

ISRM, International Society for Rock Mechanics
SEMR, Spanish National Group of the ISRM
and Gobierno de Canarias

Cities on Volcanoes 6

3rd International Workshop

Rock Mechanics and Geo-Engineering in Volcanic Environments

31 May – 3 June, 2010
Puerto de La Cruz, Tenerife, Spain



On behalf of the International Society for Rock Mechanics, the Spanish National Group of the ISRM is proud to announce that the ISRM Specialized Conference “3rd International Workshop on Rock Mechanics and Geo-Engineering in Volcanic Environments” will be held in Puerto de La Cruz, Tenerife on 31 May – 3 June 2010.

Topics

- Geomechanical characterization of volcanic materials.
 - Instabilities in volcanic islands: Slope stability, large landslides and collapse phenomena.
 - Geoengineering and infrastructures in volcanic environments.

The Workshop is part of the program of the Congress “Cities on Volcanoes 6 – CoV6-Tenerife 2010” (Session 1.6) and both will take place at the Puerto de la Cruz Conference Center.

It is sited in the heart of Puerto de la Cruz amongst more than 110,000 square metres of subtropical gardens.

The Conference Center offers splendid sea and mountain views in an atmosphere that is very different to what one might expect to find. Its main conference hall is capable of accommodating up to 1000 delegates and it can be divided by moving panels, which will allow for total isolation offering complete and diverse space configuration.

The city of Puerto de la Cruz, situated on the northern coast of the island, at the foot of Teide volcano, Tenerife (Decade volcano and World Heritage by UNESCO), offers to the visitors a cosmopolitan town which, after a century of tourism experience, today retains all the flavour of a seaside resort that welcomes every cultural background.

Declared of Tourist Interest in 1955, Puerto de la Cruz brings together in attractive harmony both the traditional architecture of the island and the modernity of first-class hotels. It is also the home to extensive, exquisitely designed leisure parks and the charming colour of the most typical and picturesque corners of the small fishing village that it once was.

ORGANIZING COMMITTEE

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Paul Marinos (Greece)
Ricardo Oliveira (Portugal)
Fernando Pardo de Santayana (Spain)
Leoncio Prieto (Spain)
Eda Quadros (Brasil)
Davor Simic (Spain)

WORKSHOP PROGRAM

SUNDAY: MAY 30

Participants arrive to Puerto de la Cruz.

Ice Break and registration at the Puerto de La Cruz Conference Center - Casino Taoro (20:00 - 21:30 h).

MONDAY: MAY 31

08:00 - 09:15	Registration at the CasinoTaoro's desk
09:15 - 09:45	Open Ceremony
09:45 - 10:15	Plenary Talk 1: CoV6
10.15 - 10:45	Plenary Talk 2: CoV6
10:45 - 11:15	Coffee Break
11.15 - 11.45	Plenary Talk 3: CoV6
11:45 - 12:15	Plenary Talk 4: CoV6
12:15 - 13:00	Keynote Lecture: Nick Barton
13:00 - 14:00	Lunch
14:00 - 16:00	Oral Presentations
16:00 - 16:30	Coffee Break
16:30 - 18:00	Poster Presentations

TUESDAY: JUNE 01

08:30 - 09:00	Plenary Talk 5: CoV6
08:30 - 09:30	Plenary Talk 6: CoV6
08:30 - 10:00	Plenary Talk 7: CoV6
08:30 - 10:30	Plenary Talk 8: CoV6
10:30 - 11:00	Coffee Break
11:00 - 13:00	Oral Presentations
13:00 - 14:00	Lunch
14:00 - 16:00	CoV6 Sessions
16:00 - 16:30	Coffee Break
16:30 - 18:00	Selected Papers
18:00 - 18:15	Closing Ceremony

WEDNESDAY: JUNE 02

Technical visit: "Las Cañadas", Teide Nacional Park.

THURSDAY: JUNE 03

Technical visit: "El Bicho" tunnel, at Tenerife South.

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Project for the study of radon emissions in lithotypes of the Canary archipelago. Preliminary results: geochemical characterization
Eff-Darwich, A. Rodriguez, J.A. Hernandez, L.E. Viñas, R.

Geotechnical description of halloysite clays from La Palma Island (Spain)
Estaire, J. Santana, M. Díez, J.A.

Geotechnical parameters of basaltic pyroclastics in La Palma Island, based on convergences measured in a tunnel
Fe Marqués, M. Martínez, R.

A sensitive analysis on Mohr-Coulomb and Hoek-Brown parameters effective in ground response curve
Kargara, A.R. Rahmanejad, R.

Basic properties of non welded basaltic lapilli and influence on their geotechnical behaviour
Lomoschitz, A. Yepes, Y. Santiago, C.

Geotechnical characterization of volcanic rocks and soils of Madeira island
Lourenço, J. Mateus J. A. Santos, J. Rosa, S. P. P. Rodrigues, V.

Contribution to geotechnical characterization of basaltic pyroclasts
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Deformational behaviour of pyroclastic rocks beneath the upper reservoir of the hydro-wind plant at El Hierro
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Characterization and comparison of pore distribution in weathered volcanic rocks by different techniques
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Lightweight aggregate and lightweight concrete and its application in the improvement of the thermal properties of volcanic lightweight aggregate concrete blocks from Canary Islands
Rodríguez, E. García, A.

Characterization by Impedance Spectroscopy of Porosity in Concretes with Basaltic Pyroclast Aggregates
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Volcanic dikes engineering properties for storing and regulation of the underground water resources in volcanic islands
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Isotropic collapse load as a function of macroporosity of volcanic pyroclasts
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Natural stone from the Azores archipelago: Relationship between lithology and physical-mechanical behaviour
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Geotechnical Properties of Volcanic Materials of the Mount Erciyes
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INSTABILITIES IN VOLCANIC ISLANDS: SLOPE STABILITY, LARGE LANDSLIDES AND COLLAPSE PHENOMENA

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Etna flank dynamics: a sensitivity analysis by numerical modelling

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The origin and geotechnical properties of volcanic soils and their role in developing flank and sector collapses

del Potro, R. Hürlimann, M

The role of hyaloclastite rocks in the stability of the volcanic island flanks of Tenerife

Ferrer, M. González, L. Seisdedos, J.

Passive anchors within retaining walls to stabilize volcanic rock slopes in road widening

Fransesqui, M. A.

Detailed studies and stabilization methods on volcanic rocky slopes in coastal areas, Canary Islands, Spain

Lomoschitz, A. Cilleros, A. García, R.

Slope stability in the Canary volcanoes based on geotechnical criteria

Eff-Darwich, A. Hernández, L. E. Olalla, C. Perucho, A. Rodríguez J. A. Serrano, A.

Cliff stabilization solutions at the south coast of Madeira Island

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Shear behaviour of Stromboli volcanoclastic saturated materials and its influence on submarine landslide

Tommasi, P. Boldini, D. Rotonda, T. Wang, F. Amati, A.

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GEOENGINEERING AND INFRASTRUCTURES IN VOLCANIC ENVIRONMENTS

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Geotechnical map and foundation solutions of Santa Cruz de Tenerife (Spain)

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Design and construction of the Machico-Caniçal expressway tunnels

Baiao, C. Mateus J. A. Freitas, A. R. J. Rosa, S. P. P. Conceição, M. F. M.

Innovative aspects in the execution of the strengthening and stabilizing of the volcanic cavern of “Los Jameos del Agua”, Lanzarote, Canary Islands, Spain.

Cárdenas, A. Olalla, C. Serrano, A.

Geological risk at world class astronomical observatories

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Construction experiences with volcanic unbound aggregates in road pavements

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Geotechnical investigation guide for building in volcanic environments

Hernández,L.E. Rodríguez, J.A. Olalla, C. Garrido,J.

Tunnel Inventory of Grand Canary Island (Spain), Geology and associated geotechnical problems

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Geotechnical characterization of El Verodal tunnel in El Hierro, Spain

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Study of lunar soil from terrestrial models (Canary Islands, Spain).

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An access gallery to the underground Fuente Santa Spring, La Palma, Spain.

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Project and technical assistance to the retaining structures of Cabo Girão Tourist Resort

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Retaining structures in Machico-Caniçal expressway at Madeira Island

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Tindaya mountain cavern: art and underground engineering

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LANGUAGE

The official language of the Workshop is English. Simultaneous translation English-Spanish-English will be provided.

ACTIVITIES :

Technical and touristic visits will be organised in conjunction with the conference CoV6. If you want to get more information about activities consult web:

www.citiesonvolcanoes6.com

BEFORE CoV6 - Tenerife 2010

One week earlier: **May 30, 2010**

•CoV6 - A01: "Gran Canaria (Canary Islands): Evolution of a large multistage volcanic island."

Leaders: H-U. Schmincke and M. Sumita.

Dates: May 21 – 30, 2010. Cost: 800 €.

•CoV6 - A18: Volcano field trip "Basement complex of the oceanic volcanic island of Fuerteventura".

Leaders: R. Casillas, C. Fernández, A. Ahijado and M. Gutiérrez.

Dates: May 23 - 26, 2010. Cost: 300 €.

•CoV6 - A02: Volcano field trip "European intracontinental volcanism of Calatrava, Ciudad Real, Spain".

Leaders: E. González Cárdenas & UCLM volcano research group.

Dates: May 24 – 28, 2010. Cost: 500 €.

•CoV6 - A03: Volcano and Hydrogeological field trip "Ground water resources management in active volcanic islands".

Leaders: JJ. Coello, R. Bacells and I. Farrujia.

Dates: May 28-29, 2010. Cost: 73 €.

•CoV6 - A04: Volcano field trip "Gravitational landslides in the volcanic islands of Tenerife".

Leaders: M.Ferrer, L. González de Vallejo and J. Seisdedos

Dates: May 29, 2010. Cost: 50 €.

•CoV6 - A05: Course for journalists on volcanoes, volcanic risk management and communication.

Date: May 29, 2010. Cost: 30 €.

DURING CoV6 - Tenerife 2010

From **May 30 to June 5, 2010**

SUNDAY: MAY 30

•CoV6 - A07: Night excursion "Volcanoes and Stars" to the Teide National Park and Teide Astrophysical Observatory to enjoy watching the cloud of stars from a volcano.

Cost: 20 €; limited number of participants.

•Volcanoes through the cinema (21:00 – 23:00 h.).

TUESDAY: JUNE 01

•Volcanoes through the cinema (21:00 – 23:00 h.).

WEDNESDAY: JUNE 02

•CoV6 - A08: Visit to Tenerife Civil Protection Coordination Center (1-1-2) at Tenerife Island.

Cost: Included in the registration fee; limited number of participants.

•CoV6 - A09: "Volcano field trip to the summit cone of Teide volcano, Tenerife Island".

Cost: Included in the registration fee; limited number of participants.

•CoV6 - A10: "Volcano field trip to Las Cañadas caldera, a UNESCO World Heritage Site, Tenerife Island".

Cost: Included in the registration fee.

•CoV6 - A11: "Volcano field trip to Cumbre Vieja volcano, La Palma Island".

Cost: 160 €.

•CoV6 - A12: "Volcano field trip to the 1730-36 eruption of Timanfaya volcano, Lanzarote Island".

Cost: 235 €.

•CoV6 - A13: Cultural trip about the historical role of the wine in the Canary Islands.

Cost: Included in the registration fee.

•CoV6 - A14: Cultural trip about volcanic materials and architecture at the UNESCO World Heritage Site of San Cristóbal de la Laguna.

Cost: Included in the registration fee.

THURSDAY: JUNE 03

•Technical visit to the “El Bicho Tunnel” (South Tenerife) currently under construction by the Regional Ministry of Works of the Government of the Canary Islands.

Cost: Included in the registration fee.

Just for Workshop participants.

•Volcanoes through the cinema (21:00 – 23:00 hours).

FRIDAY: JUNE 04

•CoV6 - A16: Farewell party (20:00 hours) at Costa Martiánez Complex in Puerto de la Cruz.

Cost: Included in the registration fee.

AFTER CoV6 - Tenerife 2010

One week later from June 5, 2010

•CoV6 - A17: Volcano field trip “Explosive volcanism at Tenerife, Canary Islands”. (*The second field day will be particularly strenuous, involving a 700m climb and descent and a long walk. Participants must be fit and not have major health problems.*)

Leaders: R. Cas & A. Pittari.

Dates: June 5-7, 2010. Cost: 300 €.

•CoV6 - A19: Volcano field trip “Fogo volcano and Cha das Calderiras, Cape Verde Islands”.

Leaders: S. Day, S. Silva & A. da Mota.

Cost and date information available at www.citiesonvolcanoes6.com.

•CoV6 - A20: Volcanic Emergency Simulation Exercise at Tenerife.

Leaders: Civil Protection from the Cabildo Insular, Government of the Canary Islands and Government of Spain.

Cost and date information available at www.citiesonvolcanoes6.com.

•CoV6 - A21: Course for tourist managers on volcanoes and volcanic resources and risk management.

Date: June 5, 2010. Cost: 60 €.

•CoV6 - A22: Course for authorities on volcanoes and volcanic resources and risk management.

Date: June 5, 2010. Cost: 60 €.

•CoV6 - A24: “Ash fall impacts Working Group Workshop”

Leaders: K. Wallace, G. Leonard, T. Wilson.

Dates: June 5, 2010 (from 09:00 to 16:00 hours).

Cost: Included in the registration fee.

•CoV6 - A25: “Dike intrusions and fissure eruptions in Tenerife”

Leaders: C. Soriano and I. Galindo.

Dates: June 5-7, 2010. Cost: 300 €.

•CoV6 - A23: “La Garrotxa Volcanic Zone Natural Park:

The conservation of the geologic patrimony in a protected natural space”.

Leaders: E. Bassols. Date: June 7 – 11, 2010. Cost: 500€.

REGISTRATION

Registration fee will cover the ice break, coffee breaks during the conference, daily transport from the hotel to the conference site, and the submitted abstracts compiled in a book and CD-ROM. Additional, a proceeding printing volume published by Balkema, containing the full papers of the Workshop, will be available at a price of 60 €.

Members of ISRM, IAVCEI, SVE and cooperating societies with CoV6-Tenerife 2010 should register at member rates.

All students must show a valid student identification or University certificate at registration.

Retired members must be 65 or older and retired from full-time employment.

Attendees from Low-Income Countries qualify for special discounted registration rates. Please consult the updated list of Tier 1 and Tier 2 countries to determine whether you are eligible for either a reduce or free registration fee. In order to qualify for this discounts, registrants must currently reside in a country designated by the World Bank as Low Income or Lower Middle Income. These participants must also present at the time of registration some form of identification (passport and/or institution ID) confirming their status as a resident or scientist in that country.

PAYMENT

Registration payment can be performed either on-line or by bank transfer.

BANK TRANSFER PAYMENT:

Name of the bank: CAJACANARIAS

Branch: Oficina Principal

Swift/BIC code: CECAESMM065

Account number: ES42 2065 0000 0314 0043 2554

Please indicate your name and last name, membership number, registration type and retain an electronic copy of the transfer statement and send it as an e-mail attachment (.jpg or .pdf) to registration@citiesonvolcanoes6.com.

For further information please consult the web:

www.citiesonvolcanoes6.com

<i>Category</i>	<i>fee</i>
Regular Member.....	330 €
Graduate Student Member.....	165 €
Retired Member.....	165 €
Regular Nonmember.....	385 €
Graduate Student Nonmember.....	220 €
Undergraduate Student.....	82 €
Accompanying person.....	250 €
Primary & High School Teacher.....	82 €
High School Student.....	0 €
Tier 1 Low Income Country.....	0 €
Tier 2 Low Income Country.....	50%

ACCOMODATION

Puerto de la Cruz offers a wide range of hotels and apartments. They are distributed by all the municipality allowing to welcome in 27,000 visitors.

An important part of this hotel infrastructure is located in the neighborhoods of the Puerto de la Cruz Conference Center where the Workshop will be celebrated.

The organization of CoV6-Tenerife 2010 has already selected several hotels for CoV6-Tenerife 2010's participants. These hotels which are close to the Puerto de la Cruz Conference Center (walking distance).

Reservations can be directly arranged by sending an e-mail to the hotel of your interest. The listed prices are per room.

Please write on the e-mail's subject "CoV6-Tenerife 2010" and do not forget to send always cc of the e-mail to registration@citiesonvolcanoes6.com.

Hotels for CoV6-Tenerife 2010:

Tigaiga **** <http://www.tigaiga.com/es/>
Prices in €: 67.00 80.00 80.00 106.00

Puerto Palace **** <http://www.puertopalace.com/>
Prices in €: 41.00 51.00 49.00 69.00

Miramar *** <http://www.miramartf.com/>
Prices in €: 30.00 34.00 34.00 42.00

La Atalaya **** <http://www.hotelrhatalaya.com/>
Prices in €: 32.00 37.00 44.00 54.00

Parque San Antonio **** <http://es.solmelia.com/hoteles/espana/tenerife/sol-parque-san-antonio/home.htm>
Prices in €: 38.00 47.00 50.00 68.00

Prices in €:
For 1 person A For 1 person B For 2 persons A For 2 persons B
A = Breakfast included
B = Breakfast and dinner included



TENERIFE ISLAND



Conference Center

Parque Taoro, 22
38400 Puerto de La Cruz- Tenerife
Islas Canarias

PUERTO DE LA CRUZ

www.citiesonvolcanoes6.com

