

## Principle and Application of Surface Waves

Instructors:

Don Zhao, Geogiga Technology Corp;  
Alfonso Alvarez Manilla, Geo Ingenieria Alfven, SA de CV

This one-day short course will help to understand the surface wave survey in depth with an interactive and systematic approach. The most popular dispersion analysis methods including SASW, MASW, SPAC, and ESPAC will be covered, and the benefits and pitfalls of each method will be revealed with synthetic and field data. Furthermore, this course will discuss how to achieve the survey depth from a few meters to hundreds of meters with different analysis methods and geometry arrays. Also, it presents the strategy of the genetic algorithm (GA) in the inversion of dispersion curves.

The topics to be covered in this course are:

- The basis of signal processing
- The frequency dispersion of surface wave
- The foundation of surface wave survey
- Active and passive surface wave
- The principle and comparison of SASW and MASW
- The principle and comparison of FK, SPAC, and ESPAC
- Comparison of different arrays including linear, L-shape, triangle, and circle
- Surface wave inversion with the genetic algorithm(GA)
- Case studies in a variety of application areas

Participants are encouraged to bring a Windows laptop computer and will be provided a short term license of Geogiga Surface Plus to practice all kinds of synthetic and field data. They are also welcomed to bring their own case studies for discussion.

### **Inscripción y costos:**

La inscripción es en forma electrónica a la página de la UGM:  
<http://www.ugm.org.mx/raugm/index.php?page=cursos>

El costo del curso es el siguiente:

- Estudiantes (\*) : \$750.00
- Miembros UGM: \$1,500.00
- No miembros: \$2,000.00

(\*) Se ofrecerán gratuitamente dos lugares para estudiantes sin recursos para cubrir el costo.