

# **OMEGA results and inferred Mars History: a unique MERs/MEx synergy.**

J-P. Bibring (1) and the OMEGA team (2)

(1) Institut d'Astrophysique Spatiale, 91405 Orsay Campus, France, (2) 16 institutes in 5 countries (bibring@ias.fr)

While the Mars Exploration Rovers have been offering a spectacular in depth analysis of two Martian sites of distinct ages and history, the Mars Express mission has performed an extended and coupled coverage of Mars global envelopes, from the outer atmosphere down the subsurface. In particular, surface structural and mineralogical mapping have exhibited features and materials enabling to trace the long term history of Mars, as a context for the two sites explored by the rovers. We will focus on the major mineralogical assignments derived from orbital measurements, from which the history of Mars can be depicted: phyllosilicates detected in the oldest terrains, tracing an era during which water was abundant; sulfates that formed later, in an acidic environment, as a result of the major surface tectonic activity that followed the heavy bombardment; anhydrous ferric oxides, that dominate within the red and bright soil, formed over the past 3.5 billions of years without water playing a major role. The emphasis will be made on the importance, for future astrobiological mission, to explore sites dating from the first era, characterized by clay-rich minerals.