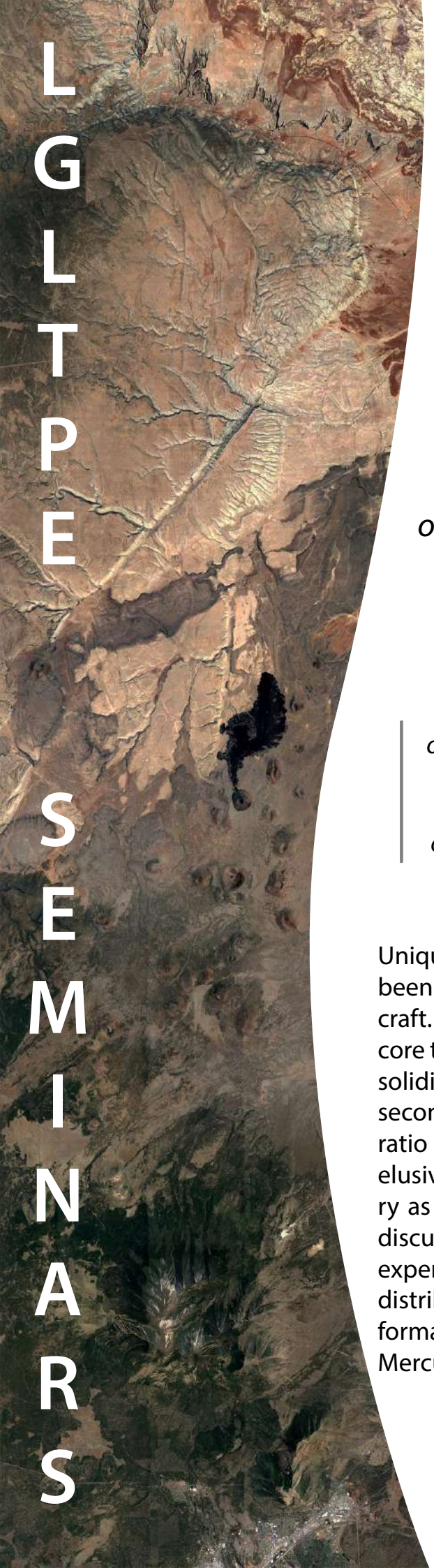

LGLTPE SEMINARS

Olivier NAMUR

PetroLab KU Leuven (Belgium)

'Primordial differentiation and evolution of planet Mercury – An experimental perspective.'

Mon, 21st Mar 2022 @ 14h

online: https://univ-lyon1.webex.com/univ-lyon1-en/j.php?MTID=mb0f2ffa9b9ef7b43a956550184299c49

on site: Salles Fontannes, Darwin building, DOUA

Unique physical and chemical characteristics of Mercury have been revealed by measurements from NASA's MESSENGER spacecraft. The closest planet to our Sun is made up of a large metallic core that is partially liquid, a thin mantle thought to be formed by solidification of a silicate magma ocean, and a relatively thick secondary crust. However, the origin of the large metal/silicate ratio of the bulk planet and the conditions of accretion remain elusive. In this seminar, the geochemical characteristics of Mercury as well as the primordial differentiation of the planet will be discussed in light of high-temperature, low- to high-pressure experiments and thermodynamic modelling. We will discuss the distribution of key elements in core and mantle as well as the formation of the secondary volcanic crust by partial melting of Mercury's mantle.

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