



KICK-OFF WORKSHOP

"The Italian testing region for earthquake forecasting experiments within CSEP"

Place: Rome (INGV | Conference Hall - Via di Vigna Murata 605)

Date: 27-28 October 2008

Organizers: Warner Marzocchi (INGV Rome, warner.marzocchi@ingv.it)
Stefan Wiemer (ETH Zurich, stefan.wiemer@sed.ethz.ch)
Danijel Schorlemmer (USC, Los Angeles, ds@usc.edu)

Sponsored: Istituto Nazionale di Geofisica e Vulcanologia (INGV) and the NERIES project (<http://www.neries-eu.org/>)

Goals of the workshop: This open workshop has three primary goals:

- To establish the Italian testing region within the global CSEP (Collaboratory for the Study of Earthquake Predictability, www.cseptesting.org) initiative. The goal of CSEP is developing a virtual, distributed laboratory – a collaboratory – that supports a wide range of scientific prediction experiments in multiple regional or global natural laboratories. Within Europe, NERIES is supporting the setup of a central testing center to be located at ETH Zurich (eu.cseptesting.org), which supports a number of testing regions. Italy is the first region for which fully prospective testing is planned. Workshop participants will finalize the setup of the European testing center and the testing region in Italy.
- To discuss available models for the Italian testing region and to invite modelers to participate in the CSEP collaboratory. The infrastructure that CSEP is setting up is primarily targeted at scientists interested to test their ideas and models on earthquake predictability and earthquake forecasting within a community-supported environment. The more modelers agree to participate in the CSEP process in one or several testing regions, the more meaningful this infrastructure will become.
- To discuss how other testing regions within Europe and beyond can benefit from the European testing Center and from the experience of the Italian testing region.

CSEP

Collaboratory for the Study of Earthquake Predictability

Monday, 27 October 2008

10:30 – Registration

11:00 – Introduction to the workshop (*T. Jordan; W. Marzocchi*)

**** The CSEP project*

11:15 – CSEP: Concepts, implementation, and progress (*D. Schorlemmer*)

11:45 – The CSEP testing center in Europe (*S. Wiemer*)

12:10 – The technical implementation of the CSEP testing center in Europe & Italy (*F. Euchner*)

12:30 – LUNCH

**** Testing and validation*

13:50 – Implementing tests in the CSEP testing center software (*J. Zechar*)

14:10 – First results of the RELM experiment (*D. Schorlemmer*)

14:20 – Open questions in testing procedures (*M. Werner*)

14:30 – The interaction between CSEP validations and seismic hazard (*S. Wiemer*)

**** The Italian testing region*

14:40 – The Italian testing region: The bulletin and seismic network (*F. Mele*)

15:00 – The Italian testing region: The completeness magnitude in space and time (*D. Schorlemmer*)

15:20 – The Italian testing region: The rules of the game (*W. Marzocchi*)

15:30 – COFFEE BREAK

15:50 – **Discussion:** How do we structure testing in Italy? Access to models, data, results, publication policy, testing periods etc.

**** Examples of models to be tested*

16:30 – The Italian seismic hazard map (*C. Meletti*)

16:45 – Physical and statistical models for earthquake clustering (*R. Console*)

17:15 – RTP algorithm and the results of its 4-years test in Italy (*P. Shebalin*)

17:30 – Earthquake complexity: impact on historical seismicity, seismogenic source databases, and earthquake forecasting (*G. Valensise*)

Tuesday, 28 October 2008

09:15 – The algorithm FORMA (foreshock-mainshock-aftershock): testing in Greece and possible testing in Italy (*G. Papadopoulos*)

09:30 – ALM model for Italy (*L. Gulia*)

09:45 – Double Branching model for Italian region (*A.M. Lombardi*)

10:00 – STEP & ASTEP Italy (*J. Woessner & A. Christophersen*)

10:15 – Next-day smoothed seismicity + ETAS forecast; ensemble models (*M. Werner*)

10:30 – RI/PI models (*K. Nanjo*)

10:45 – Uncertainties in Probability of Occurrence from Characteristic Earthquakes and its Impact on the Ground Motion Hazard in the Central Apennines, Italy (*A. Akinci*)

11:00 – COFFEE BREAK

11:30 – An Earthquake Rupture Forecast Model for central Italy. (*B. Pace*)

11:45 – The database of the individual seismogenic sources (DISS) and its use on probabilistic earthquake forecasting (*R. Basili*)

12:00 – Local likelihood ETAS models for the seismicity in the Italian Region, (*J. Zhuang*)

12:15 – Earthquake forecasting through the hybrid zoneless approach (*H. Chan*)

12:30 – LUNCH

14:00 – The ongoing experiment with fully reproducible intermediate-term middle-range earthquake predictions by CN and M8S algorithms: five years of the real-time testing in Italy (*A. Peresan*)

14:15 – How can we test precursory quiescence within CSEP? (*M. Wyss*)

*** *Final keynote and closing remarks*

14:30 – **Discussion and summaries of the reporters**

Roadmap and responsibilities (*W. Marzocchi, S. Wiemer, D. Schorlemmer*)

16:00 – COFFEE BREAK

*** *Workshop closure*