



Trieste, 4-10 September 2016

35TH GENERAL ASSEMBLY OF THE
**EUROPEAN
SEISMOLOGICAL
COMMISSION**

PROGRAM



www.35esc2016.eu





*La tierra firme tiembla y es abismo
es como si nos traicionara el día.
Es como si el agua mintiera y dos y dos fueran cien y nuestra madre
nos odiara y nuestra mano se levantara contra nosotros.
Dios nos ha dado tantas cosas:
manzanas, días, despedidas, maderas y la esperanza, la otra cara del miedo.
Ahora nos toca el más secreto y el más precioso de los dones:
el fin.*

Jorge Luis Borges

At the time we are about to print this Conference Program we receive the deadly news of Central Italy earthquake of August 24, UTC 1:36. Our deepest grief goes to all the people hit by this last devastating earthquake sequence. The poem, written by Jorge Luis Borges 40 years ago for the Friuli earthquake, is today alive again.

We dedicate it to the countless victims.



WELCOME MESSAGE

Dear Participants,

On behalf of the Local Organizing Committee, I take great pleasure in welcoming you to Trieste for the 35th General Assembly of the European Seismological Commission.

Although never hit by strong earthquakes, Trieste has a long history in seismology, begun at the beginning of the 20th century, improved with the installation of the instruments of the World Wide Standardized Seismographic Network in the 1960s, and perfected after the strong earthquake that hit the Friuli region in 1976. I hope that hosting the 35th General Assembly of the European Seismological Commission here in Friuli Venezia Giulia on the anniversary of that sad event will be a way to further improve cooperation among scientists in the framework of a long-lasting policy of seismic-risk reduction.

We have received 615 abstracts from corresponding authors of 50 different countries, for a total of 349 oral and 266 poster presentations. In addition, we will offer 6 key lectures by expert researchers, mostly from Europe. All of these presentations will surely contribute to a better understanding of the earthquake process.

I am grateful to all those who helped organize this conference and to all participants. I wish you a pleasant stay in Trieste.

Marco Mucciarelli
Chairman of the Local Organizing Committee

Dear Participants of the 35th General Assembly
of the European Seismological Commission,

I feel honored to welcome you to our bi-annual assembly here in Trieste. Despite the long-standing historical background of this city, we also acknowledge the disastrous earthquakes that hit Friuli in 1976, forty years ago. Since then, we have witnessed several earthquake catastrophes of unbelievable proportions such as those in Sumatra or Haiti, not to mention the Sendai/Tohoku earthquake, which drastically revealed the limitations of the technologies at our disposal. As the world's population increases in the coming decades, the seismic risk becomes an even more serious threat to our society.

Today, time is of the essence here. Early warning systems have been deployed in many areas. Although they cannot prevent these catastrophes from occurring, they do mitigate the effects. Smartphone technologies have replaced conventional community information services (radio, TV) to a large extent. Nevertheless, there is much more to seismology than quick and hasty releases to the media, as we all know, such as studies of the interior of our planet or induced seismicity. New venues and methods for estimating the degree of seismic hazard are constantly being investigated, and state of the art building codes are being developed. Seismologists must adopt these technological developments and new strategies in terms of educational outreach and citizen science, the latter being a topic, which has been applied for more than 100 years in macroseismology.

We have gathered here to exchange ideas and to optimize our efforts in creating a safer world. This would not have been possible without the hard work of our predecessors.

Hence, I would like to thank the presidents of the past ten years - Claudio Eva, Domenico Giardini, Jochen Zschau, Steinunn Jakobsdóttir and Alexey Zavyalov - and especially the former General Secretary Mariano Garcia Fernandez, who was assisted many years by Ina Cecic in her capacity as Assistant Secretary, for their input and the work done for the benefit of European seismology and our society.

Wolfgang Lenhardt
President of ESC

Dear Participants,

It is my great pleasure to welcome you here in Trieste for the 35th General Assembly of the European Seismological Commission.

Trieste is a multicultural city with a strong scientific vocation. It has a world renowned reputation for hosting more than 30 research institutions located on its territory: universities, institutions and laboratories that carry out cutting-edge research in the most diverse scientific fields with solid international collaborations fostering at the same time a strong entrepreneurial spirit.

Thus, it represents a hub of international excellence at the heart of the enlarged Europe and a joining link between Eastern and Western culture. Our city has already hosted the General Assembly of the European Seismological Commission back in 1974 and I am pleased that the Commission, this year, has chosen to visit us again for this important meeting.

Moreover it's important to point out that 2016 represent a significant date since it's the fortieth anniversary of the series of big earthquakes that hit our Region in 1976. After those devastating events the Regional Government entrusted to the Department of Seismological Research (CRS) of OGS the seismological monitoring of the entire Region.

The roots of the National Institute of Oceanography and Applied Geophysics – OGS, an internationally oriented public research institution, date back to the Austro-Hungarian Empire to the second half of the 18th century. Since the set up of the first seismograph of the area, CRS manages the long-lasting Trieste seismographs (WWSSN from 1963 to 1992) and the NE Italy seismometric network, operating since 1977 and, thanks to the strategic location in Trieste, later part of NATO within the Soviet bloc.

Finally, I would like to thank Marco Mucciarelli and all the researchers from OGS involved in the scientific and the local organizing committees for their great effort in supporting the ESC and coordinating the overall organization of Assembly.

I am confident that the 35th General Assembly of the European Seismological Commission will be a platform to stimulate relationships and grow collaborations and I hope you will benefit from the scientific programme and new ideas presented during lectures and sessions.

Welcome to Trieste!

Maria Cristina Pedicchio
President of OGS

SCIENTIFIC COMMITTEE

Chair

Marco Mucciarelli

Members

Paolo Comelli
Mariano Garcia-Fernandez
Päivi Mäntyniemi
Stefano Parolai
Damiano Pesaresi
Dario Slezko
Peter Suhadolc

LOCAL ORGANIZING COMMITTEE

Chair

Marco Mucciarelli

Members

Abdelkrim Aoudia
Antonella Barbieri
Paolo Bernardi
Paolo Comelli
Stefano Francese
Paolo Giurco
Maurizio Grossi
Giorgio Padoan
Damiano Pesaresi
Francesca Petrera
Cristian Ponton
Alessandro Rebez
Dario Slezko
Peter Suhadolc
William Toson



REGISTRATION AND INFORMATION DESK



The registration and information desks are located in the main hall.

Sunday, 4 September	from 15.00	to 18.30
Monday, 5 September	from 08.00	to 18.30
Tuesday, 6 September	from 08.00	to 18.30
Wednesday, 7 September	from 08.00	to 18.30
Thursday, 8 September	from 08.00	to 18.30
Friday, 9 September	from 08.00	to 15.00

BADGE COLOR CATEGORY



SLIDE PREVIEW POINT The oral presentations are organized centrally. Therefore the authors are kindly asked to upload their presentations at the presentation upload desk, next to the registration desk, at last two hours prior to their presentation. Then our technical staff will take care of uploading the material to the respective lecture room. A lecture room assistant will be available for any help. It is not allowed to use personal laptops for presentations. Since standard oral presentation are only 12 minutes, authors are recommended not to have more than 15 slides in their presentations.

TIME ALLOWANCE FOR PRESENTATION The time allocated for each presentation is 12 minutes. Careful time keeping is important for the smooth running of the session. Please make sure not to overrun your allocated time.

POSTER REQUIREMENTS All posters will be displayed during the day(s) of the pertinent section. At the end of pertinent section, authors should remove their posters, otherwise they will be removed by the conference personnel and may not be recoverable. Posters should be 90 cm-120 cm in portrait configuration.

EXIBITION VENUE

WORKING HOURS

Monday, 5 September	from 8.30	to 18.30
Tuesday, 6 September	from 8.30	to 18.30
Wednesday, 7 September	from 8.30	to 18.30
Thursday, 8 September	from 8.30	to 18.30
Friday, 9 September	from 8.30	to 16.30

INTERNET Free Wi-Fi is available at the conference venue.

CERTIFICATES OF ATTENDANCE Certificates of Attendance will be given upon request to the Registration Desk.

SOCIAL PROGRAM

PRE CONFERENCE TOUR

Sunday, 4 September

Grotta Gigante (Trieste, I), Zagreb (HR)

ICE BREAKER

Sunday, 4 September

from 18.30 to 21.00

Hall Congress Center

SOCIAL DINNER

Wednesday, 7 September

from 19.30 to 22.30

Dock 42

POST CONFERENCE TOUR

Saturday and Sunday, 10-11 September

Breginj (SLO), Bled (SLO), Venzone (I), Gemona (I)

ACCOMPANYING PERSON PROGRAM*

Afternoon visit of Trieste and San Giusto, Monday September 5 - € 33.00 per person

Meeting of the group with English-speaking escort at 2:15 pm by the Maritime Station. Departure of the group at 2:30 on foot towards San Giusto Castle. Estimated return time about 5:30 pm in front of the Maritime Station.

Afternoon visit to Grotta Gigante, Tuesday September 6 - € 39,00 per person

Meeting of the group with English-speaking escort at 2:45 pm by the Maritime Station. Departure by private bus/van from the Maritime Station at 3:00 pm. The Grotta Gigante is a karstic cave, first explored in 1840 and opened for tourists in 1908 by the Trieste Tourist Club. Estimated return time about 5:30 pm in front of the Maritime Station.

Afternoon visit to Miramare Castle and Park, Wednesday September 7 - € 33.00 per person

Meeting of the group with English-speaking escort at 2:15 pm by the Maritime Station. Departure by private bus/van from the Maritime Station at 2:30 pm. The beautiful **Castle of Miramare** was built in white stone on a rocky promontory overlooking the sea between 1856 and 1860, as the love nest for Archduke Maximilian of Austria and Charlotte of Belgium. Estimated return time around 5:30 pm in front of the Maritime Station.

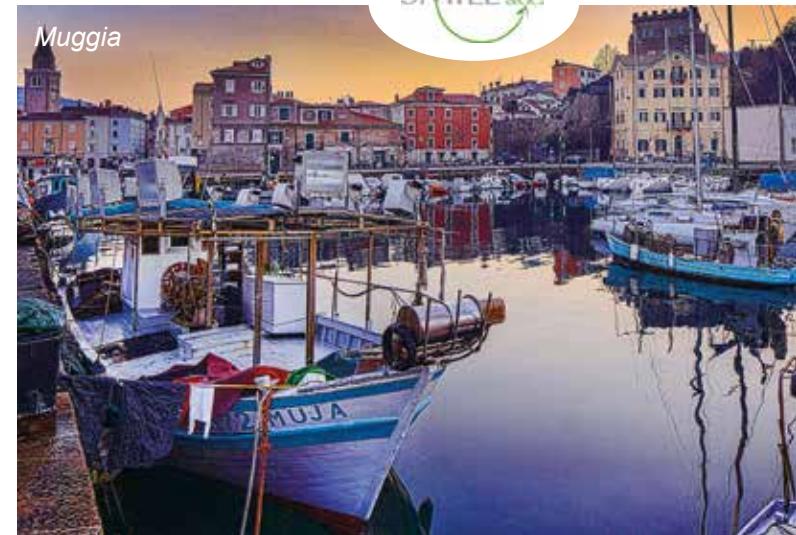
Afternoon tour by motor vessel to Muggia and visit of the little town, Thursday September 8, € 35.00 per person.

Meeting of the group with English-speaking escort at 2:45 pm by the Maritime Station. Departure by the *Delfino Verde* motor vessel from the Bersaglieri pier in Trieste at 3:10 pm, arrival in Muggia at 3:40 pm. Muggia is a small municipality in the vicinity of Trieste, a real gem with a Venetian flavour, backed by beautiful hills rising just behind it. At 6:05 pm the group shall return to Trieste by motor vessel, and arrive at 6:35 right in front of Piazza Unità d'Italia.

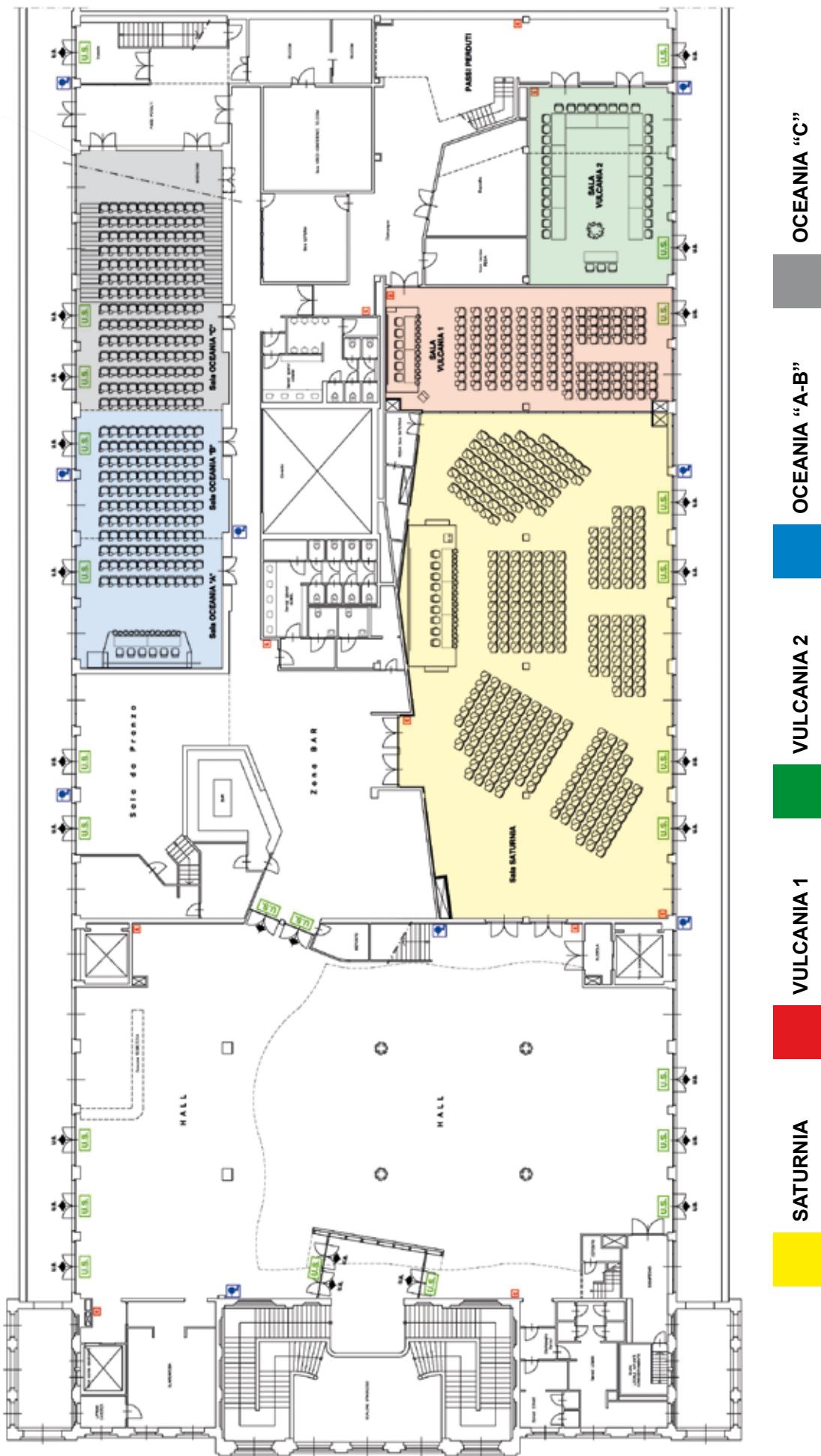
The visits can be booked at the reception desk (main hall of the Congress Center) at the info point of the Smile&GO travel agency, every morning before the end of the poster session.

* open also to the Conference participants, upon onsite registration

In collaboration with

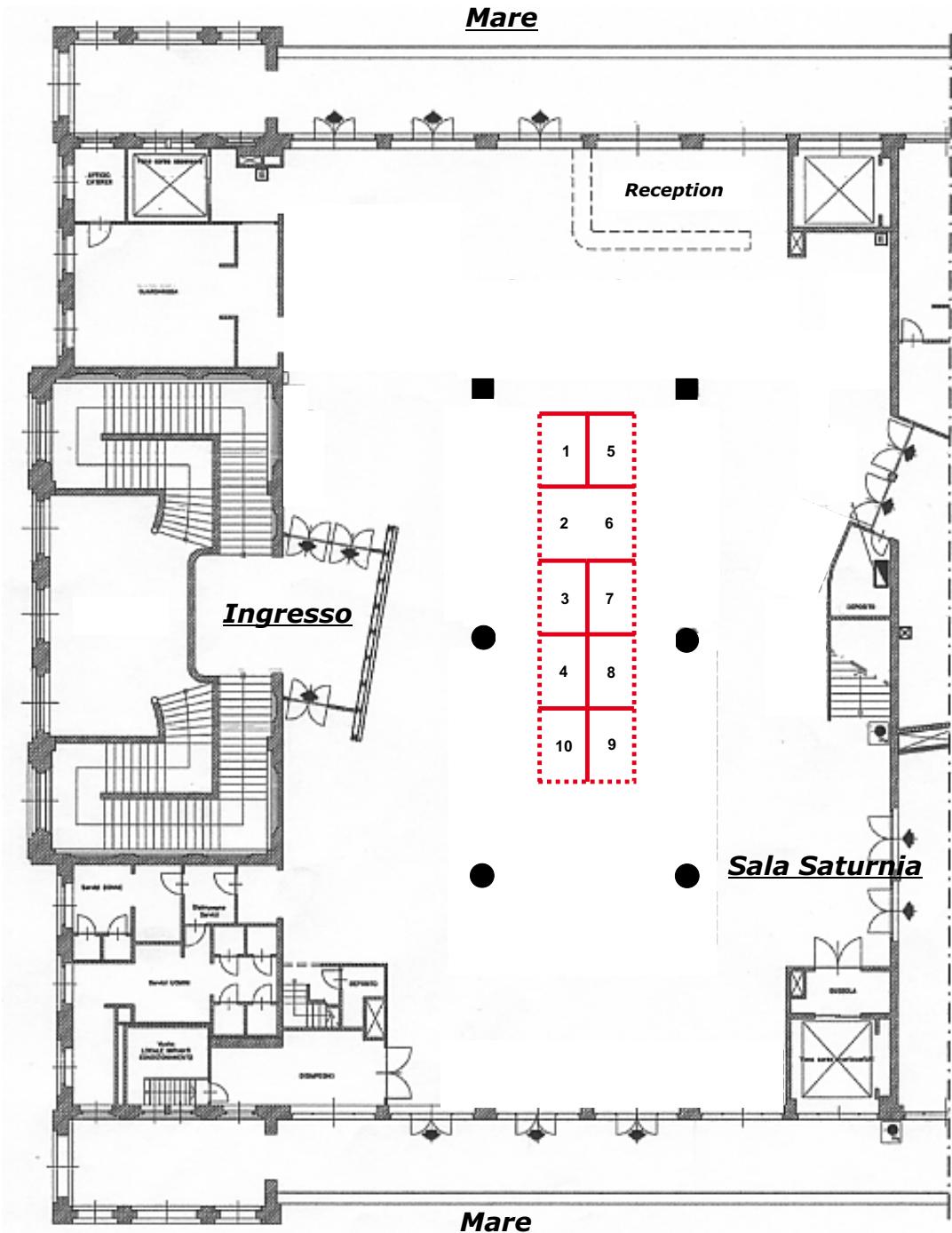






Stazione Marittima / Trieste

Hall

ESC 2016 Conference
35th General Assembly of the European Seismological Commission

- 1 - TRIMBLE
- 2 - NANOMETRICS
- 3 - KINEMETRICS
- 4 - GURALP
- 5 - SSA
- 6 - CODEVINTEC ITALIANA
- 7 - SPRINGER
- 8 - EAEE
- 9 - OGS
- 10 - OGS

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SUNDAY 4 SEPTEMBER 2016			
15:00 - 18:00	REGISTRATION	10:00 - 12:00	EAE&E ExecCom Meeting - Room Marconi
18:30 - 21:00	Saturnia Auditorium: ICE BREAKER PARTY	12:00 - 13:00	ESC ExecCom Meeting - Room Vulcania 2
		14:30 - 16:00	EAE&E ESC ExecComs Meeting - Room Marconi
		16:00 - 17:00	ESC & LOC ExecCom Meeting - Room Marconi
MONDAY 5 SEPTEMBER 2016			
08:00 - 09:30	REGISTRATION		
08:00 - 09:00	Saturnia Auditorium: OPENING PLENARY		
09:00 - 09:30	Saturnia Auditorium: OPENING CEREMONY		
09:30 - 10:30	Saturnia Auditorium: Keynote Lecture - DARIO ALBARELLO: <i>Extensive application of seismic microzoning: methodological and socio-political issues in the Italian Experience</i>		
10:30 - 11:30	POSTER SESSION & COFFEE BREAK		
Room Oceania C	Session 04	Session 06	Session 07
From school and citizen seismology to geodynamics	Room Vulcania 2	Room Vulcania 1	Room Oceania A+B
	Earthquakes in regions of slow lithospheric deformation	Seismic sources: theory, methods and applications	Operational earthquake forecasting/prediction: advances in models, observations and verification
11:30-12:30 ORAL SESSIONS			Session 08
			Session 10
12:30-14:30	LUNCH BREAK		
Room Oceania C	Session 09	Session 06	Session 08
Improving ground-motion prediction for regional and site-specific seismic hazard assessments	Room Vulcania 2	Room Vulcania 1	Room Oceania A+B
	Earthquakes in regions of slow lithospheric deformation	Seismic sources: theory, methods and applications	Operational earthquake forecasting/prediction: advances in models, observations and verification
14:30-17:30 ORAL SESSIONS			Session 21
17:30-18:30	POSTER SESSION & COFFEE BREAK		COSMOS Meeting - Room Marconi
			18:00 - 20:00

TUESDAY 6 SEPTEMBER 2016

9:00-10:30	Saturnia Auditorium: Prof. N.N. Ambroseys Distinguished Award Lecture - MUSTAFA ERDIK: Earthquake Risk Assessment					
10:30 - 11:30	POSTER SESSION & COFFEE BREAK					
11:30-13:30 ORAL SESSIONS	Session 09 Room Oceania C	Session 03 Room Vulcania 2	Session 07 Room Vulcania 1	Session 08 Room Oceania A+B	Session 08 Room Oceania A+B	Session 12 Room Saturnia
13:30-14:30	Improving ground-motion prediction for regional and site-specific seismic hazard assessments	Eastern Alpine seismological investigation: State of the art of the Alpine system from the Bohemian Massif to the Adriatic Sea	Seismic sources: theory, methods and applications	Operational earthquake forecasting/prediction: advances in models, observations and verification		Induced and triggered seismicity: mechanisms, monitoring, discrimination and management strategies
14:30-17:30 ORAL SESSIONS	Session 09 Room Oceania C	Session 05 Room Vulcania 2	Session 13 Room Vulcania 1	Session 14 Room Oceania A+B	Session 14 Room Oceania A+B	Session 12 Room Saturnia
17:30-18:30	Improving ground-motion prediction for regional and site-specific seismic hazard assessments	40th anniversary of 1976 Friuli earthquakes – lessons learned	From active faulting and geodynamic data to the assessment of seismic hazard: new constraints and challenges ahead	Engineering seismology in the risk evaluation of built environment (Joint ESC-EAF session)		Induced and triggered seismicity: mechanisms, monitoring, discrimination and management strategies
18:00-20:00 INGV CPS MPS16 Meeting - Room Marconi	POSTER SESSION & COFFEE BREAK					
18:00-20:00 EMSC General Assembly - Room Saturnia	EMSC ExecCom Meeting - Room Marconi					
WEDNESDAY 7 SEPTEMBER 2016						
9:00-10:30	Saturnia Auditorium: Inge Lehmann Distinguished Award Lecture - BARBARA ROMANOWICZ: Global imaging of the Earth's mantle in the era of numerical wavefield computations					
10:30 - 11:30	POSTER SESSION & COFFEE BREAK					
11:30-13:30 ORAL SESSIONS	Session 01 Room Oceania C	Session 22 Room Vulcania 2	Session 13 Room Vulcania 1	Session 14 Room Oceania A+B	Session 14 Room Oceania A+B	Session 12 Room Saturnia
13:30-14:30	Advances in noninvasive approaches to characterize seismic site conditions (Joint ESC-SSA session)	Historical earthquake research in Europe	From active faulting and geodynamic data to the assessment of seismic hazard: new constraints and challenges ahead	Engineering seismology in the risk evaluation of built environment (Joint ESC-EAF session)		Induced and triggered seismicity: mechanisms, monitoring, discrimination and management strategies
14:30-17:30 ORAL SESSIONS	Session 25 Room Oceania C	Session 22 Room Vulcania 2	Session 13 Room Vulcania 1	Session 14 Room Oceania A+B	Session 14 Room Oceania A+B	Session 12 Room Saturnia
17:30-18:30	Earthquake seismology applied: what's needed for managing the many facets of risk	Historical earthquake research in Europe	From active faulting and geodynamic data to the assessment of seismic hazard: new constraints and challenges ahead	Engineering seismology in the risk evaluation of built environment (Joint ESC-EAF session)		Induced and triggered seismicity: mechanisms, monitoring, discrimination and management strategies
19:30-22:30	POSTER SESSION & COFFEE BREAK					
	GALA DINNER					

THURSDAY 8 SEPTEMBER 2016					
Saturnia Auditorium: Keynote Lecture - WILLIAM L. ELLSWORTH: <i>Managing the Hazard of induced Earthquakes in a Changing World and ENRICO PRIOLO: Natural, triggered, or induced? An Italian/European perspective on the theme of monitoring and discrimination of induced seismicity</i>					
10:30 - 11:30 POSTER SESSION & COFFEE BREAK					
Session 02					
Room Oceania C		Session 17 Room Vulcania 2	Session 20 Room Vulcania 1	Session 18 Room Oceania A+B	Session 24 Room Saturnia
From ORFEUS to EPOS: the development of European seismological research infrastructures – a tribute to Torild van Eck		Rapid estimation of secondary earthquake effects and their impacts	Operational assessment and management of natural and induced seismic risk	Seismological and structural studies in Polar Regions and the cryosphere	FAULT2SHA – a European working group to link faults and probabilistic seismic hazard assessment communities in Europe
13:30-14:30 LUNCH BREAK					
Session 02					
Room Oceania C		Session 19 Room Vulcania 2	Session 15 Room Vulcania 1	Session 18 Room Oceania A+B	Session 24 Room Saturnia
From ORFEUS to EPOS: the development of European seismological research infrastructures – a tribute to Torild van Eck		Advances in borehole networks, data, and analyses	Earthquake and multi-hazard early warning and rapid response	Seismological and structural studies in Polar Regions and the cryosphere	FAULT2SHA – a European working group to link faults and probabilistic seismic hazard assessment communities in Europe
17:30-18:30 POSTER SESSION & COFFEE BREAK					
FRIDAY 9 SEPTEMBER 2016					
Saturnia Auditorium: Keynote Lecture - ABDELKRIM AOUDIA: <i>from Adria to Iridia: Lithospheric deformation and interseismic strain accumulation</i>					
9:00-10:30 POSTER SESSION & COFFEE BREAK					
Session 23					
Room Vulcania 2		Session 16 Room Vulcania 1	Session 11 Room Oceania A+B	Session 24 Room Saturnia	
11:30-13:30 ORAL SESSIONS		Educational seismology: empowering the community for seismic risk reduction	Improving seismic networks performances: from site selection to data integration	Deformation and seismicity of the Western Hellenic Arc – Ionian Sea Plate boundary: insights into the 2015 Lefkada M6.5 earthquake	FAULT2SHA – a European working group to link faults and probabilistic seismic hazard assessment communities in Europe
13:30-14:30 LUNCH BREAK					
Session 23					
Room Vulcania 2			Room Oceania A+B		
14:30-16:30 ORAL SESSIONS		Educational seismology: empowering the community for seismic risk reduction	Deformation and seismicity of the Western Hellenic Arc – Ionian Sea Plate boundary: insights into the 2015 Lefkada M6.5 earthquake		
16:30-17:30 Saturnia Auditorium: CLOSING PLENARY					

08:00–09:30

SE2 Opening Plenary & Opening Ceremony

Lecture Room: Saturnia

09:30–10:30

Keynote Lecture

Lecture Room: Saturnia

Chairperson: Mariano Garcia-Fernandez

DARIO ALBARELLO: Extensive application of seismic microzoning: methodological and socio-political issues in the Italian experience

11:30–12:30

04 From school and citizen seismology to geoethics

Conveners: Rémy Bossu; Paul Denton; Paul Earle; Giuseppe Di Capua

Lecture Room: Oceania C

11:30–11:45: ESC2016-120

4 years of seismology in school activities in Romania
Tataru, Dragos; Zaharia, Bogdan; Grecu, Bogdan

11:45–12:00: ESC2016-131

LastQuake: an app for massive real time crowdsourcing and seismic risk reduction
Bossu, Rémy; Steed, Robert; Fréderic, Roussel; Gilles, Mazet-Roux

12:00–12:15: ESC2016-501

Rapid estimation of earthquake intensity from Twitter's social sensors
Meletti, Carlo; Cresci, Stefano; Tesconi, Maurizio

12:15–12:30: ESC2016-626

The SSE-EU programme for Educational Seismology
Chouliaras, Gerasimos; Cavas, Bulent; Cerri, Luigi; Di Martino, Flora; Drakatos, George; Ivanov, Philip; Kouzov, Orlin; Makropoulos, Konstantinos; Mavromanolakis, Georgios; Papaevripidou, Marios; Pavlou, Yvoni; Pavlova, Daniela; Potsidi, Mariana; Sotiriou, Sofoklis; Zacharia, Zacharias

END OF ORAL PROGRAM 04

11:30–13:00

06 Earthquakes in regions of slow lithospheric deformation

Conveners: Susana Custódio; João Fonseca; Pierre Arroucau

Lecture Room: Vulcana 2

Chairpersons: Susana Custódio, João Fonseca

11:30–11:45: ESC2016-416

Coda Q Determination Across Western Canada: From a Region of Active Subduction, through a Volcanic Belt, to the Stable Craton

Cassidy, John; Farahbod, Amir

11:45–12:00: ESC2016-611

Challenge in identifying and characterizing active faults in low deformation area. Example near the capital of Mongolia.

Al-Ashkar, Abeer; **Schlupp, Antoine;** Ferry, Matthieu; Munkhuu, Ulziibat; Granet, Michel

12:00–12:15: ESC2016-364

Mozambique earthquakes: intraplate seismicity at the tip of the East African Rift System

Fonseca, João; Domingues, Ana; Attanayake, Januka

12:15–12:30: ESC2016-551

New estimates of seismicity rates in ireland
Arroucau, Pierre; Lebedev, Sergei; Grannell, James; Mölhoff, Martin; Bean, Chris; Horan, Clare; Blake, Tom

12:30–12:45: ESC2016-404

Long-term variations of the cGNSS data in the slow deforming N-Adria plate edge and relation with fault induced fluid mobilization.

Rossi, Giuliana; Zuliani, David; Fabris, Paolo

12:45–13:00: Discussion

14:30–17:15

Chairpersons: Pierre Arroucau, João Fonseca

14:30–14:45: ESC2016-362

The SEICHE Project: intraplate seismic source characterization for hazard assessment

Fonseca, João; Vilanova, Susana; Catalan, Carolina; Domingues, Ana; Custódio, Susana; Foroutan, Mohammad

14:45–15:00: ESC2016-565

Imaging active faults in the diffuse plate boundary between Iberia and North Africa

Custódio, Susana; Arroucau, Pierre; Cesca, Simone

15:00–15:15: ESC2016-396

Relationship between localized seismicity and lithospheric structure in a region of slow deformation (Alentejo, Portugal)

Matos, Catarina; Heimann, Sebastian; Cesca, Simone; Silveira, Graça; Custódio, Susana

15:15–15:30: ESC2016-489

New evidence for large earthquakes in mainland Portugal: paleoseismology of the Lower Tagus Valley fault
Foroutan, Mohammad; Vilanova, Susana; Heleno, Sandra; Pinto, Luís; Sajedi Far, Ailar; Falcao-Flor, Ana; Canora, Carolina; Pina, Pedro; Vieira, Gonçalo; Fonseca, Joao

15:30–15:45: ESC2016-223

Characterizing the seismic potential of a slow moving fault by integrating different techniques: the Alhama de Murcia fault (southeastern Betics, Spain)
Ferrater, Marta; Ortúñoz, María; Pallàs, Raimon; Pereira, Hector; Baize, Stephane; García-Meléndez, Eduardo; Martínez-Díaz, José J.; Echeverría, Anna; Khazaradze, Giorgi; Rockwell, Thomas; Sharp, Warren D.; Arrowsmith, Ramon; Medialdea, Alicia; Rhodes, Edward; **Masana, Eulàlia**

15:45–16:00: ESC2016-509

The Alboran Sea earthquake (Mw 6.3) of 25 January 2016: A consequence of the 1994-2004 Al Hoceima seismic events?
Kariche, Jugurtha; Meghraoui, Mustapha; Timoulali, Youssef; Cetin, Esra; Toussaint, Renaud

16:00–16:15: ESC2016-14

The Algiers earthquake of 1st August 2014 and its aftershocks sequence
Khelif, Mohamed Fadhlallah; Yelles-Chaouche, Abdelkarim; Haned, Abderahman; Benissa, Zahia; Chami, Adel; Larbes, Yahia

16:15–16:30: ESC2016-552

Tectonic stress regime, crustal deformation and present-day seismicity of Egypt and surrounding area based on inversion of focal mechanism solutions for local earthquakes recorded by ENSN network
Abd el-aal, Abd el-aziz

16:30–16:45: ESC2016-262

Seismogenic nodes defined in north-east Egypt by the pattern recognition approach
Gorshkov, Alexander; Hassan, Hany; Novikova, Olga

16:45–17:00: ESC2016-8

Lateral variations of the Poisson's ratio in the Southern Anatolia lithosphere deformation
Aydin, Ufuk

17:00–17:15: Discussion**END OF ORAL PROGRAM 06****11:30–13:00****07 Seismic sources: theory, methods and applications**

Conveners: Sebastiano D'Amico; Christos Evangelidis; Efthimios Sokos; Vaclav Vavrycuk

Lecture Room: Vulcania 1

Chairpersons: Sebastiano D'Amico, Christos Evangelidis

11:30–11:45: ESC2016-121

Source scaling in the Vrancea subcrustal nest (Romania): an overview over the last 75 years

Radulian, Mircea; Popescu, Emilia; Placinta, Anica Otilia; Borleanu, Felix

11:45–12:00: ESC2016-622

Analysis of the State of Stress before and after the Deep Okhotsk Earthquake

Polets, Anastasia

12:00–12:15: ESC2016-469

Amplitude ratios for source mechanism retrieval - the shear-tensile crack vs. moment tensor approach

Jechumtálová, Zuzana; Šílený, Jan

12:15–12:30: ESC2016-21

Composite moment tensor - A tool for studying multiple earthquakes

Vavrycuk, Vaclav

12:30–12:45: ESC2016-25

Semi-automatic P-waveform inversion for focal mechanisms and moment tensors using the principal component analysis

Vavryčuk, Václav; **Adamová, Petra**

12:45–13:00: ESC2016-473

Earthquake mechanism extended for rupture propagation estimate: West Bohemia/Vogtland swarm 2014
Šílený, Jan; Horálek, Josef

14:30–17:30

Chairpersons: Efthimios Sokos, Vaclav Vavrycuk

14:30–14:45: ESC2016-662

Fault-valve action in real time: carbon dioxide release due to ML 3.5 earthquake in West Bohemia

Fischer, Tomáš; Hainzl, Sebastian; Matyska, Ctirad; Heinicke, Jens; Jakoubková, Hana; Bachura, Martin; Vlček, Josef

14:45–15:00: ESC2016-42

Earthquake swarms versus 2014 mainshock-aftershock activity in West Bohemia, Czech Republic

Jakoubková, Hana; Horálek, Josef; Fischer, Tomáš

15:00–15:15: ESC2016-590

High-frequency source imaging of the 2016 April 16 Kumamoto (Japan) earthquake by backprojection of strong motion waveforms

Evangelidis, Christos P.

15:15–15:30: ESC2016-54

The high-frequency waveform inversion - an adequate tool for estimating the focal mechanism of the weak crustal earthquakes of Vrancea region (Romania)

Ardeleanu, Luminita Angela

15:30–15:45: ESC2016-68

Constraints on earthquake nodal planes obtained from regional and teleseismic data

Lentas, Konstantinos; Storchak, Dmitry

15:45–16:00: ESC2016-674

Usage of SH/P amplitude ratios for focal mechanism determination - case study from the Nordland region, Norway

Michalek, Jan; Ottemöller, Lars; Janutyte, Ilma; Lindholm, Conrad

16:00–16:15: ESC2016-229

Fast and cheap approximation of Green functions uncertainty for waveform-based earthquake source inversions

Hallo, Miroslav; Gallovič, František

16:15–16:30: ESC2016-321

Simulating seismic sources with Discrete Element Method

Klejment, Piotr; Dębski, Wojciech; Kosmala, Alicja; Foltyn, Natalia

16:30–16:45: ESC2016-475

Automated moment tensor inversion with Bayesian approach and noise covariance matrix

Vackar, Jiri; Burjanek, Jan; Zahradník, Jiří; Gallović, Frantisek

16:45–17:00: ESC2016-669

Source model of the 2012 Ahar-Varzaghan earthquake doublet using elliptical subfault approximation

Momeni, Maalek; Aoudia, Abdelkrim; Tatar, Mohammad; Twardzik, Cedric

17:00–17:15: ESC2016-658

Regional Magnitude Scale for Earthquakes along Spreading Ridges and Transform Faults in Arctic Zone

Kim, Won-Young; Ottemöller, Lars

17:15–17:30: ESC2016-486

Laboratory study of fault slip modes and earthquake radiation efficiency

Kocharyan, Gevorg; Ostapchuk, Alexey; Pavlov, Dmitriy

END OF MONDAY ORAL PROGRAM 07

11:30–13:00

08 Operational earthquake forecasting/prediction: advances in models, observations and verification

Conveners: Angelo De Santis; Vladimir Kossobokov; Dimitar Ouzounov; Gerassimos Papadopoulos; Antonella Peresan; Sergey Pulinets; J.D. Zechar

Lecture Room: Oceania AB

Chairpersons: A. Peresan, V. Kossobokov

Multidisciplinary approach to earthquake forecasting

11:30–11:45: ESC2016-205

Through 47 years of RST analysis of anomalous TIR sequences in relation with earthquakes occurred in different continents and in various geo-tectonic settings. (invited talk)

Tramutoli, Valerio; Lisi, Mariano; Filizzola, Carolina; Genzano, Nicola; Paciello, Rossana; Pergola, Nicola

11:45–12:00: ESC2016-153

Variations in Gravitational Field, Tidal Force and Earthquakes (Sheki-Greater Caucasus, Azerbaijan)

Kadirov, Fakhraddin; Telesca, Luciano; Mammadov, Samir; Babayev, Gulam

12:00–12:15: ESC2016-569

Lithosphere-Atmosphere Interface as a background for physical explanation of short-term precursors

Pulinets, Sergey; Ouzounov, Dimitar

12:15–12:30: ESC2016-401

An interdisciplinary approach of utilizing pre-earthquake signals for short-term prediction studies

Ouzounov, Dimitar; Pulinets, Sergey; Hattori, Katsumi; Liu, Tiger; Kafatos, Menas

12:30–12:45: ESC2016-495

SAFE Project: An improved integrated system of earthquake physics study from ground and satellite observations

De Santis, Angelo; De Franceschi, Giorgiana; Di Giovambattista, Rita; Perrone, Loredana; Alfonsi, Lucilla; Cianchini, Gianfranco; Pavón-Carrasco, F. Javier; Cesaroni, Claudio; Spogli, Luca; Piscini, Alessandro; Marchetti, Dedalo; De Santis, Anna; D'Angelo, Giulia; Musicò, Elvira; Malagnini, Andrea; Amoruso, Leonardo; Carbone, Marianna; Abbattista, Cristoforo

12:45–13:00: ESC2016-540

Uranium Groundwater Anomalies and Active Normal Faulting (invited talk)

Plastino, Wolfgang

14:30–17:30**Chairpersons:** A. De Santis, G. Papadopoulos**Spatio-temporal properties of earthquake occurrence****14:30–14:45: ESC2016-512**Temporal and energy parameters of aftershock process of the earthquakes of the Caucus and adjacent territories
Rodina, Svetlana; Lutikov, Alexandr; Doncova, Galina**14:45–15:00: ESC2016-143**On temporary clustering of aftershocks and its dependence on the magnitude of main shock
Zayyalov, Alexey; Guglielmi, Anatoly; Zотов, Олег; Lavrov, Ivan**15:00–15:15: ESC2016-101**The static behaviour of tectonic aftershocks: From geometric to subdiffusion analysis
Mignan, Arnaud**15:15–15:30: ESC2016-452**Relative frequencies of seismic main shocks after strong shocks in Italy
Gasperini, Paolo; Lolli, Barbara; Vannucci, Gianfranco**15:30–15:45: ESC2016-145**Estimation of the frequency-magnitude Gutenberg-Richter b-value without level of completeness
Kijko, Andrzej; Smit, Ansie**15:45–16:00: ESC2016-536**Operative Forecasting of the hazard from aftershocks of Large Earthquakes
Peter, Shebalin; **Sergey, Baranov****Operational earthquake forecasting****16:00–16:15: ESC2016-483**

A composite model of expected earthquake rates in California based on intermediate-term precursory patterns (invited talk)

Shebalin, Peter**16:15–16:30: ESC2016-80**Forecasting model for $Mw \geq 5.0$ earthquakes in the Algeria-Morocco region
Mohamed, Hamdache; Jose, Pelaez; Abdel krim, Yelles Chaouche**16:30–16:45: ESC2016-576**Short-term operational earthquake forecasts based on epidemic clustering models
Console, Rodolfo; Murru, Maura; Falcone, Giuseppe; Marzocchi, Warmer**16:45–17:00: ESC2016-288**Operational earthquake forecast: about two decades of CN and M8S algorithms practice in Italy
Peresan, Antonella; Romashkova, Leontina; Kossobokov, Vladimir; Panza, Giuliano F.**17:00–17:15: ESC2016-529**Global testing of earthquake prediction algorithms
Kossobokov, Vladimir**17:15–17:30: ESC2016-382**

probability does not exist: some considerations on seismic risk mitigation

Guaganti, Elisa; Petrini, Vincenzo**END OF MONDAY ORAL PROGRAM 08****14:30–17:30****09 Improving ground-motion prediction for regional and site-specific seismic hazard assessments****Convenors:** John Douglas; Benjamin Edwards; Carlo Cauzzi**Lecture Room:** Oceania C**Chairpersons:** John Douglas and Carlo Cauzzi**Uncertainties in ground motion prediction****14:30–14:45: ESC2016-63**Retrospectively checking the epistemic uncertainty required in logic trees for ground-motion prediction
Douglas, John**14:45–15:00: ESC2016-232**Estimation and Effects of Epistemic Uncertainty in Non-Ergodic Seismic Hazard Analysis
Kuehn, Nicolas; Abrahamson, Norman**15:00–15:15: ESC2016-604**Robustness of Epistemic Uncertainties in Regional Ground Motion Models
Danciu, Laurentiu; Giardini, Domenico**15:15–15:30: ESC2016-329**Partitioning of epistemic uncertainty and aleatory variability in site specific PSHA
Barani, Simone; Spallarossa, Daniele**15:30–15:45: ESC2016-535**Aleatory variability associated with GMPEs versus seismological models: the case of central Italy
Pacor, Francesca; Bindi, Dino; Spallarossa, Daniele; Oth, Adrien; D'Amico, Maria; Felicetta, Chiara**15:45–16:00: ESC2016-249**Contribution of the SIGMA research programme to quantify the uncertainties in seismic hazard assessment
Senfaute, Gloria; Pecker, Alain; Labb  , Pierre; Sidaner, Jean Fran  ois; Berge-Thierry, Catherine; Rzepka, Jean Pierre; Contri, Paolo**16:00–16:15: Discussion****Site-specific seismic hazard****16:15–16:30: ESC2016-277**

Relaxing the ergodic assumption in Europe and Middle East: from ground motion regional attributes to site-specific hazard curves

Kotha, Sreeram-Reddy; Bindi, Dino; Cotton, Fabrice

16:30–16:45: ESC2016-557

Site-specific characterization, single station sigma, host-to-target adjustments and non-linear behavior: Combined effects on seismic hazard estimates.

Aristizábal, Claudia; Beauval, Céline; Bard, Pierre-Yves

16:45–17:00: ESC2016-543

Influence of GMPEs on Site-specific Uniform Hazard Spectra. Case study for Iasi, Romania

Vacareanu, Radu; Pavel, Florin; Iancovici, Mihail; Aldea, Alexandru

17:00–17:15: ESC2016-124

Soil-invariant seismic hazard and disaggregation
Iervolino, Iunio

17:15–17:30: ESC2016-39

Selection of Ground Motion Prediction Equations for Probabilistic Seismic Hazard Assessments of the Izmit Bay Bridge

Li Destri Nicosia, Giovanni; Gülerce, Zeynep

END OF MONDAY ORAL PROGRAM 09**11:30–13:00**

10 Methods and data for the study of earthquakes recorded on pre-WWSSN historical seismograms

Conveners: Graziano Ferrari; Josep Batlló

Lecture Room: Saturnia

11:30–11:45: ESC2016-35

60 years of parametric instrumental data collection from pre-WWSSN seismic stations

Di Giacomo, Domenico; Storchak, Dmitry; Villanseñor, Antonio; Harris, James

11:45–12:00: ESC2016-183

Modern methods applied to historical seismograms: Perspective and examples

Okal, Emile

12:00–12:15: ESC2016-360

The contribution of the Sismos project to the preservation and dissemination of the material heritage of instrumental seismology

Ferrari, Graziano

12:15–12:30: ESC2016-435

Preserving analogue seismograms of regional networks. The case of the Institut Cartogràfic i Geològic de Catalunya (ICGC)

Batlló, Josep; Montaner, Carme; Olivera, Carme

12:30–12:45: ESC2016-429

Available data and documentation from Observatori Fabra

Merino, María Teresa; Batlló, Josep; Fleta, Jorge; Susagna, Teresa

12:45–13:00: ESC2016-520

Magnitudes of the Caucasus earthquakes 1903 - 1908

Tsereteli, Nino; Varazanashvili, Otar; Kvavadze, Nino;

Gogoladze, Zurab

END OF ORAL PROGRAM 10**14:30–16:30**

21 Earthquake small-aperture arrays

Conveners: Orhan Polat; Benedikt Halldorsson;

Francesca Bianco; Ulubey Ceken

Lecture Room: Saturnia

Chairpersons: Orhan Polat, Benedikt Halldorsson, Francesca Bianco, Ulubey Ceken

14:30–14:45: ESC2016-154

Volcanic tremor at Mt. Vesuvius

La Rocca, Mario; Galluzzo, Danilo

14:45–15:00: ESC2016-159

Hydrothermal episodic tremor in the Campi Flegrei caldera

Galluzzo, Danilo; La Rocca, Mario

15:00–15:15: ESC2016-426

A strongly heterogeneous hydrothermal area imaged by surface waves: the case of Solfatara, Campi Flegrei, Italy

Serra, Marcello; Festa, Gaetano; Roux, Philippe; Gresse, Marceau; Vandemeulebrouck, Jean; Zollo, Aldo

15:15–15:30: ESC2016-559

Interpretation of Seismic Tomographic Images From Local Earthquake Data

Kaypak, Bülent

15:30–15:45: ESC2016-347

Application of multicomponent receiver function inversion to small-aperture array data from the central part of the Russian platform.

Goev, Andrey; Kosarev, Grigoriy; Sanina, Irina; Riznichenko, Oksana

15:45–16:00: ESC2016-389

Remote earthquake sequence relocation based on two regional seismic arrays and constrain for source depths using later phases of recorded seismograms

Huang, Bor-Shouh

16:00–16:15: ESC2016-1

Effect of a dipping layer on the location of Pishan earthquake sequences by the using of array methods

Hao, Chunyue; Li, Li

16:15–16:30: ESC2016-330

Application Based Seismological Array Design by Seismicity Scenario Modelling

Karamzadeh, Nasim; Heimann, Sebastian; Dahm, Torsten; Krüger, Frank

END OF ORAL PROGRAM 21

Posters Monday

04 From school and citizen seismology to geoethics

Conveners: Rémy Bossu; Paul Denton; Paul Earle; Giuseppe Di Capua

Display Time: Mon, 09:00–19:00

Attendance Times: Mon, 10:30–11:30 & 17:30–19:00

04-1: ESC2016-133

With Citizen seismology, Everyone can become a seismologist!

Mazet-Roux, Gilles; Bossu, Rémy; Frobert, Laurent

04-2: ESC2016-412

Transfrontier Macroseismology in Europe

Van Noten, Koen; Sira, Christophe; Lecocq, Thomas; Hinzen, Klaus-G.; Camelbeeck, Thierry

04-3: ESC2016-462

Development of the Romanian Educational Seismic Network

Zaharia, Bogdan; Tataru, Dragos; Grecu, Bogdan; Neagoe, Cristian

04-4: ESC2016-650

The project of Interchange work/school in Italy: the experience at INGV

D'Addazio, Giuliana

END OF POSTER PROGRAM 04

06 Earthquakes in regions of slow lithospheric deformation

Conveners: Susana Custódio; João Fonseca; Pierre Arroucau

Display Time: Mon, 09:00—19:00

Attendance Times: Mon, 10:30–11:30 & 17:30–19:00

Chairpersons: Susana Custódio, Pierre Arroucau

06-1: ESC2016-41

GPS and DInSAR to estimate the ground motions and co-seismic displacements on Feb. 6, 2016 Meinung earthquake, Taiwan

Chen, Horng-Yue; Tung, Hsing

06-2: ESC2016-76

Single Layer Recurrent Neural Network for detection of swarm-like earthquakes in W-Bohemia/Vogtland - the method

Doubravová, Jana; Wisnioski, Jan; Horálek, Josef

06-3: ESC2016-88

The February 1, 2011, Mw=4.7 earthquake: evidence of local extension in western Transbaikalia

Melnikova, Valentina; **Seredkina, Alena;**

Radziminovich, Yan; Melnikov, Aleksander;

Gilyova, Nadezhda

06-4: ESC2016-105

Earthquakes in the Suha Krajina region in years 2013 and 2014

Čarman, Martina; Godec, Matjaž; Šket Motnikar, Barbara; Zupančič, Polona; Živčić, Mladen

06-5: ESC2016-142

Catalog of focal mechanism solutions for crustal earthquakes in Intra-Carpathian region of Romania

Oros, Eugen; Popa, Mihaela; **Ghita, Cristian;** Rogozea, Maria; Rau-Vanciu, Adina Florentina; Neagoe, Cristian

06-6: ESC2016-213

An updated database of focal mechanism solutions and stress estimation for the Calabrian Arc region (south Italy)

Scolaro, Silvia; Totaro, Cristina; Orecchio, Barbara; Presti, Debora; Neri, Giancarlo

06-7: ESC2016-224

Improving the basis for seismic hazard assessment in Germany by combining earthquake catalogues with paleoseismic and neotectonic evidence

Kaiser, Diethelm; Spies, Thomas; Schlittenhardt, Jörg; Reicherter, Klaus

06-8: ESC2016-282

Reflection of seismotectonic processes in abnormal changes of intensity of the geomagnetic field (on the example of Oguz earthquake in 04.09.2015, ml=5.9, H - 15km, Azerbaijan)

Rzayev, Azay; Yetirmishli, Gurban; Agazade, Afag

06-9: ESC2016-482

S-wave splitting observed at records of local micro-earthquakes in Reykjanes Peninsula, Island

Boušková, Alena; Hrubcová, Pavla; Vavryčuk, Václav; Horálek, Josef

06-10: ESC2016-560

Observed seismicity and models of postseismic stress relaxation offshore SW Iberia

Neves, Maria; Matias, Luis; **Custódio, Susana**

06-11: ESC2016-617

Lg wave attenuation tomography for Norway

Demuth, Andrea; Ottemöller, Lars; Keers, Henk

06-12: ESC2016-633

First evidence of seismic activity on a near-shore fault south of Malta, Central Mediterranean

Bozionelos, George; Galea, Pauline; D'Amico, Sebastiano; Agius, Matthew R.

06-13: ESC2016-530

Towards an Improved Catalog of Irish Seismicity in the years 2010 to 2015

Grannell, James; Arroucau, Pierre; Lebedev, Sergei; Mollhoff, Martin; Bean, Chris; Horan, Clare; Blake, Tom

END OF POSTER PROGRAM 06

07 Seismic sources: theory, methods and applications

Conveners: Sebastiano D'Amico; Christos Evangelidis; Efthimios Sokos; Vaclav Vavrycuk

Display Times: Mon, 09:00–19:00 & Tue, 09:00–19:00

Attendance Times: Mon, 10:30–11:30 & 17:30–19:00

Tue, 10:30–11:30 & 17:30–19:00

Chairperson: Sebastiano D'Amico

07-1: ESC2016-138

Seismic pattern and focal mechanism determination in the Nisyros region (SE Aegean, Greece)

Papadimitriou, Panayotis; Karakonstantis, Andreas; Kapetanidis, Vasileios; Bozionelos, George; Kaviris, George; Voulgaris, Nicholas

07-2: ESC2016-24

Fast moment magnitude estimation using strong motion data

Craiu, George Marius; Gallo, Antonella; Costa, Giovanni; Marmureanu, Alexandru; Craiu, Andreea; Ionescu, Constantin; Danet, Anton

07-3: ESC2016-32

Earthquake energy reduction by external action from laboratory simulation

Sobolev, Gennady; Ponomarev, Alexander; Maibuk, Yuri

07-4: ESC2016-33

Complex geometry of the fault system revealed by analysis of locations and focal mechanisms of micro-earthquakes occurring in the 2014 West Bohemia seismic activity

Adamova, Petra; Vavrycuk, Vaclav; Doubravova, Jana; Jakoubková, Hana

07-5: ESC2016-112

Modeling large precursory slip at the deeper extension of the seismic region along the Nankai Trough, SW Japan – Interaction between slow slip events and brittle nucleation –

Ohtani, Makiko; **Kame, Nobuki;** Nakatani, Masao

07-6: ESC2016-118

Scaling source properties of the earthquake sequence triggered on 22 November 2014 in the South-Eastern Carpathians foredeep area (Romania)

Popescu, Emilia; **Placinta, Anica Otilia;** Borleanu, Felix; Radulian, Mircea; Moldovan, Iren Adelina; Coman, Alina

07-7: ESC2016-129

An Automated Moment Magnitude (Mw) and Focal Mechanism for the Algerian Digital Seismic Network (ADSN)

Beldjoudi, Hamoud; Ouakedi, Mohamed; Yelles-Chaouche, Abdelkarim; Delouis, Bertrand; Kherroubi, Abdelaziz; dabouz, Ghania

07-8: ESC2016-135

EMPIRICAL RELATIONS CONVERTING MP (MAGNITUDE USED IN BULGARIAN SEISMOLOGICAL NETWORK) TO mb, ML AND MW

Christoskov, Ludmil; Solakov, Dimcho; Simeonova, Stella; **Popova, Mariya**

07-9: ESC2016-140

Spatiotemporal variation of body-wave velocities in Corinth Gulf (Greece)

Karakonstantis, Andreas; Papadimitriou, Panayotis

07-10: ESC2016-141

Recent seismic activity in Saronikos Gulf (Greece) and investigation of possible volcano-tectonic features

Papadimitriou, Panayotis; Fountoulakis, Ioannis; Spingos, Ioannis; Karakonstantis, Andreas

07-11: ESC2016-150

Analysis of low magnitude seismic sequences in Calabria

Gervasi, Anna; Napolitano, Ferdinando; Galluzzo, Danilo; La Rocca, Mario; Festa, Rocco Lorenzo; Guerra, Ignazio

07-12: ESC2016-152

The source mechanism of the seismic events during the sequence of the moderate-size crustal earthquake of November 22, 2014 of Vrancea region (Romania)

Craiu, Andreea; Ardeleanu, Luminita; Craiu, Marius; Diaconescu, Mihail

07-13: ESC2016-168

Estimating parameters of unusual regional explosions from seismo-acoustic observations in Israel

Gitterman, Yefim; Pinsky, Vladimir; Mazur, Michael; Ataev, Galina

07-14: ESC2016-193

Third corner frequency of moderate Kamchatka earthquakes: station estimates agree over a network

Skorkina, Anna A.; Gusev, Dr. Alexander A.

07-15: ESC2016-196

Factors to affect coseismic fold in an overburden

Cai, Yongen; Zeng, Shaogang

07-16: ESC2016-200

Diffraction-Stack Imaging of Source and Structure – Application of TAIGER Project in Taiwan

Wang, Haw-Chun; Chen, How-Wei

07-17: ESC2016-275

Seismic moment estimated from the response spectra for small seismic events occurred in North-Eastern Italy

Moratto, Luca; Priolo, Enrico; Saraò, Angela

07-18: ESC2016-410

Algorithm that allow observe the degree of anisotropy and fracturing

Chacón Hernández, Francisco

07-19: ESC2016-646

Ssa2py: Source-Scanning Algorithm in Python
Triantafyllis, Nikolaos; **Evangelidis, Christos**

07-20: ESC2016-331

Empirical Green's function analysis of a moderate earthquake and its largest aftershock north of Algeria.

Semmane, Fethi; Benabdelloued, B.Y. Nassim; Heddar, Aïcha

07-21: ESC2016-564

A platform for routine and automatic moment tensor inversion testing - concept and first synthetic data applications

Dahm, Torsten; Heimann, Sebastian; Cesca, Simone

07-22: ESC2016-445

Seismic activity in the gulf of Cadiz inferred from OBS data

Bolrão, Daniela; Matos, Catarina; Grevemeyer, Ingo; Matias, Luis; Custódio, Susana

07-23: ESC2016-568

Multiband magnitude scale for Kamchatka earthquakes: the next step of development

Gusev, Alexander; **Chebrov, Danila;** Abubakirov, Iskander; Chebrova, Anastasiia; Chemarev, Andrey; Guseva, Evgeniya; Matveenko, Evgeniy; Pavlov, Victor; Skorkina, Anna; Tokarev, Alexander

07-24: ESC2016-459

How radial modes can help with constraining source of relatively weak vertical acceleration generated by strike-slip earthquakes

Zábranová, Eliška; Matyska, Ctirad

07-25: ESC2016-605

Seismicity and 3D tectonic stress field distribution in the western Hellenic Arc

Kassaras, Ioannis; Kapetanidis, Vasilis; Karakonstantis, Andreas

07-26: ESC2016-672

Lowering the threshold of centroid moment tensor estimation by implementing probabilistic shrinking box, source-specific station term method

Nooshiri, Nima; Heimann, Sebastian; Saul, Joachim; Tilmann, Frederik; Dahm, Torsten

07-27: ESC2016-136

Shear-wave splitting characteristics during 2014 in the Western Corinth Gulf (Greece)

Kaviris, George; Millas, Christos; Spingos, Ioannis; Kapetanidis, Vasileios; Karakonstantis, Andreas; Papadimitriou, Panayotis; Voulgaris, Nicholas; Makropoulos, Kostas

07-28: ESC2016-546

Earthquake-induced tsunamis in the northwestern Black Sea

Dimova, Lyuba; Armigliato, Alberto; Pagnoni, Gianluca; Tinti, Stefano; Raykova, Reneta

END OF POSTER PROGRAM 07**08 Operational earthquake forecasting/prediction: advances in models, observations and verification**

Convenors: Angelo De Santis; Vladimir Kossobokov; Dimitar Ouzounov; Gerassimos Papadopoulos; Antonella Peresan; Sergey Pulinets; J.D. Zechar

Display Times: Mon, 09:00–19:00 & Tue, 09:00–19:00

Attendance Times: Mon, 10:30–11:30 & 17:30–19:00
Tue, 10:30–11:30 & 17:30–19:00

Chairpersons: J. Zechar, D. Ouzunov

08-1: ESC2016-571

Prospectively Evaluating the Collaboratory for the Study of Earthquake Predictability: An Evaluation of the UCERF2 and Updated Five-Year RELM Forecasts

Strader, Anne; Schneider, Max; Schorlemmer, Danijel; Liukis, Maria

08-2: ESC2016-634

Could Complexity theory and Statistical physics be used to support earthquake precursors recognition ?

Vallianatos, Filippos

08-3: ESC2016-320

Time-reversal - an efficient method for Bayesian inversion

Debski, Wojciech

08-4: ESC2016-688

Crimea: morphostructural zoning and seismogenic nodes

Gorshkov, Alexander; Soloviev, Alexader

08-5: ESC2016-687

The correlation of the 16 April 2016 Ecuador earthquake M7.8 with the potential nodes (M6.5+) defined in Ecuador in 2010

Gorshkov, Alexander; Chunga, Kervin; Soloviev, Alexander; Michetti, Alessandro; Panza, Giuliano

08-6: ESC2016-77

Multidisciplinary observation evidence of earthquake precursors

Zhang, Shuliang; Li, Bin

08-7: ESC2016-498

Earthquakes from space: examples of electromagnetic anomalies before large earthquakes detected by the ESA Swarm satellite mission

De Santis, Angelo; Marchetti, Dedalo; Balasis, George; Pavón-Carrasco, F. Javier; Mandea, Mioara

08-8: ESC2016-507

ECHO Project: an integrated series of tools for characterizing seismic sequences evolution

Falcone, Giuseppe; De Santis, Angelo; Di Giovambattista, Rita; Cianchini, Gianfranco; Murru, Maura; Calderoni, Giovanna; Lucente, Pio Francesco; De Gori, Pasquale; Signanini, Patrizio; Rainone, Mario; Vessia, Giovanna

08-9: ESC2016-393

Anomalous transients in Radon emission, Earth's emitted TIR radiation and seismicity in North Italy
Riggio, Anna; Capobianco, Stefano; Genzano, Nicola; Lisi, Mariano; Tamaro, Alberto; Santulin, Marco; Sileo, Giancanio; Tramutoli, Valerio

08-10: ESC2016-427

Tidal evidences of strain sensitivity in mud volcanic fluids
Martinelli, Giovanni; Dadomo, Andrea; Albarello, Dario

08-11: ESC2016-90

Investigation of local geomagnetic anomalies in tectonically active region of Armenia (case study)
Simonyan, Anahit; Ohanyan, Marine; Metsoyan, Tigran; De Santis, Angelo

08-12: ESC2016-682

Strong Earthquakes in Indonesia and Philippines warned in advance from Space
Fidani, Cristiano

08-13: ESC2016-303

Complexation of signals registered by spatially distributed network of multi-electrode instrumentation systems
Bobrovskiy, Vadim; Lyubushin, Alexey; Shopin, Sergey

08-14: ESC2016-678

Hardware and software components of complex geophysical monitoring network for short-term earthquake prediction

Shopin, Sergey; Protopopov, Aleksander; Doda, Leonid; Natyaganov, Vladimir; Bobrovskiy, Vadim

08-15: ESC2016-618

Seismic forecasting application of Astro-Meteo-Tectonics concept
Doda, Leonid; Kubyshen, Aleksander; **Shopin, Sergey**

08-16: ESC2016-703

Global warming of the climate and earthquake prediction
Mavashev, Boris

END OF POSTER PROGRAM 08

10 Methods and data for the study of earthquakes recorded on pre-WWSSN historical seismograms

Conveners: Graziano Ferrari; Josep Batlló

Display Time: Mon, 09:00–19:00

Attendance Times: Mon, 10:30–11:30 & 17:30–19:00

10-1: ESC2016-573

Romanian Historical Earthquakes: Observation, Recording and Study. What it was done and what will be done
Oros, Eugen; Paulescu, Daniel; **Zaharia, Bogdan**

10-2: ESC2016-504

Homogenization of magnitude estimates in terms of Mw of Italian earthquakes occurred before 1981
Lolli, Barbara; Gasperini, Paolo; Rebez, Alessandro

10-3: ESC2016-583

What should be done with millions of analog seismograms, containing information acquired prior to the era of digital recording?

Richards, Paul

10-4: ESC2016-361

The 21 August 1962 Irpinia (Southern Italy) seismic sequence: new insight on the first shock
Vannoli, Paola; Bernardi, Fabrizio; Palombo, Barbara; Vannucci, Gianfranco; Console, Rodolfo; **Ferrari, Graziano**

10-5: ESC2016-430

Preservation of seismograms from Observatori Fabra first seismic station (1906–1913)
Merino, Maria Teresa; Andrades, Tana

END OF POSTER PROGRAM 10

21 Earthquake small-aperture arrays

Conveners: Orhan Polat; Benedikt Halldorsson; Francesca Bianco; Ulubey Ceken

Display Time: Mon, 09:00–19:00

Attendance Times: Mon, 10:30–11:30 & 17:30–19:00

Chairpersons: Orhan Polat, Benedikt Halldorsson, Francesca Bianco, Ulubey Ceken

21-1: ESC2016-73

Signatures of Seismic Waves Using Small Aperture Arrays
Pitarka, Arben

21-2: ESC2016-263

3-D crustal structure from local earthquake array in Hatay-Maras area, East of Mediterranean region of Turkey

Ozer, Caglar; **Gok, Elcin;** Polat, Orhan

21-3: ESC2016-466

Identification of seismic events at Mikhnevo small-aperture array by wavelet methods
Sanina, Irina; Nesterkina, Margarita; Konstantinovskaya, Natalya; Riznichenko, Oksana; Danilova, Tatiana; **Goev, Andrey**

21-4: ESC2016-468

Estimation of seismological conditions at the sites of nuclear power stations from small aperture array data
Kishkina, Svetlana; Riznichenko, Oksana; Sanina, Irina

21-5: ESC2016-596

Multi-Channel correlation analysis for November, 2014 South-Eastern Carpathians (Romania) sequence
Boreanu, Felix; Placinta, Anca Otilia; Rogozea, Maria; Popa, Mihaela; Radulian, Mircea

END OF POSTER PROGRAM 21

09:00–10:30

N.N. Ambraseys Distinguished Award Lecture

Lecture Room: Saturnia

Chairperson: Atilla Ansal

MUSTAFA ERDIK: Earthquake risk assessment

11:30–13:00

03 Eastern Alpine seismological investigation: state of the art of the Alpine system from the Bohemian Massif to the Adriatic Sea

Conveners: Irene Bianchi; Jaroslava Plomerova; György Hetényi; Edi Kissling; Petr Kolinsky

Lecture Room: Vulcania 2

Chairpersons: Irene Bianchi, Jaroslava Plomerova, Petr Kolinsky

11:30–11:45: ESC2016-203

New insights on the features of earthquake clustering in South-Eastern Alps

Peresan, Antonella; Gentili, Stefania

11:45–12:00: ESC2016-333

Seismicity spatial organization and damage pattern at the Alps-Dinarides transition

Bressan, Gianni; Ponton, Maurizio; **Rossi, Giuliana;** Urban, Sandro

12:00–12:15: ESC2016-226

Attenuation of high-frequency body waves and its anisotropy in the External Dinarides

Dasović, Iva; Namjesnik, Dalija; Belinić, Tena; Majstorović, Josipa; Herak, Davorka; Herak, Marijan

12:15–12:30: ESC2016-109

Local earthquake tomography in the junction domain between Southeastern Alps and Dinarides using the seismic data of the CE3RN

Colavitti, Leonardo; Tiberi, Lara; Böhm, Gualtiero; Costa, Giovanni; Gallo, Antonella

12:30–12:45: ESC2016-519

True backazimuths of surface waves from teleseismic earthquakes across AlpArray Austria measured by two independent methods

Kolínský, Petr; Fuchs, Florian; Bokelmann, Götz; and AlpArray Working Group

12:45–13:00: ESC2016-174

Two divergently dipping roots of mantle lithosphere beneath the Alps

Plomerova, Jaroslava; Babuska, Vladislav

END OF ORAL PROGRAM 03

14:30–17:30

05 40th anniversary of 1976 Friuli earthquakes - lessons learned

Conveners: Ina Cecić; Dario Slejko

Lecture Room: Vulcania 2

Chairpersons: Cecić, Slejko

14:30–14:45: ESC2016-514

What science remains of the 1976 earthquake?
Slejko, Dario

14:45–15:00: ESC2016-324

The modern plot and use of the regional pattern of damage (intensity) of 6 May 1976

Pettenati, Franco; Sirovich, Livio; Sandron, Denis

15:00–15:15: ESC2016-516

6 May 1976 Friuli Earthquake - Re-evaluation of Macroseismic Data

Cecić, Ina; Meurers, Rita; Tertulliani, Andrea; Grünthal, Gottfried; Kaiser, Diethelm; Sović, Ivica

15:15–15:30: ESC2016-651

The 1976 Friuli earthquake: a shallow, blind and complex thrust with surface folding

Aoudia, Abdelkrim

15:30–15:45: ESC2016-691

Misunderstood "forecasts"

Slejko, Dario; Cecic, Ina; Renner, Gianfranco; Rebez, Alessandro

15:45–16:00: ESC2016-378

The fallout of the Friuli earthquake

Petrini, Vincenzo

16:00–16:15: ESC2016-623

The regional body of laws that accompanied the reconstruction of Friuli

Carpenedo, Diego

16:15–16:30: ESC2016-411

The protection from damages given by seismic classification and code.

Riuscetti, Marcello

16:30–17:00: ESC2016-710

Development of emergency management after the Friuli and Irpinia experiences (invited talk)

Zamberletti, Giuseppe

17:00–17:15: ESC2016-693

The contribution of Friuli's earthquake to the knowledge of seismic behavior of historical buildings

Doglioni, Francesco; **Moretti, Alberto**

17:15–17:30: ESC2016-388

The heritage of the 1976 Friuli earthquake

Slejko, Dario; Santulin, Marco; Riuscetti, Marcello; Rebez, Alessandro; Carulli, Giovanni Battista; Grimaz, Stefano; Cucchi, Franco

END OF ORAL PROGRAM 05

11:30–13:00

07 Seismic sources: theory, methods and applications

Convenors: Sebastiano D'Amico; Christos Evangelidis; Efthimios Sokos; Vaclav Vavrycuk

Lecture Room: Vulcania 1

Chairpersons: Sebastiano D'Amico, Christos Evangelidis

11:30–11:45: ESC2016-94

Challenges of moment tensor inversion for shallow explosions: the January 6, 2016, North Korea nuclear test case

Cesca, Simone: Heimann, Sebastian; Kriegerowski, Marius; Dahm, Torsten; Saul, Joachim

11:45–12:00: ESC2016-70

Estimating depth and source characterization of the North Korean Nuclear Tests (2006, 2009 and 2013) including the 2016 nuclear test using local and teleseismic networks

Kim, So Gu; Gitterman, Yefim; Vavrycuk, Vaclav; Lee, Seoung-Kyu; Kim, Matthew

12:00–12:15: ESC2016-37

The 16 April 2015 Mw 6.0 off-shore eastern Crete earthquake and its aftershock sequence: implications for local/regional seismotectonics

Gorgun, Ethem: Kekovali, Kivanc; Kalafat, Dogan

12:15–12:30: ESC2016-241

Focal Mechanism and Tectonic Deformation in Seismogenic Area of the 2013 Lushan Earthquake Sequence, China

Yi, Guixi; Vallage, Amaury; Long, Feng; Klinger, Yann

12:30–12:45: ESC2016-106

The Beni-Ilmane Seismic Sequence of May 2010: Seismic Sources and Stress Tensor Calculations

Beldjoudi, Hamoud; Delouis, Bertrand; Yelles-Chaouche, Abdelkarim; Gharbi, Sofiane

12:45–13:00: ESC2016-365

Moment Tensor Inversion of Earthquakes in the Sea of Marmara and Surroundings: Restraining Bend between the Ganos Fault and the Main Marmara Fault

Coşkun, Zeynep; Pinar, Ali

END OF ORAL PROGRAM 07

11:30–13:00

08 Operational earthquake forecasting/prediction: advances in models, observations and verification

Convenors: Angelo De Santis; Vladimir Kossobokov; Dimitar Ouzounov; Gerassimos Papadopoulos; Antonella Peresan; Sergey Pulinets; J.D. Zechar

Lecture Room: Oceania AB

Chairpersons: D. Ouzunov, S. Pulinets

Systematic analysis of pre-earthquake processes

11:30–11:45: ESC2016-579

Foreshocks as a powerful earthquake precursor

Papadopoulos, Gerassimos; Minadakis, George; Di Fiore, Boris

11:45–12:00: ESC2016-86

An approach to automatic prediction of earthquakes: techniques, tools, and case studies

Gitis, Valeri; Derendyaev, Alexander

12:00–12:15: ESC2016-87

Online monitoring and analyses of seismic activity

Derendyaev, Alexander; Gitis, Valeri

12:15–12:30: ESC2016-72

Long-range coherence of seismic noise properties before strong earthquakes

Lyubushin, Alexey

12:30–12:45: ESC2016-58

Ten years of electromagnetic recordings by the Central Italy Electromagnetic Network (CIEN)

Fidani, Cristiano

12:45–13:00: ESC2016-246

The role of deep degassing in the problem of earthquake prediction and mininig accidents with gas explosions

Natyaganov, Vladimir; Stepanov, Ivan; Syvorotkin, Vladimir; **Shopin, Sergey**

END OF ORAL PROGRAM 08

11:30–13:00

09 Improving ground-motion prediction for regional and site-specific seismic hazard assessments

Conveners: John Douglas; Benjamin Edwards; Carlo Cauzzi

Lecture Room: Oceania C

Chairpersons: John Douglas and Carlo Cauzzi

Regional seismic hazard studies and ground motion models

11:30–11:45: ESC2016-328

Did two decades of ground motion prediction equations improve seismic hazard estimates in Italy?

Barani, Simone; Albarello, Dario; Massa, Marco; Spallarossa, Daniele

11:45–12:00: ESC2016-210

Ranking ground-motion prediction models in different seismotectonic contexts: the experience for the new Italian seismic hazard model (MPS16)

Lanzano, Giovanni; Luzi, Lucia; Pacor, Francesca; Puglia, Rodolfo; D'Amico, Vera; Meletti, Carlo; Marzocchi, Warner; Rotondi, Renata; Varini, Elisa

12:00–12:15: ESC2016-273

Ground motion prediction equation tailored for specific hazard assessment: the case of updating PSHA in Germany

Bindi, Dino; Cotton, Fabrice; Gruenthal, Gottfried; Bosse, Christian; Kotha, Sreeram-Reddy

12:15–12:30: Discussion

12:30–12:45: ESC2016-116

Austrian empirical seismic ground motion models and site effects

Weginger, Stefan; Jia, Yan; Lenhardt, Wolfgang

12:45–13:00: ESC2016-326

A new 3D attenuation model for the southern Aegean subduction zone: Implications for the ground-motion prediction equations of intermediate earthquakes.

Kkallas, Harris; Ventouzi, Chrisa; Papazachos, Costas; Boore, David; Margaris, Vasilis

14:30–17:15

Chairpersons: John Douglas and Carlo Cauzzi

Synthetic and near-source ground motion modelling

14:30–14:45: ESC2016-66

Using ground-motion simulations to estimate components of aleatory variability and the level of stress accumulation

Aochi, Hideo; **Douglas, John;** Ulrich, Thomas

14:45–15:00: ESC2016-230

Validation of a 3D geo-model for physics-based numerical prediction of the earthquake ground-motion in the Po Plain (Italy)

Klin, Peter; Laurenzano, Giovanna; Romano, Maria Adelaide; Priolo, Enrico; Martelli, Luca

15:00–15:15: ESC2016-49

The role of vertical ground motion components in the epicentral area of a buried source: insights from numerical modelling

Peruzzi, Giacomo; Albarello, Dario; Grimaz, Stefano; Malisan, Petra

15:15–15:30: ESC2016-390

Variability of the simulated ground motion from a set of source models of the 2011 Mw5.2 Lorca earthquake

Moratto, Luca; Saraò, Angela; Vuan, Alessandro; Mucciarelli, Marco; Jimenez, Maria Jose; García-Fernández, Mariano

15:30–15:45: ESC2016-440

Near-field earthquake shaking generated by kinematic rupture simulations in the Istanbul area

Cauzzi, Carlo; Stupazzini, Marco; Paolucci, Roberto; Infantino, Maria; Smerzini, Chiara

15:45–16:00: ESC2016-178

Mixed Effect of Directivity and Directionality for Near Fault Pulse Type Ground Motions

Moghimi, Saed; Akkar, Sinan

16:00–16:15: ESC2016-81

Stochastic finite-fault ground motion simulation in seismic hazard assessment - is it worth the extra effort?

Sørensen, Mathilde B.

Reference rock and site amplification

16:15–16:30: ESC2016-636

Towards the definition of reference motions ($1000 < V_s < 3000$ m/s): analysis of the KiK-net data and correction of the local site effects

Laurendeau, Aurore; **Bard, Pierre-Yves;** Hollender, Fabrice; Ktenidou, Olga-Joan; Foundotos, Laetitia; Hernandez, Bruno; Perron, Vincent

16:30–16:45: ESC2016-443

$Vs30$ as a proxy for site-response - regional difference and suggested practice

Kamai, Ronnie; Abrahamson, Norm; Silva, Walt

16:45–17:00: ESC2016-714

Applicability of Site Fundamental Frequency as a Descriptive Variable for Site Response in Central and Eastern North America

Hassani, Behzad; Atkinson, Gail M.

17:00–17:15: ESC2016-16

Site Effect Study in the Ankara Region During the Moderate Bala Earthquake Series

Koçkar, Mustafa K

END OF ORAL PROGRAM 09

11:30–13:00

12 Induced and triggered seismicity: Mechanisms, monitoring, discrimination and management strategies

Conveners: Francesco Grigoli; Enrico Caffagni; Götz Bokelmann; Simone Cesca; Wolfgang Lenhardt; Beata Orlecka-Sikora; Enrico Priolo

Lecture Room: Saturnia

11:30–12:00: ESC2016-376

The Castor Project: Beyond technical and scientific knowledge (invited talk)

García-Fernández, Mariano; Jiménez, María-José

12:00–12:15: ESC2016-20

Full-waveform location methods in microseismic monitoring operations

Grigoli, Francesco; Cesca, Simone

12:15–12:30: ESC2016-100

The static behaviour of induced seismicity: From geometric to risk analysis

Mignan, Arnaud

12:30–12:45: ESC2016-137

Static stress drop of induced earthquakes in seismic hazard assessment: Preliminary results from The Geysers geothermal area

Staszek, Monika; Orlecka-Sikora, Beata;

Kwiatek, Grzegorz

12:45–13:00: ESC2016-165

Preliminary results for Space-Time Clustering of Seismicity and its Connection to Stimulation Processes, in North-Western Geysers Geothermal Field

Leptokaropoulos, Konstantinos; Staszek, Monika; Lasocki, Stanisław; Kwiatek, Grzegorz

14:30–17:15

14:30–14:45: ESC2016-169

P-wave amplitude full moment tensor inversion as a practical tool in anthropogenic seismicity studies in Poland

Lizurek, Grzegorz

14:45–15:00: ESC2016-206

Seismic monitoring performance for hydraulic fracturing

López Comino, José Ángel; Cesca, Simone; Kriegerowski, Marius; Heimann, Sebastian; Dahm, Torsten; Mirek, Janusz; Lasocki, Stanisław

15:00–15:15: ESC2016-214

The problem with magnitudes calculated using nearby stations

Luckett, Richard; Butcher, Antony

15:15–15:30: ESC2016-233

Recent seismicity in the northern German gas fields - induced and tectonic?

Joswig, Manfred; Gurbisz, Zaneta; Mokelke, Gregor; Sick, Benjamin; Walter, Marco

15:30–15:45: ESC2016-239

Induced seismicity near Beni-Haroun dam (northeastern Algeria)

Yelles-Chaouche, Abdelkarim; Abacha, Issam; Semmane, Fethi

15:45–16:00: ESC2016-257

Coupled hydro-mechanical modelling of seismicity induced by gas production

Zbinden, Dominik; Rinaldi, Antonio Pio; Urpi, Luca; Wiemer, Stefan

16:00–16:15: ESC2016-261

Seismic source parameters of the induced seismicity at The Geysers geothermal area, California, by a generalized inversion approach

Picozzi, Matteo; Oth, Adrien; Parolai, Stefano; Bindi, Dino; De Landro, Grazia; Amoroso, Ortensia

16:15–16:30: ESC2016-266

Numerical modeling of seismicity induced by large-scale CO₂ injection in a multilayered sedimentary system (invited talk)

Rinaldi, Antonio Pio; Urpi, Luca; Rutqvist, Jonny; Cappa, Frederic; Vilarrasa, Victor; Jeanne, Pierre

16:30–16:45: ESC2016-272

High-sensitivity seismic monitoring of the Collalto gas storage (Northern Italy) shows no induced seismicity

Romano, Maria Adelaide; Priolo, Enrico; Garbin, Marco; Romanelli, Marco; Plasencia, Milton; Peruzza, Laura

16:45–17:00: ESC2016-334

Stress changes, focal mechanisms and earthquake scaling laws for a magma-filled crack.

Passarelli, Luigi; Rivalta, Eleonora; Cesca, Simone; Aoki, Yosuke

17:00–17:15: ESC2016-319

High resolution 3D imaging of the Irpinia active fault zone part 1: Attenuation tomography

Amoroso, Ortensia; Russo, Guido; De Landro, Grazia; Zollo, Aldo; Garambois, Stephane; Mazzoli, Stefano; Parente, Mariano; Virieux, Jean

END OF TUESDAY ORAL PROGRAM 12

14:30–17:30

13 From active faulting and geodynamic data to the assessment of seismic hazard: New constraints and challenges ahead

Conveners: Vanja Kastelic; Kurt Decker; Katalin Gribovszki; Andrea Hampel; Erika Hegymegi; Antonella Peresan; Karin Sesetyan; Gianluca Valensise
Lecture Room: Vulcania 1

Chairpersons: Kastelic, Decker, Valensise, Sesetyan

14:30–14:35: Introduction of the Session

Active faults and fault databases in seismic hazard studies

14:35–14:50: ESC2016-479

From neotectonic data to seismogenic sources in South America: Results and lessons learned from the SARA project
Costa, Carlos; Garcia, Julio; Alvarado, Alexandra; Audemard, Franck; Audin, Laurence; Benavente, Carlos; Bezerra, F. Hilario; Cembrano, José; González, Gabriel; López, Myriam; Minaya, Estela; Paolini, Mónica; Pérez, Irene; Santibanez, Isabel; Arcila, Mónica; Delgado, Fabrizio; Pagani, Marco

14:50–15:05: ESC2016-563

Neotectonics in the SW Pannonian Basin: Active faults in the Bilogora area (NE Croatia) and assessment of their seismogenic potential
Matoš, Bojan; Tomljenović, Bruno; Herak, Marijan; Zajc, Marjana

15:05–15:20: ESC2016-286

The Dinaric Faults System: large-scale structure and rates of slip of the transpressive northeastern boundary of the Adria microplate
Moulin, Adrien; **Benedetti, Lucilla;** Rizza, Magali; Jamsek-Rupnik, Petra; Gosar, Andrej; Bourlès, Didier; Ritz, Jean-François

15:20–15:35: ESC2016-654

Database of active faults as a first step towards new seismic hazard map of Slovenia
Atanackov, Jure; Jamšek Rupnik, Petra; Jež, Jernej; Milanič, Blaž; Celarc, Bogomir; Novak, Matevž; Markelj, Anže; Bavec, Miloš

15:35–15:50: ESC2016-608

Fifteen years of loyal service to the seismic hazard community: the Database of Individual Seismogenic Sources, relevance and opportunities
Basili, Roberto; Burrato, Pierfrancesco; Fracassi, Umberto; Kastelic, Vanja; Maesano, Francesco Emanuele; Tiberti, Mara Monica; Tarabusi, Gabriele; Valensise, Gianluca; Vannoli, Paola

15:50–15:55: Discussion

Crustal and subduction fault characteristics and their seismicity

15:55–16:25: ESC2016-455

Bayesian estimation of paleo-earthquake magnitudes from multiple observations (invited talk)
Hintersberger, Esther; Decker, Kurt

16:25–16:40: ESC2016-219

Review of seismic gaps and gap model for the South American subduction zone
Roth, Frank; **Dahm, Torsten;** Hainzl, Sebastian

16:40–16:55: ESC2016-577

Three-dimensional numerical modeling of temperature and dehydration fields associated with subduction of the Philippine Sea plate, southwest Japan
Yoshioka, Shiochi; Ji, Yingfeng; Matsumoto, Takumi

16:55–17:10: ESC2016-357

Seismicity and nowadays movements along northern part of Aegean region - Bulgaria
Protopopova, Valentina; Georgiev, Ivan; Botev, Emil; Kakar, Najibullah

17:10–17:25: ESC2016-616

Kinematics of present-day 3D surface displacement of the southwester Tien Shan with GPS and InSAR data: Implications for active tectonics and seismic hazards
Li, Jie; Wang, Xiaoqiang; Wang, Qi; Liu, Daiqing; Kuzikov, Sergey; Wang, Haitao; Qiao, Xuejun

17:25–17:30: Discussion

END OF TUESDAY ORAL PROGRAM 13

14:30–17:30

14 Engineering seismology in the risk evaluation of built environment (Joint ESC-EAEE session)

Conveners: Angelo Masi; Maria Rosaria Gallipoli; Stefano Grimaz; Fabio Romanelli
Lecture Room: Oceania AB

14:30–14:35: Introduction

Ground motion and seismic action

14:35–14:50: ESC2016-64

Nonlinear seismology, the seismology of this Century
Marmureanu, Gheorghe; Marmureanu, Alexandru; Cioflan, Carmen; Ionescu, Constantin; Manea, Florinela; Toma-Danila, Dragos

14:50–15:05: ESC2016-28

Development of seismic hazard maps for Northeast of Algeria
Mouloud, Hamidatou; Stromeier, Dietrich; Cotton, Fabrice

15:05–15:20: ESC2016-50

Comparison of ground motion parameters from ground motion simulations and the equivalent linear method

Farrugia, Daniela; Galea, Pauline; D'Amico, Sebastiano; Bozionelos, George

15:20–15:35: ESC2016-513

MPS16: towards the updated Italian seismic hazard model

Meletti, Carlo; Marzocchi, Warner; Albarello, Dario; D'Amico, Vera; Luzzi, Lucia; Martinelli, Francesco; Pace, Bruno; Pignone, Maurizio; Rovida, Andrea; Visini, Francesco; and Mps16 Working Group

15:50–16:00: Discussion**16:00–16:15: ESC2016-456**

A Probabilistic Methodology for Site Specific Response Analysis

Ansal, Atilla; Tönük, Gökçe; Kurtuluş, Aslı

16:15–16:30: ESC2016-465

The multi-site probabilistic seismic hazard analysis in REASSESS V2.0

Iervolino, Iunio; Chioccarelli, Eugenio; **Cito, Pasquale**

16:30–16:45: ESC2016-683

Engineering Validation of Simulated Ground Motions for Building Damage Assessment

Galasso, Carmine; Tsoulou, Alexandra

16:45–17:00: ESC2016-340

Definition of Seismic Action relevant for Non-structural Earthquake Damage - Case studies from KnowRISK test sites

Tusa, Giuseppina; Rupakhetty, Rajesh; Meroni, Fabrizio; Langer, Horst; Musacchio, Gemma; Lopes, Mario; Candeias, Paulo Xavier and the KnowRISK (1,2,3,4) Team

17:00–17:15: ESC2016-349

Built environment response during earthquake: site-city interaction and clustering effect of buildings

Gueguen, Philippe; Colombi, Andrea; Roux, Philippe

17:15–17:30: Discussion**END OF TUESDAY ORAL PROGRAM 14**

Posters Tuesday

03 Eastern Alpine seismological investigation: state of the art of the Alpine system from the Bohemian Massif to the Adriatic Sea

Conveners: Irene Bianchi; Jaroslava Plomerova; György Hetényi; Edi Kissling; Petr Kolinsky

Display Time: Tue, 09:00–19:00

Attendance Times: Tue, 10:30–11:30 & 17:30–19:00

Chairpersons: Irene Bianchi, Jaroslava Plomerova, Petr Kolinsky

03-1: ESC2016-302

Adria-Europe crustal structure relationship and the Moho gap in the Eastern Alps (project EASI)
Hetényi, György; **Plomerová, Jaroslava**; Bianchi, Irene; Kampfová Exnerová, Hana

03-2: ESC2016-199

Structure of the crust beneath Northeast Italy and Slovenia from ambient noise tomography
Guidarelli, Mariangela; Aoudia, Abdelkrim; Costa, Giovanni

03-3: ESC2016-191

Local Earthquake P-wave Tomography of Central and Western Slovenia
Bajc, Jurij; Černe, Luka; Čarman, Martina; Živčič, Mladen

03-4: ESC2016-167

Lithospheric thickness under the Dinarides
Belinić, Tena; Stipčević, Josip

03-5: ESC2016-127

Multiple event location analysis of aftershock sequences in the Pannonian basin
Békési, Eszter; Süle, Bálint; Bondár, István

03-6: ESC2016-34

Shallow crustal anisotropy studied from S-wave splitting observed at records of local micro-earthquakes in West Bohemia, Czech Republic
Doubravova, Jana; Bouskova, Alena; Vavrycuk, Vaclav

03-7: ESC2016-126

AlpArray in Hungary: The Hungarian temporary broadband seismic network and its characteristics
Gráczer, Zoltán; **Bondár, István**; Czanik, Csenge; Győri, Erzsébet; Süle, Bálint; Szanyi, Gyöngyvér; Szűcs, Eszter; Wesztergom, Viktor; Wéber, Zoltán

03-8: ESC2016-594

Spatial distribution of scattering and absorption features revealed by coda waves from intermediate depth earthquakes in the Vrancea region (Romania)

Borleanu, Felix; De Siena, Luca; Thomas, Chrisitne; Popa, Mihaela; Radulian, Mircea

03-9: ESC2016-78

Models of crustal structure in western part of Romania using joint inversion of Green functions and receiver funtions

Bala, Andrei; Tataru, Dragos; Grecu, Bogdan

03-10: ESC2016-281

Automated inter-station phase velocity measurements across the eastern Mediterranean and Middle East

El-Sharkawy, Amr; Weidle, Christian; Cristiano, Luigia; Soomro, Riaz; Lebedev, Sergei; Meier, Thomas

END OF POSTER PROGRAM 03

05 40th anniversary of 1976 Friuli earthquakes - lessons learned

Conveners: Ina Cecić; Dario Slejko

Display Time: Tue, 09:00–19:00

Attendance Times: Tue, 10:30–11:30 & 17:30–19:00

Chairpersons: Slejko, Cecić

10:30-10:40: Opening of the session: brief poster summary presentations

05-1: ESC2016-517

6 May 1976 Friuli Earthquake - Re-evaluation of Macroseismic Data, a New Map and Comparison With Old Intensity Estimates

Cecić, Ina; Grünthal, Gottfried; Kaiser, Diethelm; Meurers, Rita; Sović, Ivica; Tertulliani, Andrea

05-2: ESC2016-227

Contributes from a posteriori studies on the damage of buildings affected by the 1976 Friuli earthquake (NE of Italy)

Grimaz, Stefano; **Malisan, Petra**

05-3: ESC2016-692

Short-term countermeasures for securing cultural heritage buildings during a seismic emergency. Lessons learnt and enhancement form the 1976 Friuli earthquake.
Grimaz, Stefano; **Zorzini, Fabio**; Malisan, Petra

END OF POSTER PROGRAM 05

09 Improving ground-motion prediction for regional and site-specific seismic hazard assessments

Conveners: John Douglas; Benjamin Edwards; Carlo Cauzzi

Display Times: Mon, 09:00–19:00 & Tue, 09:00–19:00

Attendance Times: Mon, 10:30–11:30 & 17:30–19:00

Tue, 10:30–11:30 & 17:30–19:00

Chairpersons: John Douglas and Carlo Cauzzi

Miscellanea

09-1: ESC2016-305

About the differences between ground motion relation and regression model

Raschke, Mathias

09-2: ESC2016-170

On the applicability of the Virtual Earthquake Approach (VEA) to predict ground motion using the ambient seismic field in the Vienna Basin area

Schippkus, Sven; Zigone, Dimitri; Bokelmann, Götz; and AlpArray Working Group

09-3: ESC2016-194

Scaling of source spectral parameters of moderate Kamchatka earthquakes: the prominent mismatch between trends for spectral and apparent stress drop

Gusev, Alexander A.; **Skorkina, Anna A.**

Guseva, Evgenia M.

09-4: ESC2016-270

A Comparison of Ground Motion Prediction Equations with Different Magnitude Scales

Yeh, Yeong Tein; Peng, Wen Fei; Yu, Ting Tu; Lo, Yi-Chia

09-5: ESC2016-171

Variability of the ground motion in Northern Italy

Lanzano, Giovanni; D'Amico, Maria; Felicetta, Chiara; Luzi, Lucia; Pacor, Francesca; Puglia, Rodolfo

09-6: ESC2016-29

Near-Field Geometrical Decay from Large Magnitude Earthquakes: Comparing Empirical and Simulation Approaches

Holt, James; Edwards, Benjamin; Bie, Lidong; Dalguer, Luis; Rietbrock, Andreas

09-7: ESC2016-55

Strong ground motion spatial patterns generated by the intermediate-depth earthquakes of Vrancea region, Romania

Cristian, Ghita; Luminita, Ardeleanu; Bogdan, Grecu; Andreea, Craiu; Cristian, Neagoe

Numerical simulations of site response

09-8: ESC2016-615

From linear to non-linear site transfer functions: a statistical comparison between instrumental data and 1D numerical simulation results

Al Makari, Michelle; Régnier, Julie; Salameh, Christelle; Cadet, Héloïse; Derras, Boumédienne; **Bard, Pierre-Yves;** Lopez-Caballero, Fernando

09-9: ESC2016-588

A study of topographic effects by simulation

Peng, Wen Fei; Yeh, Yeong Tein; Yu, Ting Tu

European and global studies

09-10: ESC2016-527

A Pan-European Representative Ground Motion Model

García-Fernández, Mariano; Gehl, Pierre; Jiménez, María José; D'Alala, Dina

09-11: ESC2016-274

Characteristics of the EPOS strong-motion flat file for Ground Motion Prediction Equations selection in Europe

Puglia, Rodolfo; Bindi, Dino; Luzi, Lucia; Cotton, Fabrice; and the W8.4-ESM & W8.6-GMPE EPOS working groups Team

09-12: ESC2016-457

Anatomy of sigma as suggested by a global dataset of digital acceleration waveforms and associated metadata

Cauzzi, Carlo

Special focus: Iran

09-13: ESC2016-522

Analysis of Iranian Strong Motion Data and Comparison with Pan-European and Global Ground Motion Models

Mehrabi, Fatemeh; Mirzaei, Noorbakhsh; Bindi, Dino; Cotton, Fabrice; Shabani, Elham; R. Kotha, Sreeram

09-14: ESC2016-639

An investigation on possibility of combination of Iran and California strong-motion datasets using analysis of variance

Darzi, Atefe; Zolfaghari, Mohammad R; Fäh, Donat; Cauzzi, Carlo

09-15: ESC2016-332

An Evaluation of the Applicability of the NGA 2008 and NGA 2014 Models to Ground-Motion Prediction in the Iranian Plateau

Azarbakht, Alireza; Rajabi, Zinat; Rahpeyma, Sahar

09-16: ESC2016-645

Estimation of Kappa, geometrical spreading and quality factor of shear-wave in the Zagros region

Sadeghi-Bagherabadi, Amir; Sobouti, Farhad; Aoudia, Abdelkrim

09-17: ESC2016-533

OQ-SRTK, a Python Toolkit for Seismic Site Response Analysis

Poggi, Valerio; Weatherill, Graeme; Garcia, Julio; Pagani, Marco; Irnaka, Marwan

END OF POSTER PROGRAM 09

12 Induced and triggered seismicity: mechanisms, monitoring, discrimination and management strategies

Conveners: Francesco Grigoli; Enrico Caffagni; Götz Bokelmann; Simone Cesca; Wolfgang Lenhardt; Beata Orlecka-Sikora; Enrico Priolo

Display Times: Tue, 09:00–19:00 & Wed, 09:00–19:00

Attendance Times: Tue, 10:30–11:30 & 17:30–19:00
Wed, 10:30–11:30 & 17:30–19:00

12-1: ESC2016-59

Detailed microseismicity study in the area of Florina (Greece): Evidence for fluid driven seismicity

Mesimeri, Maria; Karakostas, Vassilios; Papadimitriou, Eleftheria; Tsaklidis, George; Tsapanos, Theodoros

12-2: ESC2016-166

Space-time distribution of foreshock, aftershock and swarm activity in and near Bulgaria

Raykova, Plamena; Solakov, Dimcho; Simeonova, Sella

12-3: ESC2016-173

EPOS Thematic Core Service "Anthropogenic Hazards" - e-research platform

Orlecka-Sikora, Beata; Lasocki, Stanisław;
Lizurek, Grzegorz; Grasso, Jean Robert; Schmittbuhl, Jean; Kwiatek, Grzegorz; Gasparini, Paolo; Garcia, Alexander; Cassidy, Nigel; Sterzel, Mariusz; Szepieniec, Tomasz; Mutke, Grzegorz; Dineva, Savka; Kozlovskaya, Elena; Bigarre, Pascal; Schaming, Marc; Sileny, Jan; Fischer, Tomáš; Saccarotti, Gilberto; Toon, Sam

12-4: ESC2016-265

Automated detection and location of picoseismicity of hydraulic fracturing experiment using continuous waveforms

López Comino, José Ángel; Heimann, Sebastian; Cesca, Simone; Milkereit, Claus; Dahm, Torsten; Zang, Arno

12-5: ESC2016-292

Seismic and aseismic slip measured during a meter-scale fluid injection experiment into a fault

Duboeuf, Laure; De Barros, Louis; Deschamps, Anne; Cappa, Frédéric; Guglielmi, Yves

12-6: ESC2016-304

Seismic event discrimination: Application to metropolitan France

Maggi, Alessia; Lambotte, Sophie

12-7: ESC2016-215

Development of the seismic monitoring system at Verkhnekamskoye potash deposit

Shulakov, Denis

12-8: ESC2016-306

Induced seismicity caused by hydraulic fracturing in deep geothermal wells in Germany and adjacent areas

Plenefisch, Thomas; Brückner, Lisa; Ceranna, Lars; Gestermann, Nicolai; Houben, Georg; Tischner, Torsten; Wegler, Ulrich; Wellbrink, Matthias; Bönnemann, Christian; Bertram, Andreas; Kirschbaum, Bernd

12-9: ESC2016-312

Seismic network design for the monitoring of natural gas reservoir of "Sant'Andrea" (Treviso, Northern Italy)

Carannante, Simona; D'Alema, Ezio; Lovati, Sara; Massa, Marco; Augliera, Paolo;

Franceschina, Gianlorenzo

12-10: ESC2016-381

Dynamic triggering of seismic activity in the Cape Verde hot spot, north Atlantic

Neves, Miguel; Silveira, Graça; Peng, Zhigang; Custódio, Susana

12-11: ESC2016-323

The relationship between pre-existing geological structures and seismicity induced by wastewater disposal in Val d'Agri (Southern Apennine, Italy)

Buttinelli, Mauro; Improta, Luigi; Bagh, Samer; Chiarabba, Claudio

12-12: ESC2016-371

Deep Geothermal Energy Production: case study of the impact of induced seismicity using probabilistic methods in combination with microtremor measurement for site effect estimation

Schlittenhardt, Joerg; Spies, Thomas; Horstmann, Tobias; Brüstle, Andrea; Schmidt, Bernd

12-13: ESC2016-464

Microseismicity recorded before geothermal exploitation at Torre Alfina (Italy)

Braun, Thomas; Badiali, Lucio; Caciagli, Marco; Carapezza, Marisa; Famiani, Daniela; Frepoli, Alberto; Gattuso, Alessandro; Lisi, Arianna; Marchetti, Alessandro; Mele, Giuliana; Pagliuca, Nicola

12-14: ESC2016-511

Seismic network detection capability within the natural gas fields in Northern Germany

Gestermann, Nicolai; Plenefisch, Thomas; Kraft, Toni; Herrmann, Marcus

12-15: ESC2016-467

Preliminary site-effects characterization by inversion of HVSR data in mining area

Olszewska, Dorota; Kula, Damian

12-16: ESC2016-665

Repeated seismic activity triggered by mantle-derived CO₂

Fischer, Tomáš; Hainzl, Sebastian; Matyska, Ctirad; Heinicke, Jens; Jakoubková, Hana; Bachura, Martin; Vlček, Josef

12-17: ESC2016-17

Interferometric location of microseismic events induced by gas storage operations

Grigoli, Francesco; Cesca, Simone; Vuani, Alessandro; Priolo, Enrico

12-18: ESC2016-518

Induced seismicity in Groningen, the Netherlands

Dost, Bernard; Spetzler, Jesper

12-19: ESC2016-554

Sensitivity of kinematic and dynamic parameters of induced seismic events to sensor coverage (Garpenberg Mine, Sweden)

Erguncu Güçlü, İrem; Dineva, Savka; Grigoli, Francesco; Fjellström, Peter; Karaman, Abdullah

12-20: ESC2016-448

Location of micro-seismic events with a systematic grid-search approach

Guidarelli, Mariangela; Klin, Peter; **Grigoli, Francesco;** Priolo, Enrico

12-21: ESC2016-202

Influence of induced seismicity on seismic hazard in the Urals, Russia

Ruslan, Dyagilev

12-22: ESC2016-553

Abedeto - a tool to constrain event depth by depth phase modelling and visualization

Kriegerowski, Marius; Cesca, Simone; Heimann, Sebastian; Dahm, Torsten

12-23: ESC2016-317

High resolution 3D imaging of the Irpinia active fault zone part 2: Modeling of rock physical properties

De Landro, Grazia; Amoroso, Ortensia; Russo, Guido; Zollo, Aldo; Garambois, Stephane; Mazzoli, Stefano; Parente, Mariano; Virieux, Jean

12-24: ESC2016-403

Seismic hazard from natural and induced seismicity: a comparison for Italy

Mucciarelli, Marco; Priolo, Enrico; Santulin, Marco; Tamaro, Alberto

09:00–10:30

Inge Lehmann Distinguished Award Lecture

Lecture Room: Saturnia

Chairperson: Wolfgang A. Lenhardt

BARBARA ROMANOWICZ: Global imaging of the Earth's mantle in the era of numerical wavefield computations

11:30–13:00

01 Advances in noninvasive approaches to characterizing seismic site conditions (joint ESC-SSA session)

Conveners: Alan Yong; Dario Albarello; John Cassidy; Sebastiano D'Amico

Lecture Room: Oceania C

11:45–12:00: ESC2016-252

Comparison of SPAC methodologies and results for a microtremor survey over deep soft sediments, Christchurch, New Zealand

Asten, Michael

12:00–12:15: ESC2016-635

Dispersion characteristics of surface waves inferred from 2D noise array measurements: time stability, noise sources azimuthal distribution and environmental effects
Oghalaei, Kaveh; Guillier, Bertrand; **Cornou, Cécile**

12:15–12:30: ESC2016-132

Retrieval of Rayleigh Wave Ellipticity from Ambient Vibrations Recordings
Maranò, Stefano; Hobiger, Manuel; **Fäh, Donat**

12:30–12:45: ESC2016-574

Effects of Poisson Ratio and Density Values on VS Profiles and VS30 Derived from Noninvasive Geophysical Techniques

Yong, Alan; Boatwright, John; Martin, Antony

12:45–13:00: ESC2016-107

Shear-wave velocities to depths greater than 1 km using the krSPAC microtremor array method: examples from Seattle, Washington and Charleston, South Carolina, USA

Stephenson, William; Odum, Jackson; Asten, Michael

END OF ORAL PROGRAM 01

11:30–13:00

12 Induced and triggered seismicity: Mechanisms, monitoring, discrimination and management strategies

Conveners: Francesco Grigoli; Enrico Caffagni; Götz Bokelmann; Simone Cesca; Wolfgang Lenhardt; Beata Orlecka-Sikora; Enrico Priolo

Lecture Room: Saturnia

11:30–12:00: ESC2016-698

Statistic bounds for magnitudes of induced and triggered seismicity (invited talk)

Shapiro, Serge A.

12:00–12:15: ESC2016-338

How well can we explain reservoir-induced seismicity by mean of simplified semi-analytical models? Use of a combined poroelastic and earthquake nucleation approach applied to the Val d'Agri (Italy)

Catalli, Flaminia; Hainzl, Sebastian; Rinaldi, Antonio Pio; Urpi, Luca; Imrota, Luigi; Dahm, Torsten

12:15–12:30: ESC2016-352

Effects on non-structural elements by induced seismicity

Barone, Stefano; Borzi, Barbara

12:30–12:45: ESC2016-414

The SIR-MIUR project INSIEME: preliminary results of the first year of activities

Stabile, Tony Alfredo and the INSIEME Team

12:45–13:00: ESC2016-436

The Matched Filtering Algorithm (MFA): Extending the potential for detection and location of microseismic events. Hints for induced seismicity hazard?

Caffagni, Enrico; Eaton, David; Jones, Joshua; van der Baan, Mirko

14:30–17:15

14:30–14:45: ESC2016-437

Induced Seismicity connections: from hydraulic fracturing to knowledge gaps, regulations, and mitigation strategy

Caffagni, Enrico; Bokelmann, Goetz; Lenhardt, Wolfgang; Joswig, Manfred; Sauter, Martin

14:45–15:00: ESC2016-441

Vp/Vs variations within the fault plane - tracking the fluids

Bachura, Martin; Fischer, Tomáš

15:00–15:15: ESC2016-461

On the seismicity recorded in the geothermal area of Mt. Amiata

Braun, Thomas; Caciagli, Marco; Dahm, Torsten; Famiani, Daniela; Gattuso, Alessandro; Krueger, Frank; Ohrnberger, Matthias

15:15–15:30: ESC2016-515

Modeling of poroelastic and hydraulic response of a seasonally loaded water reservoir and implications for Reservoir-Induced Seismicity

Urpi, Luca; Rinaldi, Antonio P.; Catalli, Flaminia; Buttinelli, Mauro; Imrota, Luigi

15:30–15:45: ESC2016-524

Probabilistic seismic hazard assessment for the Collalto area (Northern Italy): preliminary results based on natural seismicity observations

Gee, Robin; Peruzza, Laura; Pagani, Marco; Romano, Maria Adelaide; Priolo, Enrico

15:45–16:00: ESC2016-542

Anatomy of 2013 Galati seismic swarm in southeastern Romania - implications for understanding the triggering mechanism

Poata, Natalia; Tataru, Dragos; Grecu, Bogdan; Radulian, Mircea; Popa, Mihaela

16:00–16:15: ESC2016-595

Volcanic tremor mechanisms constrained through field and laboratory comparisons

Cauchie, Léna; Bean, Chris; Benson, Philip; Rowley, Peter; Fazio, Marco; McCann, Hannah

16:15–16:30: ESC2016-600

Seismicity monitoring at the Izvorul Muntelui dam (Eastern Carpathians Romania) using multiple approaches

Boreanu, Felix; Placinta, Anca Otilia; Popa, Mihaela; Moldovan, Iren Adelin; Popescu, Emilia

16:30–16:45: ESC2016-640

The impact of seismogenic faulting on gas reservoirs: case-studies from northern and central Italy

Mucciarelli, Marco; Donda, Federica; Valensise, Gianluca

16:45–17:00: ESC2016-668

Effective stress drop as a possible tool for assessing stress drop of earthquake clusters

Fischer, Tomáš; Hainzl, Sebastian

17:00–17:15: ESC2016-684

A procedure to simulate the likely evolution of induced seismicity and maximum magnitudes, during well stimulation

Troise, Claudia; **De Natale, Giuseppe;** Carlino, Stefano; Somma, Renato; Massarotti, Nicola

17:15–17:30: ESC2016-713

Research on Oil and Gas-Related Induced Seismicity at Natural Resources Canada

Kao, Honn; **Lamontagne, Maurice;** Lavoie, Denis; Cassidy, John F.

17:30–17:45: ESC2016-523

Spatial and temporal distribution of volcano-induced seismicity at Nyiragongo and Nyamulagira volcanoes (Democratic Republic of Congo) using cross-correlation based techniques

Barrière, Julien; Oth, Adrien; d'Oreye, Nicolas; Kervyn, François

END OF ORAL PROGRAM 12**11:30–13:00**

13 From active faulting and geodynamic data to the assessment of seismic hazard: new constraints and challenges ahead

Convenors: Vanja Kastelic; Kurt Decker; Katalin Gribovszki; Andrea Hampel; Erika Hegymegi; Antonella Peresan; Karin Sesetyan; Gianluca Valensise
Lecture Room: Vulcania 1

Chairpersons: Peresan, Gribovszki, Hegymegi

Long-term evidence of past earthquakes: new observations and constraints for SHA

11:30–11:45: ESC2016-3

Contribution to the estimation of long return period seismic hazard of Beirut area from speleothem studies (invited talk)

Lacave, Corinne; Sadier, Benjamin; Delannoy, Jean-Jacques; Egozcue, Juan-José

11:45–12:00: ESC2016-236

What do we know for assessing of seismic hazard? (invited talk)

Kossobokov, Vladimir

12:00–12:15: ESC2016-366

The influence of earthquake source uncertainties and occurrence properties on NDSHA maps

Magrin, Andrea; Peresan, Antonella; Panza, Giuliano F.

12:15–12:30: ESC2016-146

Time-clustering analysis of seismicity of the oil and gas deposits area through Absheron-Prebalkhan tectonic structure (Azerbaijan)

Babayev, Gulam; Telesca, Luciano; Kadirov, Fakhraddin

12:30–12:45: ESC2016-705

Coseismic Ground effects of the 2016 Mw 7.8 Pedernales Earthquake (Ecuador)

Chunga, Kervin; Mulas, Maurizio; Besenzon, Davide; Gorshkov, Alexander; Gordillo, Carola; Loayza, Glenda

12:45–13:00: Discussion**14:30–17:30**

Chairpersons: Decker, Valensise, Sesetyan, Kastelic

Fault characteristics, stress data, strain rates and long-term deformation models; input for SHA

14:30–14:45: ESC2016-587

The 2013, ML 4.9, Matese earthquake (Southern Apennines, Italy): A "deep" normal faulting earthquake or an earthquake at frictional-to-viscous transition?

Adinolfi, Guido Maria; De Matteis, Raffaella; Zollo, Aldo; Ascione, Alessandra; Mazzoli, Stefano

14:45–15:00: ESC2016-438

Creep and locking of a low-angle normal fault: Insights from the Altotiberina fault in the Northern Apennines (Italy)

Anderlini, Letizia; Serpelloni, Enrico;
Belardinelli, Maria Elina

15:00–15:30: ESC2016-488

Neotectonic deformation models as input for earthquake rate calculation (invited talk)

Carafa, Michele

15:30–15:45: ESC2016-98

The integration of stress, strain, and seismogenic fault data: towards more robust estimates of the earthquake potential in Italy and its surroundings

Caporali, Alessandro; Braitenberg, Carla;
Montone, Paola; Rossi, Giuliana; Valensise, Gianluca

15:45–16:00: ESC2016-327

Partition of strain rates in Southwestern Canada for new regional earthquake hazard models

Barani, Simone; Jiang, Yan; James, Thomas S.;
Cassidy, John F.

16:00–16:05: Discussion**Including active fault and geodynamic models to SHA; modeler's requirements and results****16:05–16:35: ESC2016-544**

Active faults in regional seismic hazard models: use and modelling insights (invited talk)

Danciu, Laurentiu; Giardini, Domenico

16:35–16:50: ESC2016-369

Understanding the Requirements of Geology in Earthquake Hazard Assessment from the Perspective of Seismic Source Modellers and Hazard Users

Weatherill, Graeme; Pagani, Marco

16:50–17:05: ESC2016-399

Seismic hazard of the Northern Apennines based on 3D seismic sources

Luca, Martelli; Federico, Sani; Marco, Bonini;
Giacomo, Corti; **Marco, Santulin;** Tamaro, Alberto;
Alessandro, Rebez; Dario, Slejko

17:05–17:10: Discussion**17:10–17:30: Overall discussion, Session closure****END OF ORAL PROGRAM 13****11:30–13:00****14 Engineering seismology in the risk evaluation of built environment (Joint ESC-EAEE session)**

Conveners: Angelo Masi; Maria Rosaria Gallipoli; Stefano Grimaz; Fabio Romanelli

Lecture Room: Oceania AB

Seismic action and structural response**11:30–11:45: ESC2016-592**

Response-Spectrum Compatible Earthquake Record Selection for Nonlinear Structural Analysis

Isbiliroglu, Levent; Lancieri, Maria; Guéguen, Philippe

11:45–12:00: ESC2016-406

A possible seismic design process to overcome the limitations of standard seismic input definition

Magrin, Andrea; Fasan, Marco; Amadio, Claudio;
Romanelli, Fabio; Vaccari, Franco; Panza, Giuliano F.

12:00–12:15: ESC2016-222

New charts for rapid and accurate assessment of fundamental periods of concrete or steel buildings

de la Foye, Alexandre; Richard Jarpa, Thomas

12:15–12:30: ESC2016-217

Seismic method for quick assessment of structural health

Antonovskaya, Galina; **Kapustian, Natalia**

12:30–12:45: ESC2016-181

SPO2FRAG V1.0: software for derivation of seismic fragility functions via static pushover

Iervolino, Iunio; Baltzopoulos, Georgios;
Vamvatsikos, Dimitrios; **Baraschino, Roberto**

12:45–13:00: ESC2016-392

Fundamental period elongation of a RC building during the Pollino seismic swarm sequence

Gallipoli, Maria Rosaria; Stabile, Tony Alfredo;
Guéguen, Philippe; Mucciarelli, Marco; Comelli, Paolo;
Bertoni, Michele

14:30–17:30**14:30–14:45: ESC2016-478**

Enviromental and on buildings noise measures: Lalitpur (Kathmandu)

Sandon, Denis; Pettenati, Franco; Maskey, Sumit;
Giorgi, Massimo; Cravos, Claudio

14:45–15:00: ESC2016-601

Soil-structure interaction at different test sites: An application to Istanbul, Bishkek and Mexico City

Petrovic, Bojana; Parolai, Stefano; Dikmen, S. Umit;
Pianese, Giovanna; Paolucci, Roberto; Orunbaev,
Sagynbek; Moldobekov, Bolot

15:00–15:15: ESC2016-607

Combining Stockwell Transform and deconvolution interferometry to detect the non-linear response of instrumented buildings during an earthquake

Pianese, Giovanna; Petrovic, Bojana; Paolucci, Roberto; Parolai, Stefano

15:15–15:30: ESC2016-405

Application of seismic fragility functions for a post-earthquake bridge inspection protocol in Costa Rica

Muñoz, Jorge; Ruiz, Paulo; Moya, Áaron; Schmidt, Victor; Vega, Paul; Vargas, Luis Guillermo; Barrantes, Roy; Loría, Luis Guillermo

15:30–15:45: Discussion**Seismic risk****15:45–16:00: ESC2016-336**

Uniform risk-targeted maps for Romania

Vacareanu, Radu; Pavel, Florin; Coliba, Veronica; Craciun, Ionut

16:00–16:15: ESC2016-370

Investigation on the seismic risk of Bucharest, Romania

Pavel, Florin; Vacareanu, Radu

16:15–16:30: ESC2016-237

RINTC - A project to assess the seismic risk of code-conforming structures in Italy

Ierv, Iu

16:30–16:45: ESC2016-289

Seismic risk of old RC buildings: vulnerability evaluation at urban scale to define strengthening programs

Chiauzzi, Leonardo; Masi, Angelo; Mucciarelli, Marco

16:45–17:00: ESC2016-291

Towards an action plan for the seismic risk mitigation of the residential building stock in Val d'Agri area, Italy.

Masi, Angelo; Chiauzzi, Leonardo; Mucciarelli, Marco; Digrisolo, Andrea

17:00–17:30: Discussion**END OF ORAL PROGRAM 14****11:30–12:45****22 Historical earthquake research in Europe**

Conveners: Andrea Rovida; Christa Hammerl; Ina Cecić
Lecture Room: Vulcania 2

Chairpersons: Hammerl, Rovida

11:30–11:45: ESC2016-38

Earthquakes between 1350 and 1700 in southern Dalmatia and Montenegro

Albini, Paola; Rovida, Andrea

11:45–12:00: ESC2016-624

Macroseismic information from Ottoman Archives for earthquakes of 19th century in Central-Eastern Turkey
 Sesetyan, Karin; Sakin, Orhan; **Sonmez, Serpil;** Demircioglu, Mine B.

12:00–12:15: ESC2016-322

Stochastic strong ground motion simulations for the intermediate-depth historical earthquakes

Kkallas, Harris; Papazachos, Costas; Boore, David; Margaris, Vasilis

12:15–12:30: ESC2016-264

The 1895 Ljubljana earthquake: can the intensity data points discriminate which one of the nearby faults was the causative one?

Tiberi, Lara; Costa, Giovanni; Jamšek Rupnik, Petra; Cecić, Ina; Suhadolc, Peter

12:30–12:45: ESC2016-256

Macroseismic evaluation of Santa Maria island (Azores) 1937 and 1939 earthquakes

Carmo, Rita; Ferreira, Teresa; Marques, Rita

14:30–17:45

Chairpersons: Cecić, Hammerl

14:30–14:45: ESC2016-661

Seismic Sardinia: the historical earthquakes of an "earthquake-less" island

Camassi, Romano; **Castelli, Viviana;** Meletti, Carlo

14:45–15:00: ESC2016-113

Mycenaean Tiryns and the Earthquake Hypothesis: Summary of Results from the HERACLES Project

Hinzen, Klaus-G.; Damm-Meinhardt, Ursula; Fleischer, Claus; Hinojosa-Prieto, Hector; Maran, Joseph; Reamer, Sharon K.; Schweppe, Gregor; Tzislakis, Jana

15:00–15:15: ESC2016-541

A Conceptual Framework for Spatial and Temporal Visualisations of Historical and Recent Earthquake Data

Ferschin, Peter; Hammerl, Christa

15:15–15:30: ESC2016-547

The 2015 version of the Italian Parametric Earthquake Catalogue (CPTI15)

Rovida, Andrea; Locati, Mario; Camassi, Romano; Lolli, Barbara; Gasperini, Paolo; Azzaro, Raffaele; Bernardini, Filippo; D'Amico, Salvatore; Ercolani, Emanuela; Meletti, Carlo; Rossi, Antonio; Tertulliani, Andrea

15:30–15:45: ESC2016-62

Comparing the annual frequencies of exceedance of observed intensities to those predicted by probabilistic seismic hazard assessments for France

Rey, Julien; **Beauval, Celine;** Douglas, John

15:45–16:00: ESC2016-586

Assessment of earthquake parameters: Limited IDP knowledge could bring to magnitude overestimation.

Schlupp, Antoine; Sira, Christophe

16:00–16:15: ESC2016-434

Rectangular Blocks vs Polygonal Walls in Archaeoseismology

Hinzen, Klaus-G.; Montabert, Arnaud

16:15–16:30: ESC2016-619

The state-of-the-art of the investigation of 1858 Žilina (Slovakia) earthquake

Kysel, Robert; Labak, Peter; Hammerl, Christa

16:30–16:45: ESC2016-666

Finding gaps in the historical earthquake record of Italy: case histories
Bernardini, Filippo; Camassi, Romano; Castelli, Viviana; Ercolani, Emanuela; Caracciolo, Carlos H.; Rossi, Antonio; Tertulliani, Andrea

16:45–17:00: ESC2016-175

Scientific networks and data-exchanges in European seismological research during the 1930s and 1940s.
Lund Jacobsen, Lief

17:00–17:15: ESC2016-660

Retrieving lost earthquakes 3.0
Camassi, Romano; Castelli, Viviana; Azzaro, Raffaele; Bernardini, Filippo; Caracciolo, Carlos H.; Ercolani, Emanuela; Rossi, Antonio; Tertulliani, Andrea

17:15–17:30: ESC2016-609

ASMI, the Italian node of the European Archive of Historical Earthquake Data (AHEAD)
Locati, Mario; Rovida, Andrea

17:30–17:45: Discussion**END OF ORAL PROGRAM 22****14:30–17:30**

25 Earthquake seismology applied: what's needed for managing the many facets of risk

Conveners: Jochen Woessner; Warner Marzocchi
Lecture Room: Oceania C

Chairperson: Jochen Woessner

14:30–15:00: ESC2016-204

Hazard validation of vendor catastrophe models with application to reinsurance (invited talk)
Styles, Kirsty

15:00–15:15: ESC2016-69

Development of an open-data based Reinsurance Catastrophe Model
Ewald, Michael; Karababa, Faye

15:15–15:30: ESC2016-702

The European Seismic Hazard Model 2018: The next generation probabilistic seismic hazard model for Europe (invited talk)
Wiemer, Stefan; Giardini, Domenico; Danciu, Laurentiu; Haslinger, Florian and the ESHM18 Team

15:30–15:45: ESC2016-537

A new PSHA model for Sub-Saharan Africa using OpenQuake and the GEM Modelling Toolkits
Poggi, Valerio; Pagani, Marco; Weatherill, Graeme; Garcia, Julio; Durrheim, Raymond; Mavonga, Georges; Nyblade, Andrew

15:45–16:15: ESC2016-125

Operational earthquake loss forecasting (invited talk)
Iervolino, Iunio

16:15–16:30: ESC2016-157

Evolution of earthquake rupture potential along active faults, inferred from seismicity rates and size distributions
Tormann, Thessa; Wiemer, Stefan; Enescu, Bogdan; Woessner, Jochen

16:30–16:45: ESC2016-301

Large earthquakes in historical and pre-historical times in Switzerland: An overview of earthquake induced effects
Fäh, Donat; Gassner-Stamm, Gabriela; Strasser, Michael; Grolimund, Remo; Wirth, Stephanie

16:45–17:00: ESC2016-318

Revision of Earthquake Hypocenter Locations in Global Bulletin Data Sets using Source-Specific Station Terms Technique
Nooshiri, Nima; Saul, Joachim; Heimann, Sebastian; Tilmann, Frederik; Dahm, Torsten

17:00–17:15: ESC2016-111

GEAR1 forecast: Distribution of largest earthquakes and number test
Kagan, Yan

17:15–17:30: ESC2016-290

Long lasting operational practice in forecasting earthquakes and related ground shaking
Peresan, Antonella; Kossobokov, Vladimir; Panza, Giuliano F.

END OF ORAL PROGRAM 25**19:30–23:00**

SE3 Social dinner

Social dinner in restored warehouse
(Pre-registration necessary)

Posters Wednesday

01 Advances in noninvasive approaches to characterizing seismic site conditions (joint ESC-SSA session)

Conveners: Alan Yong; Dario Albarello; John Cassidy; Sebastiano D'Amico

Display Time: Wed, 09:00–19:00

Attendance Times: Wed, 10:30–11:30 & 17:30–19:00

01-1: ESC2016-108

A Multimethod Approach for Acquiring Shear-wave Velocity Data (V_s 30) for Seismic Hazard Site Characterization Within the Urban Environment

Odum, Jack; Stephenson, William; Williams, Robert; Volti, Theodora

01-2: ESC2016-147

Discussion on the role of level 1 and 3 Liquefaction microzonation studies for improving seismic resilience of urban areas

Vessia, Giovanna; Rainone, Mario Luigi; Di Domenica, Alessandra; Pizzi, Alberto; Giallini, Silvia; Pagliaroli, Alessandro; Moscatelli, Massimiliano

01-3: ESC2016-161

Application of active and noise-based site characterization methods during seismic microzonation of Budapest, Hungary

Győri, Erzsébet; Gráczer, Zoltán; Szanyi, Gyöngyvér; Timkó, Máté

01-4: ESC2016-180

Landslide characterization using ambient seismic noise techniques at Dunaszekcső, Hungary

Szanyi, Gyöngyvér; Finta, Péter; Gráczer, Zoltán; **Győri, Erzsébet**

01-5: ESC2016-231

Site effects assessment along the eastern Enriquillo Plantain Garden Fault Zone in Haiti

Ulysse, Sophia Marie Johanne; Havenith, Hans-Balder; Boisson, Dominique

01-6: ESC2016-308

Investigating ambient noise recordings at Iusi mud volcano (indonesia) seismic network

Panzera, Francesco; **D'Amico, Sebastiano;** Lupi, Matteo; Mazzini, Adriano

01-7: ESC2016-359

Construction of 3D Shear-wave Velocity Model for Ilan Basin, Taiwan, using Microtremor H/V Spectral Ratio Modeling

Lin, Che-Min; Wen, Kuo-Liang; Huang, Jyun-Yan; Fatimah, Siti

01-8: ESC2016-386

Estimation of fundamental frequency peaks, in the Chlef City, Algeria, using different methods

Layadi, Khalissa; Semmane, Fethi; Yelles-Chaouche, Abdelkarim

01-9: ESC2016-423

Recent insight into seismic amplification effects and seismically-induced boulder falls at Casentino city site (AQ).

Garzonio, Carlo Alberto; **Rainone, Mario Luigi;** Vessia, Giovanna

01-10: ESC2016-454

Experimental and numerical site response analysis for the definition of macroseismic anomalies in Liguria, Italy

De Ferrari, Roberto; Ferretti, Gabriele; Barani, Simone; Giacomo, Pepe; Andrea, Civasco

01-11: ESC2016-476

Preliminary mapping of the Po Plain (Northern Italy) seismic bedrock from passive geophysical surveys and stratigraphic evidence

Mascandola, Claudia; Massa, Marco; Argnani, Andrea

01-12: ESC2016-485

Development and validation of a low-cost three-component recorder for H/V method application

Soler-Llorens, Juan Luis; Galiana-Merino, Juan Jose; Giner-Caturla, Jose Juan; Jauregui-Eslava, Pedro; Rosa-Cintas, Sergio; Rosa-Herranz, Julio

01-13: ESC2016-487

Ambient noise recording and H/V analysis through Arduino Due and Matlab

Galiana-Merino, Juan Jose; **Soler-Llorens, Juan Luis;** Rosa-Herranz, Julio; Rosa-Cintas, Sergio; Giner-Caturla, Jose Juan; Jauregui-Eslava, Pedro

01-14: ESC2016-521

The use of HVSR measurements for investigating buried tectonic structures: the Mirandola Anticline, northern Italy, as a case study

Tarabusi, Gabriele; Caputo, Riccardo

01-15: ESC2016-561

Seismic attenuation of the clays of the west part of Mexico Valley Basin

Nava, Janeri; Rodriguez, Miguel; Ovando, Efraín

01-16: ESC2016-570

Gradient-based shear-wave velocity parameterization in Bayesian inversion of surface-wave dispersion for earthquake site response

Gosselin, Jeremy; Dosso, Stan; **Cassidy, John;** Quijano, Jorge; Molnar, Sheri

01-17: ESC2016-649

Ambient vibration analysis as a proxy for the detection of buried geological structures

Famiani, Daniela; Cara, Fabrizio; Di Giulio, Giuseppe; Hailemikael, Salomon; Vassallo, Maurizio; Amoroso, Sara; Cantore, Luciana; Di Naccio, Deborah; Mercuri, Alessia; Milana, Giuliano

01-18: ESC2016-663

HV-Inv: a tool for forward calculation of the HVSR and inversion of Vs structures under the diffuse field assumption

García-Jerez, Antonio; Piña-Flores, José; Sánchez-Sesma, Francisco; Luzón, Francisco; Perton, Mathieu; Seivane, Helena; Navarro, Manuel

01-19: ESC2016-708

Implementation of Multi-Mode Spatial Autocorrelation (MMSPAC) Methods along the North Anatolian Fault Zone (Turkey)

Sisman, Fatma Nurten; Askan, Aysegul; Asten, Michael

01-20: ESC2016-439

Low frequency amplification in deep alluvial basin and consequences for site specific PSHA: an example in the Po Plain (Northern Italy)

Mascandola, Claudia; Massa, Marco; Barani, Simone; Lovati, Sara; Santulin, Marco

01-21: ESC2016-148

Preliminary characterization of seismic response in wide areas by using PCA analysis of HVSR data

Paolucci, Enrico; Albarello, Dario; Lunedei, Enrico

01-22: ESC2016-593

XNSR - a software for a different approach to single-station spectral ratio

Mucciarelli, Marco; **Gallipoli, M.Rosaria;** Stabile, Tony A.; Zuliani, David; Massolino, Giulia

Discussion**END OF POSTER PROGRAM 01**

13 From active faulting and geodynamic data to the assessment of seismic hazard: new constraints and challenges ahead

Conveners: Vanja Kastelic; Kurt Decker; Katalin Gribovszki; Andrea Hampel; Erika Hegymegi; Antonella Peresan; Karin Sesetyan; Gianluca Valensise

Display Times: Tue, 09:00–19:00 & Wed, 09:00–19:00

Attendance Times: Tue, 10:30–11:30 & 17:30–19:00

Wed, 10:30–11:30 & 17:30–19:00

Chairpersons: Kastelic, Decker, Gribovszki, Hegymegi, Peresan, Valensise

13-1: ESC2016-51

Stress change and fault interaction from a two century-long earthquake sequence in the central Tell Atlas (Algeria)

Kariche, Jugurtha; Meghraoui, Mustapha;

Ayadi, Abdelhakim; Ziyadin, Cakir;

Boughacha, Mohamed Salah

13-2: ESC2016-309

Investigation of the possible tectonic fault in the Little Carpathians Mts. using combination of geophysical methods

Fojtikova, Lucia; Kristekova, Miriam; Madaras, Jan; Malek, Jiri

13-3: ESC2016-471

Geophysical survey to study active and capable faults in Friuli Venezia Giulia: the example of the Maniago thrust (Meduno, NE Italy).

Poli, Maria Eliana; Affatato, Alessandro; Baradello, Luca; Bohm, Gualtiero; Dal Bo, Igor; Del Pin, Enrico; Forte, Emanuele; Grimaz, Stefano; Massolino, Giulia

13-4: ESC2016-314

The Maniago thrust: an active and capable fault at the front of the eastern Southern Alps (NE Italy). Implication for the seismic hazard assessment in Friuli.

Poli, Maria Eliana; Falcucci, Emanuela; Gori, Stefano; Marchesini, Andrea; Monegato, Giovanni; Zanferrari, Adriano

13-5: ESC2016-447

New statistics of earthquake-fault dip angles

Basili, Roberto; Tiberti, Mara Monica

13-6: ESC2016-496

Faults geometry and rupture evolution of the May 2012 Emilia (Northern Italy) earthquakes: hints from high precise relocated hypocenters and coseismic deformation

Massa, Marco; Carannante, Simona; Argnani, Andrea; Pezzo, Giuseppe

13-7: ESC2016-420

Active fault and finite element geodynamic models for PSHA

Kastelic, Vanja; Carafa, Michele M.C.; **Visini, Francesco**

13-8: ESC2016-480

Fault-plane solutions and stress orientation in the greater region of Northern and Central Dinarides

Herak, Marijan; Herak, Davorka; Dasović, Iva

13-9: ESC2016-572

Deformation and fault slip rates for Africa-Iberia plate boundary, determined by neotectonic modeling

Neres, Marta; Carafa, Michele; Fernandes, Rui; Matias, Luis; Duarte, João C.; Barba, Salvatore; Terrinha, Pedro

13-10: ESC2016-279

Inferring on the seismogenesis of the Sannio-Irpinea border region (Southern Italy).

De Matteo, Ada; Massa, Bruno; **Milano, Girolamo;** D'Auria, Luca

13-11: ESC2016-209

Earthquakes and seismogenic sources in the Trentino region (central-eastern Alps, Italy)

Viganò, Alfio; Scafidi, Davide; Ranalli, Giorgio; Martin, Silvana; Della Vedova, Bruno; Spallarossa, Daniele; Franceschini, Andrea; Zambotto, Mauro

13-12: ESC2016-278

Present-day seismicity in and around the Matese Massif (Southern Apennines, Italy): inferring on the seismic hazard evaluation.

Milano, Girolamo

13-13: ESC2016-46

Investigation of the April 2013 destructive earthquake in Makran subduction zone, southeast Iran

Heidari, Ramak; Sedghi, Maryam; Gheitanchi, Mohammad Reza

13-14: ESC2016-463

Three-dimensional crustal structure in the western part of Romania from local earthquake data

Zaharia, Bogdan; Grecu, Bogdan; Popa, Mihaela; Oros, Eugen; Radulian, Mircea

13-15: ESC2016-47

Seismicity of the Bushehr region with emphasis on the destructive earthquake of 2013, Kaki, in Zagros, southwest Iran

Sedghi, Maryam; Heidari, Ramak; Gheitanchi, Mohammadreza; Jazayeri, Abbas

13-16: ESC2016-356

Shear-wave velocity structure and geodynamics in Balkan Peninsula region

Protopopova, Valentina; Raykova, Reneta

13-17: ESC2016-630

Determining the Kaki Earthquake properties with using InSAR Method, 2013, Kaki, southwest Iran

Heidari, Ramak; Sedghi, Maryam

13-18: ESC2016-648

Non-destructive speleothem investigation for paleoearthquake records

Hegymegi, Erika; Gribovszki, Katalin; Gyöngy, Miklós; Bokelmann, Götz; Hegymegi, Csaba

13-19: ESC2016-642

Constraints on Long-Term Seismic Hazard From Vulnerable Stalagmites

Gribovszki, Katalin; Esterhazy, Sofi; Bokelmann, Götz; Mónus, Péter; Kovács, Károly; Konecny, Pavel; Lednicka, Marketa; Spötl, Christoph; Bednárik, Martin; Brimich, Ladislav; Hegymegi, Erika

13-20: ESC2016-103

Seismic Hazard and Risk Assessment (SHandRA): the Greater Caucasus and Crimea

Kossobokov, Vladimir; Nekrasova, Anastasia

END OF POSTER PROGRAM 13

14 Engineering seismology in the risk evaluation of built environment (Joint ESC-EAEE session)

Convenors: Angelo Masi; Maria Rosaria Gallipoli; Stefano Grimaz; Fabio Romanelli

Display Times: Tue, 09:00–19:00 & Wed, 09:00–19:00

Attendance Times: Tue, 10:30–11:30 & 17:30–19:00

Wed, 10:30–11:30 & 17:30–19:00

14-1: ESC2016-269

Scenario events in central Italy for seismic response analysis: the case study of the Fucino plane

D'Amico, Maria; Pacor, Francesca; Milana, Giuliano; Boncio, Paolo; Famiani, Daniela; Pace, Bruno; Cultrera, Giovanna

14-2: ESC2016-155

Seismic risk in Chisinau, Moldova

Alcaz, Vasile; Isicico, Eugen; Ghinsari, Victoria;

Troian, Sergiu

14-3: ESC2016-353

Analysis of the effect of air temperature on the building response: observation and numerical modeling

Gueguen, Philippe

14-4: ESC2016-85

A study on fragility analyses of masonry buildings in Erzincan (Turkey) utilizing simulated and real ground motion records

Karimzadeh naghshineh, Shaghayegh; Kadas, Koray; Askan, Aysegul; Erberik, Murat Altug; Yakut, Ahmet

14-5: ESC2016-363

Correlation between seismic intensity measures and structural performances of non-ductile and code conforming RC buildings in Italy

Masi, Angelo; **Manfredi, Vincenzo;** Disgrisolo, Andrea

14-6: ESC2016-307

Seismic response of a reinforced concrete building: comparison between earthquakes, induced vibrations, and numerical modelling

Barnaba, Carla; Fabris, Davide; Lostuzzo, Riccardo

14-7: ESC2016-591

Ambient vibration measures on strategic buildings in Matera in the framework of the CLARA-Smart Cities project

Massolino, Giulia; Sandron, Denis; Gallipoli, Maria Rosaria; Rebez, Alessandro; Mucciarelli, Marco; Stabile, Tony Alfredo

14-8: ESC2016-603

Changes in Vibration Periods of the TAIPEI 101 Skyscraper during Typhoon Soudelor in 2015

Chen, Kou-Cheng; Wang, Jeen-Hwa; Huang, Bor-Shouh

14-9: ESC2016-610

From ambient vibrations to damage assessment at urban scale: a numerical study and application to Beirut city (Lebanon)

Salameh, Christelle; **Bard, Pierre-Yves;** Guillier, Bertrand; Harb, Jacques; Cornou, Cécile; Al Makari, Michelle

END OF POSTER PROGRAM 14

22 Historical earthquake research in Europe

Convenors: Andrea Rovida; Christa Hammerl; Ina Cecić

Display Time: Wed, 09:00–19:00

Attendance Time: Wed, 10:30–11:30 & 17:30–19:00

Chairpersons: Rovida, Hammerl, Cecić

10:30–10:45: Opening of the session: brief poster summary presentations

22-1: ESC2016-402

Earthquake catalogue for southwestern Germany – A status report

Brüstle, Wolfgang; Hock, Silke; Braumann, Uwe; Rodler, Fee-Alexandra; Greve, Andreas

22-2: ESC2016-612

Reassessment of macroseismic data for eight historical earthquakes in the region of Hrvatsko primorje and Mt. Velebit

Herak, Davorka; Sović, Ivica; Herak, Marijan

22-3: ESC2016-582

A little known archive of historical earthquakes in Greece for the period 1893-1915

Papadopoulos, Gerassimos

22-4: ESC2016-395

Image processing in macroseismology: use of the image moments analysis for the comparison of isoseismal maps

Sović, Ivica; Šariri, Kristina; Tasić, Tanasko

22-5: ESC2016-647

Studying the Geophysical and Geological Environment of Earthquakes Using Geographic Information System Tools

Gribovszki, Katalin; Szeidovitz, Győző; Bokelmann, Götz; Mónus, Péter; Kovács, Károly; Kalmár, János

22-6: ESC2016-449

Re-evaluation and comparison of macroseismic effects for the major earthquakes occurred at the beginning of the 19th century in the Vrancea region, Romania

Rogozea, Maria; **Radulian, Mircea; Toma-Danila, Dragos**

22-7: ESC2016-695

Two potential cases of earthquake-induced old landslides in Vrancea seismic region (Romania)

Micu, Mihai; **Havenith, Hans Balder; Balteanu, Dan; Onaca, Alexandru; Cioflan, Carmen; Mreyen, Anne-Sophie**

END OF POSTER PROGRAM 22

25 Earthquake seismology applied: what's needed for managing the many facets of risk

Conveners: Jochen Woessner; Warner Marzocchi

Display Time: Wed, 09:00–19:00

Attendance Time: Wed, 10:30–11:30 & 17:30–19:00

Chairperson: Jochen Woessner

25-1: ESC2016-65

How long time will we go with so many uncertainties in evaluation of hazard and seismic risk ?

Marmureanu, Gheorghe; Cioflan, Carmen; Marmureanu, Alexandru; Ionescu, Constantin; Manea, Florinela

25-2: ESC2016-84

Preparation of the unified earthquake catalogue for the Western Balkan Region

Markušić, Snježana; Gülerce, Zeynep; Kuka, Neki; Duni, Llambro; Ivančić, Ines; Mihaljević, Jadranka; Kovačević, Svetlana; Šalić, Radmila; Milutinović, Zoran; Radovanović, Slavica; Glavatović, Branislav

25-4: ESC2016-71

Influence of Seismic Hazard Model Components on typical risk metrics: Examples from South-East Asian Countries

Woessner, Jochen; Seyhan, Emel; Nyst, Marleen

25-5: ESC2016-585

Building a new PSHA earthquake source model for South America: the SARA model

Garcia, Julio; Weatherill, Graeme; Pagani, Marco; Rodriguez, Luis; Poggi, Valerio

END OF POSTER PROGRAM 25

09:00–10:30

Keynote Lectures

Lecture Room: Saturnia

Chairperson: Stefano Parolai

WILLIAM L. ELLSWORTH: Managing the hazard of induced earthquakes in a changing world

and

RICO PRIOLO: Natural, triggered, or induced? An Italian/European perspective on the theme of monitoring and discrimination of induced seismicity

11:30–13:00

02 From ORFEUS to EPOS: the development of European seismological research infrastructures - a tribute to Torild van Eck

Conveners: Florian Haslinger; Alberto Michelini; Rémy Bossu; Andreas Rietbrock

Lecture Room: Oceania C

Chairperson: Andreas Rietbrock

11:30–12:00: ESC2016-701

EPOS: from conception to implementation (invited talk)
Cocco, Massimo

12:00–12:15: ESC2016-451

Developing sustainable and relevant community services for Seismology in Europe under the EPOS umbrella

Haslinger, Florian; Bossu, Rémy; Danciu, Laurentiu; Dupont, Aurélien; Garth, Tom; Luzi, Lucia; Michelini, Alberto; Rietbrock, Andreas; Sleeman, Reinoud; Strollo, Angelo; Wiemer, Stefan; Consortium, EPOS-Seismology

12:15–12:30: ESC2016-558

From the ORFEUS centralized archive to the EIDA distributed data centre

Strollo, Angelo; Sleeman, Reinoud; Trani, Luca; Clinton, John; Stammler, Klaus; Danecek, Peter; Pedersen, Helle; Ionescu, Constantin; Pinar, Ali; Evangelidis, Christos

12:30–12:45: ESC2016-287

RAF, the first Italian digital time-synchronized accelerometric network: its evolution and integration into transnational and European research infrastructures
Costa, Giovanni; Suhadolc, Peter

12:45–13:00: ESC2016-56

The ISC Data Products and Services in Europe
Storchak, Dmitry; Di Giacomo, Domenico; Harris, James

14:30–17:00

Chairperson: Florian Haslinger

14:30–14:45: ESC2016-176

Automatic processing of seismograms using the new version of the RSNI-Picker software: examples of real-time and off-line analyses

Scafidi, Davide; Ferretti, Gabriele; Spallarossa, Daniele; Viganò, Alfio

14:45–15:00: ESC2016-258

Amplitude-dependent station magnitude
Radzynier, Yael; Ben Horin, Yochai; Steinberg, David M.

15:00–15:15: ESC2016-335

Efficient discovery and access to seismological waveform data in ORFEUS EIDA

Trani, Luca; Koymans, Mathijs; Sleeman, Reinoud

15:15–15:30: ESC2016-123

The Next-Generation Strong-Motion Data Dissemination in the European-Mediterranean Region

Luzi, Lucia; Cauzzi, Carlo; Clinton, John; Kästli, Philipp; Sleeman, Reinoud; Domingo Ballesta, Jordi; Puglia, Rodolfo; Russo, Emiliano; Working Group 5, Orfeus

15:30–15:45: ESC2016-575

Latest developments at GEOFON Data Centre
Quinteros, Javier; Hemmleb, Susanne; Evans, Peter; Heinloo, Andres; Strollo, Angelo

15:45–16:00: ESC2016-644

An update on the INGV National Earthquake Center data products

Danecek, Peter; Pintore, Stefano; Lauciani, Valentino; Fares, Massimo; Quintiliani, Matteo; Bono, Andrea; Marcocci, Carlo; Margheriti, Lucia; Scognamiglio, Laura; Faenza, Licia; Baccheschi, Paola; Mandiello, Alfonso; Mazza, Salvatore; Michelini, Alberto

16:00–16:15: ESC2016-638

ARISTOTLE: All Risk Integrated System Towards the Holistic Early-Warning

Michelini, Alberto; Wotawa, Gerhard; and the ARISTOTLE Team

16:15–16:30: ESC2016-508

The operational phase of the AlpArray Seismic Network

Clinton, John; Hetenyi, Gyorgy; Molinari, Irene; Kissling, Edi; and the AlpArray Seismic Network Team and EIDA Management Board Team

16:30–16:45: ESC2016-284

High-resolution data and products automatically retrieved from local dense seismological networks: The Altotiberina Near Fault Observatory (Northern Apennines) case study.

Chiaraluce, Lauro; Cattaneo, Marco; Di Stefano, Raffaele; Latorre, Diana; Marzorati, Simone; Monachesi, Giancarlo; Valoroso, Luisa

16:45–17:00: ESC2016-251

KivuSNet: A broadband seismic network for the Lake Kivu & Virunga Volcanic Region, Democratic Republic of the Congo
Oth, Adrien: Barrière, Julien; d'Oreye, Nicolas; Mavonga, Georges; Subira, Jos; Mashagiro, Niche; Fiama, Silvanos; Birigande, Jean de Dieu; Ntenga, Alain; Kervyn, François

END OF ORAL PROGRAM 02**14:30–17:30****15 Earthquake and multi hazard early warning and rapid response**

Conveners: Adrien Oth; Stefano Parolai; Aldo Zollo; Matteo Picozzi

Lecture Room: Vulcania 1

Chairpersons: Adrien Oth and Matteo Picozzi

The advancement of new technologies in EEW**14:30–14:45: ESC2016-383**

Introducing a free and open-source earthquake early warning display

Cauzzi, Carlo: Behr, Yannik; Clinton, John; Kästli, Philipp; Elia, Luca; Zollo, Aldo

14:45–15:00: ESC2016-156

Smartphone-Network for Earthquake and Tsunami Early Warning in Chile

Böse, Maren: Brooks, Ben; Barrientos, Sergio; Minson, Sarah; Baez, Juan Carlos; Erickson, Todd; Guillemot, Chris; Duncan, Chris; Sanchez, Rodrigo; Smith, Deborah; Cochran, Elizabeth; Murray, Jessica; Glennie, Craig; Langbein, John; Dueitt, Jerry; Clinton, John

15:00–15:15: ESC2016-61

A Comparison study on the infrastructure of national seismic networks considering earthquake early warning

Kuyuk, H. Serdar

15:15–15:30: ESC2016-342

ALERTES: An Earthquake Early Warning System for the Ibero-Maghrebian region

Buñor, Elisa: Pazos, Antonio; Roca, Antoni; Carranza, Marta; Martín Dávila, José; Zollo, Aldo; López, Mireia; and the ALERTES Team

New methodological directions in regional and onsite EEW systems**15:30–15:45: ESC2016-259**

Real-time estimation of energy magnitude for EEW purposes

Picozzi, Matteo: Brondi, Piero; Bindi, Dino; Di Giacomo, Domenico; Parolai, Stefano; Zollo, Aldo

15:45–16:00: ESC2016-413

An Attempt of Predicting the Macroseismic Intensity from Early Radiated Energy for On-site Earthquake Early Warning in Italy

Brondi, Piero: Picozzi, Matteo; Emolo, Antonio; Zollo, Aldo; Mucciarelli, Marco

16:00–16:15: ESC2016-415

On-site earthquake early warning strategy for Italy

Caruso, Alessandro: Colombelli, Simona; Zollo, Aldo; Brondi, Piero; Elia, Luca; Emolo, Antonio; Festa, Getano; Martino, Claudio; Picozzi, Matteo

16:15–16:30: ESC2016-316

Initial P-wave amplitude evolution for the 2008, Iwate-Miyagi (Japan) earthquake sequence

Colombelli, Simona: Festa, Gaetano; Zollo, Aldo

Innovative strategies for ground motion prediction and damage mapping in EEW**16:30–16:45: ESC2016-74**

Ground motion forecasting using a reference station and complex site response functions accounting for the shallow geology

Pilz, Marco: Parolai, Stefano

16:45–17:00: ESC2016-367

Innovative methodologies for earthquake damage mapping: the APhoRISM outcomes

Bignami, Christian: Pierdicca, Nazzareno; Stramondo, Salvatore; Anniballe, Roberta; Noto, Fabrizio; Giovinazzi, Sonia; Romaniello, Vito; Piscini, Alessandro

Engineering EEW applications**17:00–17:15: ESC2016-628**

EEW Significance of Predicting the Generation and Arrival Times of Long Period Seismic Waves in Istanbul Metropolitan Area, NW Turkey

Pınar, Ali: Comoglu, Mustafa; Kalkan Ertan, Esra; Safak, Erdal; Dikmen, S. Umit; Erdik, Mustafa

17:15–17:30: ESC2016-680

Real-Time Assessment of Building Response for Earthquake Early Warning Applications
Galasso, Carmine; **Velazquez Ortiz, Omar**

END OF ORAL PROGRAM 15**11:30–13:00****17 Rapid estimation of secondary earthquake effects and their impacts**

Conveners: Marco Pilz; Carlo Cauzzi; Tolga Gorum; Hans-Balder Hovenith; Stefano Parolai

Lecture Room: Vulcania 2

Chairperson: Marco Pilz

11:30–11:45: ESC2016-13

Dynamic geological-geophysical models of unstable slopes in seismic areas - analysis enhanced by 3D stereo visualisation

Hovenith, Hans-Balder

11:45–12:00: ESC2016-164

The role of earthquake triggered and climatic driven landslides in sediment transport and dispersal in an active graben: The case study of 1913 Krathis River landslide event, N. Peloponnese, Greece

Zygouri, Vasiliki; Koukouvelas, Ioannis

12:00–12:15: ESC2016-110

An Update on the Integration of Ground Failure Hazard and Loss Estimates with USGS Real-Time Earthquake Products

Allstadt, Kate; Thompson, Eric; Hearne, Michael; Zhu, Jing; Jesse, M. Anna; Tanyas, Hakan; Wald, David

12:15–12:30: ESC2016-458

Seismic response of earthquake susceptible rock slopes
Kleinbrod, Ulrike; Burjanek, Jan; **Fäh, Donat**

12:45–13:00: ESC2016-397

Rapid assessment of the likelihood of earthquake-induced hazards in Switzerland

Cauzzi, Carlo; Fäh, Donat; Wiemer, Stefan; Wald, David; Clinton, John

END OF ORAL PROGRAM 17**11:30–13:00**

18 Seismological and structural studies in Polar Regions and the cryosphere

Conveners: Myrto Pirlı; Sergei Lebedev; Peter Voss; Fabian Walter

Lecture Room: Oceania AB

Chairpersons: Myrto Pirlı, Peter Voss

General seismology**11:30–11:45: ESC2016-190**

Seismological investigation of lithosphere processes in the European Arctic

Antonovskaya, Galina; Konechnaya, Yana; Basakina, Irina; Schweitzer, Johannes; Fedorov, Andrey

11:45–12:00: ESC2016-201

Recent earthquakes at Disko Island, Greenland.

Dahl-Jensen, Trine; Voss, Peter H.; Larsen, Tine B.

12:00–12:15: ESC2016-207

New data about small-magnitude earthquakes of the ultraslow-spreading Gakkel Ridge, Arctic Ocean

Morozov, Alexey; Vaganova, Natalya; Konechnaya, Yana; Antonovskaya, Galina; Fedorenko, Irina; Mikhaylova, Yana

12:15–12:30: ESC2016-671

A 23 Year Long Seismic Bulletin for the European Arctic
Schweitzer, Johannes; Konechnaya, Yana; Fedorov, Andrey; Gibbons, Steven; Pirlı, Myrto

12:30–12:45: ESC2016-580

Storfjorden Earthquake Sequence: 2008–2016

Ottemöller, Lars; Kim, Won-Young; Dallmann, Winfried; Waldhauser, Felix

12:45–13:00: ESC2016-96

The joys and woes of missing seismicity: the case of the Longyearbyen CO₂ Lab

Kuehn, Daniela; Albaric, Julie; Bohloli, Bahman; Braathen, Alvar; Dando, Ben; Goertz-Allmann, Bettina; Harris, Dave; Hillers, Gregor; Langet, Nadège; Polom, Ulrich; Ohrnberger, Matthias; Ruud, Bent Ole; Schmidt, Andreas; Senger, Kim

14:30–17:30

Chairpersons: Peter Voss, Myrto Pirlı

Structural studies**14:30–15:00: ESC2016-52**

Surface wave studies of the Greenland crust using ambient seismic noise (invited talk)

Levshin, Anatoli; Shen, Weisen; Michail, Barmin; Michael, Ritzwoller

15:00–15:15: ESC2016-172

Tomographic model of seismic body-wave anisotropy and velocity perturbations of the upper mantle beneath Fennoscandia - Application of a novel code AniTomo

Munzarova, Helena; Plomerova, Jaroslava; Kissling, Edi; Vecsey, Ludek; Babuska, Vladislav; and the LAPNET working group Team

15:15–15:30: ESC2016-453

Waveform Tomography of the North Atlantic Region

Celli, Nicolas Luca; Lebedev, Sergei; Schaeffer, Andrew; Gaina, Carmen

15:30–15:45: ESC2016-280

Validation of the 3D Moho depth models by active seismic 2D models for the High Arctic.

Lebedeva-Ivanova, Nina; Gaina, Carmen; Kashubin, Sergey

Cryoseismology**15:45–16:15: ESC2016-53**

Analysis of cold glacier ice with active- and passive-source seismics (invited talk)

Diez, Anja

16:15–16:30: ESC2016-162

Numerical modelling of iceberg calving and implications in generated seismic waves

Sergeant, Amandine; Yastrebov, Vladislav; Mangeney, Anne; Castelnau, Olivier; Montagner, Jean-Paul; Stutzmann, Eléonore

16:30–16:45: ESC2016-354

Fine structure of repeating cryogenic seismicity near a shear margin of the Fimbul Ice Shelf, East Antarctica, by cluster analysis, and implications for the study of ice sheet dynamics

Pirlı, Myrto; Schweitzer, Johannes; Matsuoka, Kenichi

16:45–17:00: ESC2016-242

Glacier-related seismicity of Svalbard

Fedorov, Andrey; **Asming, Vladimir;** Hannibal, Andrey

17:00–17:15: ESC2016-216

Automatic monitoring of long-term glacier dynamics using single station observations and fuzzy logic classification: a case study from Spitsbergen

Gajek, Wojciech; Trojanowski, Jacek;
Malinowski, Michał

17:15–17:30: ESC2016-198

First results of seismo-infarsound monitoring of Svalbard glaciers with new PYR station

Baranov, Sergey; Asming, Vladimir; Fedorov, Andrey;
Vinogradov, Anatoly; Vinogradov, Yury

END OF ORAL PROGRAM 18**14:30–17:30****19 Advances in borehole networks, data, and analyses**

Convenors: Seyyit Umit Dikmen; Olga-Joan Ktenidou; Bojana Petrovic; Kyriazis Pitilakis

Lecture Room: Vulcania 2

Chairpersons: U.Dikmen, O. Ktenidou, B. Petrovic, K. Pitilakis

14:30–15:00: ESC2016-311

Estimation of shear-wave velocity and quality factor using vertical array data: towards new insights into soil-structure interactions (invited talk)

Parolai, Stefano

15:00–15:30: ESC2016-255

UCSB Borehole Array Monitoring Program (invited talk)
Steidl, Jamison

15:30–15:45: ESC2016-425

Integrated real time Multi-Parameter Borehole sensor system
Guralp, Cansun; Tunc, Suleyman; Ozel, Oguz

15:45–16:00: ESC2016-602

A Study on the site transfer functions of the downhole arrays at Istanbul
Tanircan, Gulum; **Dikmen, Umit**

16:00–16:15: ESC2016-442

A new method for soil-structure interaction estimation by the deconvolution of vertical array data
Petrovic, Bojana; Parolai, Stefano

16:15–16:30: ESC2016-75

On the relationship between near-surface attenuation and scattering

Pilz, Marco; Fäh, Donat

16:30–16:45: ESC2016-295

On the uncertainty of kappa (κ) estimates in boreholes
Ktenidou, Olga-Joan; Parolai, Stefano;
Specht, Sebastian

16:45–17:00: ESC2016-95

Estimation of nonlinear time-dependent soil behavior in strong ground motion (vertical distributions of stresses and strains in soil layers) based on vertical array data

Pavlenko, Olga

17:00–17:15: ESC2016-673

Site effects and non-linear soil behavior study using data from the IONIANET borehole array

Theodoulidis, Nikos; Bard, Pierre-Yves

17:15–17:30: ESC2016-345

In situ nonlinear analysis at boreholes using seismic interferometry by deconvolution and the PGV/Vs30 strain proxy

Guéguen, Philippe; Chandra, Johannes; Bonilla, Fabian; Mecerat, Diego; Lopez-Caballero, Fernando; Gélis, Céline

END OF ORAL PROGRAM 19**11:30–13:00****20 Operational assessment and management of natural and induced seismic risk**

Convenors: Massimiliano Pittore; Marc Wieland

Lecture Room: Vulcania 1

Chairperson: M. Pittore

11:30–11:45: ESC2016-45

Seismic evaluation of existing buildings in the northern region of Morocco using the Japanese standard

Cherif, Seif-eddine; Chourak, Mimoun; Abed, Mohamed; Nobuoto, Nojima

11:45–12:00: ESC2016-79

New tools for earthquake risk management in Slovenia

Zupančič, Polona; Šket Motnikar, Barbara; Lutman, Marjana; Cerk, Matej; Banovec, Primož; Weiss, Polona; Klemenc, Iztok

12:00–12:15: ESC2016-97

Mechanics-based earthquake loss scenarios: what benefit and what uncertainties?

Michel, Clotaire; Hannewald, Pia; Lestuzzi, Pierino; Fäh, Donat; Husen, Stephan

12:15–12:30: ESC2016-346

Earthquake loss analysis and cost-benefit exploration for earthquake damage mitigation: evaluating retrofitting investments in France

Riedel, Ismael; **Guéguen, Philippe**

12:30–12:45: ESC2016-358

Operational assessment of time-varying of seismic vulnerability of reinforced concrete buildings during aftershock sequences based on period elongation

Trevlopoulos, Konstantinos; **Guéguen, Philippe**

12:45–13:00: ESC2016-578

Constraining seismic risk models by integrating remote sensing and remote rapid visual screening (RRVS): the DESERVE experience

Haas, Michael; Al-Dabbeek, Jalal; Pittore, Massimiliano

END OF ORAL PROGRAM 20

11:30–13:00

24 FAULT2SHA - a European working group to link faults and probabilistic seismic hazard assessment communities in Europe

Conveners: Oona Scotti; Laura Peruzza
Co-conveners: Bruno Pace; Francesco Visini
Lecture Room: Saturnia

Chairpersons: Scotti, Peruzza

11:30–11:45: Opening, ideas, survey

F2SHA: methods & resources

11:45–12:15: ESC2016-400

Magnitude-Area Scaling and Surface Slip-Length Scaling: Data, Physical Implications, and Application to Seismic Hazard (invited talk)

Shaw, Bruce

12:15–12:30: ESC2016-368

Complexities in Active Fault Characterisation and their Implications for Probabilistic Seismic Hazard Assessment

Weatherill, Graeme; Gee, Robin; Chen, Yen-Shin; Pagani, Marco

12:30–12:45: ESC2016-510

Site-Conditions Proxies, Ground-Motion Variability and Data-Driven GMPEs: Insights from NGA-West 2 and RESORCE Data Sets

Derras, Boumediene; Pierre-Yves, Bard; **Fabrice, Cotton**

12:45–13:00: ESC2016-709

Effects of Listricity on Probabilistic Seismic Hazard Assessment

Passone, Luca; Mai, P. Martin

14:30–17:30

Chairpersons: Pace, Scotti, Visini, Peruzza

F2SHA: geological & seismological inputs

14:30–14:45: ESC2016-285

Active thrusting across the eastern Southern Alps (Italy) inferred from geomorphic analysis: faults geometry, Pleistocene shortening-rates and implications for the 1976 Friuli seismic sequence.

Moulin, Adrien; Benedetti, Lucilla

14:45–15:00: ESC2016-294

Detailed fault slip-rates and geometry for recurrence intervals in PSHA

Faure Walker, Joanna; Visini, Francesco; Roberts, Gerald; McCaffrey, Ken

15:00–15:15: ESC2016-300

Return periods of large earthquakes and their coefficient of variations constrained with paleoseismological data: examples from central Italy

Benedetti, Lucilla; Tesson, Jim; Pace, Bruno; Visini, Francesco; Peruzza, Laura

15:15–15:30: ESC2016-614

Active faulting and earthquakes in the central Alboran Sea

Galindo-Zaldivar, Jesus; Estrada, Ferran; Ercilla, Gemma; Vázquez, Juan Tomás; Azzouz, Omar; d'Acremont, Elia; Sanz de Galdeano, Carlos; Gorini, Christian; Benmakhoul, Mohamed; Alonso, Belén; Chalouan, Ahmed; Gil, Antonio José

15:30–15:45: ESC2016-657

Paleoseismological constraints for fault linkage of strike-slip and normal faults in the Vienna Basin

Hintersberger, Esther; Decker, Kurt; Lomax, Johanna; Fiebig, Markus; Lüthgens, Christopher

15:45–16:00: ESC2016-656

A Quaternary fault database for the Vienna Basin

Decker, Kurt; Hintersberger, Esther

16:00–16:15: ESC2016-67

Joint inversion for shallow crustal discontinuities from high-frequency waveforms of microearthquakes

Hrubcova, Pavla; Vavrycuk, Vaclav

16:15–16:30: ESC2016-114

Focal and dynamic parameters of strong earthquakes on the territory of Azerbaijan for the period 2005–2015 yy.

Yetirmishli, Gurban; Kazimova, Sabina

F2SHA: simulation & modelling

16:30–16:45: ESC2016-652

Characterization of near source effects in ground motion numerical simulations

Del Gaudio, Sergio; Lancieri, Maria; Hok, Sebastien

16:45–17:00: ESC2016-707

An artificial neural network approach to support physics-based generation of broadband earthquake ground motions

Smerzini, Chiara; **Gatti, Filippo;** Paolucci, Roberto

17:00–17:30: ESC2016-187

Integrating physics-based numerical scenarios into PSHA in large urban areas (invited talk)

Paolucci, Roberto; Stupazzini, Marco; Mazzieri, Ilario; Özcebe, Ali Güney; Smerzini, Chiara; Infantino, Maria

END OF THURSDAY ORAL PROGRAM 24

Posters Thursday

02 From ORFEUS to EPOS: the development of European seismological research research infrastructures - a tribute to Torild van Eck

Conveners: Florian Haslinger; Alberto Michelini;

Rémy Bossu; Andreas Rietbrock

Display Time: Thu, 09:00–19:00

Attendance Times: Thu, 10:30–11:30 & 17:30–19:00

Chairperson: Alberto Michelini

02-1: ESC2016-43

The ISC: producing the definitive and the most complete long-term record of the European-Mediterranean seismicity

Korger, Edith; Eve, John; Harris, James;
Di Giacomo, Domenico; Storchak, Dmitry A.

02-2: ESC2016-160

From eyewitnesses to macroseismic information services

Landès, Matthieu; Bossu, Rémy; Mazet-Roux, Gilles;

Roussel, Frédéric; Steed, Robert

02-3: ESC2016-341

Real-time synergy between seismological institutions to confirm and locate earthquakes: from EMSC's flashsourced detections to the exploitation of GFZ's network of seismic networks thanks to HMB messaging service

Dupont, Aurélien; Heinloo, Andres; Bossu, Rémy;
Saul, Joachim; Mazet-Roux, Gilles; Strollo, Angelo;
Roussel, Frédéric; Evans, Peter; Quinteros, Javier

02-4: ESC2016-492

The Infrastructure Of URBAN-INCERC (Romania) For Strong Motion Recording

Dragomir, Claudiu Sorin; Craifaleanu, Iolanda Gabriela;
Georgescu, Emil Sever; Dobre, Daniela;
Cismelaru, Adelin

02-5: ESC2016-494

Re-designing the European Database of Seismogenic Faults (EDSF) for EPOS: IT design, implementation, and use-case perspectives

Tarabusi, Gabriele; Valensise, Gianluca; Basili, Roberto

02-6: ESC2016-677

Constraints on crustal and uppermost mantle structure in the Alpine Region from P-wave polarization analysis

Cristiano, Luigia; Meier, Thomas

02-7: ESC2016-679

Data availability at ORFEUS-EIDA stations

Cristiano, Luigia; Meier, Thomas

END OF POSTER PROGRAM 02

15 Earthquake and multi hazard early warning and rapid response

Conveners: Adrien Oth; Stefano Parolai; Aldo Zollo; Matteo Picozzi

Display Time: Thu, 09:00–19:00

Attendance Time: Thu, 10:30–11:30 & 17:30–19:00

Chairpersons: Stefano Parolai and Aldo Zollo

15-1: ESC2016-260

Landslide induced seismicity: near real-time detection and characterization using regional seismic networks

Manconi, Andrea; **Picozzi, Matteo**; Coviello, Velio;
De Sanctis, Francesca; Elia, Luca

15-2: ESC2016-424

The European Testing Center for source characterization and Earthquake Early Warning: Concepts and Developments.

Festa, Gaetano; Elia, Luca; Martino, Claudio; Zollo, Aldo;
Clinton, John; Behr, Yannik; Kaestli, Philipp;
Massin, Fred

15-3: ESC2016-528

Sources of Latency and Associated Design Trade-offs in Earthquake Early Warning Systems

Devaney, Peter; Easton, David; Faloon, Ashley;
Cordahi, Christopher

15-4: ESC2016-417

ALERTES-SC3 and ALERTES-site: an Earthquake Early Warning System for south Iberia.

Pazos, Antonio; López Mesa, Mireya;
Gallego Carrasco, Javier; Rioja del Rio, Carlos;
Morgado, Arturo; Martín Davila, José

15-5: ESC2016-500

Rapid identification of rupture and auxiliary planes from focal mechanism data for the 2016 Ecuador and Kumamoto earthquakes

Specht, Sebastian; Cotton, Fabrice; Heidbach, Oliver;
Zang, Arno

15-6: ESC2016-99

Preliminary study on far field EEW for high technology facility from long period seismic wave

Huang, JyunYan; Wen, KuoLiang; Lin, CheMin

15-7: ESC2016-102

Site corrected ground motion prediction for EEW system of the NCREE-net in Taiwan

Kuo-Liang, Wen; Jyun-Yen, Huang; Che-Min, Lin;
Chiao-Chu, Hsu

15-8: ESC2016-243

Intensity prediction equation and event epicenter determination for Austria

Papi Isaba, María del Puy; Jia, Yan; Weginger, Stefan

15-9: ESC2016-115

Project of Near-Real-Time Generation of ShakeMaps and a New Hazard Map in Austria

Jia, Yan; Weginger, Stefan; Papi-Isaba, Maria; Horn, Nikolaus; Hausmann, Helmut; Lenhardt, Wolfgang

15-10: ESC2016-253

The Algerian Digital Seismic Network (ADSN): towards an earthquake early-warning system

Ouakedi, Mohamed; Yelles-Chaouche, Abdelkarim; Debbagh, Hamza; Alili, Azouaou; Larbes, Yahia

15-11: ESC2016-431

Real-time earthquake monitoring for Tsunami Warning System in Petropavlovsk-Kamchatsky (Russian Far East) during 2011–2015

Chebrov, Victor N.; Chebrov, Danila V.; **Skorkina, Anna A.;** Droznin, Dmitry V.; Ototuk, Dmitry A.

15-12: ESC2016-584

Tsunami early warning and evacuation mapping with GIS methods: the case of Heraklion city, Crete Isl., Greece

Triantafyllou, Ioanna; Fokaefs, Anna; Novikova, Tatyana; Papadopoulos, Gerassimos

END OF POSTER PROGRAM 15

17 Rapid estimation of secondary earthquake effects and their impacts

Conveners: Marco Pilz; Carlo Cauzzi; Tolga Gorum; Hans-Balder Havenith; Stefano Parolai

Display Time: Thu, 09:00–19:00

Attendance Times: Thu, 10:30–11:30 & 17:30–19:00

Chairperson: Marco Pilz

17-1: ESC2016-460

Numerical modeling of seismic response of unstable rock slopes

Burjanek, Jan; Kleinbrod, Ulrike; **Fäh, Donat**

17-2: ESC2016-627

Seventy years of inflation and enlargement of climatically and earthquake triggered rock-slides and taluses: the case of the Skolis Mountain, North Peloponnese, Greece

Koukouvelas, Ioannis; Litoseliti, Aspasia; Zygouri, Vasiliki; Nikolakopoulos, Konstantinos

17-3: ESC2016-503

Landslides triggered by the 2016 Kumamoto earthquake sequence: role of ground-motion directionality

Specht, Sebastian; Ozturk, Ugur; Veh, Georg; Cotton, Fabrice; Korup, Oliver

END OF POSTER PROGRAM 17

18 Seismological and structural studies in Polar Regions and the cryosphere

Conveners: Myrto Pirlis; Sergei Lebedev; Peter Voss; Fabian Walter

Display Time: Thu, 09:00–19:00

Attendance Time: Thu, 10:30–11:30 & 17:30–19:00

Chairperson: Myrto Pirlis

18-1: ESC2016-197

Iceberg tracking along the Dronning Maud Land coastline, Antarctica, with seismic stations at regional distances

Pirlis, Myrto; Matsuoka, Kenichi; Schweitzer, Johannes; Moholdt, Geir

18-2: ESC2016-428

Local ice stream dynamics inferred from monitoring icequake activity in the eastern Dronning Maud Land, East-Antarctica

Lombardi, Denis; Benoit, Lionel; Camelbeeck, Thierry; Poiata, Natalia; Martin, Olivier; Meynard, Christophe; Thom, Christian

18-3: ESC2016-218

Permanent and temporary seismology at Neumayer III, Antarctica

Fromm, Tanja; Eckstaller, Alfons

18-4: ESC2016-235

ASAIN - Antarctic Seismological Network

Plasencia Linares, Milton P.; Cravos, Claudio; Russi, Marino

18-5: ESC2016-422

INGV seismological activities in the Antarctic region

Salimbeni, Simone; Danesi, Stefania; Pondrelli, Silvia; Demartin, Martina; Morelli, Andrea; Delladio, Alberto

18-6: ESC2016-421

Seismic and satellite observations of calving activity at major glacier fronts in Greenland

Salimbeni, Simone; Danesi, Stefania; Urbini, Stefano; Pondrelli, Silvia; Margheriti, Lucia

18-7: ESC2016-158

Quantification of Glacier Frontal Ablation through Passive Seismic Monitoring at Kronebreen, Svalbard

Köhler, Andreas; Nuth, Christopher; Schweitzer, Johannes; Buscaino, Giusi; Weidle, Christian

18-8: ESC2016-373

System for automatic detection and location of seismic events for arbitrary seismic station configuration NSDL

Asming, Vladimir; **Prokudina, Angelika**

18-9: ESC2016-220

Earthquakes in Greenland - a review

Voss, Peter H.; Larsen, Tine B.; Dahl-Jensen, Trine**18-10: ESC2016-384**

M5 Earthquake of 29.03.2016 in Storefjorden strait, Svalbard

Vinogradov, Anatoly; **Baranov, Sergey**; Asming, Vladimir; Fedorov, Andrey**18-11: ESC2016-89**

Seismotectonic deformations of the crust in the Arctic sector of the border between the Eurasian and North American plates

Imaeva, Ludmila; Imaev, Valeriy; Melnikova, Valentina; **Seredkina, Alena****18-12: ESC2016-92**

Deep velocity structure and anisotropic properties of the upper mantle in Central Asia

Seredkina, Alena; Kozhevnikov, Vladimir; Solovey, Oksana**18-13: ESC2016-313**

Complex study of seismicity and Earth's structure on Livingston Island and surroundings

Dimitrova, Liliya; Georgieva, Gergana; Raykova, Reneta; Dimitrov, Dimitar; Gurev, Vasil; Georgiev, Ivan; Raykova, Plamena; Aleksandrova, Irena; Protopopova, Valentina; **Popova, Maria**; Solakov, Dimcho; Simeonova, Stela**18-14: ESC2016-433**

GoNorth - A new initiative for High Arctic research

Minakov, Alexander; Buitter, Susanne; Faleide, Jan Inge; Gaina, Carmen; Mjelde, Rolf; Lebedeva-Ivanova, Nina; Sand, Gunnar; **Schweitzer, Johannes**; Shulgin, Alexey**18-15: ESC2016-567**

4D Arctic: Structure and Evolution of Arctic Crust and Mantle Based on Multi-Scale Geophysical Studies - results from an international, multi-disciplinary project

Gaina, Carmen; Lebedeva-Ivanova, Nina; Minakov, Alexander; Nikishin, Anatoly; Faleide, Jan Inge; Schweitzer, Johannes; Struijk, Maartje; Tesauro, Magdala; Celli, Nicolas; Lebedev, Sergei; Jakovlev, Andrei

END OF POSTER PROGRAM 18**19 Advances in borehole networks, data, and analyses****Convenors:** Seyyit Umit Dikmen; Olga-Joan Ktenidou; Bojana Petrovic; Kyriazis Pitilakis**Display Time:** Thu, 09:00–19:00**Attendance Time:** Thu, 10:30–11:30 & 17:30–19:00**19-1: ESC2016-117**

Inversion of P-wave traveltimes from a VSP experiment in moderately anisotropic media

Ruzek, Bohuslav; Psencik, Ivan**19-2: ESC2016-189**

Traffic induced seismic noise recorded at vertical and horizontal arrays

Dikmen, S. Umit; Pinar, Ali; **Alcik, Hakan****19-3: ESC2016-379**

1,256 meters inside the earth - observations of seismic activity in the Dead Sea basin using borehole seismometer

Hofstetter, Rami; Malin, Peter; Ben-Avraham, Zvi; Sagiv, Amir; Shalev, Eyal**19-4: ESC2016-432**

Prediction of soil factor, S, based on field investigations and empirical correlations

Arion, Cristian; **Neagu, Cristian**; Calarasu, Elena**19-5: ESC2016-477**

Site response evaluations through vertical arrays in Istanbul

Fercan, Ozge; Kurtuluş, Aslı; Ansal, Atilla; Safak, Erdal**19-6: ESC2016-497**

Enhanced seismograms from borehole arrays

Ruigrok, Elmer; Paulsen, Hanneke; Dost, Bernard**END OF POSTER PROGRAM 19****20 Operational assessment and management of natural and induced seismic risk****Convenors:** Massimiliano Pittore; Marc Wieland**Display Time:** Thu, 09:00–19:00**Attendance Time:** Thu, 10:30–11:30 & 17:30–19:00**Chairperson:** M. Wieland**20-1: ESC2016-337**

The rating of large dams situated on Bistrita and Siret Rivers (Romania) in seismic risk classes

Moldovan, Iren Adelina; Toma-Danila, Dragos; Constantin, Angela Petruța; Placinta, Anica Otilia; Popescu, Emilia; Borleanu, Felix; Toader, Victorin Emilian; Moldoveanu, Traian**20-2: ESC2016-531**

A stress-test framework for evaluating the impact of low probability, extreme natural hazards on critical European transport infrastructure networks: The INFRARISK project

Jiménez, María José; O' Brien, Eugene; and the INFRARISK Consortium Team**END OF POSTER PROGRAM 20**

24 FAULT2SHA - a European working group to link faults and probabilistic seismic hazard assessment communities in Europe

Conveners: Oona Scotti; Laura Peruzza

Co-conveners: Bruno Pace; Francesco Visini

Display Time: Thu, 09:00–19:00 & Fri, 09:00–19:00

Attendance Time: Thu, 10:30–11:30 & 17:30–19:00

Fri, 10:30–11:30

Chairpersons: Visini, Peruzza

24-1: ESC2016-606

Fifteen years of loyal service to the seismic hazard community: the Database of Individual Seismogenic Sources, data and architecture

Fracassi, Umberto; Basili, Roberto; Burrato, Pierfrancesco; Kastelic, Vanja; Maesano, Francesco Emanuele; Tiberti, Mara Monica; Tarabusi, Gabriele; Valensise, Gianluca; Vannoli, Paola

24-2: ESC2016-271

Annual Occurrence Rates Computed with a Model Of Long-Term Predictability for the Time-Independent Seismic Hazard Assessment In Italy

Murru, Maura; Falcone, Giuseppe; Console, Rodolfo

24-3: ESC2016-676

Smoothed Seismicity Models for the Development of the 2016 Italian Probabilistic Seismic Hazard Maps

Akinci, Aybige; Moschetti, Morgan; Taroni, Matteo

24-4: ESC2016-526

FiSH: put fault data in a seismic hazard basket. Laptop-live session in Trieste, after poster at EGU16

Pace, Bruno; Visini, Francesco; Peruzza, Laura

END OF POSTER PROGRAM 24

09:00–10:30

Keynote Lecture

Lecture Room: Saturnia

Chairperson: Dario Slepko

ENABDELKRIM AOUDIA: From Adria to Idrija: lithospheric deformation and interseismic strain accumulation

11:30–12:50

11 Deformation and seismicity of the Western Hellenic Arc - Ionian Sea Plate boundary - insights into the 2015 Lefkada M6.5 earthquake

Conveners: Athanassios Ganas; Pierre Briole; Maria Sachpazi

Lecture Room: Oceania AB

Chairperson: Athanassios Ganas

11:30–11:35: Introduction of Session 11

11:35–11:50: ESC2016-446

Finite fault modeling of the 2015, Mw 6.5, Lefkada, Greece, earthquake by using near source high-rate GPS, strong motion data and InSAR (invited talk)

Avellone, Antonio; Cirella, Antonella; Cheloni, Daniele; Tolomei, Cristiano; Theodoulidis, Nikos; Piatanesi, Alessio; Briole, Pierre; Ganas, Athanassios

11:50–12:05: ESC2016-659

The Lefkada 2015 earthquake (Mw 6.4) rupture process as seen by regional and local seismic data

Sokos, Efthimios; Zahradník, Jiří; Gallovič, František; Serpetsidaki, Anna; Plicka, Vladimir; Kiratzi, Anastasia

12:05–12:20: ESC2016-247

The 2015 Lefkada earthquake: a complex fault pattern constrained by seismological observations

Karakostas, Vassilios; Papadimitriou, Eleftheria; Mesimeri, Maria; Kourouklas, Christos

12:20–12:35: ESC2016-555

The November 2015 Mw=6.4 earthquake of Lefkada, Ionian Sea: Strong ground motion and its impact on the environment and the structures

Kassaras, Ioannis; Ganas, Athanassios; Kazantzidou-Firtinidou, Danai; Maxant, Jerome; Yesou, Herve; Geng, Jianghui; Psarris, Dimitrios; Lekkas, Efthimios

12:35–12:50: ESC2016-104

An analysis of the Kephalonia/Lefkada seismic sequences of 2014/2015

Caporali, Alessandro; Bruyninx, Carine; Fernandes, Rui; Ganas, Athanassios; Kenyeres, Ambrus; Lidberg, Martin; Stangl, Guenter; Steffen, Holger; Zurutuza, Joaquin

14:30–15:50

Chairperson: Pierre Briole

14:30–14:45: ESC2016-139

The 2015 Lefkada earthquake sequence (W. Greece)
Papadimitriou, Panayotis; Karakontantis, Andreas; Kapetanidis, Vasileios; Kaviris, George; Voulgaris, Nicholas

14:45–15:00: ESC2016-581

The Mw6.5 earthquake of 17 November 2015 in Lefkada isl. and the seismotectonics in the Cephalonia transform fault (Ionian Sea, Greece)

Papadopoulos, Gerassimos; Agalos, Apostolos; Bochini, Gian Maria; Chousianitis, Kostas; Karastathis, Vassilis; Triantafyllou, Ioanna; Kontoes, Charis; Papoutsis, Ioannis; Svigkas, Nikos; Koukouvelas, Ioannis; Zygouri, Vasiliki; Tselentis, Akis

15:00–15:15: ESC2016-163

Investigation on the November 17, 2015 anomalous signal in the harbor of Crotone, Ionian Sea, by means of numerical techniques

Tinti, Stefano; Armigliato, Alberto; Pagnoni, Gianluca; Paparo, Maria Ausilia; Zaniboni, Filippo

15:15–15:30: ESC2016-556

Regional patterns of earthquake sources in western Greece: Insights on the 3-D stress tensor and seismic velocity structure arrangement

Kassaras, Ioannis; Kapetanidis, Vasilis; Karakontantis, Andreas; Ganas, Athanassios

15:30–15:50: Discussion on The Cephalonia - Lefkada Transform Fault - deformation - seismicity

END OF ORAL PROGRAM 11

11:30–13:00

16 Improving seismic networks performances: from site selection to data integration

Conveners: Damiano Pesaresi; Helle Pedersen; John Clinton

Lecture Room: Vulcania 1

Chairperson: John Clinton

11:30–11:45: ESC2016-36

The ISC-GEM Global Earthquake Instrumental Catalogue: an update (invited talk)

Di Giacomo, Domenico; Storchak, Dmitry; Engdahl, Bob; Harris, James

11:45–12:00: ESC2016-44

The ISC: recycling the temporary seismic deployment data

Korger, Edith; Harris, James; Storchak, Dmitry A.

12:00–12:15: ESC2016-128

Discrimination between earthquakes and explosions using diffusion maps

Rabin, Neta; Bregman, Yuri; Lindenbaum, Ofir; Y. Ben Horin, Yochai; Averbuch, Amir

12:15–12:30: ESC2016-409

ShakeMap Implementation in Turkey
Kuru, Turgay; Ceken, Ulubey; Tepeugur, Eren;
 Apak, Aytac; Kokbudak, Derya; Sezer, Selim; Ates,
 Erkan; Tekin, Kudret; Koksal, Teoman S.; Sahin, Cuneyt;
 Gok, Elcin; Ozer, Caglar; Ertugrul, Zehra C.;
 Worden, Bruce; Wald, David J.; Sidorov-Biryukov, Dmitry;
 Razinkov, Oleg; Polat, Orhan

12:30–12:45: ESC2016-418

A method to obtain an OBS precise location at the sea floor in active and passive experiments.

Pazos, Antonio; Granja Bruña, José Luis;
 Martín Davila, José; Cabieces, Roberto;
 Carbó Gorodabel, Andrés

12:45–13:00: ESC2016-525

Improving self-noise estimates of seismic sensors by coherency and alignment analysis

Gerner, Andreas; Lenhardt, Wolfgang;
 Grasemann, Bernhard; Sleeman, Reinoud

END OF ORAL PROGRAM 16**11:30–13:00**

23 Educational seismology: empowering the community for seismic risk reduction

Conveners: Angela Saraò; Ina Cecić; Laura Peruzza;
 Françoise Courboulex; Carla Barnaba

Lecture Room: Vulcania 2

11:30–11:45: ESC2016-632

Communication or Education ?

Solarino, Stefano; Eva, Elena

11:45–12:00: ESC2016-667

EDURISK, 15 years of risk education, state of the art

Camassi, Romano; Pessina, Vera; Bernardini, Filippo;
 Castelli, Viviana; Crescimbene, Massimo;
 Ercolani, Emanuela; La Longa, Federica;
 Nostro, Concetta; Pignone, Maurizio

12:00–12:15: ESC2016-704

Seismic Risk Reduction, Self-protection of children inside
of the community

Sauron-Sornette, Anne

12:15–12:30: ESC2016-539

Treme-Treme® an educational game

Amaral Ferreira, Mónica; Barreto, Pedro;
 Sousa Oliveira, Carlos; A. Santos, Pedro; Prada, Rui;
 O'Neill, Hugo

12:30–12:45: ESC2016-310

Evaluate results of the simulation game "Earthquake for
Kids"

Crescimbene, Massimo; La Longa, Federica;
 Alparone, Francesca; D'Amato, Davide; Pace, Bruno;
 Tanga, Rocco; Paglino, Francesco

12:45–13:00: Discussion**14:30–17:00****14:30–15:00: ESC2016-134**

The Italian communication campaign "Io Non Rischio - I
 Don't take Risks" (invited talk)
Piacentini, Veronica and the INR Working Team

15:00–15:15: ESC2016-670

One Hundred Years After: an educational project
 Camassi, Romano; **Pessina, Vera**; Ercolani, Emanuela;
 Brasini, Flaminia; Castelli, Viviana; Meletti, Carlo;
 Bernardini, Filippo

15:15–15:30: ESC2016-122

Can we do something different to enhance public
 awareness on earthquakes? MOBEE - a new and
 innovative approach!

Tataru, Dragos; Toma-Danila, Dragos; Nastase, Eduard

15:30–15:45: ESC2016-372

Investigation on community resilience in Bucharest,
 Romania

Pavel, Florin; Calotescu, Illeana; Vacareanu, Radu;
 Sandulescu, Ana-Maria; Sibisteau, Horea

15:45–16:00: ESC2016-711

Perception of earthquake hazard and risk in the Province
 of Quebec and the need to raise earthquake awareness
 in this intraplate region

Lamontagne, Maurice; Flynn, Brian

16:00–16:15: ESC2016-343

Elapsed time: 40 years. What do youths think about the
 1976 Friuli earthquake, natural hazard and seismic
 safety?

Peruzza, Laura; Saraò, Angela; Barnaba, Carla

16:15–16:30: ESC2016-244

People with disabilities and emergency: a survey in Friuli
 Venezia Giulia

Agostino, Zampa; Marco, Badanello; Christina, Conti;
 Michele, Franz; **Ilaria, Garofolo**; Paola, Pascoli; Stefano,
 Zanut

16:30–16:45: ESC2016-502

KnowRISK - using risk maps to identify and prevent
 non-structural problems

Amaral Ferreira, Mónica; Sousa Oliveira, Carlos;
 Mota de Sá, Francisco; Rupakhety, Rajesh; Meroni,
 Fabrizio and the KnowRISK Team

16:45–17:00: ESC2016-694

VISUS: a methodology for the assessment of safety of
 learning facilities and for the transfer of scientific
 knowledge through the capacity building of surveyors.

Grimaz, Stefano; **Torres, Jair**; Malisan, Petra

END OF ORAL PROGRAM 23

11:30–13:00

24 FAULT2SHA - a European working group to link faults and probabilistic seismic hazard assessment communities in Europe

Conveners: Oona Scotti; Laura Peruzza

Co-conveners: Bruno Pace; Francesco Visini

Lecture Room: Saturnia

Chairpersons: Pace, Visini

F2SHA: PSHA case studies

11:45–12:00: ESC2016-589

The effect of alternative seismotectonic models on PSHA results - a sensitivity study for the case of Israel

Avital, Matan; Kamai, Ronnie

12:00–12:15: ESC2016-297

Fault approach in PSHA - a question of how to best represent knowledge and uncertainties

Chartier, Thomas; **Scotti, Oona;** Boiselet, Aurelien; Lyon-Caen, Helene

12:15–12:30: ESC2016-283

An example of integration of fault and seismological data for probabilistic seismic hazard analysis in Italy.

Valentini, Alessandro; Visini, Francesco; Pace, Bruno

12:30–12:45: ESC2016-545

When probabilistic seismic hazard climbs volcanoes: how 3D topography and scaling relationships influence hazard estimates. An example from Mt. Etna (Italy)

Gee, Robin; Peruzza, Laura; Pace, Bruno; Azzaro, Raffaele; D'Amico, Salvatore; Pagani, Marco

12:45–13:00: Closing, the WG, next steps

END OF ORAL PROGRAM 24

17:30–18:00

SE4 Closing Plenary

Lecture Room: Saturnia

Posters Friday

11 Deformation and seismicity of the Western Hellenic Arc - Ionian Sea Plate boundary - insights into the 2015 Lefkada M6.5 earthquake

Conveners: Athanassios Ganas; Pierre Briole; Maria Sachpazi

Display Time: Fri, 09:00–19:00

Attendance Time: Fri, 10:30–11:30

Chairperson: Athanassios Ganas

11-1: ESC2016-144

The NOANET GSAC (Geodesy Seamless Archive Centers) tool for GNSS data dissemination in SE Europe

Argyarakis, Panagiotis; Ganas, Athanassios; Sagias, Nikolaos

11-2: ESC2016-299

Hellenides: possible locations of M7+ earthquakes defined by pattern recognition

Gorshkov, Alexander; Gaudemer, Yves; Novikova, Olga

END OF POSTER PROGRAM 11

16 Improving seismic networks performances: from site selection to data integration

Conveners: Damiano Pesaresi; Helle Pedersen; John Clinton

Display Time: Fri, 09:00–19:00

Attendance Time: Fri, 10:30–11:30

Chairperson: Damiano Pesaresi

16-1: ESC2016-91

Seismic Networks WEBNET and REYKJANET
Klicpera, Jakub; Horálek, Josef

16-2: ESC2016-185

Current state of the Arkhangelsk seismic network and results of seismic monitoring of the European Arctic region in 2015

Konechnaya, Yana; Antonovskaya, Galina; Mikhailova, Yana

16-3: ESC2016-228

Regional network performance estimation based on ambient noise amplitudes

Möllhoff, Martin; Bean, Christopher J.; Arroucau, Pierre; Grannell, James

16-4: ESC2016-296

Improvement of real time data transmission for the seismic monitoring based on the UMTS technology

Lovati, Sara; D'Alema, Ezio; Piccarreda, Davide; Franceschina, Gianlorenzo; Gomez, Antonio; Massa, Marco

16-5: ESC2016-355

Analysis of the seismicity in the Balkan Peninsula by the records of Virtual Seismological Network of Sofia University

Raykova, Reneta; Dimitrova, Liliya; Tsekov, Milen; Dimova, Lyuba; **Protopopova, Valentina;** Filipova, Maria; Latkovska, Desislava; Peresan, Antonella; Milanova, Milena

16-6: ESC2016-385

Quality check assessment of RSN-INGV seismic network Mandiello, Alfonso; Marzorati, Simone; Cattaneo, Marco;

Lauciani, Valentino; Dematin, Martina; Casale, Paolo; Marcocci, Carlo; Fares, Massimo; **Nardi, Anna**

16-7: ESC2016-398

Improvement quality management of the Algerian Digital Seismic Network (ADSN)

Alili, Azouaou; Yelles-Chaouche, Abdelkarim; Ouakedi, Mohamed; Beldjoudi, Hamoud; Kherroubi, Abdelaziz

16-8: ESC2016-470

Characteristics of the ambient seismic noise recorded in urban environment. Case study: Bucharest city, Romania

Grecu, Bogdan; **Borleanu, Felix;** Neagoe, Cristian; Zaharia, Bogdan; Tataru, Dragos

16-9: ESC2016-474

A comparison of different filtering procedures of superconducting gravimetry data for time-series analysis of the IGTS sensing network

Valencio, Arthur; Grebogi, Celso; Baptista, Murilo

16-10: ESC2016-481

ISMD 2.0: the real time INGV Strong Motion Database

Massa, Marco; D'Alema, Ezio; Lovati, Sara; Mascandola, Claudia; Scafidi, Davide; Gomez, Antonio; Carannante, Simona; Franceschina, Gianlorenzo; Mirenda, Santi; Auglieri, Paolo

16-11: ESC2016-505

Upgrading of the National Network of Seismic Stations in Slovakia

Csicsay, Kristian; Cipciar, Andrej; Bystrický, Erik; Srbecký, Miroslav; Pa,ák, Peter; Fojtíková, Lucia; Kristeková, Miriam

16-12: ESC2016-538

Two new Broadband Stations of the Austrian Seismic Network (OE/ZAMG)

Hausmann, Helmut; Weginger, Stefan; Horn, Nikolaus; Vogelmann, Anton; Steiner, Rudolf; Jia, Yan; Lenhardt, Wolfgang

16-13: ESC2016-562

Posthole Seismometer Installation, Performance, and Reliability in Challenging Environments

Bainbridge, Geoffrey; Parker, Tim; **Devaney, Peter**

16-14: ESC2016-598

Seismic noise at Bucovina (Romania) seismic array and its implication in detection of regional and distant events

Borleanu, Felix; Grecu, Bogdan; Neagoe, Cristian; Ghica, Daniela; Manea, Liviu; Popa, Mihaela

16-15: ESC2016-599

Seismological Data Information System of Kamchatka Branch of Geophysical Survey of RAS as of mid-2016
Chebrova, Anastasiia; Chebrov, Danila; Matveenko, Evgeniy; Tokarev, Alexander; Chemarev, Andrey

16-16: ESC2016-620

An Urban strong ground motion network in the city of Chania, Crete. Preliminary results.
Chatzopoulos, Georgios; Papadopoulos, Ilias; Vallianatos, Filippos

END OF POSTER PROGRAM 16

23 Educational seismology: empowering the community for seismic risk reduction

Conveners: Angela Saraò; Ina Cecić; Laura Peruzza; Françoise Courboulex; Carla Barnaba

Display Time: Fri, 09:00–19:00

Attendance Time: Fri, 10:30–11:30

Chairpersons: Barnaba, Saraò, Cecic, Peruzza

10:30–10:45 Opening of the session: brief poster summary presentations

23-1: ESC2016-394

Educational path on hazard and seismic risk by a naturalistic museum

Zandonai, Fabiana; Canali, Michela; Fava, Nello; Finotti, Franco

23-2: ESC2016-192

Tiere Motus: the historical museum of the 1976's Friuli earthquake and its people

Marino, Floriana; and the Tiere Motus Museum Team

23-3: ESC2016-675

The 40 anniversary of the 1976 Friuli (NE Italy): a commemoration to raise the public awareness on preparedness for seismic hazard.

Saraò, Angela; Barnaba, Carla; Peruzza, Laura; Mucciarelli, Marco; and the CRS Working Team

23-5: ESC2016-276

Sustained impact on student learning: the PRESS40 Project

Barnaba, Carla; Contessi, Elisa; Girardi, Maria Rosa

23-6: ESC2016-629

An Arduino Seismograph to Raise Awareness of Earthquake Hazard at School
Saraò, Angela; Clocchiatti, Marco; Barnaba, Carla; Zuliani, David

23-7: ESC2016-208

Earthquakes in the kindergarten educate for risk mitigation

Custódio, Susana; Mata, Isabel; Matias, Luis; Rodrigues, Isabel

23-8: ESC2016-293

The macroseismic explain to the children

Sira, Christophe

23-9: ESC2016-339

Know your school: be safe! - the participatory risk communication action of the KnowRISK project

Piangiamore, Giovanna L.; Musacchio, Gemma; **Eva, Elena;** Crescimbene, Massimo; Falsaperla, Susanna; Solarino, Stefano; Pino, Nicola A.; and the KnowRISK (1,2,3,4) Team

23-10: ESC2016-391

Science Theatre: a complementary way to implement seismic risk reduction

Lanza, Tiziana; Musacchio, Gemma; D'Addazio, Giuliana

23-11: ESC2016-641

ScienzAperta at INGV, open-weeks of scientific information and dissemination

D'Addazio, Giuliana; and the Laboratorio Divulgazione Scientifica e Attività Museali Team

23-12: ESC2016-621

Design Educational Activities of Seismic Risk Reduction, by Considering Risk Perception Data

Crescimbene, Massimo; La Longa, Federica; Camassi, Romano

23-13: ESC2016-534

Resilience and seismic risk perception: an educational path in Calabria, southern Italy

De Pascale, Francesco; Dattilo, Valeria; Bernardo, Marcello; Muto, Francesco;

D'Amico, Sebastiano

23-14: ESC2016-712

A strategy for increasing sustainability and resilience to earthquakes in Cuban communities

Berenguer Heredia, Yelena

23-15: ESC2016-686

Questions. A new approach to risk education

Modonesi, Delia; Brasiani, Flaminia; Camassi, Romano

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Trieste

Ho attraversata tutta la città.
Poi ho salita un'erta,
popolosa in principio, in là deserta,
chiusa da un muricciolo:
un cantuccio in cui solo
siedo; e mi pare che dove esso termina
termini la città.

Trieste ha una scontrosa
grazia. Se piace,
è come un ragazzaccio aspro e vorace,
con gli occhi azzurri e mani troppo grandi
per regalare un fiore;
come un amore
con gelosia.
Da quest'erta ogni chiesa, ogni sua via
scopro, se mena all'ingombrata spiaggia,
o alla collina cui, sulla sassosa
cima, una casa, l'ultima, s'aggrappa.

Intorno
circola ad ogni cosa
un'aria strana, un'aria tormentosa,
l'aria natia.
La mia città che in ogni parte è viva,
ha il cantuccio a me fatto, alla mia vita
pensosa e schiva.

*I have gone through the whole city.
Then I walked up a steep ascent,
densely populated here, desert over there,
shut in by a low wall:
a cosy nook where alone
I sit; and it seems to me that where it ends
the city ends, too.*

*Trieste has a sulky
gracefulness. When one likes it
she is like a harsh and ravenous rascal,
with blue eyes and hands too big
to give a flower;
like a love
with jealousy.
From this uphill street every church, every alley of hers
I discover, whether it leads to the encumbered beach,
or to the hill where, on the stony
top, a house, the last one, clings to it.*

*Around
every thing a strange
air circulates, a tormenting air,
the native air.
My city, which everywhere is alive,
has a nook made for me, for my life
pensive and averse.*

Umberto Saba









All the pictures included in this booklet
were taken by Marino Sterle



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