
Title and Venue

International Workshop on *Plates vs Plumes: A Geological Controversy*

60th Anniversary Year of the Faculty of Mines
Istanbul Technical University – The Faculty of Mines
May 10, 2013 Friday, İhsan Ketin Conference Hall
Maslak-34469, Istanbul-Turkey

Rationale

An exciting and interesting debate has been going on almost last two-decades about the controversial "**Plates vs Plumes**" problems for which a listing of the best publications ever are summarized below. Although, Geochemistry needs to be de-mystified for non-geochemists, the important point to get across is that no geochemistry requires a lower-mantle source. Such a deep source is simply incorporated into geochemical interpretations by assumption. These assumptions are often related to relatively rare seismic tomography images that show continuous structures throughout the mantle, or the assumption that deep mantle plumes exist. Furthermore, seismic tomography is not yet 100 % conclusive about the deep mantle extension of plumes – and in fact, this is why we are having the whole debate. Nevertheless, there are new tomographic methods that exploit not only travel-times, but the whole seismogram; and these methods at least have the potential to shed the essential light onto deep plume structure. We can develop these comments further with seismology and general geophysics contributions.

Further Reading

1. Carminati E., Lustrino M. and Doglioni C. (2012) Geodynamic evolution of the Central and Western Mediterranean: tectonics vs. igneous petrology constraints. *Tectonophysics*, (doi 10.1016/j.tecto.2012.01.026).
2. Davies, F.G. (1999). *Dynamic Earth: Plates, Plumes and Mantle Convection*, Cambridge University Press, U.K.
3. Foulger, G.R (2010), [*Plates vs Plumes: A Geological Controversy*](#), Wiley-Blackwell, ISBN 978-1-4443-3679-5, pp xi+328.
4. Foulger, G.R. and D.M. Jurdy (2007)(Eds.), [*Plates, Plumes, and Planetary Processes*](#), Geol. Soc. Am. Special Volume 430, pp. 998+x.
5. Foulger, G.R. and J.H. Natland (2003). [*Is "hotspot" volcanism a consequence of plate tectonics?*](#), *Science*, **300**, 921-922.
6. Foulger, G.R., J.H. Natland, D.C. Presnall and D.L. Anderson (2005)(Eds.), [*Plates, Plumes, and Paradigms*](#), Geol. Soc. Am. Special Vol: 388, pp. 881+xi.