

## Volcanology and its importance in Hungary

*Magmatism and volcanism played an important role in the geological development of Hungary. The formation of acidic rocks due to volcanic activity during the Variscan cycle can be found in the Velence–Balaton and the Mecsek area south-west of Hungary. Typical “Pietra verde” type pyroclastic rocks, displaying a distinctively alkaline-trachytic character, are intercalated in the Middle Triassic carbonate sequence in the South Bakony Mts north of Lake Balaton. Middle Triassic to Jurassic basic and ultrabasic suites in different tectonic units of NE Hungary are commonly intercalated with deep-sea sediments.*

*The Tisza Tectonic Megaunit south-east of Hungary is related to basic-alkaline volcanism in the Early Cretaceous. Volcanic rocks are best exposed in the Mecsek Mts and they extend as far as to the basement of the Great Plain. In the Eocene andesitic-type volcanism occurred both in the Transdanubian Range and the Mecsek Mts.*

*Intermediate volcanism during the Miocene is of particular importance. In Hungary occurrences of Miocene volcanic rocks are distributed in a broad belt from Dunazug–Börzsöny Mts to the Zemplén Mts, basically from Budapest to the north-east tip of Hungary. Furthermore volcanic rocks are covered under thick Neogene to Quaternary sediments in the northern part of the Great Plain, which form all together the innermost zone of the volcanic belt of the Inner Carpathians. Particularly important are metallic ore deposits of Hungary that are associated with this Miocene volcanic belt. The latest volcanic activity, occurred in several regions of Hungary, and has been dated to be of Mio/Pliocene age. One of the most important volcanic regions in relation to the Second International Maar Meeting 2004 is the western Pannonian Basin, also because of the scenic impression of individual volcanic mountains in the Tapolca Basin, west of the Bakony – Balaton Highland area.*

*Volcanological research in Hungary has of long tradition, first of all because of the old mining of metallic ore deposits related with the Neogene volcanism. Professor József Szabó (1822–1894) is known well in the scientific community as “father of Hungarian geology”, the first teaching geology in Hungarian language at the university. He established an internationally recognized petrographic system of trachytic rocks.*

*For long time after Szabó’s activity the descriptive petrology prevailed in the Hungarian geology. In addition, the contribution of Lajos Lóczy sen. has a great importance. He studied the morphological development of the Balaton Highland, in particular, the basaltic volcanoes of the Tihany Peninsula.*

*Since the late 1970’s, early 1980’s new trends of volcanological studies are appeared in Hungary, focusing on the Neogene intraplate basalt volcanism. On one hand petrogenetic studies, based on detailed mineralogical, chemical and isotope geochemical investigations, have been carried out. On the other hand investigations and new theories tried to support interpretation of tectonic, geodynamic position and significance of the volcanism in the geological evolution of the area.*

*A new detailed morphogenetic approach and the theory of phreatomagmatic volcanism conducted by Ulrike Martin and Károly Németh gave way to a new view in interpreting basaltic volcanism of the western Pannonian Basin. We strongly believe that the IAVCEI–CVS–IAS Second International Maar Conference held in Hungary jointly organised with Slovakia and Germany will promote both the scientific and the educational activity in the field of volcanology in the region and worldwide.*

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