



SPEAKER: Giovanni Macedonio (Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio)

TITLE: **Modeling volcanic ash dispersal**

DATE: Thu 21/10/2010 16:30

PLACE: Main Auditorium

ABSTRACT

Explosive volcanic eruptions inject into the atmosphere large amounts of volcanic material (ash, blocks and lapilli). Blocks and larger lapilli follow ballistic and non-ballistic trajectories and fall rapidly close to the volcano. In contrast, very fine ashes can remain entrapped in the atmosphere for months to years, and may affect the global climate in the case of large eruptions. Particles having sizes between these two end-members remain airborne from hours to days and can cover wide areas downwind. Such volcanic fallout entails a serious threat to aircraft safety and can create many undesirable effects to the communities located around the volcano. The assessment of volcanic fallout hazard is an important scientific, economic, and political issue, especially in densely populated areas. From a scientific point of view, considerable progress has been made during the last two decades through the use of increasingly powerful computational models and capabilities. Nowadays, models are used to quantify hazard scenarios and/or to give short-term forecasts during emergency situations. This talk will be focused on the main aspects related to modeling volcanic ash dispersal and fallout with application to the well known problem created by the Eyjafjöll volcano in Iceland. Moreover, a short description of the main volcanic monitoring techniques is presented.