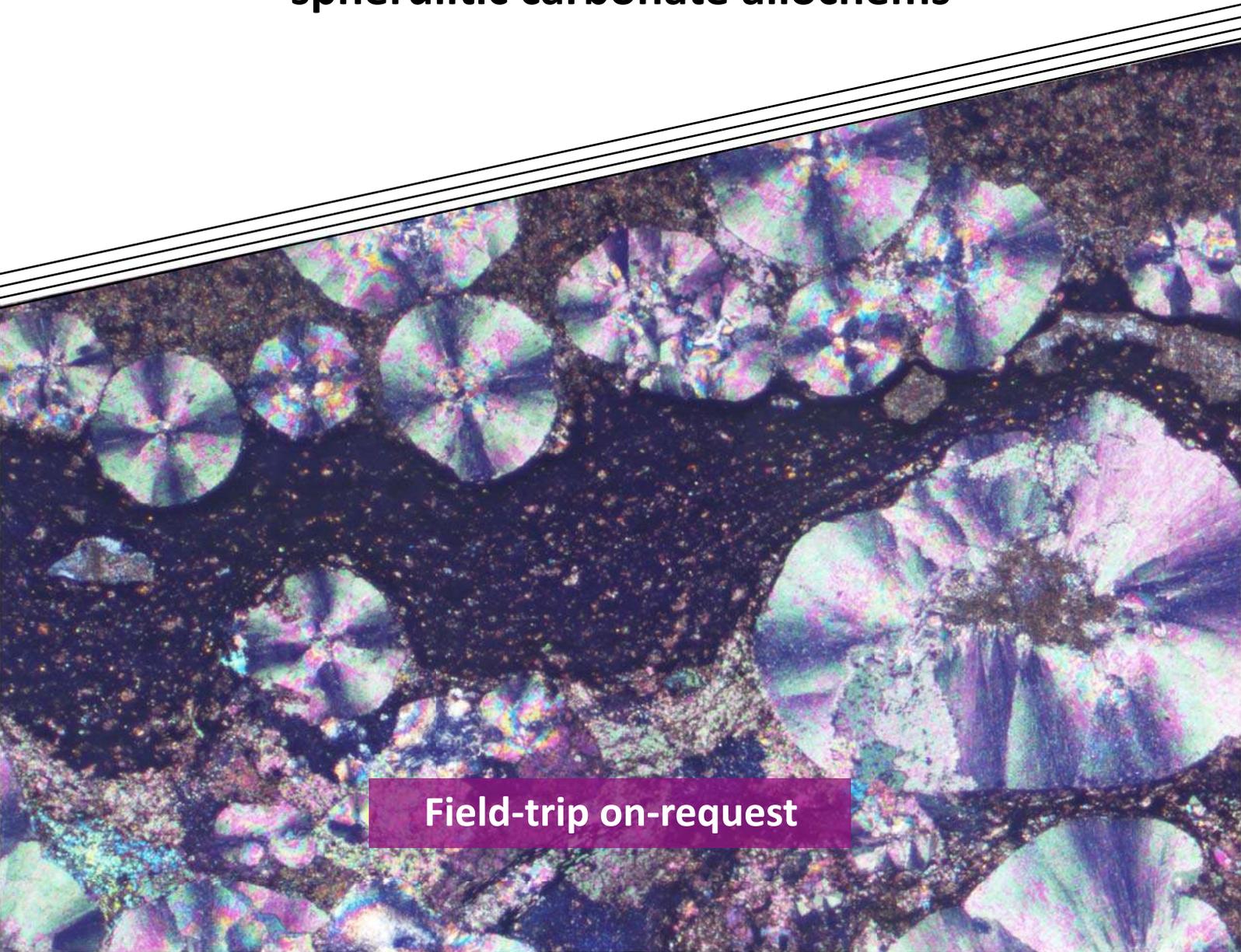


LACUSTRINE SPHERULITIC CARBONATES

**Depositional architecture and
environmental significance of
spherulitic carbonate allochems**



Field-trip on-request

Summary

The East Kirkton Limestone Quarry (Bathgate, Scotland) host a Carboniferous sedimentary succession of spherule-rich carbonate allochems formed in a volcanic, clay-free alkaline lake representing a unrivalled setting to understand the analogous South Atlantic Cretaceous 'Pre-Salt' allochems and their deposits.

This course combines outcrop analogue and classroom sessions that will provide the attendees with a comprehensive knowledge about the sedimentology and hydrogeochemistry associated with non-skeletal carbonate factories in alkaline lakes. We will also critically evaluate the current chemical models for the Presalt lakes using a process-product perspective.

Instructor: Ramon Mercedes-Martín, PhD

Location: Bathgate, the course starts and ends at Edinburgh Airport

Cost: Ask for a quote today!

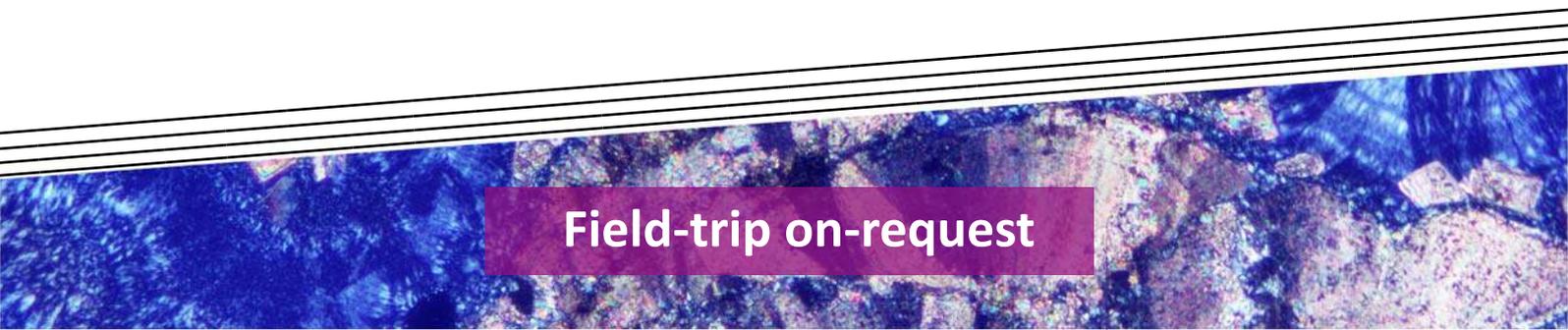
Dates: 2 full days

Attendees: maximum 5 participants

Level: Basic/ Skill

Outcomes: 2 days fieldtrip and 2h daily classroom including thin-section analysis and discussions (printed guide included)

Physical demand: easy and safe hike around an abandoned quarry



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Daily programme

The training course includes two parts, the first part dedicated to thin-section analysis of rock samples from the quarry to gain insights on the sedimentology and environmental context conveyed in the petrography of such components. A second part will consist in one-day field trip to the East Kirkton quarry to become familiar with the facies, components and sedimentary architecture of carbonate successions developed in alkaline, volcanic lakes.

Day 1

Morning: Meeting upon arrival to Edinburgh airport

Afternoon: Ice-breaker

Introduction to East Kirkton geology and thin-section analysis of East Kirkton material at the Microscope Lab: *Focusing on microfacies, allochem petrography, geochemistry, modes of growth.*

Evening: Arrival to the hotel

Day 2

Morning: Head to East Kirkton Quarry by car (east Bathgate village). *Focusing on types of facies, distribution and architecture, stacking patterns and sedimentary geometries in an alkaline, volcanic lake.*

Afternoon: Arrival to the hotel. Discussion and summary of take-away ideas.

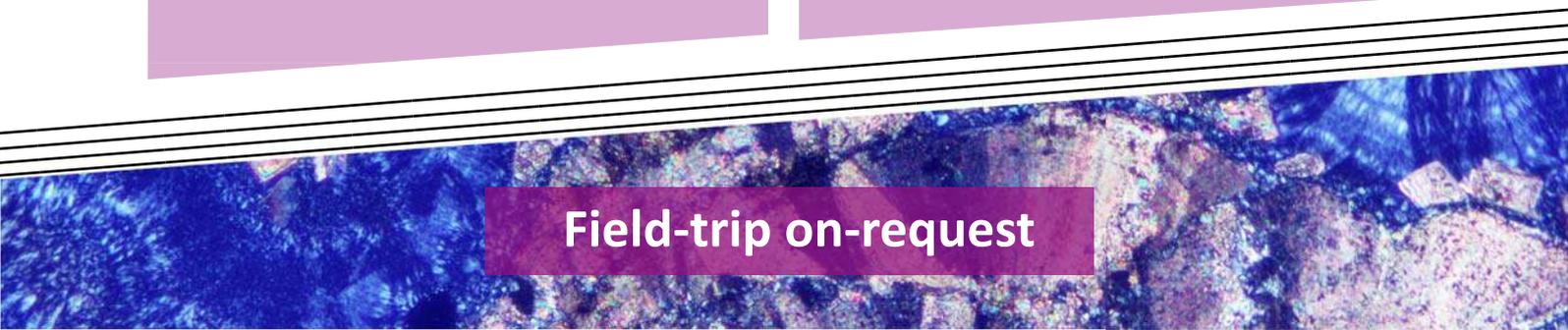
Integrating outcrop, and petrographic information to understand carbonate formation. Authochtonous vs allochtonous origins.

Review of the current chemical models for the Presalt alkaline lakes.

How can experimental petrography help to predict lake chemical conditions?

Day 3

Morning: Head to Edinburgh airport

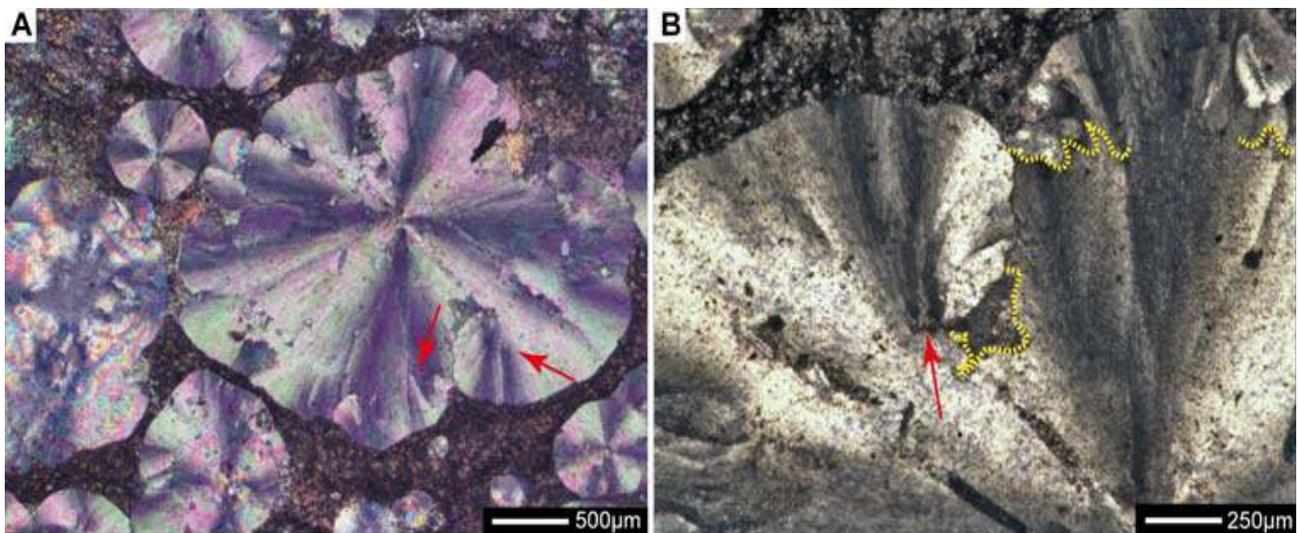


Field-trip on-request

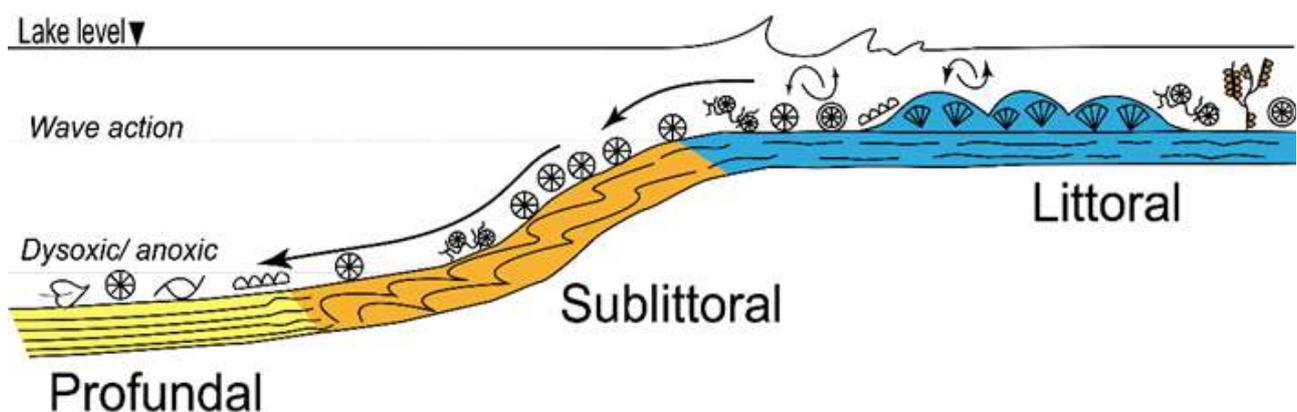
Course outline

Objectives:

- * Recognise facies and sedimentary features in alkaline, lacustrine successions developed in association to basaltic volcanism and extensional tectonics
- * Understand facies architecture in such settings by integrating outcrop and thin-section data
- * Understand the origin and predict the loci of occurrence of the analogous 'Pre-Salt' spherulitic carbonates by integrating outcrop, petrographic, geochemical and experimental data.



Carbonate allochems display well-preserved petrographic features allowing refined environmental interpretations (Carboniferous, East Kirkton Limestone Quarry, Scotland).



Depositional model for the spherulitic carbonate deposits formed in alkaline volcanic lake settings

Field-trip on-request

Book this field-trip by e-mail
Feel free to request more information (by email or phone):

Technical content and logistics:

info@ramonmercedes.com
+34-678 06 27 78



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