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## Brief Summary

Plate tectonics and mantle plumes are the fundamental solid-Earth processes that operated through much of the Earth's history. However, it remains largely unclear regarding how these two systems interact with each other and whether they are parts of the same geodynamic system in Earth's history. Tracking the mantle plumes record (i.e., Large Igneous Provinces, or LIPs) through the Earth's evolution will help to answer those questions and improve our understanding of the Earth's dynamic inner working. The continental LIP record is now well established, but the oceanic LIP record (O-LIP) beyond 170 Ma remains largely unknown. The purpose of my study will work toward filling the O-LIP (oceanic plume) record back to Earth's earlier history via studying late Precambrian orogens that have prima facie evidence for being either an accreted oceanic plateau or intraplate oceanic island, with a primary focus on the Neoproterozoic period as Arabian-Nubian Shield.

**Education:** MSc and BSc at Tanta University, Egypt

**Research interests:** Plate tectonics, Mantle Petrology and geochemistry, Geochronology

**Thesis title:** Neoproterozoic Oceanic Large Igneous Province (O-LIP) Record and Crustal Growth of the Arabian-Nubian Shield

**Supervisors:** Prof. Zheng-Xiang Li and Dr. Luc-Serge Doucet

**Publications:** **Hamed Gamal El Dien**; Mohamed Hamdy; Abdel Salam Abu El Ela; Tamer Abu-Alam; Adel Hassan; Yongwoo Kil, Tomoyuki Mizukami, Yusuke Soda (2016). Neoproterozoic serpentinites from the Eastern Desert of Egypt: Insights into Neoproterozoic mantle geodynamics and processes beneath the Arabian–Nubian Shield. Precambrian research 286, 213-233

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**Conferences:** Goldschmidt 2016, AGU 2014, EGU 2014, 2013