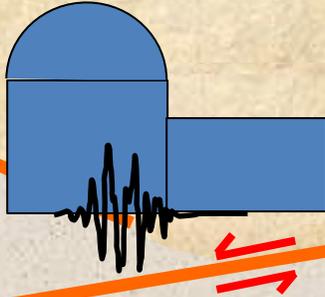


## Key deadlines

- Abstract submission : **30 June 2015**
- Full paper submission: **31 August 2015**
- Registration: **10 September 2015**
- Workshop: **18-20 November 2015**
- Field trip (optional): **21 November 2015**

A preliminary plan is to visit nuclear installations and fault trenches

**Note:** For preliminary abstract submission contact Dr. Luis A. Dalguer  
e-mail: [luis.dalguer@swissnuclear.ch](mailto:luis.dalguer@swissnuclear.ch)



## Abstract and paper submission

Participant willing to present his/her work as oral or poster must submit an abstract (max 300 words). After acceptance of the abstract and the type of presentation, we will encourage to submit a full paper. The minimum size of the paper is 6 pages, and it is recommended to be no longer than 15 pages. This is a guideline and not an absolute limit.

## Registration

Free of charge

## Language

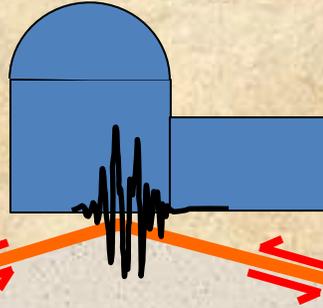
The official language is English

## IAEA Contact persons

### Scientific Secretary:

**Mr Yoshimitsu Fukushima.**

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## Scientific organizing committee

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## Conference website

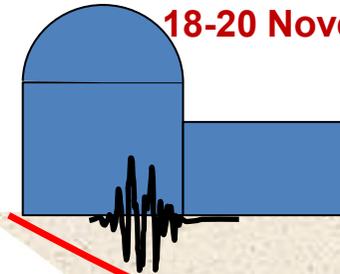
<http://www-pub.iaea.org/iaeameetings/50896/BestPSHANI>

# International Workshop on Best Practices in Physics- based Fault Rupture Models for Seismic Hazard Assessment of Nuclear Installations



Vienna International Centre  
Board Room, M building  
Vienna, Austria

18-20 November 2015



First Announcement





## Background

Reliable ground-motion prediction of future earthquakes is a key input to reduce uncertainties in seismic hazard. In current practice, the ground shaking is mainly estimated from empirical Ground Motion Prediction Equations (GMPEs). But the available dataset used to build such GMPEs is limited since it does not cover the whole magnitude range, and observed data, particularly near the source, are sparse. Therefore, potential effects of source complexity and wave propagation are not observationally well constrained. On the other hand, recent development of numerical simulations of earthquakes based on physics of the causative source rupture and wave propagation have contributed to substantial advances to predict the variability of near source ground motion dominated by the source and/or wave propagation effects. Therefore seismologists and engineers need to rely in such physics-based synthetic earthquake ground motion data for meaningful extrapolation in areas where there are not sufficient observations, particularly for site-specific hazards assessment of critical infrastructures such as Nuclear Installations. For that purpose it is important to practitioners and seismologists sit around the same table to discuss the know-how to transfer the advanced seismological methodologies in engineering practice, so that the seismologists and engineers have the capability to achieve a common understanding of the scientific and technical features of the hazard products and their applications. With this aim, the first phase of this process is the organization of focusing two dedicated workshops. The second workshop is tentatively planned by the end of 2016 or early 2017

## Purpose and Objective

We aim to gather experts in seismology and earthquake engineering, from practitioners to earthquake scientists, to discuss the applicability of the physics-based fault rupture models to generate synthetic earthquake ground motion data for meaningful extrapolation of ground motion prediction in areas where there are not sufficient observations. To finally provide practical guidance for use in seismic hazard analysis.

## Topics

The workshop aims to discuss the state of the art of seismic hazard (SH) assessment in nuclear installations, covering the following topics within the framework of ground motion prediction of future earthquakes.

- Current Practice of simulation techniques for SH assessment in nuclear installations: Experience in Japan, USA and Europe on the use of ground motion modeling.
- Physics based dynamic rupture modeling: Stress and friction parameterization for dynamic rupture modelling, how to constraint them with observations; the role of fault geometry on rupture dynamic and ground motion.
- Ground motion simulation: The role of kinematic and dynamic approach for ground motion prediction. The upper frequency limit, Source characterization for ground motion prediction, broadband ground motion modeling
- Fault displacement assessment: Experience of fault displacement evaluation for SH assessment, fault displacement modeling.
- Expectation from end users for ground motion prediction: Discussion on the needs of the practitioners and the know-how to earthquake scientists transfer the advanced seismological models into engineering practices.

## Key speakers

This workshop is supported by invited presentations specially dedicated to the topics mentioned above. Key speakers are:

### **Norm Abrahamson**

UC Berkeley/Pacific Gas & Electric Co, USA

### **Jean Paul Ampuero**

California Institute of Technology, USA

### **Hideo Aochi**

BRGM, French Geological Survey, France

### **Luis A. Dalguer**

Swissnuclear, Switzerland

### **Steven Day**

San Diego State University, USA

### **Satoshi Ide**

The University of Tokyo, Japan

### **Kojiro Irikura**

Aichi Institute of Technology, Japan

### **Martin Mai**

KAUST, Kingdom of Saudi Arabia

### **Hiroe Miyake**

ERI, The University of Tokyo, Japan

### **Mark Petersen**

USGS, USA

### **Philippe Renault**

Swissnuclear, Switzerland

### **Makoto Takao**

Tokyo Electric Power Company, Japan

## Audience

The workshop is targeted to experts from regulatory bodies, utilities, technical support organizations (TSOs), vendors and research and development (R&D) organizations, who are working in the areas covered by the workshop.