

## Educational Activities IMEIO- UPM

**Title:** FEM and volcano Geodesy: a new focus on volcano deformation interpretations

**Responsible of the activity:** María Charco, Pedro Galán del Sastre

**Lecturers:** María Charco, Pedro Galán del Sastre

**Total number of hours:** 15 h

**Location:** E.T.S.Ingenieros Industriales (UPM)

**Dates:** January-February 2018

### **Abstract:**

- Introduction and Motivation (M. Charco): 3 h.
  - Volcano Geodesy Definition
  - Application of Geodetic Techniques for volcano deformation monitoring.
- Deformation modeling (M. Charco): 4 h.
  - Boundary Value Problem of volcano deformation
  - Quantitative interpretation of volcano deformation: The inverse problem in volcano geodesy for the characterization of deformation sources.
- Finite Element Method (FEM): Some Numerical simulations of volcano deformation (P. Galán del Sastre): 4 h.
- Application: How does a volcano change its shape? (P. Galán del Sastre): 4 h.

**Would you accept that the course could be given by videoconference restricted to some doctoral students who could not attend in person?** Yes, but attending in person is highly recommended