



Einladung

zu dem am Donnerstag, dem 28. Juni 2018, ab 14 Uhr
im Geo-Bio-Hörsaal,
Zülpicher Straße 49, 50674 Köln

stattfindenden öffentlichen

wissenschaftlichen Umhabilitationsvortrag
Institut für Geologie und Mineralogie
von

Dr. Raúl Fonseca
über das Thema

Geochemical and Petrological evidence for an “Old Moon”

Understanding the formation of the Earth is fraught with difficulties due to the fact that our planet has a rich and continuous geological history, which overprinted any primordial chemical signatures the Earth had at its formation. One possible avenue to understanding Earth's formation is to look at the Moon itself. The Moon formed as a result of a giant impact between a planetesimal and the proto-Earth shortly after the solar system formed, and likely inherited its unique chemistry from both planetary bodies. Moreover, the Moon has been geologically inactive for almost 3 billion years, and sustained a much simpler geological history when compared to the Earth, making it more likely that lunar samples are representative of the Moon's distant past. This makes the Moon an extremely useful window into Earth's earliest history, a key period of time that can give us insights on what made Earth unique in the Solar System — i.e. its ability to sustain life. However, there is still heated debate on the exact timing of the lunar forming event, as well as the proportion of the proto-Earth that the Moon inherited.

This Habilitation lecture will provide some new geochemical and petrological constraints into the timing of lunar formation and the chemical composition of the Moon. New evidence strongly suggests that the Moon mostly inherited the chemical make-up of the Earth's silicate mantle, and that it likely formed shortly after the solar system and the Earth formed, as early as 45 Myrs after solar system formation.

G. Schwarz
Dekan