

7th international  
**MAAR CONFERENCE**



21 to 25 MAY 2018

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**OLOT - CATALONIA - SPAIN**

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[maar2018.com](http://maar2018.com)

The Local Organizing Committee and the International Association of Volcanology and Chemistry of Earth's Interior (IAVCEI) are pleased to welcome you to the 7th International Maar Conference (IMC) in Olot (Spain) in May 21- 25, 2018. The conference will include three days of scientific sessions, which will combine keynote speakers, oral presentations and posters, and an intra-meeting fieldtrip. The conference will cover a wide spectrum of interesting topics related to maar-volcanoes including eruptive processes and depositional mechanisms, field and experimental studies, numerical and analogue modelling of volcanic processes, magmatic and petrogenetic aspects, geodynamic and tectonic constraints, environmental studies of maar lakes and therefore, contributions on biology, ecology, limnology, paleoclimate and lake sedimentation are welcome. Finally, aspects related to hazards and the geological and cultural heritage in monogenetic volcanoes will be also considered during the 7IMC.

Since the first "International Maar Conference" (IMC), these meetings have become one of the most successful discussion forums in volcanology, mainly because they provide a unique opportunity to bring together researchers from many different volcanological fields (physical volcanologists, sedimentologists, modellers, geophysicists, petrologists, etc.) and environmental and post-volcanic subjects.

The city of Olot, known as the city of volcanoes, is located at the foot of the Pyrenees Range, close to Barcelona. This volcanic region provides a unique location for hosting this multidisciplinary volcanological forum because it offers all logistic facilities for the participants. In Olot and its surroundings, volcanoes are very important so they are present in many aspects of the society, as its cultural heritage, local history, architecture, or even in the excellent cuisine.

# Important dates to remember related to the 7IMC

**Conference:** May 21-25, 2018

**Pre-conference field trip:** May 18-20, 2018

**Intra-conference field trip:** May 23, 2018

**Post-conference field trip:** May 26-29, 2018

**Abstract submission deadline:** December 15, 2017

**Grant submission deadline:** ~~October 30, 2017~~ - December 15, 2017

**Early Bird Registration deadline:** before February 10, 2018

## Abstract submission

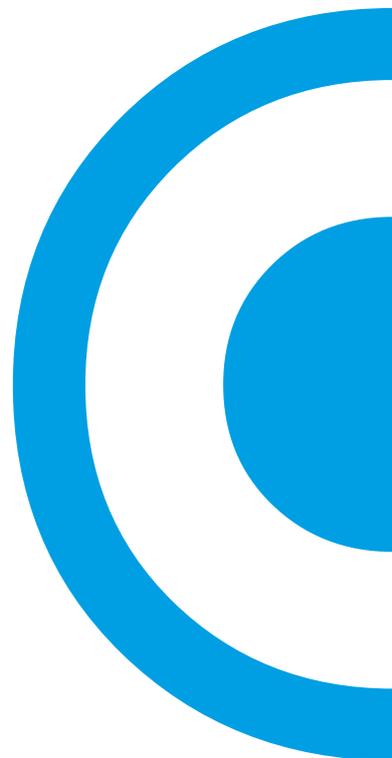
Submit an abstract using the abstract template provided in the website:

<http://maar2018.com/abstracts>

## Grant Applications

We can offer a limited number of grants that can provide support for registration and/or partial expenses (accommodation and meals), depending of available funding and number of applications. Students, young researchers and scientists attending from developing countries are encouraged to submit their applications. Please fill out the form from de website: <http://maar2018.com/grant> and send it to [maarconference@olot.cat](mailto:maarconference@olot.cat), writing in the subject line: "Grant" and the Last Name of the applicant.

The grant application deadline is December 15, 2017, in order to have enough time to inform applicants about the committee's decision no later than January 31, 2018.



# Registration Payment

<https://fes.olot.cat/formulari-maar-2018/>

Registration payment can be made only online. Method of payment: Credit Card or Bank Transfer. By Bank Transfer please send a copy of the transfer by email ([maarconference@olot.cat](mailto:maarconference@olot.cat)) clearly indicating the name of the participant in the subject field. Once we verify the bank transfer, we will confirm registration by e-mail.

Please note if the Technical Secretary does not receive any proof of your payment within 10 days after registration, your registration will automatically be cancelled.

## Registration Fees

Registration Fees	Reduced rate	Normal rate	On site rate
	Before February 10	February 11 - May 13	May 14 - May 21
<b>IAVCEI Donor member</b>			
Regular participant	380 €	430 €	480 €
Student participant	150 €	200 €	250 €
<b>IAVCEI Non-donor member</b>			
Regular participant	400 €	450 €	500 €
Student participant	170 €	200 €	250 €
Accompanying person	100 €	125 €	150 €
One day registration	125 €	125 €	140 €

### Registration fee includes:

1. Attendance to the scientific sessions
2. Conference registration, abstract volume
3. Ice breaker (on May 20)
4. Mid-conference field trip (May 23) (lunch, transportation, and guidebook)
5. Coffee breaks
6. Lunches
7. Admission to the Cultural Activity with dinner (May 22)

### Accompanying Person's fee includes:

1. Ice breaker (on May 20)
2. Mid-conference field trip (May 23) (lunch, and transportation)
3. Coffee breaks
4. Special program with discounted fares
5. Admission to the Cultural Activity with dinner (May 22)

**Gala dinner (on May 24): 50 €**

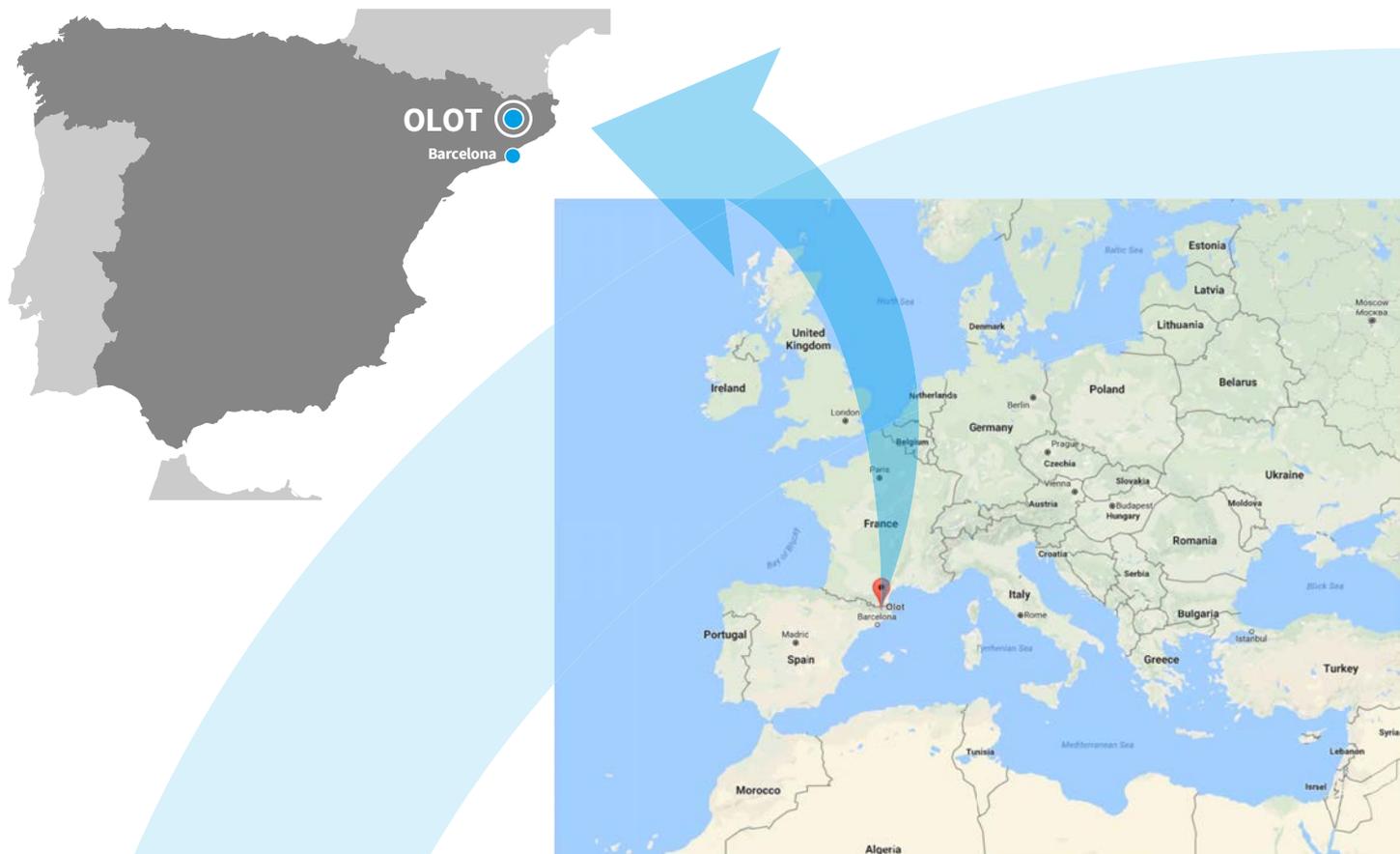
# Venue

All scientific acts (scientific sessions and posters presentation) related to the 7ICM will be celebrated at the Sala Torín of the city of Olot, located in the old town. Other events such as public lectures and the gala dinner will be organised in other locations of the city of Olot.

## How to get to Olot

The Girona and Barcelona airports are connected to the main European airports by regular daily flights. Regular bus services connect these cities with Olot. A shuttle bus service directly connecting these airports to Olot will be arranged by the LOC at certain hours of the days before and after the meeting.

<http://www.turismeolot.com/en/plan-journey/get/>



## Information about Olot

The city of Olot, known as the city of volcanoes, is the main population centre of the Garrotxa Natural Volcanic Park, which also includes several medieval villages. In Olot and its surroundings, volcanoes are present in many aspects of the society, as its cultural heritage, local history, architecture, or even in the excellent traditional and modern cuisine. Olot is a relatively small city (34.000 inhabitants) with a great diversity of accommodation and transport facilities, besides, the visitors can find many enjoyable places to visit at a walking distance.

<http://www.turismeolot.com/en/discover-olot/10-essence-of-olot/>

# Local Organizing Committee

## Chair

**Xavier BOLÓS**

Universidad Nacional Autónoma de México.

## Members

**Joan MARTÍ**

Consejo Superior de Investigaciones Científicas.  
*Scientific advisor*

**José Luis MACÍAS**

Universidad Nacional Autónoma de México.  
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**Oriol OMS**

Universitat Autònoma de Barcelona.  
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**Karoly NÉMETH**

Massey University.  
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**Marta FONTANOL**

Fundació d'Estudis Superiors d'Olot.  
*Logistical advisor*

**Jordi CALABUIG**

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**Xavier PUIG**

Parc Natural de la Zona Volcànica de la Garrotxa.  
*Logistical advisor*

**Ariadna VILLEGAS**

Ajuntament d'Olot  
*Logistical advisor*

# Scientific Committee

## Members

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Observatoire de Physique du Globe de  
Clermont-Ferrand and Laboratoire Magmas et  
Volcans (France)

**Pierre BOIVIN**

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**Xavier BOLÓS**

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Massey University (New Zealand)

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Chinese Academy of Sciences (China)

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Laboratoire Magmas et Volcans (France)

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University at Buffalo (USA)

**Benjamin VAN WYK DE VRIES**

Observatoire de Physique de Globe de Clermont-  
Ferrand and Laboratoire Magmas et Volcans (France)

**James WHITE**

University of Otago (New Zealand)

# Sessions

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## Session 1. Monogenetic volcanoes: eruption dynamics, growth, structure and physical modeling

### Conveners:

**Joan Martí** ([joan.marti@ictja.csic.es](mailto:joan.marti@ictja.csic.es))

**Pierre-Simon Ross** ([Pierre-Simon.Ross@ete.inrs.ca](mailto:Pierre-Simon.Ross@ete.inrs.ca))

**Volker Lorenz** ([vlorenz@geologie.uni-wuerzburg.de](mailto:vlorenz@geologie.uni-wuerzburg.de))

**Xavier Bolós** ([xavier.bolos@gmail.com](mailto:xavier.bolos@gmail.com))

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This session invites scientific contributions about growth and distribution of monogenetic volcanoes, their internal structure, the role of substrate geology on eruption diversity and specially maar-diatremes development.

Small-scale basaltic volcanic systems are the most widespread forms of magmatism on the planet and are expressed at the Earth's surface as fields of small volcanoes which are the landforms resulting from explosive and effusive processes triggered by the rise of small batches of magma. This session is concerned with the growth, geomorphology, eruption dynamics, geodynamic distribution and degradation of this type of volcanism. Monogenetic volcanoes distribution inside a volcanic field depends in each case on their regional and local tectonic controls. The great variety of eruptive styles, edifice morphologies, and deposits shown by monogenetic volcanoes are the result of a complex combination of internal (magma composition, gas content, magma rheology, magma volume, etc.) and external (regional and local stress fields, stratigraphic and rheological contrasts of substrate rock, hydrogeology, etc.) parameters, during the magma transport from the source region to the surface. This is meant to be a multi-disciplinary session and we invite contributions that include different type of methods, such as; field studies, geophysical methods, numerical and analogue modelling of volcanic processes and GIS analysis.

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## Session 2. Geochemistry and petrology of monogenetic volcanism related magmas

### Conveners:

**Ian Smith** ([ie.smith@auckland.ac.nz](mailto:ie.smith@auckland.ac.nz))

**Giovanni Sosa-Ceballos** ([giovanni@geofisica.unam.mx](mailto:giovanni@geofisica.unam.mx))

**Claus Siebe** ([csiebe@geofisica.unam.mx](mailto:csiebe@geofisica.unam.mx))

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Monogenetic volcanoes have been traditionally linked to direct magma transfer from the mantle to the surface. However, recent detailed petrological and geochemical studies of some monogenetic eruptions suggest that magmas coming from depth in dikes are not able to rise straight to the surface, but stall at some intermediate depth developing an environment in which processes such as magma mixing, crystal fractionation and/or crystal assimilation can occur. Understanding the processes and magma plumbing systems that lead to monogenetic eruptions is fundamental for better interpreting the monitoring data of the unrest episodes in monogenetic volcanic fields and thus improve the eruption forecasting in these regions. We invite contributions that include field observations, geochemical, isotopic and petrological data, analogue models of dike propagation and experimental petrology of magma ascents.

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## Session 3. Lakes in maar volcanoes: the sedimentary record of paleontology, climate change and hydrochemistry

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**Conveners:**

**Oriol Oms** (*joseporiol.oms@uab.cat*)

**Dmitri Rowet** (*dmitrirowet@gmail.com*)

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The geometry of Maar-diatreme craters usually leads to develop hydrologically closed lakes that contain anoxic bottom conditions. Such settings are ideal for the preservation of complete and detailed sedimentary records of past environmental changes. These records include climate evolution, ecological reconstructions, hydrochemistry and human impact in natural systems. Exceptionally preserved fossils in such meromictic lakes are also an important source to study the history of life and its evolution.

This session wants to create synergies between volcanologists and other researchers dealing with limnology, hydrochemistry, mineralogy, paleontology, and climate proxies, among many others.

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## Session 4. Volcanic hazard and risk assessment in monogenetic volcanic fields

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**Conveners:**

**Shane Cronin** (*s.cronin@auckland.ac.nz*)

**Stéphanie Barde-Cabusson** (*s.barde.cabusson@gmail.com*)

**Dario Pedrazzi** (*pedrario@gmail.com*)

**José Luis Macías** (*macias@geofisica.unam.mx*)

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Volcanic hazards threaten the economy, transport and natural environments within and surrounding volcanic fields. Alongside scoria cones and lava flows, many volcanic fields host maar-diatreme volcanoes and tuff-rings, which represent the second most common volcano type on land. These pose a specific suite of hazards, including violent lateral pyroclastic surges and efficient ash production, which often poses regional hazard. The locations of their future formation are also highly uncertain in most fields. Growth of population, increasingly complex infrastructure and changing technologies of our society, make assessment and mitigation of maar-related hazards important issues. We invite all contributions to this session in areas of evaluation of monogenetic volcanic hazard, including spatio-temporal forecasting methods, dynamic hazard and impact models and the characteristic hazards associated with maar-diatreme volcanism.

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## Session 5. Natural resources and geotourism development in volcanic areas

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**Conveners:**

**Karoly Nemeth** (*K.Nemeth@massey.ac.nz*)

**Michael Ort** (*Michael.Ort@nau.edu*)

**Adelina Geyer** (*ageyertraver@gmail.com*)

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Monogenetic volcanism provides the materials and landforms that scientists use to explore the volcanology and geochemistry of the Earth's interior. In addition to these scientific and, at times, theoretical studies, monogenetic volcanism also provides numerous economic benefits. Contributions are welcomed that focus on the diverse utilization of monogenetic volcanic fields, including use of mineral, rocks and water resources, landscape preservation (and degradation), geotourism and geoparks. We would like to emphasize with this last point; volcanic geoparks and its complementary value, the environmental education and the sustainable entertainment related to volcanic landscapes to make a contribution to the sustainable development of the region. This session will highlight economic and social aspects of monogenetic volcanism and thus help bridge the gap between science and society.

# Field Trips

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## **Pre-conference field trip:** **May 18-20, 2018 – 3 days (2 nights).**

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This field trip will start in Caldes de Malavella, a beautiful village, declared historical monument of national interest, with a great tradition in spas and thermal water springs since Roman Empire in time of Emperor Augustus, who called this village Aquae Calidae. Moreover, we can find Medieval architecture such as the walls of the old castle Caldes with 3 towers of s. XII and also modernist and neoclassical buildings in the old town of the village (<http://www.femturisme.cat/en/villages/caldes-de-malavella>). During the first half of the day, participants will explore and discuss about the evolution of La Crosa de Sant Dalmai maar volcano, the largest maar crater of the Iberian Peninsula, formed during the Pleistocene. After lunch in Caldes de Malavella, the group will visit the open fossil excavation in lacustrine sediments of the Camp dels Ninots Pliocene maar crater. During the morning of the second day, the group will debate on the stratigraphy of the basaltic tuff-ring of El Puig d'Adri and its phreatomagmatic deposits including basaltic ignimbrites. Then, the group will visit the Quaternary Cairat maar volcano and their phreatomagmatic deposits. The last day of the field trip, the participants will enjoy the wonderful views and landscapes of the Garrotxa Volcanic Park and the Mediterranean coast from the Xenacs panoramic viewpoint. The last stop will be in the Montsacopa complex cinder cone that rises right in the heart of the city and is one of the five volcanoes that stand inside the city of Olot. This volcano exhibits a diversity of eruptive styles with strong evidence of vent migration controlled by tectonic features. An important aspect of this field trip is that it will also include discussions about the relation between science and society taking into account that in this region volcanoes are present in many aspects of local society, as its cultural heritage, local history, architecture, or even in its excellent cuisine. The local people are aware of living among volcanoes and that they represent the most characteristic feature of their region, in an extent comparable or even superior than in areas with more active volcanism.

**Field-trip leaders: Xavier Bolós, Joan Martí, Oriol Oms, Gerard Campeny and Bruno Gómez**  
*Will be activated soon.*

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## **Intra-conference field trip: (included in registration)** **May 23, 2018.**

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All the attendees to the Conference will visit the Natural Park of Garrotxa Volcanic Zone. The volcanic landscape of Garrotxa is one of the most singular scenic areas of Catalonia, a montane landscape articulated by the rivers Fluvià and Ter that possesses a series of outstanding morphological features generated by the area's Quaternary monogenetic volcanism. The first stop of the field trip is a wonderful view of the Castellfollit de la Roca basalt cliff, which consists of two superimposed lava flows with well-developed columnar jointing. Of note too is the aesthetic and visual effect of the urban architecture of the village of Castellfollit de la Roca sits atop the volcanic outcrop. Then, participants will visit the youngest part of Garrotxa volcanic field (currently a natural protected area) visiting the Holocene volcanoes of La Pomareda spatter cone, Croscat cinder cone, Santa Margarida maar crater and Roca Negra cinder cone, which lie along a 3-km-long eruption fissure. These volcanic edifices exhibit a diversity of eruptive styles with strong evidence of vent migration during the same eruption and of the existence of different strombolian and phreatomagmatic phases. The whole visit includes a 5 km easy walk through these volcanic sites. Several outcrops present in the area such as the quarry on the Croscat's northern flank are exceptional sites to discuss the evolution of this eruptive fissure and the role of the basement to determine different eruptive dynamics. The field trip will finish in the Medieval village of Santa Pau.

**Field trip leaders: Joan Martí, Xavier Bolós, Llorenç Planagumà**

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## Post-conference field trip: May 26-30, 2018 – 5 days (4 nights).

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Auvergne Monogenetic Volcanoes - overview, volcano - tectonic links, intrusion processes and human interactions.

The Auvergne region hosts the largest and most recent monogenetic volcanic fields in Europe. Set in the massif Central, uplifted to up to 1700 m in the Quaternary, the region is tectonically dominated by the Limagne Rift. While the Chaîne des Puys is structurally linked to the rift, many other volcanic areas, such as the Velay, Sancy and Cantal are situated with no apparent link to the rift. The field trip will visit the Velay volcanoes, including the earliest pre-rift centres, and progress to the youngest, the Lac Pavin maar. Then the trip will concentrate on the Chaîne des Puys, with visits to the Mardoux maar at Gergovie, the Lemptegy volcano, the Puy de Dome and the vineyards of the Chateaugay maar. This part of the trip will concentrate discussion on intrusion mechanisms into maars and sedimentary rocks, sills and maar fields, conduit formation in metamorphic basement, and tectonic links to monogenetic volcanism. We will also consider the link between human and monogenetic volcanism, with the archaeology of the area, and present day cultural links to volcanism and their associated risks. The field trip will start from Olot and return there, with the option of leaving the trip at the end in Clermont-Ferrand.

**Field trip leader: Patrick Bachèlery, Pierre Boivin, Didier Laporte, Benjamin Van Wyk de Vries**  
*Will be activated soon.*

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# Registration Payment

<https://fes.olot.cat/formulari-maar-2018/>

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