

EUROPEAN CENTER FOR GEODYNAMICS AND SEISMOLOGY

ECGS & ESC/EAAE Joint Workshop 2015

EARTHQUAKE AND INDUCED MULTI-RISK EARLY WARNING AND RAPID RESPONSE

---- NOVEMBER 18-20, 2015 ----

- Scientific Program -

last updated: 16 November 2015

Tuesday November 17

16:00 – 18:00 Registration
18:00 – 21:00 Icebreaker

Wednesday November 18

08:00 – 09:00 Registration
09:00 – 09:20 Welcome addresses

Morning session 1: Earthquake early warning algorithms: state-of-the-art & recent developments

- 09:20 – 10:00 Böse, M., Y. Behr, T. Heaton and J. Clinton (**Keynote**)
From Single-Station Prediction to Finite-Fault Detection: the Large Spectrum of EEW Algorithms and the Question of How to Combine Them
- 10:00 – 10:20 Picozzi, M., P. Brondi, A. Emolo, A. Zollo and M. Mucciarelli
An Attempt of Predicting the Macroseismic Intensity from Early Radiated Energy for On-site Earthquake Early Warning in Italy
- 10:20 – 10:40 Kodera, Y., Y. Yamada, S. Adachi, M. Morimoto, Y. Nishimae and M. Hoshiba
The Eight Years of Earthquake Early Warning Operation in the Japan Meteorological Agency

10:40 – 11:00 Coffee break

Morning session 2: Earthquake early warning algorithms: state-of-the-art & recent developments

- 11:00 – 11:20 Yin, L. and T. Heaton
Improvements of Earthquake Early Warning Using Prior Information
- 11:20 – 11:40 Noda, S., S. Yamamoto and W.L. Ellsworth **[cancelled]**
Rapid Estimation of Earthquake Magnitude from the Arrival Time of the Peak High-Frequency Amplitude
- 11:40 – 12:00 Okamoto, K., S. Tsuno and S. Yamamoto **[cancelled]**
Robust Epicenter Estimation Considering Local Heterogeneous Conditions for Single Station Method

12:00 – 14:00 Lunch

Afternoon session: Earthquake early warning algorithms: state-of-the-art & recent developments

- 14:00 – 14:20 Eisermann, A., A. Ziv and G.H. Wust-Bloch
Real-Time Back Azimuth for Earthquake Early Warning
- 14:20 – 14:40 Lior, I., A. Ziv and R. Madariaga
P-wave Attenuation with Implications for Earthquake Early Warning
- 14:40 – 15:00 Trampert, J., P. Kaeufl and A. Valentine
Rapid Probabilistic Source Inversion using Pattern Recognition
- 15:00 – 15:20 Colombelli, S., A. Zollo, G. Festa and M. Picozzi
A P-wave Based Methodology for the Rapid Source Characterization

Wednesday Poster Session

- 15:20 – 16:00 Poster introductions (1 slide / 1 min per poster)
- 16:00 – 17:00 Poster session and coffee

Debate

- 17:00 – 18:00 **How can we better prove the efficiency of currently implemented/planned EEW systems before the occurrence of the “big one” that they have to be designed for?**

Thursday November 19

Morning session 1: Earthquake early warning algorithms: state-of-the-art & recent developments

- 08:00 – 08:40 Hoshiaba, M. (Keynote)
Numerical Shake Prediction for Earthquake Early Warning: Data Assimilation, Real-time Shake Mapping, and Simulation of Wave Propagation
- 08:40 – 09:00 A. Sato & K. Yomogida
Quick Estimation of Wavefield by a Neumann-type Extrapolation for a New Earthquake Early Warning System
- 09:00 – 09:20 Zollo, A., M. Picozzi, A. Emolo, S. Colombelli, L. Elia, G. Festa and C. Martino
Worldwide Applications Of Presto - Probabilistic And Evolutionary Early Warning System
- 09:20 – 09:40 Ziv, A.
Real-time Stress Drop Determination for Earthquake Early Warning
- 09:40 – 10:00 Carranza, M., E. Buforn, S. Colombelli, Y.-M. Wu and A. Zollo
Towards the Confirmation of the Differences on the Rupture Initiation of Earthquakes from the First Seconds of P-wave

10:00 – 10:10 Welcome address of Dr. Helena Burg, representative of the Luxembourg National Research Fund (FNR)

Thursday Poster Session 1

10:10 – 11:00 Poster session and coffee break

Morning session 2: Tailor-made early warning for varying targets and socio-economic contexts

- 11:00 – 11:20 Parolai, S., D. Bindi, M. Pittore, J. Stankiewicz, M. Pilz, A. Oth, T. Boxberger and K. Fleming (Keynote)
The Challenge of Earthquake Early Warning and Rapid Response in Developing Countries: the Example of the Kyrgyz Republic (Central Asia)
- 11:20 – 11:40 Stankiewicz, J., D. Bindi, A. Oth, M. Pittore and S. Parolai
The Use of Spectral Content to Improve Earthquake Early Warning Systems in Central Asia: Case Study of Bishkek, Kyrgyzstan

11:40 – 12:00 Woo, G.
The Cost-Effectiveness of a Public Californian Earthquake Early Warning System

12:00 – 12:20 Wust-Bloch, G.H., A. Ziv, A. Eisermann, J. Al-Dabbeek and A. Al-Zoubi
DeadSeaNet: Cross-border Array of Small-Aperture Arrays for EEWS

12:20 – 14:00 Lunch

Afternoon session: Multi-risk methodologies for early warning and rapid response

14:00 – 14:20 Cauzzi, C., J. Clinton, D. Fäh, P. Kästli, S. Wiemer, D.J. Wald, M. Hearne, C.B. Worden and E.M. Thompson
Secondary Earthquake Hazards in Swiss ShakeMaps

14:20 – 14:40 Goda, K.
Tsunami Warning and Hazard Prediction based on Inaccurate Earthquake Source Parameters

14:40 – 15:00 Ilhan, O., H. Khanbabazadeh, G. Tönük and A. Ansal
Early Warning for Rainfall Induced Landslides

15:00 – 15:20 Pilz, M., S. Parolai and T. Boxberger
A Multi-Parameter System for Real-time Monitoring of Landslide Activity

Thursday Poster Session 2

15:20 – 17:00 Poster session and coffee break

17:30 Social program & conference dinner

Friday November 20

Morning session 1: Real-time risk assessment and structural monitoring

- 08:00 – 08:40 Wenzel, F. and J. Daniell (**Keynote**) **[cancelled]**
Earthquake Early Warning and Real-time Risk Reduction
- 08:40 – 09:20 Heaton, T. (**Keynote**)
Miscommunicating Predicted Shaking Intensity
- 09:20 – 09:40 Pittore, M., D. Bindi, J. Stankiewicz, A. Oth, M. Wieland, T. Boxberger and S. Parolai
From Early Warning to Rapid Response: Towards Efficient Earthquake Impact Forecasting
- 09:40 – 10:00 Shavar, M., G. Cua, M. Zare, E. Farzanegan and M. Mirzaei
Developing Of ShakeMap System for Iran Based On Strong Motion Data

10:00 – 10:20 Coffee break

Debate

- 10:20 – 11:00 **On the engineering use of real-time EEW methods & the associated uncertainties**

Morning session 2: Real-time risk assessment and structural monitoring

- 11:00 – 11:40 Iervolino, I. (**Keynote**)
Applying Performance-Based Earthquake Engineering before, during, and after a Mainshock
- 11:40 – 12:00 Velazquez Ortiz, O., P. Duffour and C. Galasso
Integrating Semi-active Structural Control and Earthquake Early Warning: Preliminary Results
- 12:00 – 12:20 Petrovic, B., S. Parolai, Ü. Dikmen, E. Şafak and B. Moldobekov
Interferometric Joint Analysis of Borehole and Building data

12:20 – 13:00 End of oral sessions / Closing remarks & discussion

13:00 – 14:00 Lunch

14:00 – Departure of participants

Posters

Earthquake early warning algorithms: state-of-the-art & recent developments

1. Zollo, A., M. Picozzi, S. Colombelli, L. Elia, A. Caruso and P. Brondi
PRESTo On-Site 1.0: Concepts and Preliminary Analyses
2. Picozzi, M., A. Emolo, C. Martino, A. Zollo, S. Colombelli and the REAKT Working Group
PRESTo^{Plus} and Sentinel an Earthquake Early Warning System for Schools: a Feasibility Study in Southern Italy
3. Caruso, A., S. Colombelli, A. Zollo, G. Festa and H. Kanamori
A P-wave based, On-site Method for Earthquake Early Warning
4. Kuyuk, H.S., A. Pinar, R.M. Allen and M.O. Erdik
Authorizing GRound shaking for Earthquake Early warning Systems, (AGREEs): Application to 2014 South Napa Earthquake
5. Hayashimoto, N., T. Nakamura and M. Hoshiba
Stability of Ocean Bottom Seismograph Data Exposed to Strong Shaking: Efforts for Utilizing OBS for Earthquake Early Warning
6. Ogiso, M., N. Hayashimoto and M. Hoshiba
Array Observation of Strong Motion for a Real-time Estimation of Current Wavefield
7. Montagner, J.-P., M. Barsuglia, K. Juhel, J.-P. Ampuero, E. Chassande-Mottin, J. Harms, B. Whiting, P. Bernard, E Clévéde and P. Lognonné
Prompt Earthquake Detection based on Transient Gravity Signals
8. Moser, H.A. and G. Ruy
Microsatellites to Support the Study of Potential Diagnostic Earthquake Precursors
9. Diansari, A.
Acceleration of Release Energy (Accelerating Moment Release) of Earthquake Occurred as a Precursor in Bengkulu

Tailor-made early warning for varying targets and socio-economic contexts

10. Pinar, A., H.S. Kuyuk, M. Çomoğlu, M. Erdik and E. Şafak
A Test Bed for Earthquake Early Warning Algorithms in Istanbul: The Virtual Seismologist, PRESTo and Elarms-2

11. Pazos, A., M. López de Mesa, J. Gallego, C. Rioja, J.M. Davila, A. Morgado, W. Hanka, J. Saul, A. Strollo, A. Vera, A. Cibeira, R. Cabieces and ROA Seismic Group
A Prototype of an EEWS for South Iberia: ALERT-SC3
12. Marumureanu, A., C. Ionescu, M. Craiu, L. Elia, S. Colombelli and A. Zollo
Earthquake Early Warning in Romania – Recent Improvements
13. Savvaidis, A., K. Konstantinidou, B. Margaritis, Ch. Papaioannou, N. Theodoulidis, P. Triantafyllidis and D. Kementzetzidou **[cancelled]**
Real Time Shakemap Implementation using Strong Motion Data for the Broader Area of the Aegean Sea
14. Shahvar, M. and M. Poorveis
Design of Early Warning System for Tehran Region
15. Ortega, R.
The Future of Earthquake Early Warnings in Mexico: Towards an Integrated Seismological System in Real Time
16. Pittore, M., M. Wieland, M. Haas and S. Parolai
CARAVAN: Near-real-time Earthquake Impact Forecasting for Central Asia
17. Jeon, Y., E.Y. Jo, D.K. Lee, S.M. Han and H.S. Lee
The Application of EPGen System for Earthquake Early Warning in Korean Peninsula

Multi-risk methodologies for early warning and rapid response

18. Mendoza, L., A. Pazos and M. Becker
GPS Capabilities for Tsunami Early-Warning: Expected Vertical Load in Coastal GPS receivers due to a Tsunami like the 1775 Lisbon Tsunami
19. Elia, G., C. Galasso, S. Latchman, S. Naqvi, P. Padmanabhan and A. Tsiolou
Identifying Regions with High Liquefaction Potential Close to Large Populations in Europe
20. Picozzi, M., A. Manconi, V. Coviello and F. De Santis
Landslide Induced Seismicity: Near real-time Detection and Characterization Using Regional Seismic Networks
21. Melbouci, B.
Dynamic Behavior Analysis of Tizirt Landslide

Real-time risk assessment and structural monitoring

22. T. Boxberger, D. Bindi, I. Iervolino, M. Pittore, E. Chioccarelli and S. Parolai
Applications of Wireless Sensing Units to Seismic Risk Assessment: Perspectives from the REAKT and SIBYL Projects
23. Diagourtas, D., L. Voumvourakis, L. Perlepes and A. Kostarids
Gsense: A Low Cost Real-Time Building Earthquake Damage Assessment System
24. Zembaty, Z., S. Kokot and P. Bobra
Investigations of the Application of Modern Rotation Rate Sensors in On-line Monitoring of Stiffness Variations of Structures
25. Musa Julius, A., B. Sunardi and A. Rudyanto
Time Lapse Storey Building Monitoring Based on Earthquake Response and Tremor Analysis