



**GIUSEPPE MERCALLI SEISMOLOGIST, VOLCANOLOGIST
ON THE CENTENARY OF HIS DEATH:
HIS CONTRIBUTION TO OBSERVATIONAL EARTH SCIENCES
AT THE TURN OF THE 20TH CENTURY**

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Over the past three years we have celebrated three scientists whose contribution to geodynamics was crucial at the turn of the nineteenth and twentieth centuries: in 2012 the 150th anniversary of the birth of Boris Galitzin, in 2013 the centenary of the death of John Milne and now, in 2014, the centenary of the death of Giuseppe Mercalli. The contribution of the three Earth scientists was very different, but complementary and, however, decisive. The first two contributed to major breakthroughs in instrumental seismology between 1880 and the early twentieth century, Mercalli devoted himself to the observational aspects and their classification.

Mercalli contributed significantly to the formulation of the macroseismic intensity scale at 12 degrees that, with subsequent amendments, is still widely in use in the world (MCS, MM, EMS98 etc.). He elaborated the first synthetic maps of Italian seismicity (1882), later evolved into hazard maps, and studied on the field many earthquakes in Italy and abroad (Island of Ischia in 1881 and 1883, Andalusia, 1884, Western Liguria in 1887, Messina 1908, Asmara 1913).

As far as the volcanology is concerned, Mercalli studied all the Italian volcanoes and contributed significantly to their classification and eruptive history. In particular, he studied the eruption of Vulcano in the Aeolian Islands (1888-90) when he introduced the Vulcanian type in the eruptions classification and the eruption of Stromboli in 1891.

From 1892 he began to study the Vesuvius with periodic reports on the *Bollettino della Società Sismologica Italiana*, paying particular attention to the eruption of 1906, the most violent activity of Vesuvius in the twentieth century.

In 1911 he was appointed director of the Vesuvius Observatory (built in 1841), a position he held until his tragic death.

We analyze the Mercalli contribution to the science of his time (1880-1914), in parallel with developments to seismometry impressed by Milne, Galitzin and Italian seismologists.

Our institute has promoted the Anno Mercalliano (Mercalli Year - AM) to remember Mercalli in all its versatility, with several initiatives in different Italian cities. The AM was opened March 19, 2014 in Naples, where he died, ending on 21 May 2015 in Milan, his birthplace.

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