HARROW & HILLINGDON GEOLOGICAL SOCIETY

A Local Group of the Geologists' Association *Founded 1973*

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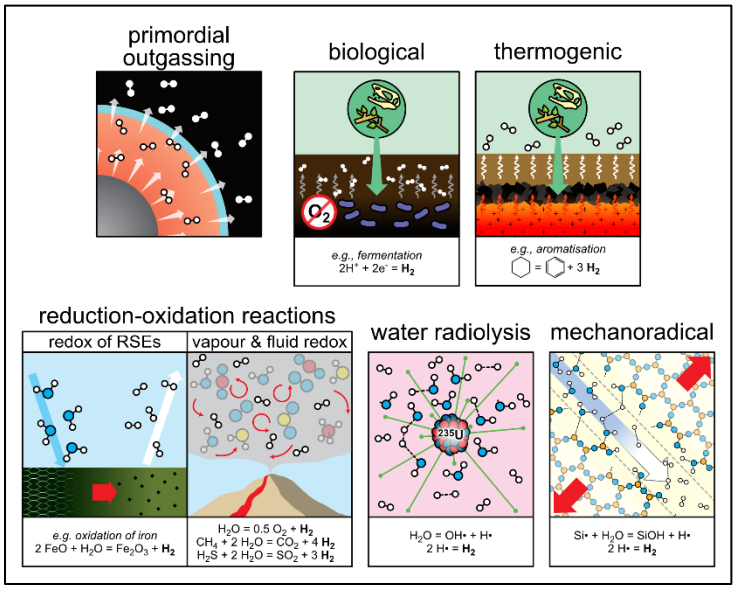
Wednesday 10th September 2025 at 8pm on Zoom

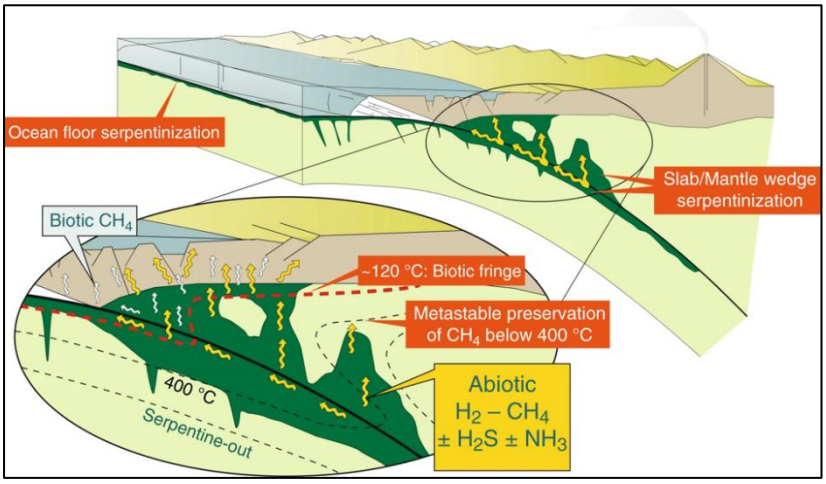
"Natural hydrogen in Earth's crust and upper mantle"

By Dr Keving Wong (University of Cambridge)

Molecular hydrogen (H2) is a fundamental component of planetary evolution, modern industry, and primitive microbial metabolisms. Once thought to be a curiosity in the natural world, it is now recognised that natural mechanisms, both geological and biological, can produce high concentrations of free H2 in natural fluids.



In this talk, I present an overview of the many ways that hydrogen can be generated in a plethora of geological environments, both biotic – i.e., involving the influence of life – and abiotic. I will also discuss natural hydrogen generation within the context of my recent research on subduction zones.



I will therefore illustrate the near-ubiquitous nature of natural hydrogen generation on/near Earth's surface and its implications, demonstrating why natural hydrogen research and exploration remains an exciting field of ongoing study.

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Dr Kevin Wong is a petrologist with broad research interests and experience in both plate reconstruction and petrological modelling. He delivered the Halstead Lecture in 2020 on the topic of deep carbon cycling.

Kevin joined us on Zoom in March 2023 when he spoke about "Volcanoes where the Earth rips apart: basaltic processes in the Ethiopian Rift "

Since then he has been at Bologna University's Deep Carbon Lab, and recently at Cambridge. He is about to join Carnegie Institution of Science as a postdoctoral research fellow.