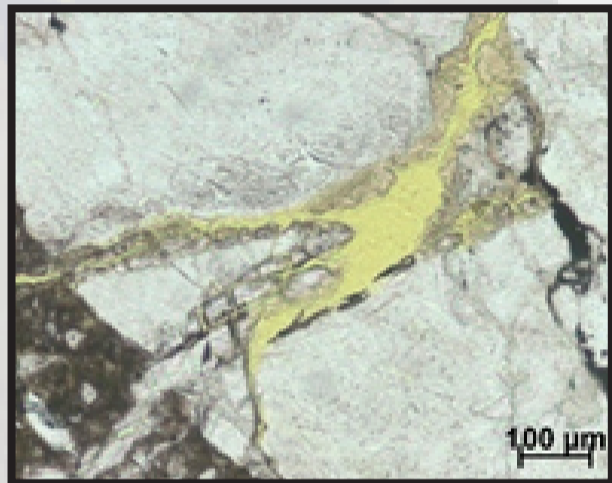


SOLID EARTH SEMINARS

Why are some minerals shortening the lifetime of large constructions?



WHAT'S THIS ABOUT?

Concrete is the most widely applied building material, with global production exceeding 9.5 billion cubic meters. The manufacture of concrete includes cement, aggregates (mainly rocks and natural sand, water and additives). From the many different damage mechanisms that can originate the deterioration of concrete, alkali-silica reaction (ASR) is the one that involves the contribution of some minerals present in the aggregate particles. The most evident manifestations of deleterious ASR in a concrete structure comprise concrete cracking, displacement of structural members, pop-outs and the presence of gel in fractures, or associated with aggregate particles within the concrete. In Portugal, some dozens of structures have been identified with ASR but just one was already demolished and replaced. In this presentation, some aspects of the ASR are going to be discussed. The occurrence of delayed ettringite formation will also be presented as it is very often associated with ASR.

**ISABEL
FERNANDES**

FCUL 6.2.46

JUNE 5

WEDNESDAY - 1H PM