

**RESEARCH CONFERENCES**

ESF-FWF Conference in Partnership with LFUI

# New Challenges In Earthquake Dynamics: Observing And Modelling A Multi-Scale System

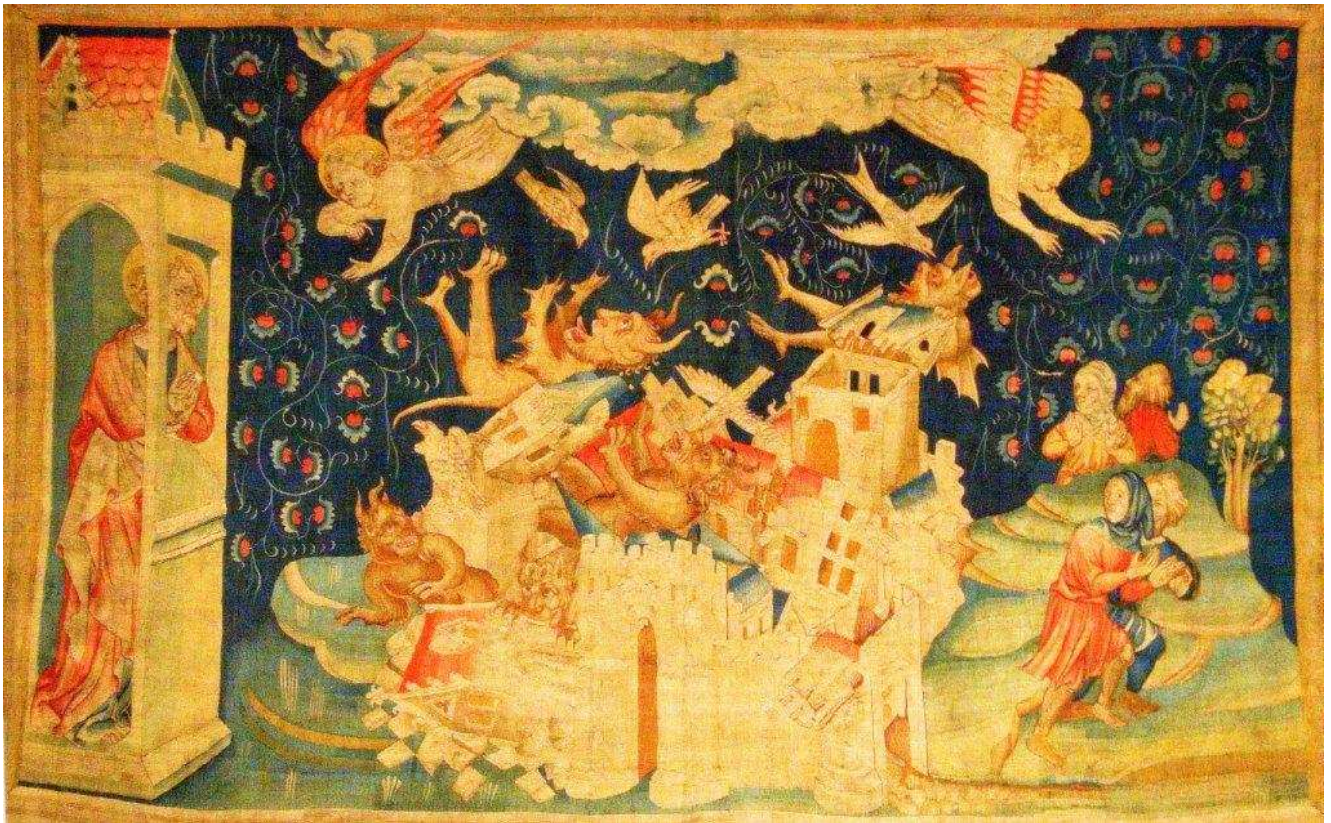
Universitätszentrum Obergurgl (Ötz Valley, near Innsbruck) •  
Austria

18-23 October 2008

Chair: **David Marsan**, Université Savoie, FR

Co-Chair: **Sebastian Hainzl**, University Potsdam, DE; **Agnès Helmstetter**, CNRS, Observatoire de Grenoble, FR; **Sandy Steacy**, University of Ulster, UK

[www.esf.org/conferences/08260](http://www.esf.org/conferences/08260)



# Final Programme

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## Saturday 18 October

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Late afternoon / early evening	Registration at the ESF-RC desk
19.00	Welcome Drink
20.00	Dinner

## Sunday 19 October

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09.00-09.15	Conference Opening on behalf of the European Science Foundation <b>Alan G. Jones</b> Dublin Institute for Advanced Studies, IE
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### Session 1: Observation of Seismicity Patterns 1

Chair: **David Marsan**, Université de Savoie, FR

09.15-09.55	<b>Zhigang Peng</b> Georgia Institute of Technology, US <i>Systematic analysis of early aftershocks: implications for earthquake physics and fault mechanics</i>
09.55-10.35	<b>Ross Stein</b> USGS Menlo Park, US <i>The debate on what triggers earthquakes: static or dynamic stress</i>
10.35-11.05	Coffee break
11.05-11.45	<b>Alon Ziv</b> Ben-Gurion University of the Negev, IL <i>The physics of delayed remote aftershocks</i>
11.45-12.05	<b>Egill Hauksson</b> (short talk selected from abstracts) California Institute of Technology, US <i>Background seismicity within damage zones in the vicinity of principal slip zones of southern California faults</i>
12.05-12.25	<b>Christopher Bean</b> (short talk selected from abstracts) University College Dublin, IE <i>Seismic velocity changes associated with the Agios Ioanis M= 4.3 event in the Gulf of Corinth, Greece: Possible evidence for static stress change induced fault unclamping</i>
12.30	Lunch
14.00-15.30	Poster Session

### Session 2: Observation of Seismicity Patterns 2

Chair: **Zhigang Peng**, Georgia Institute of Technology, US

15.30-16.10	<b>Michel Bouchon</b> CNRS, FR <i>The aftershock signature of supershear earthquakes</i>
16.10-16.50	<b>Danijel Schorlemmer</b> USC, US <i>Directivity effects of fault velocity contrast on triggered seismicity</i>

16.50-17.20	Coffee Break
17.20-18.00	<b>David Marsan</b> Université de Savoie, FR <i>The branching structure of earthquake triggering</i>
18.00-18.40	<b>John Walsh</b> University College Dublin, IE <i>The role of interaction on the growth of faults on geological and earthquake time scales</i>
19.00	Dinner

## Monday 20 October

### Session 3: Stochastic Modelling of Earthquake Interactions

Chair: Jim Dieterich, UC Riverside, US

09.00-09.40	<b>David Jackson</b> UCLA, US <i>Uniqueness of parameters in earthquake clustering models</i>
09.40-10.20	<b>Sebastian Hainzl</b> GFZ Potsdam, DE <i>Aftershock modeling based on uncertain Coulomb stress calculations and rate-state frictional response</i>
10.20-10.50	Coffee break
10.50-11.30	<b>Sandy Steacy</b> University of Ulster, UK <i>Testing a rate-state model of earthquake probabilities</i>
11.30-11.50	<b>Stephen Miller</b> (short talk selected from abstracts) University of Bonn, DE <i>Aftershock decay rates controlled by the regional stress field: Implications for post-seismic hydraulic properties</i>
11.50-12.10	<b>Anna Maria Lombardi</b> (short talk selected from abstracts) Istituto Nazionale di Geofisica e Vulcanologia, IT <i>Some insights on the time-dependence of background seismicity</i>
12.30	Lunch
16.00-16.30	Coffee break
16.30-17.10	<b>Yosihiko Ogata</b> Institute of Statistical Mathematics, JP <i>Anomalies in seismic activity and transient crustal deformation</i>

### Session 4: Earthquake Rupture in an Heterogeneous Crust 1

Chair: Michel Bouchon, CNRS, FR

17.10-17.50	<b>Massimo Cocco</b> Istituto Nazionale di Geofisica e Vulcanologia, IT <i>Scale dependence in earthquake dynamics: reconciling evidence from laboratory experiments and geological and seismological observations</i>
17.50-18.30	<b>Andrew Michael</b> USGS Menlo Park, US <i>Are earthquakes scale independent?</i>
19.00	Dinner
20.30-22.00	Poster Session

## Tuesday 21 October

### Session 5: Earthquake Rupture in an Heterogeneous Crust 2

Chair: Massimo Cocco, Istituto Nazionale di Geofisica e Vulcanologia, IT

09.00-09.40	<b>Jean Paul Ampuero</b> California Institute of Technology, US <i>The off-fault dimension: interactions between fault dynamics and fault zone damage</i>
09.40-10.20	<b>Jim Dieterich</b> UC Riverside, US <i>Tba</i>
10.20-10.50	Coffee break
10.50-11.10	<b>Ruth Harris</b> (short talk selected from abstracts) USGS Menlo Park, US <i>3D spontaneous rupture models of large earthquakes on the complex Hayward fault, California</i>
11.10-11.30	<b>Martin Mai</b> (short talk selected from abstracts) ETH Zurich, CH <i>Earthquake source inversions: current status and future needs</i>
11.30-12.10	<b>Jean Schmittbuhl</b> CNRS, FR <i>Variability of fault slip distribution: an experimental approach</i>
12.30	Lunch
Afternoon	Free afternoon
19.00	Dinner
20.00-21.00	Forward Look Plenary Discussion

## Wednesday 22 October

### Session 6: The Great Variability of Faulting in Response to Stress Changes 1

Chair: Sandy Steacy, University of Ulster, UK

09.00-09.40	<b>Agnès Helmstetter</b> CNRS, FR <i>Earthquake triggering by stress changes: observations and modelling using the rate and state friction law</i>
09.40-10.20	<b>Maria Elina Belardinelli</b> University of Bologna, IT <i>Time dependent stress changes and earthquake triggering</i>
10.20-10.50	Coffee break
10.50-11.30	<b>Ian Main</b> University of Edinburgh, UK <i>Tba</i>
11.30-12.10	<b>Jean-Robert Grasso</b> Université Joseph Fourier, FR <i>Interrelation between seismicity and volcano activity</i>
12.30	Lunch

# Session 7: The Great Variability of Faulting in Response to Stress Changes 2

Chair: Ross Stein, USGS Menlo Park, US

- 15.00-15.20 **Christophe Voisin** (short talk selected from abstracts)  
CNRS, France  
*Lab scale slow slip events and tremors*
- 15.20-15.40 **Heidi Houston** (short talk selected from abstracts)  
University of Washington, US  
*Source models and scaling of tremor*
- 15.40-16.20 **Joan Gomberg**  
USGS Seattle, US  
*Connections between slow slip, tremor and earthquakes*
- 16.20-16.50 Coffee break
- 16.50-17.30 **Laurent Montési**  
University of Maryland, US  
*Time dependence of postseismic slip*
- 17.30-18.10 **Pascal Bernard**  
Université Paris 6, FR  
*Coupling between micro-seismicity, creep, and fluid flow at the Corinth Rift Laboratory*
- 18.10-18.40 Final Discussion and Conclusions
- 19.00 Get-together & Conference Dinner

## Thursday 23 October

Breakfast & Departure

## Abstracts, Posters & Short Oral Presentations

There will be no oral presentations other than those listed in the programme. All other abstracts are accepted for poster presentation. Lectures are either 15' or 35' long, with an extra 5' for questions.