

# QUEST

QUantitative Estimation of Earth's Seismic Sources and STructure

<http://www.quest-itn.org/>

## *An Initial Training Network*

*funded within the 7th Framework People Programme by the European Commission*

December 1, 2009 – November 30, 2013

Faculty of Mathematics, Physics and Informatics, Comenius University Bratislava

is seeking applications from enthusiastic young researchers for a

## **QUEST Early Stage Researcher (ESR) Position in Computational Seismology**

### **Topic**

Optimized finite-difference modeling of earthquake motion and seismic wave propagation

### **Supervisor(s)**

Prof. Peter Moczo, Comenius University Bratislava, Bratislava, Slovakia,  
possibly – co-supervisor from a QUEST partner institution

### **Duration and dates**

Preferably 36 months. In this case the ESR position must start on December 1, 2010.

A shorter duration, say 18 months, is, in principle possible.

### **Place**

Bratislava, Slovakia

Possibly, the ESR may spend up to 5 months in a QUEST partner institution using the financial support from the QUEST resources allocated for Bratislava

### **PhD degree**

The ESR can complete/defend PhD Thesis either in Bratislava or in a chosen institution

### **Requirements**

- university degree in geophysics, physics, mathematics or closely related subject
- basic knowledge of seismology or wave propagation phenomena
- written and spoken English
- motivation to work in an international and interdisciplinary team
- experience in programming

### **Financial and legal conditions and terms**

<http://www.quest-itn.org/>

### **Application**

To be considered for the position, please send an application to Prof. Peter Moczo at [moczo@fmph.uniba.sk](mailto:moczo@fmph.uniba.sk) **by September 30, 2010**. The application should include CV, brief description of research interests, names of two persons relevant for providing a reference/recommendation – preferably in PDF format.

**Short description of the research topic**

Numerical modeling of earthquake ground motion and seismic wave propagation in realistic models of media or at real sites for real earthquakes using optimized finite-difference methods. The modeling may include kinematic or dynamic modeling of earthquake rupture, wave propagation away of the rupturing fault and earthquake ground motion at local surface geological structures. The numerical modeling may be focused on prediction of the earthquake ground motion at a site of interest or investigating dynamic fault rupturing. The applicant may choose to emphasize methodology development or computer-code development or practical applications.

The topic may be defined as a joint research topic with one of the QUEST partners, preferably with Univ. of Potsdam, LMU Munich and UJF Grenoble.