

**2<sup>nd</sup> AXA-UNAM Workshop on  
Diffuse Fields and the Seismic Response of the Mexico City Valley**

**Emilio Rosenblueth Seminar Room, Instituto de Ingeniería, UNAM  
Mexico, April 9-11, 2015**

**Program**

**April 9 Thursday**

8:45 Registration

**Section: Seismology in Mexico City**

9:15 Adalberto Noyola Robles, *II-UNAM, Mexico*; Ricardo Morán Guillaumin, *AXA, Mexico*.  
Welcome Remarks.

9:30 Francisco J. Sánchez-Sesma, *II-UNAM, Mexico*. Introduction and Overview of the AXA-UNAM  
Workshop on Diffuse fields and the Seismic Response of Mexico City Valley. The situation 30 years  
after 1985 Michoacán (M8.1) earthquake.

10:00 Víctor M. Cruz-Atienza, *IG-UNAM, Mexico*, Surface-Wave Propagation in the Valley of  
Mexico: Insights from Realistic 3D Earthquake Simulations

10:30 Leonardo Ramirez-Guzmán, *II-UNAM, Mexico*. An Analysis of the Seismic Response of  
Realistic 3D Configurations Using Finite Elements.

11:00 Coffee break

**Section: Tomography in Mexico**

11:30 Marcela Baena Rivera, *II-UNAM, Mexico*. Generalized diffuse fields for tomography of alluvial  
basins. Progress report.

12:00 Zack Spica. *IG-UNAM, Mexico*. Enhanced Rayleigh waves tomography of Mexico using  
ambient noise cross-correlations, correlations of coda of correlations (C3) and earthquake's surface  
waves.

12:30 Xyoli Pérez-Campos, Arturo Iglesias, Allen Husker, *IG-UNAM, Mexico*. MASE project

13:00 – 15:00 Lunch

**Section: Site Effects**

15:00 Juan Camilo Molina-Villegas, *II-UNAM, Mexico*. Least-squares identification of surface waves  
emission at basin edges for incoming plane waves.

15:30 Gregory C. Beroza, *Stanford University, USA*. Characterizing Basin Effects on Seismic Strong Ground Motion with Virtual Earthquakes and Dense Array Recordings.

16:00 Rodolfo Puglia, *INGV-Milano, Italy*. Array and Single-Station Data Analysis for Site Characterization.

16:30 Coffee break

### **Section: Numerical Simulations**

17:00 Josue Tago, *II-UNAM, Mexico*. SMART layers: a simple and robust approach to PML approaches for elastodynamics.

17:30 Marcial Alberto Contreras Zazueta, *II-UNAM, Mexico*. Some Improvements on the Numerical Modeling of Seismic Ground Motion in Alluvial Valleys

18:00 Nayeli Chávez Zamorate, *II-UNAM, Mexico*. Some Results of the Seismic Response Shallow Alluvial Basins.

18:30 -19:00 Discussion

### **April 10 Friday**

#### **Section: H/V in Mexico**

09:30 Mathieu Perton, *II-UNAM, Mexico*. Green's function calculations using equipartition theorem, and the use of equipartition for normalization.

10:00 José Piña-Flores, *II-UNAM, Mexico*. Fast Inversion of  $H/V$  ratio in Layered Media.

10:30 José Antonio Martínez, *II-UNAM, Mexico*. On the computation of  $H/V$  and its application to micro-zonation and seismic design.

11:00 Coffee break

#### **Section: H/V in the world**

11:30 Agostiny M. Lontsi, *Potsdam University, Germany*. Seismic site characterization using the full microtremor  $H/V(z; f)$  Spectrum.

12:00 Enrico Lunedei, *University of Siena, Italy*.  $H/V$  and Surface-Wave Dispersion Curves From a Full-Wavefield Model of Ambient Vibrations Generated by a Distribution of Spatially Correlated Surface Sources.

12:30 Shinichi Matsushima, *DPRI-Kyoto University, Japan*. The Relation between Directional Dependent Microtremor Horizontal-to-Vertical Spectral Ratios and Lateral Heterogeneity at the Basin Edge.

13:00 – 15:00 Lunch

Afternoon: Discussion