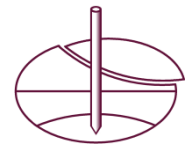


**ISSMGE FOUNDATION  
REPORT ON CONFERENCE ATTENDANCE**

<b>Your Name:</b> Bambang Setiawan	<b>Your Organization:</b> The University of Adelaide	<b>Date of report:</b> 30 September 2016
<b>Conference Title:</b> Using Ambient Vibration Techniques for Site Characterization, Seismic Microzonation and Buildings	<b>Location of Conference:</b> Beirut, Lebanon	<b>Dates of Conference:</b> 19 <sup>th</sup> – 25 <sup>th</sup> September 2016
<b>What you learned:</b> I had extended my knowledge of using ambient vibration techniques for several applications i.e. estimating site fundamental frequency and Vs30 for site characterization and seismic microzonation, assessing building fundamental frequency and building damping value. In this course, I had learned also to detect any anthropic noise waves from the natural field noise data. I also acquired the field operational procedures such as equipment setting up, data collection and quick preliminary data analyses.		
<b>People you met:</b> <ul style="list-style-type: none"><li>- Professor Jacques Harb (Notre Dame University – Lebanon)</li><li>- Dr. Cecile Cornou (Universite Grenoble Alpes – France)</li><li>- Dr. Marc Wathelet (Institut de Recherche pour le Developpement – France)</li><li>- Dr. Bertrand Guillier (Institut de Recherche pour le Developpement – France)</li><li>- Dr. Dalia Youssef Abdel-Massih (Lebanese University – Lebanon)</li><li>- Dr. Christelle Salameh (Notre Dame University – IsTerre)</li><li>- Dr. Yara Maalouf (Notre Dame University – Lebanon)</li></ul>		
<b>Main features of conference:</b> The seven days course was divided into 3 main categories which are lectures, tutorials and field works. The lecture covers the basic foundation theory of each ambient vibration techniques i.e. signal processing principles in seismology, principles of seismic wave propagation, surface wave inversion, and basic array processing concept. In tutorial step by step using Geopsy Package for HVSR, Array techniques (FK, HRFK, and SPAC), MASW, and determining dynamic parameters of structures were explained. Setting up equipment and real data collection were demonstrated and practised in the field works which include single station measurement, array measurement, MASW measurement and single station at building measurement. This field work was carried out in the city of Byblos, Lebanon. At the end of the course, all participants have been given an opportunity to use the real data to analyse using all the ambient vibration techniques as outlined in the previous several days. However, this one day exercise with the real data wasn't enough to satisfy the participants, therefore additional exercise day was carried out on 25 September 2016.		
<b>Your comments on the conference:</b> The overall course was great. The presenters did an amazing job. They explained and answered all questions very well.		



***Please attach short report (maximum 400 words) suitable for publication in the ISSMGE Bulletin:***

**COURSE REPORT:** Course on Using Ambient Vibration Techniques for Site Characterization, Seismic Microzonation and Buildings, 19-25 September 2016, Beirut-LEBANON.

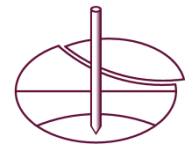
Since the end of the year 2005, Geopsy team have been organizing short courses regarding ambient vibrations techniques based on the software products developed in SESAME (Site Effects Assessment Using Ambient Excitations) European Project. These 5 to 6 days courses are for 15 to 20 participants. From Monday, 19<sup>th</sup> September to Sunday 25<sup>th</sup> September 2016, Geopsy team in a collaboration with Notre Dame University and Lebanese University organised another short course of using ambient vibration techniques for site characterization, seismic microzonation, and buildings. The main objective of the course is to disseminate the understanding of the problems related to the ambient vibration data acquisition, analysis and interpretation of the techniques for quantifying site and building dynamic properties. This course has attracted many students, engineers and researchers from around the world, but only 20 participants were accepted to attend the course. The participants were 4 from South Africa, 2 from France, 1 from Mongolia, 1 from Algeria, 1 from Palestine, 1 from Jordan, 1 from Indonesia, 1 from Pakistan, 1 from Brazil, 1 from Turkey, 1 from Morocco, and 5 from Lebanon.

Lectures were held by internationally recognized researchers such as Dr. Cecile Cornou from Universite Grenoble Alpes - France, Professor Jacques Harb from Notre Dame University - Lebanon, Dr. Marc Wathélet from Institut de Recherche pour le Développement – France, Dr. Bertrand Guillier from Institut de Recherche pour le Développement – France, and Dr. Christelle Salameh from Notre Dame University & IsTerre. The lecture was carried in the morning sessions for about four-hour daily. The lectures covered topics concerning signal processing principles in seismology, principles of seismic wave propagation, surface wave inversion, and basic array processing concept.

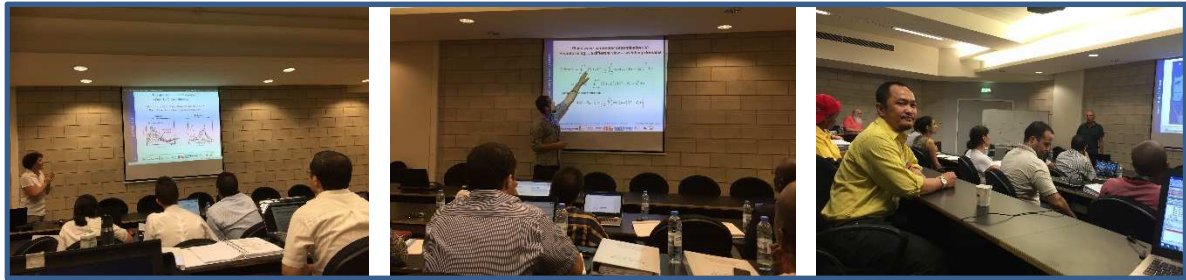
Tutorials and exercises were carried in the afternoon sessions. All the lecturers were acting as the mentors during these tutorials and exercises. Step by step procedures for running the Geopsy Packages was demonstrated. All input and output parameters were explained. Participants were practised using their own computer.

On the afternoon of the 4<sup>th</sup>-day, participants have been given with the opportunity to carry out on-site equipment setting up and data acquisition. The city of Byblos, Lebanon was selected as the site for these exercises. This self-collected data was used as the input for the ambient vibration techniques.

I would like to thank ISSMGE Foundation for the support and financial help which enabled me to attend the course.



**Photographs from Conference:**



*Lecture classes by Dr. Cornuo, Dr. Wathelet, and Prof. Harb  
(In the most right picture, I am wearing a yellow shirt with a cup of coffee before a lecture by Prof. Harb)*



*Field works*



*Tutorial classes*



*Dinner and recreation trip*