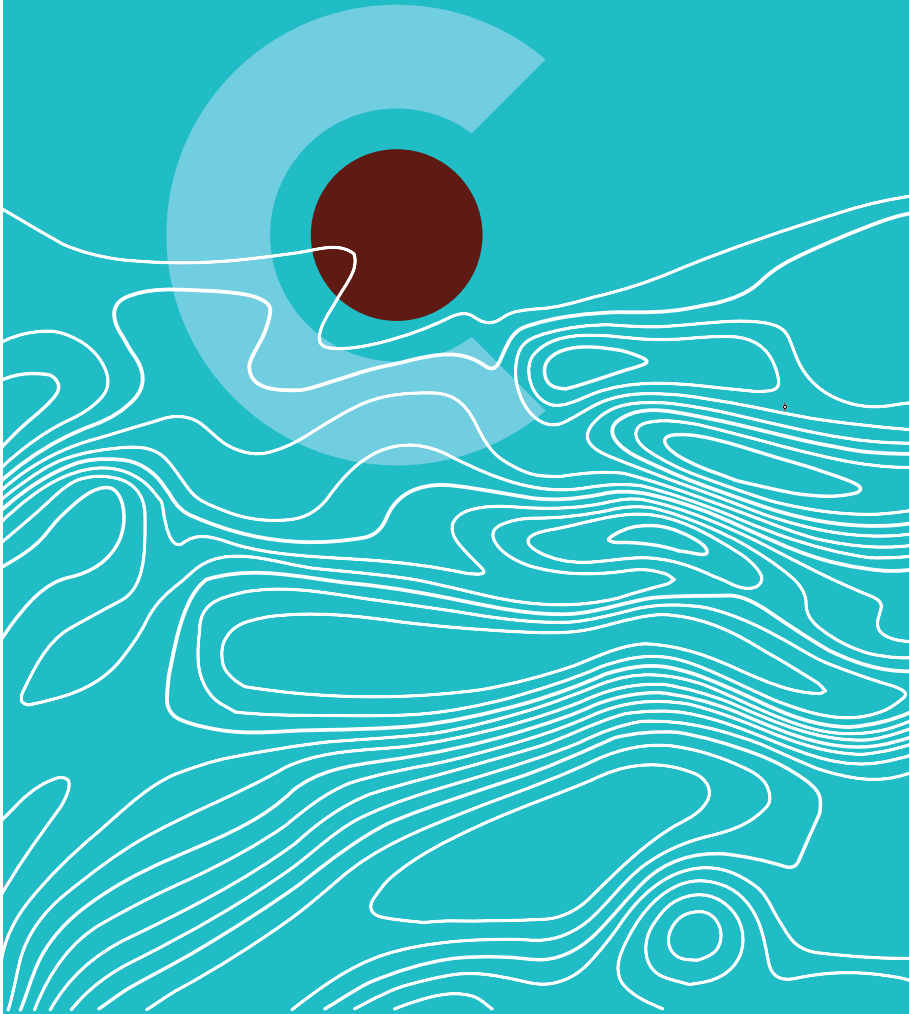




NETHERLANDS
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Abstracts



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Abstracts in chronological order

Domtoren 3

Deep-Earth Geochemistry

Day 1

13:30 – 13:45

Electron microprobe combined with spectral techniques application in geothermal exploration

Fiorenza Deon

Frank Ruitenbeeck, Caroline Lievens, Chris Hecker, Agung Harijoko, Freek van der Meer, Franziska Wilke, David Bruhn

Several field campaigns have been conducted in order to detect hydrothermal alteration in rocks outcropping in the green field (not yet explored) geothermal areas under the GEOCAP (Geothermal Capacity Building program Indonesia-the Netherlands) cooperation. The aim of this study is to establish the application of the electron microprobe (EMP) on hydrothermally altered samples and to validate the results with a spectral technique (SPECIM camera). The use of the EMP allows a quicker and more reliable detection of the clay fraction directly on the thin sections if compared to the XRD where the clay component needs to be extracted and separately measured.

The field missions have been carried out in Java trying to visit geothermal fields with a different geological background in order to collect a big variety of rock types from andesite to breccia to travertine. Very recently Dutch and Indonesian universities have visited the Bajawa field on Flores island where the same sampling strategy has been adopted. The novelty of this application is the combination of traditional destructive techniques such as XRD, the use of field-based emission devices to detect small clay fraction (EMP) validated by spectral techniques to exactly determine the clay component in geothermal systems.