

**'The effects of stratigraphy on the London Underground'**

**by**

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“This talk gives an overview of the way in which stratigraphy, structure and water have influenced subsurface engineering in London; in particular, the London underground. The timing of its development – and the spatial form its tunnels took – have been largely governed by the London Clay, an excellent tunnelling medium whose thickest strata extend as a narrow finger along the axis of the London basin. More minor variations are probably governed by periglacial erosion and faulting. We will explore various ‘construction calamities’ and new engineering techniques that have arisen as mitigating measures. Some unforeseen geological features have contributed to the ongoing and widely reported delays in the opening of Crossrail and the Battersea Northern Line extension, e.g. huge gravel-filled voids formerly occupied by underground spheres of ice in Devensian times (“pingos”).”