding the gap to minimize it

Prof. Pierfrancesco Dellino[1], **Dr. Anna Rinaldi**

[1]*University Of Bari, Bari, Italy*

PP041 An integrated acoustic and thermal characterization of explosive activity at Batu Tara volcano (East Sunda Arc, Indonesia)

Dr. Laura Spina[1], Dr. Elisabetta Del Bello[1], Dr. Tullio Ricci[1], Dr. Jacopo Taddeucci[1], Dr. Piergiorgio Scarlato[1]

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PP044 The July-August 2019 paroxysmal eruptions at Stromboli (Italy) and their geophysical precursors

Dr. Flora Giudicepietro[1], Prof. Carmen López[2], Dr. Giovanni Macedonio[1], Dr. Salvatore Alparone[3], Dr. Francesca Bianco[1], Dr. Sonia Calvari[3], Dr. Walter De Cesare[1], Dr. Dario Delle Donne[1], Dr. Bellina Di Lieto[1], Dr. Antonietta Esposito[1], Dr. Massimo Orazi[1], Dr. Rosario Peluso[1], Dr. Eugenio Privitera[3], Dr. Pierdomenico Romano[1], Dr. Giovanni Scarpato[1], Dr. Anna Tramelli[1]

[1]*Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Vesuviano, Napoli, Italy,* [2]*Observatorio Geofísico Central, Instituto Geográfico Nacional (IGN), Madrid, Spain,* [3]*Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Etneo, Catania, Italy*

PP045 The Effect of the 2019 Eruption on the Island of Stromboli (Aeolian Islands UNESCO Site, Italy)

Dr. Agnese Turchi[1], Dr. Federico Di Traglia[2], Dr. Tania Luti[3], Dr. Davide Olori[4], Prof. Iacopo Zetti[5], Prof. Riccardo Fanti[3]

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PP046 The solphataric activity at La Fossa Crater of Vulcano investigated by 30 years of geochemical and geophysical data

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PP049 Numerical simulation of the generation and propagation of tsunami waves at Stromboli: comparison with data recorded during the July 3rd 2019 event, production of databases, and extension to the Southern Tyrrhenian Sea

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PP051 Preliminary ash-leachates from some recent eruptions of Stromboli volcano

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PP052 Acoustic signal analysis from different phases of the 2021 Cumbre Vieja eruption

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PP053 Machine Learning for monitoring changes in eruptive activity: application to Stromboli Volcano (Italy)

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PP055 Imaging the Upper Mantle of Cumbre Vieja through Receiver Functions Analysis

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PP056 Continuous measurement of carbon isotopic composition in soil gas CO2 at Cumbre Vieja volcano: a new challenge in volcano monitoring

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PP057 Monitoring study of the Cumbre Vieja eruption (La Palma, Canary Islands) using electromagnetic methods

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PP058 Long-term variations of diffuse CO2 at Cumbre Vieja volcano, La Palma, Canary Islands, related with the 2021 eruption

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PP059 Geochemistry of ash leachates during the 2021 eruption of Cumbre Vieja volcano, La Palma, Canary Islands

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PP060 SO2 flux measurements of the Fagradalsfjall eruption plume in Iceland 2021 by mobile DOAS in a light aircraft

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PP061 Erasing the Past: Survival Dynamics and Zoning of Plagioclase in Magma

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PP062 Magma storage conditions prior to the largest known plinian eruption of Cerro Machin volcano, Colombia

Ms. Silvia Castilla Montagut[1], Makayla Etheredge[1], Dr. Megan Newcombe[1]

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PP063 An extended rheological map of pāhoehoe - 'a'ā transition

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PP064 Rheology of bubble-bearing magmas: an experimental study

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PP065 A Record of Magmatic Differentiation and Post-cumulus Processes in Plutonic Xenoliths From Santorini Volcano (Greece)

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PP067 Records of magmatic processes during the 2013-17 eruption at Volcán de Colima, Mexico: Insights from mineral chemistry and textures

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PP068 Temporal geochemical variation of arc magma -link to flank collapse?-

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PP069 Paleomagnetic dating of prehistoric lava flows from the urban district of Catania (Etna volcano, Italy)

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PP071 The isolated Tapias dome and its relation to the dacitic, highly explosive, Cerro Machín volcano in Colombia

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PP073 Tephrochronostratigraphy in marine and terrestrial sediments of New Zealand: Benchmark for Miocene to Quaternary explosive volcanism

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PP075 Refining the Holocene eruptive activity at Tenerife (Canary Islands): The contribution of palaeomagnetism

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PP076 How does a pre-existing conduit affect decompression rates of a subsequent eruption? A case study of the Bandelier Tuff.

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PP077 Determination of cooling rates of glasses over four orders of magnitude

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PP078 From A-type granitoids to voluminous pyroclastic deposits: genetic links in the Permian rift-related magmatism of the Tisza Mega-unit (Carpathian–Pannonian region)

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PP079 Pre-eruptive storage conditions and magmatic evolution of the Bora-Baricha-Tullu Moye volcanic system, Main Ethiopian Rift

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PP080 New 40Ar/39Ar geochronological constraints on the Debed lavas, Armenia - the smallest and youngest flood basalt province?

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PP081 Japan Volcanological Data Network

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PP082 Towards a Systematization of Stratovolcanos Geological Mapping in Colombia

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PP083 A Rock repository like a museum: recent experiences on digitization and data management carried out in the framework of European Research Infrastructure.

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PP084 Organizing volcanoes and eruptive events using the Smithsonian's Global Volcanism Program database system

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PP086 The role of Volcano Observations Thematic Core Service (VO-TCS) Gateway: a technical approach to the implementation of the EPOS pan-European infrastructure

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PP087 CVGHM Volcano Monitoring Data Management System

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PP088 Transforming Volcano Monitoring Data into Public Information

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PP089 Homogenization and Integration Volcano Monitoring Data into WOVOdat

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PP090 Services providing access to volcanological data and products at the Icelandic Volcano Observatory

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PP091 The Smithsonian/USGS Weekly Volcanic Activity Report: Communication challenges and possible solutions based on more than 20 years of reporting on worldwide volcanic activity

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PP092 Petrological monitoring of active volcanoes: a review of existing procedures to achieve best practices and operative protocols during eruptions

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PP093 New Risk Insights from Reimagining Old Volcanic Crises

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PP095 Risk Analyses during Campi Flegrei volcanic emergency excercise

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PP096 The forgotten eruption: the basaltic scoria cone of Montaña Grande, Tenerife

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PP097 Changing hazard awareness over two decades: the case of Furnas village, São Miguel (Azores)

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PP098 Global reporting for situational awareness of volcanic activity and impact

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PP099 Integrated Volcano Early Warning Systems: Reconceptualizing as a Complex Adaptive System of Communication Networks

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PP100 Lessons learned from volcanic crisis exercises: surveys and formulation of a prototypal questionnaire

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PP101 The last explosive eruption of La Primavera caldera, Jalisco, Mexico

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PP102 The history of Ludovico Sicardi and the birth of geochemical volcano monitoring

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PP103 Assessment of bioavailable trace and ultratrace metals in the volcanic soils of Mt Etna area: mobility and exposure pathways

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PP104 CO2 fluxes in acidic and alkaline volcanic lakes

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PP105 The CO2 flux values during and post of the unrest phase (2011-2012) at Nea Kameni (Santorini)

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PP106 Flux measurements of gaseous elemental mercury (GEM) in the hydrothermal area of Monterotondo Marittimo (Grosseto, Italy)

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PP108 Wavelet analysis of a long term time series of continuous CO2 flux measurements at the summit cone of Teide volcano, Tenerife, Canary Islands

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PP110 Environmental factors controlling diffuse CO2 emission rates from Cumbre Vieja Volcano, La Palma, Canary Islands

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PP111 Vulnerability and resilience of rural communities to volcanic hazards in the Virunga Volcanic Province (Democratic Republic of Congo)

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PP112 Multi-hazard assessment in a quiescent volcanic area: The case study of Lake Pavin (France) and its surroundings

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PP113 Environmental effects and potential impact on human health caused by the recent Nyiragongo eruption (Democratic Republic of Congo)

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PP114 Diffuse CO2 degassing in continental rift volcanoes: a case study of the Greater Olkaria Volcanic Complex, Kenya

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PP115 The impact of Mt. Etna volcanic emissions on the atmospheric deposition: developments and improvements during three decades of studies

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PP116 Dangerous CO_2 emissions in La Bombilla village after the end of Cumbre Vieja 2021 volcanic eruption (La Palma, Canary Islands, Spain)

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PP117 Duvalo "volcano" (North Macedonia): a tectonic-related CO2 degassing system

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PP118 Mapping the Erupted Products by using high-resolution Drone image: the case of the 3 July 2019 paroxysm at Stromboli

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PP119 Observation from ground to space of the evidence of thermal anomalies at Vulcano Island

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PP120 Volcanic ash cloud elevation and velocity from Pléiades satellite: application to the July 2019 Ubinas Eruption (Southern Peru) during the activation of the International Charter " Space and Major Disasters".

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PP122 Tephra Cone Morphology and Erosion inside Okmok's Caldera

Mr. Jasper Baur[1], Dr. Einat Lev[1], Mr. Nick Frearson[1], Dr. Terry Plank[1], Dr. Max Kaufman[2], Mr. Pablo Saunder-Shultz[2], Dr. Skye Kushner[2], Dr. Tarsilo Ginora[2]

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PP123 Ten years of morphological changes at Mt. Etna by using airborne LiDAR and Pleiades satellite data

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PP125 Volcanic surfaces characterization using hyperspectral data from field measurements and satellite acquisitions

Dr. Laura Colini[1], Dr. Fawzi Doumaz[1], **Dr. Claudia Spinetti**[1], dr Francesco Mazzarini[2], dr Valerio Lombardo[1], dr Malvina Silvestri[1], dr Massimo Musacchio[1], dr Stefania Amici[1], dr Maria Fabrizia Buongiorno[1]

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PP126 Immersive Virtual Reality as a novel tool for geological mapping and data collection in active tectonics and volcano-tectonics: key examples from Iceland and Santorini

Dr. Fabio Luca Bonali[1,2], Prof. Alessandro Tibaldi[1,2], Prof. Federico Pasquaré Mariotto[3], Dr. Fabio Vitello[4], Mrs. Elena Russo[1,2], Dr. Fabio Marchese[1], Prof. Paraskevi Nomikou[5], Dr. Varvara Antoniou[5], Mr. Luca Fallati[1], Dr. Alessandra Savini[1], Dr. Ugo Becciani[4]

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PP127 Atlas of Italian Submarine Volcanic Structures

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PP128 Understanding the submarine geomorphic characteristics, with focus on landslides, along the Continental Slope of Western Costa Rica

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PP129 Nanosized Fe-sulfides from the As-rich, shallow-sea hydrothermal sediments of Milos, Hellenic Volcanic Arc, Greece

Dr. Electra Kotopoulou[1], Dr. Joerg Göttlicher[2], Dr. Ralph Steininger[2], Prof. Roy Price[3], Prof. David Fike[4], Prof. Jan Amend[5], Prof. William Gilhooly III[6], Prof. Gregory Druschel[6], **Prof. Paraskevi Nomikou**[1], Prof. Athanasios Godelitsas[1]

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PP130 The volcanic relief within the Kos-Nisyros-Tilos tectonic graben at the eastern edge of the Aegean volcanic arc

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PP131 Detailed Bathymetry of the Paphsanias volcanic field and environs, Saronic Gulf

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PP132 Use of 3D printers to improve mounting and polishing techniques for melt inclusions

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PP133 Mapping and monitoring of regional shallow submarine hydrothermal system

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PP134 UASs in the VOG/edge/FOG sensor web environment

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PP136 VIGIA: A thermal and visible imagery system to track volcanic explosions

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PP137 Investigating Mobile Chalcophile Element Slab Fluxes in the Eastern and Western Sectors of the Trans Mexican Volcanic Belt

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PP138 Smart seismic instrumentation for volcanic networks

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PP139 Preliminary results from the first regional seamounts characterization in Southeast Asia: A hazard perspective

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PP140 The PRE-COLLAPSE project: A holistic, shoreline-crossing approach to identify precursory signals of flank collapse at coastal and ocean island volcanoes

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PP141 Pedagogical and Technical Approaches to Virtual Field Trips at Mount St. Helens

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PP142 3D modeling of the South-East Crater: how did it become the new peak of Etna?

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PP143 Muography for geological hazard assessment in the south Aegean active volcanic arc (SAAVA)

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PP144 Post-Caldera Eruptions at Chalupas Caldera, Ecuador

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PP145 Statistical analysis of summit eruptions at Mount Etna (Italy)

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PP146 The impact of atmospheric vertical velocity in the deposition of volcanic ash proximal to the vent

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PP148 Analysis of model sensitivity to improve lava flow hazard assessment

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PP149 The first Volcanic Hazard Map of Sumaco Volcano

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PP150 Understanding thermal infrared cameras: retrieving source brightness temperature from volcanic monitoring centres data

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PP151 Characterizing and quantifying the 2021 eruptive activity at Mt Etna through multi-source satellite imagery

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PP152 Toward the evaluation of the completeness of the volcanic records in the Mediterranean area

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PP155 Disaster preparedness behavior and Information-seeking habits among residents vulnerable to Taal Volcano hazards in Barangay Gulod, Laurel, Batangas, Philippines

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PP156 Community-based volcano evacuation drill: The case of selected lakeshore municipalities of Taal Caldera, Philippines

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PP157 Building Relationships Between Scientists and Journalists: A Model for Improving Hazards Communication

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PP159 Perceptions of social support after a volcanic eruption

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PP160 Strengthening the Resilience of the Municipalities of Tenerife and La Palma (Canary Islands) to Reduce Volcanic Risk

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PP161 Enhancing community resilience through interdisciplinary research and practice

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PP162 Assessing the knowledge and attitude of the population to volcanic risk: The case of the city of Goma, Eastern DR Congo

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PP163 Using site analytics from multiple platforms to identify engaging content from the Global Volcanism Program and plan effective educational campaigns

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PP164 The efforts of the Smithsonian/USGS Weekly Volcanic Activity Report editors to make official volcanic activity information sources more accessible

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PP165 Water transport for managing disasters: insights from the remote and touristic Patagonian lakes, Argentina

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PP166 Monitoring in figures. Infographic and scribing video introducing INGV operations rooms

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PP168 Correlating the proximal and distal stratigraphy of the Campanian Ignimbrite

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PP169 Insight into dynamics of the 1883 Krakatau pyroclastic density currents from field observations and numerical modelling

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PP170 Deposit-derived block-and-ash flows: the hazard posed by perched temporary tephra stores on volcanoes, 2018 Fuego disaster, Guatemala

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PP171 Capturing the dynamics of pyroclastic density currents using a multi-parameter weather radar

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PP172 Computational fluid dynamic simulations of experimental and natural granular flows: first insights on the flow-wall interaction dynamics

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PP173 Using remote impact assessment to interpret unconfined pyroclastic density current dynamics

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PP174 In situ observation of volcanic ash concentrations at the Sakurajima volcano

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PP175 Measuring physical load required for removal of volcanic ash on roofs

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PP179 Laboratory tests to investigate tephra sliding on roofs

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PP180 SIGMA4DRR: A new toolkit for the collection of pre- and post-disaster data in multi-hazard volcanic environments for disaster risk reduction

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PP181 Farmers' perceptions of agriculture damage by the 1999-2014 eruptions of Tungurahua volcano, Ecuador, reveal the importance of tephra grain size, crop development stage and site-specific factors for assessing crop vulnerability to tephra hazard

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PP182 Fractional degassing of basalt on the Bárðarbunga rift-zone, Iceland

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PP183 Multi-parametric field experiment links explosive activity and persistent degassing at Stromboli

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PP185 SO2 flux at Stromboli during the summer 2019 unrest

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PP186 Gas dispersal model validation at Solfatara crater (Campi Flegrei, southern Italy)

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PP187 Numerical modelling of the volcanic emissions dispersion from La Soufrière de Guadeloupe

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PP188 Kīlauea's fissure 8 produced highly vesicular pyroclasts from a low lava fountain

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PP190 High resolution seismic-waveform tomography of the Santorini volcano

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PP192 Syn-eruptive processes during the January-February 2019 ash-rich emissions cycle at Mt. Etna (Italy): implications for petrological monitoring of volcanic ash

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PP193 Characteristics and formation of glazed pyroclasts produced by fountaining during the 2021 Fagradalsfjall Eruption, Iceland

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PP194 Real time hazard mapping system 'SSDM'

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PP195 Eruptive scenarios of Cerro Bravo volcano, Colombia: strategies to include the hazard assessment for long repose period volcanoes, in a risk management plans.

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PP196 New perspectives on the hazard by lava flow invasion at Mount Etna volcano through the spatial and temporal elaboration using a GIS-based approach

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PP197 Emplacement of dyke swarms in regions of multiple caldera collapses: the case study of Santorini volcano, Greece

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PP198 Tephrochronological study of the lacustrine succession of the Castiglione maar (Central Italy) and evaluation of the possible impact on the climate of the explosive eruptions of the peri-Tyrrhenic volcanoes

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PP199 Towards a rapid tephra fallout building impact assessment using unmanned aerial vehicles and computer vision

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PP201 Flowability measurements and rheological investigations of volcaniclastic debris flows

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PP202 On a Cretaceous cauldron in Korea : the Changwon Cauldron

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PP203 Bridging the gap between submerged and continental infill at Campi Flegrei caldera: insights on the offshore caldera structure, and its evolution in the last 40 kyr

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PP204 Geophysical constraints on the structural control of monogenetic volcanism in the Chichinautzin field, near México City

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PP205 Transitional submarine-to-subaerial volcanism in the South Aegean volcanic centres

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PP209 Volcanoes of Bioko Island (Equatorial Guinea) - A structural inventory derived from synthetic aperture radar data

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PP210 Seismic Activity of the Ceboruco Volcano, Mexico

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PP211 Hazard assessment from statistical analysis of recent explosive events for Popocatépetl volcano

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PP212 The New Seismic Network at Ceboruco Volcano, Mexico.

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PP213 Volcanic eruptions with little warning: the case of the 1793 eruption of San Martin Tuxtla volcano (Veracruz, Mexico)

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PP214 Growth process and partial destruction of the lava dome at Sabancaya volcano

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PP215 Application of a process-based model of pre-eruptive seismic patterns to the open system volcano Ubinas

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PP216 Towards an Early Warning System for Paroxysms @Stromboli (Italy)

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PP217 Volcanic ash monitoring and progress towards a semi-automatic classication of particles

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PP218 Thermal monitoring for Sangay's 2019 eruptive process: A great tool for the identification of morphological changes during ongoing eruptive processes

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PP219 Seismic velocity changes from ambient noise interferometry to monitor Mt. Etna intrusions.

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PP220 Towards a global volcanic activity alerting system based on Interferometric Synthetic Aperture Radar

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PP221 Surface deformation monitoring from Sentinel data in Cayambe Volcano, Ecuador

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PP222 The NASA-JPL Volcano Sensor Web (VSW): The Next Iteration

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PP223 Exploring dynamical systems approach for the study of seismo-volcanic data

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PP224 Signaling for Volcanic Emergencies

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PP225 Hazard and resource potential of modern sea-floor massive sulfide formation at the Kolumbo submarine arc-volcano (Santorini)

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PP226 Challenge to build up training program of the human resource development for volcanic disaster management officers in JAPAN

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PP227 Popularisation of geoscience to citizens using the immersive virtual reality: methods and comments from the 2019 MEETmeTONIGHT event, Milan, Italy

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PP228 Volcanic risk communication through community stories transmitted by radio

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PP230 Tsunami escape times and vulnerability of shelter zones at Stromboli: a multirisk approach

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PP231 Public Perceptions of Volcanic Hazards and Risk in Australia

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PP232 Lahar hazard and risk perception and behavior of inhabitants in communities within the northern flank of Rincón de la Vieja Volcano

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PP233 Geoscience Outreach and Education in Rural Settings as a Pathway to Create Hazard Awareness

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PP237 The Geoheritage Potential of the Macolod Corridor, Calabarzon Region, Philippines: A Preliminary Geosite Inventory

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PP238 Highlight the volcanic environment of Nisyros using Story maps

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PP240 Canteras de Añashuayco geosite for geohazard resilience in local communities of Arequipa

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PP241 Risky business: tourist's behaviour in volcanic environments

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PP242 Volcanic tourism in the Galapagos

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PP243 Using geotourism as a tool for empowering local communities and educate conservation of nature

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PP244 Tourism in active volcanoes: Can we really reduce the risk in such areas?

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PP245 On the volcanic provenances of prehistoric obsidian artifacts in South Korea

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PP246 Multidisciplinary surveys to assess impacts and explore settlements buried by the 1600 CE Huaynaputina eruption

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PP247 A preliminary review and evaluation of historical unrest and eruptive activity at Misti volcano, Arequipa, Peru

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PP248 Geological Study of the Main Sites under the Eruption of 1600 A.D. of the Huaynaputina Volcano

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PP249 Understanding the 1948-1949 and December 1951 eruptions of Hibok-hibok Volcano: Oral History

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PP250 The 1965 Taal Volcano Eruption: Reconstructing the Event through Oral Accounts

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PP251 Historical hydrothermal explosive activity at Milos Island, Greece

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PP252 High sensitivity of tephra fall building damage estimates to varying modelling inputs: case study at Kelud volcano, Indonesia

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PP253 Volcanic hazards assessment and petrological insights of Murta basalts, Aysen region, Southern Chile

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PP254 Assessing hazard and potential impact associated with volcanic ballistic projectiles: the example of La Soufrière de Guadeloupe volcano (Lesser Antilles)

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PP255 Large uncertainty associated with frequency-magnitude relationships for volcanoes in Southeast Asia

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PP256 Scenario-based hazard maps for the volcanoes of Turkey

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PP257 Exposure of roads to volcanic ash from a future eruption from Mount Fuji, Japan: Implications for evacuation and clean-up

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PP258 Volcanic risk outreach and indigenous communities: what are our shortcomings? Lessons and challenges from Copahue volcano

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PP259 The Growing Danger of Cities Around Volcanoes: Changes in City Size, Shape and Orientation Between 1975 and 2015

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PP260 Towards understanding volcanic risk in low data environments: tephra fall hazard and exposure analysis at Corbetti Volcano, Ethiopia

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PP261 The role of fissure eruptions and their volcanic hazard implication of the Pliocene/Quaternary Arxan-Chaihe Volcanic Field (ACVF), NE China

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PP262 Volcanic fissure eruption dynamics: A case study of the Budj Bim Volcanic Complex, Australia

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PP263 Post-fragmentation melt removal and agglutination of pyroclasts during the explosive eruption of low viscosity magmas

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PP264 Clastogenic spatter piles and flows during the early stages of the 2021 La Palma eruption and the change in lava flow hazard assessment.

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PP265 Comparative study of three recent monogenetic fissure eruptions in Central Mexico

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PP266 Determining the vertical scale in videos of fissure eruptions from gravitational acceleration of single clasts at their zenith

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PP267 Paper volcanoes Lab a way to engage early childhood and primary school children on Earth Science in Africa

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PP268 Virunga Volcano Museum (DRCongo): is it an appropriate raising awareness tool?

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PP269 Can we use serious games to raise awareness on volcanic hazard and reduce the risk? Case study from Goma (DRCongo)

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PP271 Metaxa Mine: A unique volcanic geoheritage

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PP273 Unmanned Aerial Vehicles time-lapse monitoring of the Varano plateau (Southern of Vesuvius): the case study of roman Villa Arianna

Dr. Renato Somma[1], Dr Alfredo Trocciola[2], Dr Alessandro Fedele[1], Dr Daniele Spizzichino[3], Dr Fabio Matano[4], Dr Giuseppe De Natale[1], Dr Claudia Troise[1], Dr Maria Cristina Napolitano[5]

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PP274 GeoGirls Rocks! Hazards-based outdoor program at Mount St. Helens encourages and supports the next generation of scientists.

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PP275 Alternative Learning Sessions in Earth Science for Homeschools at the NIGS Geology Museum

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PP278 The Omaira Sanchez Commemorative Park: A New Scientific Communication Strategy for the Social Appropriation of Geocientific Knowledge In Colombia

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PP279 Bringing Volcano Seismology at School: the Scholar Seismic Network of Canary Islands (Spain)

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PP280 Geological Heritage in the Huaynaputina Volcano: A Tool for Resilience and Geoconservation

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PP281 Overcoming the obstacles of teaching volcanology in Brazil: an experience from the «Volcanoes and Trips» Project in the social media

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PP282 The experience to take the knowledge of volcanology for Brazilian public schools through the «Volcanoes and Trips» Project

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PP283: Insights into lava dome and spine extrusions using analogue sandbox experiments

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PP284 Laboratory modelling of sliding process along submarine slopes: application to the western offshore of Montagne Pelée volcano, Martinique Island, Lesser Antilles arc

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PP285 The Hidden Giant: How a rift pulse triggered a disaster cascade of sector collapses and voluminous secondary mass-transport events in the early evolution of Santorini

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PP286 Evolution of Surface Deformation on Mt. Etna after the December 2018 Eruption based on Interferometric Synthetic Aperture Radar (InSAR) Time-Series Analysis using Small Baseline Subset (SBAS) Method

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PP288 Volcano-deformation monitoring and modelling during prolonged periods of low surface activity: twelve years of slow inflation at Soufrière Hills volcano, Montserrat

Dr. Karen Pascal[1,2], Dr. James Hickey[3], Mr. Alexander Johnson[3], Dr. Nicolas Fournier[5], Dr. Sigrun Hreinsdottir[4], Prof. Jo Gottsmann[5], Dr Ben Williamson[3], Mr Racquel Syers[1], Mr. Jordan Seyedi[6]

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PP289 Flank spreading at Kīlauea leads to periodic dike intrusions

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PP290 On InSAR analysis of Pico Volcano, Azores: limits and perspectives of space geodesy

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PP291 Reconciling volcanic deformation, degassing and petrological data using thermodynamic models

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PP293 Evaluation of the Historical Eruption of Mt. Baekdu Volcano, Korea

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PP296 Drama and reassurance in warnings of eruptions

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PP297 Exploring a volcano in New York City: the New York Virtual Volcano Observatory

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PP298 Opening up citizen science: the importance of methodological interconnections and multi-dimensionality

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PP299 35 Years of the Eruption of the Volcano Nevado Del Ruiz: The Role of VDAP in Volcano Monitoring In Colombia

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PP300 Detecting sources of shallow tremor at neighboring volcanoes in the Virunga Volcanic Province using seismic amplitude ratio analysis (SARA)

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PP301 Determination of magma residence times in historic and pre-historic eruptions of Galeras volcano, Colombia using plagioclase phenocrysts: A contribution to the hazard assessment.

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PP302 Kinetic partitioning of major and trace cations between clinopyroxene and phonotephritic melt under convective stirring conditions: New insights into clinopyroxene sector zoning and concentric zoning

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PP303 Effusive-explosive transitions of water-undersaturated magmas: Methana Volcano, South Aegean Arc

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PP304 Inferences on the feeding system at Stromboli volcano (Italy) from trace elements geochemistry of the matrix glasses

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PP305 The highly explosive past of Stromboli (Italy): new insights from the volcanic succession of "La Petrazza"

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PP306 Undersea Mapping of Hunga Tonga-Hunga Ha'apai volcano

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PP307 Ash hazard characterisation and development of messaging for the 15 January 2022 eruption of Hunga volcano, Tonga

Dr. Carol Stewart[1], Taaniela Kula, Dr Graham Leonard, Professor Shane Cronin, Professor Thomas Wilson, Dr Richard Wysoczanski, Grace Frontijn-Rollett, Dr Matt Ashworth, Professor Claire Horwell, Dr Siautu Alefaio-Tugia[1], Emeline Afeaki-Mafile'o, Matt Luani, Dr Shaun Williams

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PP308 Alteration processes and biogeochemical cycles: Insights on the current hydrothermal system of Deception Island (Antarctica)

Mr. Oriol Vilanova[1], Ms. Raquel Arasanz[2], Dr. Helena Albert[1], Dr. Adelina Geyer[2], Dr. Meritxell Aulinas[1], Dr. Jordi Ibañez-Insa[2], Mr. Antonio Polo-Sánchez[3], Dr. Antonio Álvarez-Valero[3], Dr. Olga Prieto-Ballesteros[4]

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PP309 Ambient noise tomography of La Palma island (Canary Islands) for geothermal exploration

Mr. Iván Cabrera-Pérez[1], Dr. Luca D'Auria[1,2], Dr. Jean Soubestre[3,4], Dr. Edoardo Del Pezzo[5,6], Mra. Alba Martín-Lorenzo[2], Dr José Barrancos[2], Dr Germán D. Padilla[2], Dr Nemesio M. Pérez[1,2]

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PP310 Assessing the sustainability of geothermal exploitation in carbonate reservoirs

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PP313 Geothermal energy for wastewater treatment plants in small volcanic islands: pathways to sustainability

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PP314 Geothermal in Hawaii

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PP315 Geothermal potential at the Campi Flegrei caldera: a natural laboratory for exploiting hot, very shallow resources

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PP316 Global thermal spring distribution and relationship to endogenous and exogenous factors: a dataset from the past

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PP317 Long-term subsidence rate of Krafla geothermal area, Iceland

Dr. Olgeir Sigmarsson[1]

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PP318 Passive seismic methods as tools for geothermal exploration at the Domo de San Pedro volcanic complex in Nayarit, Mexico.

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PP319 Soil gas survey for Geothermal Exploration at Cumbre Vieja volcano, La Palma, Canary Islands

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