

# IAVCEI 7th Volcano Geology International Workshop

Interdisciplinary dialogues on volcano geology

11<sup>th</sup>-17<sup>th</sup> January 2025. Galeras and Doña Juana volcanoes, Colombia

## INVITATION

Dear Colleagues,

On behalf of the Organizing Committee and the International Association of Volcanology and Chemistry of Earth's Interior (IAVCEI – [www.iavceivolcano.org](http://www.iavceivolcano.org)) Commission on Volcano Geology, we are pleased to invite you to the 7<sup>th</sup> Volcano Geology Workshop to be held in Southwest Colombia.

This field-based workshop will be organized by an interdisciplinary team of the Universidad de Los Andes (Colombia) in collaboration with the Volcano Geology team of the Geological Survey of Colombia (SGC), the Università di Bologna and Università degli studi di Bari (Italy).

The 7th Volcano Geology Workshop focuses on discussing best field volcanology practices, including volcano geological mapping, and their utility for other scientific disciplines and non-scientific communities.

The Volcanological and Seismological Observatory of Pasto (Geological Survey of Colombia) will host a first day of talks and the introductory keynotes to the field areas on January 11<sup>th</sup>, 2025 (Saturday). The field excursions will be carried out in Galeras (January 12<sup>th</sup> – 13<sup>th</sup>) and Doña Juana (January 14-16<sup>th</sup>), heading back to Pasto on January 17<sup>th</sup>. Please note that the workshop is limited to 30 participants for logistics reasons.



Galeras Volcanic Complex. Picture by the Volcano Geology Team, Servicio Geológico Colombiano

Join us in this memorable out-door experience in tropical-Andean volcanoes merging science, adventure, and community.

¡Los esperamos!

Natalia Pardo, Federico Lucchi, Matteo Roverato, Roberto Sulpizio  
Co-chairs of the 7th Volcano Geology Workshop  
IAVCEI Volcano Geology Commission

## MOTIVATION AND AIM

Knowledge gaps persist at long dormant but potentially active volcanoes in the Northern Andes. Eruptions remain highly hazardous due to population growth, especially in areas with fragmented social memory. In this workshop, we will share experiences in approaching tropical, calc-alkaline polygenetic volcanoes hosting the pristine *páramo* and Andean Mountain Forest ecosystems. Specifically, we will share the newly released map of Galeras Volcanic Complex, as an example of a peri-urban and rural (indigenous) setting (Pasto). In comparison, we will explore the mapped Doña Juana Volcanic Complex, in the heart of the *Macizo Colombiano*, to discuss multidisciplinary field techniques useful to approach remote, poorly known terrains, where the completeness of the geologic record is compromised by fast rates of vegetation growth, weathering and erosion in the tropical climate and active tectonics across the North Andean block. At Doña Juana, we will also share experience and discuss strategies to integrate geosciences, ecology, archaeology, arts, design, and social sciences to involve local communities in co-building knowledge.



Doña Juana Volcanic Complex. Picture by Leonardo Martínez (Parque Nacional Natural Doña Juana-Cascabel, Nariño)

The proximal zones of both volcanoes are protected areas of the Colombian National Natural Parks. During Galeras exploration, we will be staying at Pasto where there are all sorts of urban facilities. Doña Juana is a remote rural Andean volcano full of adventure. There, we will use 4x4 transportation and overnight at Las Mesas village. Therefore, be ready for:

- ✓ Highly limited internet connection
- ✓ Long and mid-difficulty trekking (expect mud/swampy lands)
- ✓ Humble but cozy accommodation
- ✓ Limited gastronomical options
- ✓ Cold, mud and rain (bring sleeping bag and rain gear)
- ✓ Altitudinal gradients between ca. 900 and 4300 m asl

## PROPOSED SCIENTIFIC TOPICS FOR ONE-DAY TALKS' SESSION

We invite volcanologists and geoscientists interested to share experiences in

- Volcano field mapping, stratigraphy and facies analysis
- Multidisciplinary techniques to retrieve "hidden eruptions" in the tephra record
- Volcanic soils and pedostratigraphy
- Volcano mass wasting processes (debris-avalanches and lahars)
- Volcano morphotectonics, neotectonics and paleoseismology
- Geoarchaeology in volcanic environments
- Outreach of volcano geology maps

## WORKSHOP LANGUAGE

The official language of the workshop will be English but Spanish will be spoken here and there.

## VENUE

North Andean volcano-sedimentary basins are particularly complex settings resulting from intense crustal deformation, tectonic uplift, and multivariate tropical climate. Abrupt topographic profiles range from volcano summits commonly higher than 4000 m. asl, down to ~900-300 m. asl. depositional centers within inter-Andean valleys. The tectonic framework involves the subducting oceanic Nazca and Caribbean plates underneath South America. The climatic setting is influenced by the atmospheric circulation over the Pacific Ocean, the Caribbean Sea, the Orinoco and Amazon River basins, as well as interannual and seasonal hydro-climatic variability phenomena, such as El Niño Southern Oscillation (ENSO), the intertropical convergence zone, and low-level jets.

In this context, deep exhumation by tectonic and climatic forcing favors deep river incision and abrupt landscape development where high mountain forests and *páramos* emerge as some of the richest and fastest evolving ecosystems on Earth. Hence, passion of the XIX<sup>th</sup> century German explorers such as Humboldt, Stübel and Reiss. In Nariño (southwestern Colombia), these highland ecosystems are associated with realities that have arisen through rather convoluted historical, multicultural, and socio-spatial processes both in the past and in the present. Therefore, any we'd like to reinforce that any field geology and volcanology research needs to be placed in social and environmental context.

Pasto (ca. 393,000 inhabitants, 2300 masl) is the capital of Nariño and the cultural heart of the Andean traditions in Colombia, being the northern edge of the Inca Empire and an important meeting point for the pre-Hispanic cultures. The Volcanological and Seismological Observatory of Pasto was created in 1989 after the reactivation of Galeras volcano and carries out volcanic surveillance and short-term volcanic hazard assessment at six polygenetic volcanoes in the southern segment of the active volcanic arc in Colombia. We will spend the first part of the workshop there. The second part will be hosted by Las Mesas village and surrounding farms (ca. 7000 inhabitants, 2527 masl), affected by the last known eruption of Doña Juana in the late XIX<sup>th</sup> - early XX<sup>th</sup> century.



The town of Pasto and the smoking Galeras Volcano

#### IMPORTANT DATES

Early registration and abstract submission open: .....	July 9, 2024
Early registration and abstract submission deadline: .....	August 30, 2024
Participants' acceptance communication: .....	September 13, 2024
Payment open for selected participants: .....	September 13, 2024
Payment deadline: .....	September 29, 2024
Second circular: .....	December 15, 2024
Workshop: .....	January 11-17, 2025

#### ABSTRACTS and PARTICIPANTS SELECTION

For participating to the workshop, abstract submission is not mandatory, but we encourage participants to submit the abstract to create a lively scientific debate during the first day in Pasto. Some abstracts will be selected for oral presentation and the rest will be organized in poster exposition. Furthermore, due to logistics we are obliged to limit the participation to the workshop to 30 participants. Once we have received the early registration and abstracts, we will select the participants and provide them with details for payment.

Abstract length: max 200 words

**For the early registration and abstract submission click [here](#).**

## REGISTRATION FEE

Registration fee: 850 euros per person

The registration fee includes:

1. Dinner upon arrival Jan 10<sup>th</sup>
2. Attendance to the scientific session at the Observatory of Pasto on January 11<sup>th</sup>
3. Coffee-break and lunch in Pasto during the talks' day
4. Accommodation (shared) and all meals in Pasto between Jan 11<sup>th</sup> and Jan 13, including field lunch boxes
5. Accommodation (shared) and all meals in Las Mesas between Jan 14<sup>th</sup> and Jan<sup>th</sup> 15<sup>th</sup>, including field lunch boxes
6. Cultural night at Las Mesas
7. Accommodation on the returning night from Las Mesas to Pasto (Jan 16<sup>th</sup>)
8. Local guides, first aids, 4x4 wheel and bus transportation, and logistics

[GRANT APPLICATIONS](#) The 7<sup>th</sup> Volcano geology workshop will offer a limited number of grants to [IAVCEI members](#) only, providing support for registration and/or partial travel expenses (accommodation and meals), depending on available funding and the number of applications. Graduate students and Early Career scientists attending from developing/low-income countries are encouraged to submit their applications.

## ORGANIZING COMMITTEE

*Chair*

**Natalia Pardo**

Departamento de Geociencias, Universidad de Los Andes (Bogotá, Colombia)

*Co-Chairs (in alphabetical order)*

**Federico Lucchi**

Università di Bologna (Italy)

**Matteo Roverato**

Università di Bologna (Italy)

**Roberto Sulpizio**

Università di Bari (Italy)

*Local Members (in alphabetical order)*

**Luisa Acosta**

Geología de Volcanes, SGC (Bogotá, Colombia)

-Logistics

**Sonia Archila**

Departamento de Antropología, Universidad de Los Andes (Bogotá, Colombia)

-Scientific advisor and logistics

**Silvia Castilla**

Previously at Geología de Volcanes, SGC (PhD student, University of Toronto, Canada)

-Scientific advisor and logistics

**Ana María Correa Tamayo**

Geología de Volcanes Leader, SGC (Bogotá, Colombia)  
-Logistics

**Yeni Cruz**

Geología de Volcanes, SGC (Bogotá, Colombia)  
-Logistics

**Catalina González**

Departamento de Ciencias Biológicas, Universidad de Los Andes (Bogotá, Colombia)  
-Scientific advisor and logistics

**Nancy Palacios**

Facultad de Educación, Universidad de Los Andes (Bogotá, Colombia)  
-Logistics

**Diego Palechor**

Geología de Volcanes, SGC (Popayán, Colombia)  
-Logistics

**Hugo Alonso Patiño**

Geología de Volcanes, SGC (Bogotá, Colombia)  
-Logistics

**Bernardo Pulgarín**

Retired leader of Geología de Volcanes, SGC (Popayán, Colombia)  
-Scientific advisor

**Mauricio Tamayo**

Geología de Volcanes, SGC (Manizales, Colombia)  
-Scientific advisor and logistics

**Santiago Villamil**

Geología de Volcanes, SGC (Bogotá, Colombia)  
-Logistics

**Santiago Villota**

Geología de Volcanes, SGC (Pasto, Colombia)  
-Logistics

**Indira Zuluaga**

Geología de Volcanes, SGC (Medellín, Colombia)  
-Logistics

SCIENTIFIC COMMITTEE *(in alphabetical order)*

**Bernard Benjamin**

Instituto Geofísico, Escuela Politécnica Nacional (Ecuador)  
-Scientific advisor

**Shane Cronin**

University of Auckland (New Zealand)  
-Scientific advisor

**Guido Giordano**

Universit  Roma-tre (Italy)  
-Scientific advisor

**K roly N meth**

National Program of Earthquakes and Volcanoes, Saudi Geological Survey (Saudi Arabia)  
Institute of Earth Physics and Space Science (Hungary)  
-Scientific advisor

**Pablo Samaniego**

Laboratoire Magmas et Volcans, Universit  Clermont Auvergne-CNRS-IRD (France)  
-Scientific advisor

**Anke Zernack**

Massey University, Volcanic Risk Solutions (New Zealand)  
-Scientific advisor

IAVCEI COMMISSION ON VOLCANO GEOLOGY

**Karoly N meth**

National Program of Earthquakes and Volcanoes, Saudi Geological Survey  
Institute of Earth Physics and Space Science (Hungary)  
Co-leader

**Natalia Pardo**

Departamento de Geociencias, Universidad de Los Andes (Bogot , Colombia)  
Co-leader

**Matteo Roverato**

BIGEA, Alma Mater Studiorum, Universit  di Bologna (Italy)  
Community Engagement and Outreach Coordinator

Inquiries: [volcanogeologycommission@gmail.com](mailto:volcanogeologycommission@gmail.com)

IAVCEI social media channels:

- Facebook: <https://www.facebook.com/IAVCEI/>
- Instagram: <https://www.instagram.com/iavcei/>
- X: [https://twitter.com/IAVCEI\\_official](https://twitter.com/IAVCEI_official)
- LinkedIn: <https://www.linkedin.com/company/iavcei-int-assoc-of-volcanology-chemistry-of-the-earth-s-interior/>

