Session details

# Keynote Lecture

Speaker: Dr. Pietro Teatini (University of Padova)

Theme: Subsidence

Date: 30 March 2012

Time: 15:15 - 15:55

Location: Auditorium

## Abstract: Understanding land subsidence in the Po Plain, Italy

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SAR-based measurements available since the last decade reveal that ground surface in highly-urbanized plains moves impressively up and down in response to a multitude of natural processes and human activities. In the Po Plain, Italy, the observed displacements exhibit significant spatial variability, with seasonal fluctuations that superpose to long-term trends, and rates that span from a gentle 2 to 5 mm/yr uplift to a serious settlement of more than 50 mm/yr. Contemporary research describes six primary processes causing land displacements in the Po Plain: tectonics, sediment consolidation, groundwater withdrawal, hydrocarbon production and underground gas storage from/into subsurface reservoirs, surface water drainage, and loads on the land surface. The measured movements are caused by a combination of these processes, with the relative influence of each dependent on the location the displacement is observed and the time period in which the observations are made. The contribution reviews the data collected over the last years and the models developed to provide a proper understanding of the past occurrence and forecast the expected evolution.

References

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