

Geologists' Association

Forthcoming talk



Whilst government restrictions are in place we are delivering a schedule of virtual, 'vLectures' instead of our usual monthly talks at Burlington House. These will be freely available to all. Join us for an interesting and informative evening.

Friday 5th February 2021

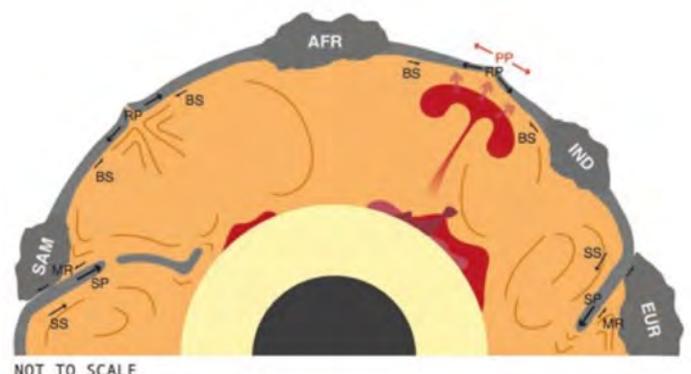
Tectonic plates, mantle plumes, and the importance of keeping good time

By Dr. Lucía Pérez-Díaz, Associate Researcher University of Oxford & Geodynamics Specialist at Neflex, Halliburton

Fifty years from the acceptance of plate tectonics, the mechanisms driving plate motion remain only partly understood. Observations of the apparent links between plate speeds and the global distribution of plate boundary types have led to the suggestion that subducting slabs may be the main engine of plate tectonics, pulling on plates as they sink into the mantle. If this were true, then plate speeds should be akin to the sinking rates of slabs. Instances of this 'speed limit' having been broken may thus hint at the existence of other driving mechanisms. The arrival and emplacement of the Réunion mantle plume in the Indian ocean in the 67-62 Ma period has been discussed in these terms. The apparent temporal and spatial coincidence of plume arrival and an abrupt acceleration of the Indian plate has led to the establishment of "plume-push" hypothesis, which has gained significant momentum in the geodynamic community over recent years.

According to this hypothesis, the forces introduced by the arrival of mantle plumes can have a substantial effect on plate motion, even leading to large-scale plate tectonic reorganisations.

In this talk I will discuss the evidence put forward in favour of if the plume-push hypothesis and revisit the Indian plate case study. Did the Indian plate really accelerate abruptly at the end of the Cretaceous, and, if so, is the Reunion plume guilty as charged?



Lecture starts at 6pm (18:00 BST)

The talk will be via Zoom. Members will receive an access code via email before the meeting. Non-members should telephone 020 7434 9298 or email the Secretary (sarah@geologistsassociation.org.uk) for details.

www.geologistsassociation.org.uk

