28th Course of the International School of Geophysics
5th INTERNATIONAL WORKSHOP ON STATISTICAL SEISMOLOGY:
PHYSICAL AND STOCHASTIC MODELLING OF EARTHQUAKE
OCCURRENCE AND FORECASTING
EMFCSC, Erice – Sicily (Italy), 31 May - 6 June, 2007

Workshop Program and Structure

Date/Time		*Actions*
Thursday 5/31:		Arrival of Participants

Friday 1/6

<u>Morning</u>:

		Opening Ceremony	
09:00-09:30		Welcome to Participants (E. Boschi, R. Console, S. Wiemer)	
09:30-10:00	D. Slejko	Recent Advances on Assessing Earthquake Probabilities and Hazard in Italy	
10:00-10:30	S.Wiemer	News from NERIES, SAFER, SEISTRAIN and Other Transnational European Projects	
Coffee Break			
	Session 1.	**Physically-based models and forecasting seismicity rate changes**	
11:00-11:30	M. Cocco	Coulomb Stress Interaction: Supporting and Conflicting Evidence	
11:30-12:00	A. Helmstetter	Afterslip and Aftershocks in the Rate-and-State Friction Law	
12:00-12:30	J. Woessner	Forecasting Seismicity on Local to Regional Scale	
12:30-13:00	J. Hardebeck	Background Seismicity Rate from Inter-Event Time Statistics: Spatial Patterns Appear Stationary Through Time	

LUNCH

<u>Afternoon</u>:

	Tutorial Lecture 1	
15:00-16:00	D. Vere-Jones	(including 15 min. discussion)
	Foundations of Statistical Seismology	
16:00-16:30	T. Tormann	Can We Map Asperities Using b-Values?
Coffee Break		
17:00-19:00	**Poster Session 1**	

<u>Evening</u>: 20:30 *Icebreaker Party*

Saturday 2/6

Morning: **Session 2.   Setting up Earthquake Forecasting Models**
                                  Session 2.1   Statistical Earthquake Forecasting Models
09:00-09:30   D. Rhoades   On the Forecasting Horizon of Seismicity Models
09:30-10:00   W. Marzocchi   "Forward" Perspectives on Earthquake Forecasting
                             Models
10:00-10:30   D. Sornette   "Universal" Distribution of Inter-Earthquake Times
                             Explained

Coffee Break --

                                  Session 2.2   The Use of Synthetic Simulators
11:00-11:30   D. Marsan   Model-Independent Stochastic Declustering

11:30-12:00   Y. Ben-Zion   Seismicity Patterns on Fault Zones with Different
                             Geometrical and Rheological Properties
12:00-12:30   S. Steacy   Simulating Seismicity in a Fault Network Model: the
                             Effect of Interaction on Event Statistics
12:30-13:00   G. Ouillon   Multifractal Omori-Utsu Law for Earthquake
                             Triggering-Theory and Empirical Tests on the SCEC,
                             Harvard and JMA Catalogs

LUNCH

Afternoon: *Session 2.3   The Role of Fault Interaction and Nucleation into
                                                  Forecasting Models*
15:00-15:30   S. Hainzl   Recurrence-Time Statistics of Large Earthquakes
                             Resulting from Stochastic Rupture Nucleation and
                             Fault Interaction
15:30-16:00   S. Toda   Role of Multiple Stress Steps in Earthquake Triggering
                             and Application to Near-Real Time Aftershock
                             Forecasting
16:00-16:30   J. Dieterich   Earthquake Occurrence in Geometrical Complex
                             Systems

Coffee Break --

              Tutorial Lecture 2
16:45-17:45   Y. Ogata   **Diagnostic Statistical Analyses to Detect the
                             Seismicity and Geodetic Anomalies Relative to the
                             Normal Predictions**

17:45-19:30   **Panel Discussion 1 → Coulomb Stress and Physically-Based
                             Models: Are They Useful for Seismic
                             Hazard?**

Sunday 3/6   **CSEP Session**
<u>Morning</u>:

       09:00-09:30 D. Giardini   Future Perspectives on Global Risk Assessment

                   Tutorial Lecture 3
       09:30-10:30   T. Jordan   **Collaboratory for the Study of Earthquake Predictability**

Coffee Break

       11:00-13:00 **Panel Discussion 2 → Earthquake Predictability and CSEP: Building a Global Community for Earthquake Predictability Related Research**

     LUNCH

<u>Afternoon</u>:   *Free Afternoon: Possible Excursions*

Monday 4/6
<u>Morning</u>:   **Session 3.**   **Validation of Earthquake Forecasting Models**
                  Session 3.1   *Validation of Space-Time Modelling*
       09:00-09:30 M. Gerstenberger The New Zealand Earthquake Forecast Testing Centre
       09:30-10:00 Z. Wu   Annual Consultation on the Likelihood of Earthquakes in Continental China: A Possible Arena for the Predictive Models of Statistical Seismology
       10:00-10:30 M. Werner Uncertainties in Seismicity Models: Towards Bayesian Earthquake Forecasting

Coffee Break

                  Session 3.2   *Validation of the Gutenberg-Richter Model*
       11:00-11:30 M. Imoto   Seismicity Models for Moderate Earthquakes in Kanto, Central Japan
       11:30-12:00 S. Lasocki Evidences of Complexity of Magnitude Distribution, Obtained from a Non-Parametric Testing Procedure

                  Session 4.   **The Nature of Earthquake Occurrence Process and Physical Constraints on its Predictability**
       12:00-12:30 I. Main   Statistical Mechanics and Earthquake Statisitics

       12:30-13:00 K.F. Tiampo Earthquake Statistics in Models and Data

     LUNCH

<u>Afternoon</u>:   **Session 5.**   **Living in an Uncertain World: Interfacing Statistical Seismology with Other Sciences and Society**
       15:00-15:30 D. Jackson Testing Hypotheses on Real Earthquake Catalogs: Dealing with Random Errors, Incompleteness and Biases

15:30-16:00	G. Cua	Bayesian Earthquake Early Warning Systems: A Dispatch from One of Many Frontiers of Real-Time Seismology
16:00-16:30	K. Shimazaki	Probabilistic Estimates of Seismic Hazard and Public Awareness in Japan
16:30-17:00	T. Iwata	Probabilistic Estimation of Earthquake Growth to a Large One in an Earthquake Early Warning System: Re-Estimation for the Nankai Trough Region

| 17:00-19:00 | **Poster session 2** (includes coffee break) |

| Evening: | 20:30 | *Social dinner* |

Tuesday 5/6

Morning:

	Session 6	**Data, Computing Power and Software: Future Needs of the Community**
09:00-09:30	A. Michael	Solving the Woes of Statistical Seismology: The Community On-Line Resource for Statistical Seismicity Analysis (CORSSA)
09:30-10:00	D. Schorlemmer	QuakeML, ZMAP++ and CSEP – New Developments in Seismicity Data Analysis and Testing
10:00-10:30	D. Harte	SSLIB: A Programming Environment for the Fitting and Analysis of Point Process and Hidden Markov Models

Coffee Break

Silvia Nardi 8-5-07 7:20
Formattato

| 11:00-13:00 | **Poster session 3** |

LUNCH

Afternoon:

| 15:00-17:00 | **Panel Discussion 3: → Community-Based Software Development** |

Coffee Break

| 17:00-18:00 | **Conclusive discussion** |

Wednesday 6/6   Departures