



Best Practice Field Course by ENRES International

Alluvial - Fluvial Reservoirs

Orbital-Forcing Stratigraphy & Modelling of Outcrop Analogues

A Field Seminar to the Tresp-Graus and Ebro Basins

South-Central Pyrenees, Spain

GENERAL INFORMATION

Important dates

Dates of field seminar: 14 – 19 September 2015

Please register BEFORE: **20 August 2015**

Payment should be received BEFORE: **1 September 2015**

Field seminar costs

The total costs are USD 3,350.00 (threethousandthreehundredfifty/00 USD) per participant.

The costs of the 5-days field course include:

- Accommodation (single rooms) and all meals, including drinks during the meals and drinks in the field. Additional drinks (e.g. special drinks ordered by participants during the meals, at the bar, etc.) are NOT included.
- Transport in the field and transport from and to Barcelona Airport
- Field manual and complimentary copy of the EAGE Course Notes – “*Climate Stratigraphy, Principles and Applications in Subsurface Correlation*” and “*Sedimentary Structures and Their Relation to Bedforms and Flow Conditions*”.

Travel information

Please book your flight to Barcelona as to arrive between **14:00 and 15:00 on Monday 14 September 2015**. We will return to Barcelona International Airport on **Saturday 19 September 2015 and approximate arrival time is between 13:00 and 14:00**.

Meeting point

Meeting point at Barcelona International Airport TERMINAL 1 – in the car rental section in front of Hertz car rental desk. There will be someone from ENRES between 14:00 and 15:00 PM.

Climate

The weather in September is pleasant with mostly clear days. Temperatures range from 20 to 27 degrees C. Thunderstorm may occur and a rainy day cannot be excluded.

Clothing and shoes

It is advisable to bring rain-protective clothing, a hat and sun cream. There will be no difficult mountain tracks, but it is necessary to bring good sturdy walking shoes.



Field equipment

Bring with you the usual geological field equipment. Please do not bring your hammer – this may cause problems at the airport security.

Landscape and infrastructure

A highly scenic mountainous landscape with elevation between 500 to 2000 meters. The lower slopes are cultivated to yield olives, almonds, cereals and local grapes. The major roads run north-south; secondary roads (mostly dirt roads) are mainly for local (rural) use.

Language

The official language is Spanish and locally Catalan. Only few of the people in the region understand English. Some of them understand French.

Gastronomy

Food is generally very good in the Pyrenees. Lamb meat, local cheese as well as the wines are famous. Special food for our Moslem friends (no pork and non-alcoholic drinks) will be served. If you need a special diet (e.g. vegetarians), please let us know on arrival.

***FOR HEALTH REASONS PLEASE AVOID DRINKING WATER
FROM THE TAP, USE ONLY BOTTLED MINERAL WATER***

Hotel information

Hotels are reasonable comfortable, but please note that you are in the countryside. Everyone will have a single room with bathroom.

HOTEL CONDEZ DE RIBAGORZA
Puente de Montaña (Prov. Huesca)
Telephone: +34 974 542 194

HOTEL EL PEIX
Serraduy (Prov. Huesca)
Telephone: +34 974 544 460

Hotel Cuatro Hermanos
Grañen (Prov. Huesca)
Telephone: +34 974 390 018

ENRES Staff

Field course leaders are Djin Nio and Hayfaa Abdul Aziz

Please contact us (training@enresinternational.com) for further questions.

In case you need any assistance at Barcelona Airport, please call mobile no.: +31 651 243246



PROGRAM

Please note that the program can be modified or changed because of weather and/or road conditions. More detailed discussions or visits to certain outcrops may also change the program.

FOR SAFETY REASONS, PLEASE FOLLOW THE DIRECTIONS OF THE COURSE LEADERS IN THE FIELD

Monday 14 September

14:00 – 15:00	Arrival and meeting point Barcelona International Airport
15:30	Departure to Puente de Montañana, Ribagorza valley
18:00	Short stop – short explanation of the structural outline of the Tremp-Graus and Ebro basins - overview of the southernmost thrust zone, boundary between the Tremp-Graus and Ebro basins
19:30	Arrival at Hostal de Ribagorza (overnight stay)
20:00	Welcome drink at the bar (with some tapas)
20:30	Dinner

Tuesday 15 September

08:00	Breakfast
09:00	Departure to STOP 1
09:30	STOP 1 – Introduction to orbital-forcing of climate change and its relation to stratigraphy and sedimentology. Explanation of the INPEFA Log Transform Road section of the Escarla System, an example of climate change of a coastal plain river system
11:30	Departure to STOP 2
11:45	STOP 2 – the Escarla-Gargalluda System, relation between INPEFA and outcrop. Definition of stratigraphic surfaces and depositional trends
12:30	Departure to STOP 3
13:00	Lunch in the field / STOP 3 – the Castissent System, an example of a trunk river system. Outcrop wall modelling and core simulation and subsurface analogue example (Statfjord Formation, Norwegian Offshore)
16:00	Departure to STOP 4
16:30	STOP 4 – Overview of the northern margin of the Tremp-Graus basin. Relation between climate change patterns and tectonics. Details of the Paleocene-Eocene Thermal Maximum (PETM)
18:00	Short visit to the village of Montañana
19:00	Return to Hostal de Ribagorza (overnight stay)
21:00	Dinner



Wednesday 16 September

08:00	Breakfast (change of hotel)
09:00 – 10:00	Departure to Cajigar, northern margin of the Tresp-Graus basin, formation of fluvial incised valleys
10:00	STOP 5 - Cajigar Plateau – Fluvial architecture and geometry of incised valley fills
11:00	STOP 6 – Base of incised valley, principle of fluvial-incised valley development and fill and its relation to climate change variations
12:00 –13:00	Departure to lunch location and field lunch
13:00	STOP 7 – Climate change patterns of the development of incised valley fills and stratigraphic fluvial architecture
14:00	Short walk to STOP 8
15:00	STOP 8 – Overview of incised valley stacking pattern and complex fill
16:30	Departure to Serraduy
17:30-19:00	Arrival at hotel El Peix (overnight stay) Depending on the time – we may visit the 11 th century cathedral at Roda de Isabena
20:00	Discussions with drinks and tapas
21:00	Dinner

Thursday 17 September

08:00	Breakfast (change of hotel)
09:00-12.00	Departure to Huesca fluvial system. Approximately one hour drive with short stop in Graus
13:00	Lunch in the field
14:00	STOP 9 – Overview of the Huesca System, a continental fluvial system
14:30	STOP 10 – Outcrop wall Piraces, climate change modelling of an alluvial fluvial system. Short walk, details of alluvial-fluvial facies development, channel geometry variations and channel sequences
18:30	Departure to Grañen, near Huesca
19:00	Arrival at Hotel Cuatro Hermanos in Grañen (overnight stay)
21:00	Dinner



Friday 18 September

08:00	Breakfast
09:00	Departure to Roman road
09:30	STOP 11 – Outcrop wall modelling and core simulation. Fluvial cycle architecture and reservoir-scale observations
13:30	Lunch in the field. Scroll bar details
14:00	Departure to Tramaced
14:30	STOP 12 – Short walk and overviews of Tramaced fluvial sub-system; fluvial architecture, fluvial cycle organisation and reservoir interconnectedness. Discussion on parameters for static modelling
18:30	Return to Grañen
19:00	Arrival hotel Cuatro Hermanos (overnight stay)
20:30	Special dinner

Saturday 19 September

08:00	Breakfast (pack luggage)
09:00	Departure to Barcelona Airport
12:30	Approximate arrival at Barcelona Airport