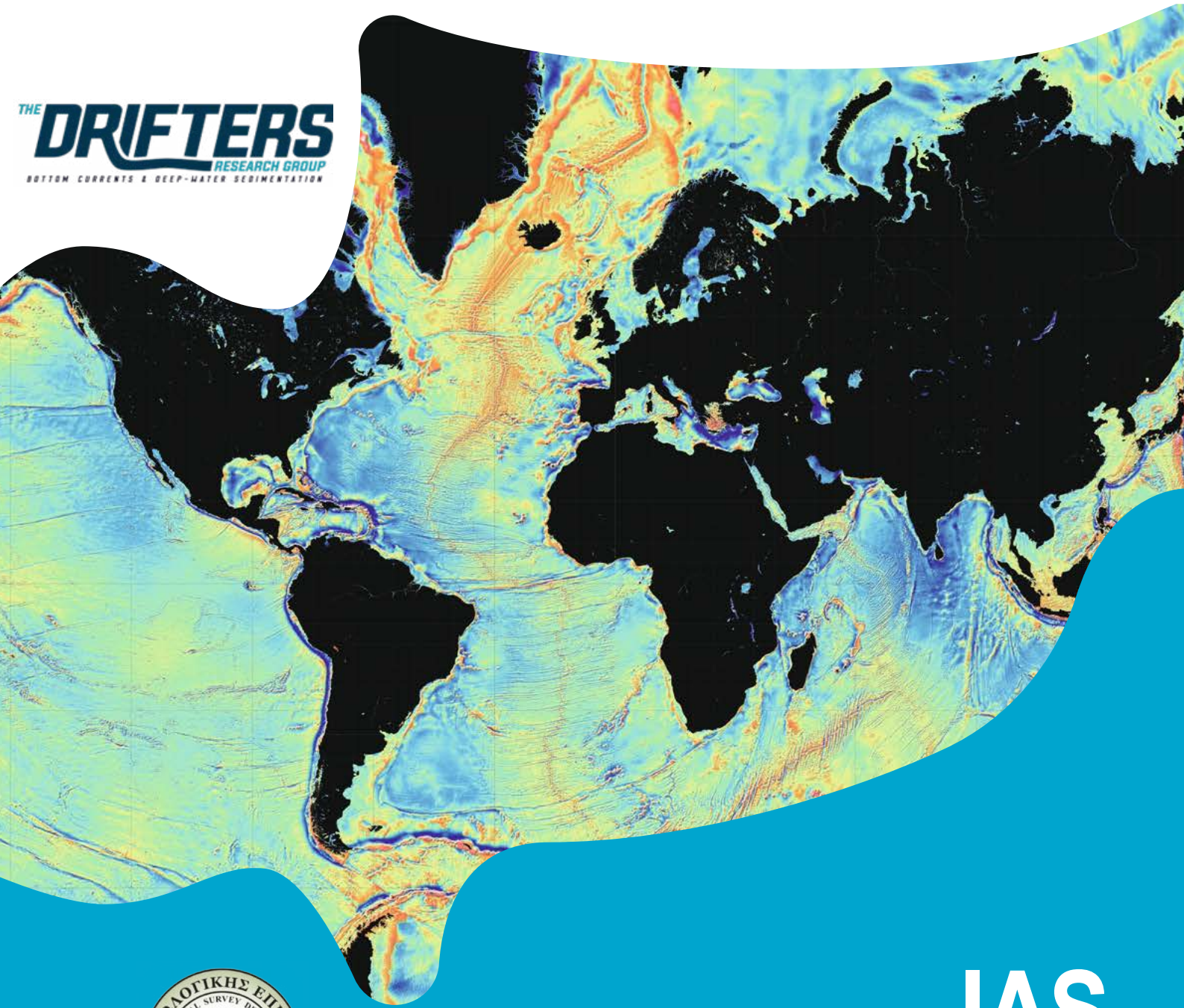
2nd Advanced Course on Deepwater Sedimentary Systems

1-7 December 2025, **Limassol (Cyprus)**

THE DRIFTERS RESEARCH GROUP
BOTTOM CURRENTS & DEEP-WATER SEDIMENTATION



ΤΜΗΜΑ ΓΕΩΛΟΓΙΚΗΣ ΕΠΙΣΚΟΠΗΣΗΣ
GEOLOGICAL SURVEY DEPARTMENT
REPUBLIC OF CYPRUS
1950

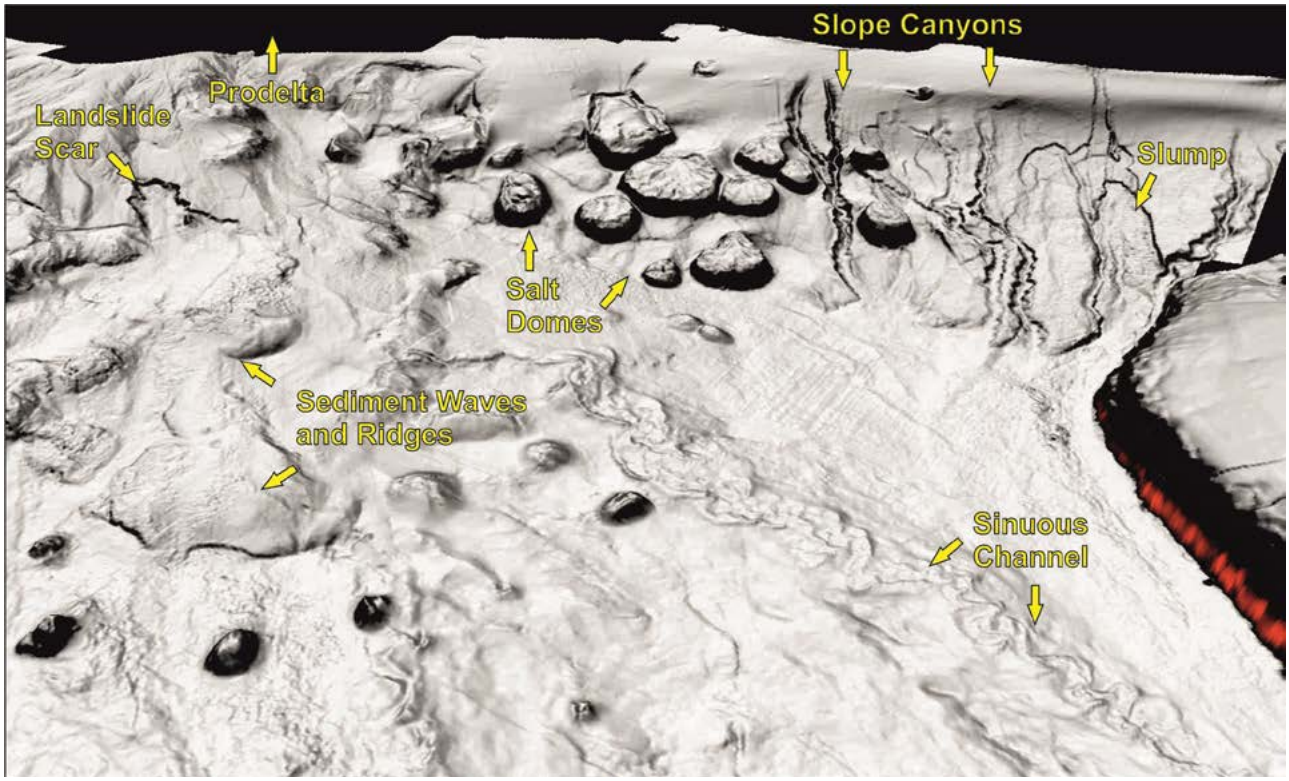
IAS

2nd Advanced Course on Deepwater Sedimentary Systems

1-7 December 2025, **Limassol (Cyprus)**

Pursuant of the considerable success of the *1st Advanced Course on Deepwater Sedimentary Systems* (September 2024) in Granada, Spain, "The Drifters" research group announces the **2nd Advanced Course on Deepwater Sedimentary Systems**, to occur December 1 – 7, in Limassol, Cyprus. The high number of applications for the first course and level of engagement from academic and industry partners justifies a new and more ambitious training programme.

Deepwater systems surround every continent. Throughout geologic history, marine conditions commonly persisted on continental land masses. Much of Earth (63%) consists of present-day deepwater settings as well as deepwater deposits that have accumulated to form the sedimentary record. Ocean basins thus produce and harbour vast resources. Offshore alternative energy sources have begun to show significant potential. These include wind, solar, tidal energy, hydrocarbons, metals, and other mineral resources. In the last decades, knowledge and understanding of deepwater sedimentary processes has advanced significantly. Scientific, environmental and commercial endeavours have sought to push exploration into the deep ocean, the last great frontier on our planet. Meanwhile, the industry, looking for new energy sources, has continued its search deeper and deeper across the continental slopes towards the abyssal domains.



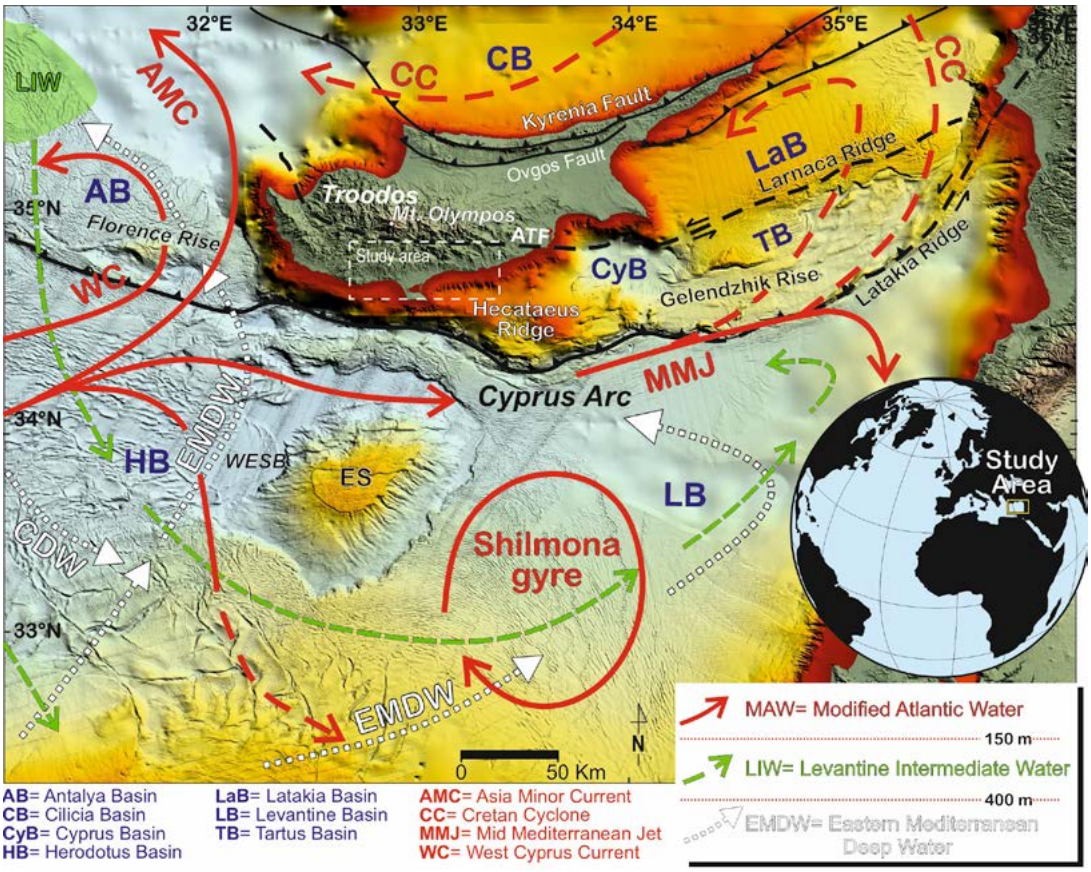
Coherency map superimposed on a 3-D perspective image of deepwater sedimentary systems variability offshore Indonesia (adapted from Saller et al., 2004)

This **2nd Advanced Course on Deepwater Sedimentary Systems** seeks to build scientific consensus on deepwater systems at various scales, from both an onshore and offshore perspectives. The course also aims communicate conceptual approaches and share state-of-the-art information on deepwater systems. This will be done through classroom lectures on theory, practical exercises, and several field trips. The course not only trains participants to discern different deepwater sedimentary systems, but also builds integrated understanding of deepwater systems in terms of their role in deep-sea ecosystems, geological hazards, environmental policy and economic development through the collaboration among academic institutions, industrial partners and government agencies.

The **2nd Advanced Course on Deepwater Sedimentary Systems** is organised by "The Drifters" research group in collaboration with the Cyprus Geological Survey and the Joint Industry Project (JIP#2) "Deepwater contourites and mixed deposits". Cyprus is offering first class outcrops for deepwater sedimentary systems over The Troodos Ophiolite Complex and would provide the opportunity for a better understanding of active continental margins.

Field trips will investigate key localities showcasing well-known deepwater deposits of the Peradedhi, Lefkara, Pakhna and Kalavasos formations. The course specifically investigates sedimentary facies, ichnofossils, microfacies, sedimentary models and the stratigraphic position of the mass transport deposits (MTDs), turbidites, contourites, reworked turbidites, pelagites/hemipelagites, deepwater evaporites and mineral deposits along with analogue deposits in modern/recent deepwater environments. These deepwater deposits developed along a slope basin located on the overriding plate of an active margin, then evolved from a wide basin formed during a period of tectonic quiescence into a series of shallowing-upward, segmented sub-basins affected by compressional stress. The long-term evolution of the deepwater deposits reflects tectonic events that enhanced subduction processes south of Cyprus as well as the exchange between the Neotethys, Indian and Atlantic oceans until the final closure of the Indian Gateway by the end of the middle Miocene, when a new circulation pattern was established with the formation of the Mediterranean Sea.

The course will benefit specialists from both academia and industry. Doctoral students, post-doctoral researchers, industry professionals, consultants, university faculty members, government agency personel and deepwater experts around the world seeking to deepen their understanding would benefit from attending. Students currently working on deepwater sedimentary systems will have the opportunity to present their work in concise format to industry partners.



Cyprus active continental margin (adapted from Hernandez-Molina et al., 2022)

Training

- Oceanographic, sedimentary and tectonic processes
- Pelagic and hemipelagic systems
- Gravitational systems
- Bottom currents (contourites) and mixed (turbidite-contourite) depositional systems
- Bedforms
- Deepwater mineralizations
- Deepwater evaporites
- Geochemistry of deepwater sediments
- Microfacies of deepwater deposits
- Ichnological analysis
- Sequence stratigraphy
- New technologies
- Active continental margins
- Implications and economic considerations

Core Workshop during the 1st Advanced Course on Deepwater Sedimentary Systems (2024) at Granada (Spain)

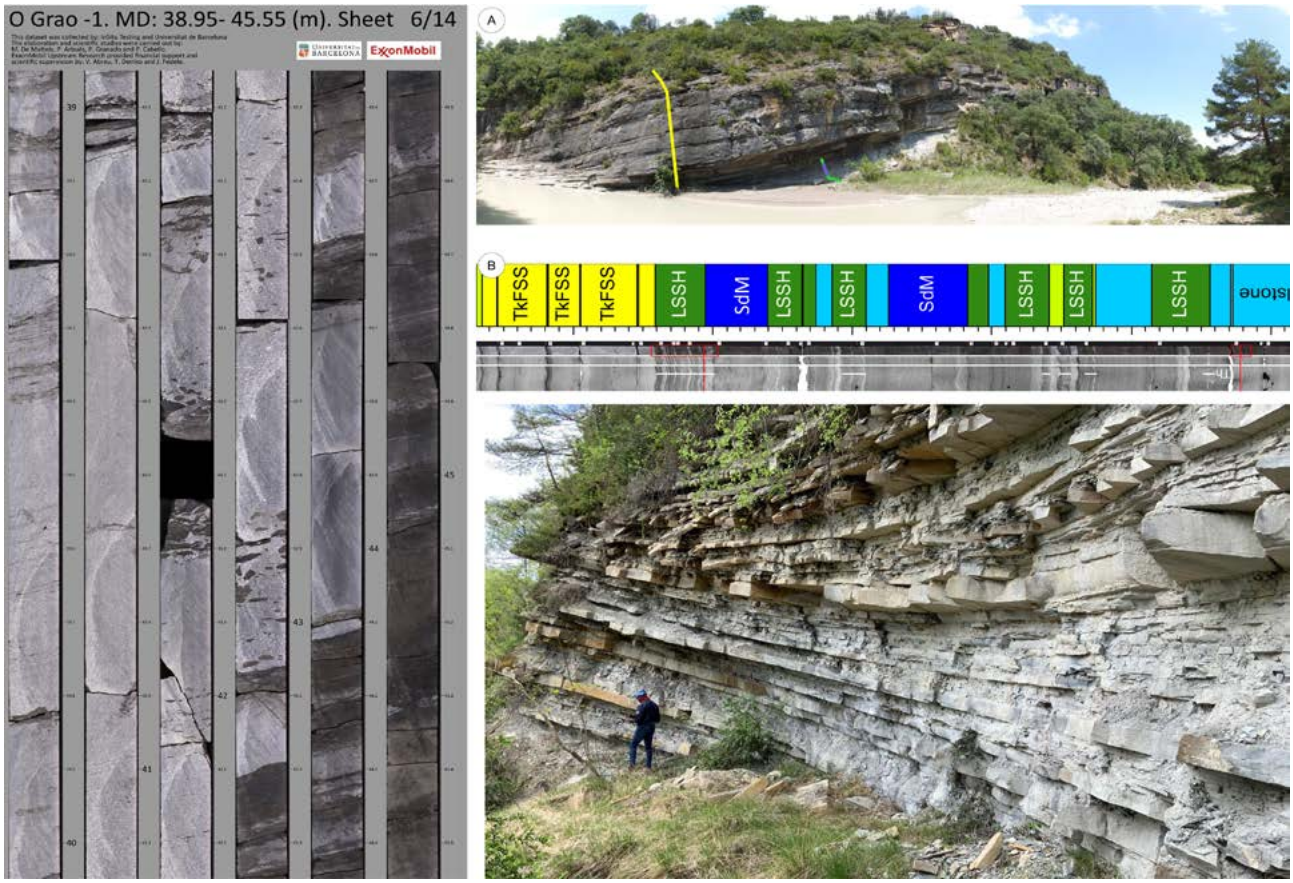
2nd Advanced Course on Deepwater Sedimentary Systems

Limassol (Cyprus), 1-7 December 2025

		1st DEC	2nd DEC	3rd DEC	4th DEC	5th DEC	6th DEC	7th DEC
8:30-9:00h		***Welcome & Introduction*** (15') *(F. Javier Hernández-Molina)*						
9:00-10:00h		**Introduction to the Geology in Cyprus** (1h) *(Vasilis Symeou)*						
10:00-11:00h		**Active continental margins** (1 h) *(Greg Moore)*	Field day ***Troodos Ophiolite*** *The Oceanic Crust & Deepwater mineralizations*	Field half day ***Agios Konstantinos*** *Gravitational and Hemipelagic systems*	**Core Workshop** *(Pau Arbués & Marco de Matteis)*	Field half day ***Petra Tou Romiou*** *Contourites, Reworked turbidites & Hemipelagites*	Field half day ***Germasogeia*** *Walking across the Slope*	Field half day ***Kalavasos*** *Deepwater / Evaporites / corals*
11:00-11:30h		***Coffee-break***						
11:30-13:00h	TRAVEL TO CYPRUS	**Oceanographic processes** (1:30 h) *(Miguel Bruno Mejías, Ricardo F. Sánchez Leal & David Roque)*						
13:00-14:00h		***Lunch***	***Lunch (Picnic bag)***		***Lunch***	***Special Greek Lunch***	***Lunch (Picnic bag)***	
14:00-15:30h		**Multi-time scale oceanographic processes to deposits formation** (1:30 h) *(Shaoru Yin & Watcharaphong Phothadee)*	*Visit at the Troodos Unesco Global Geopark Visitor Centre* *Lead by* **the Cyprus Geological Survey**		**Microfacies on deepwater deposits** (1:30 h) *(Heiko Hüneke & Arwed Gibb)*			
15:30-16:00h		***Coffee break***		***Coffee break***				
16:00-17:00h		**Gravitational systems** (2 h) (Jon, R. Rotzien)		**Contourite systems** (1 h) *(F. Javier Hernández-Molina & Wouter de Weger)*	**Pelagic & Hemipelagic Systems** (1 h) *(João P. Trabucho Alexandre)*	**Bedforms on deepwater** (1 h) *(Juan Fedele)*	**Geochemistry of sediments** (1 h) *(Francisca Martínez-Ruiz)*	**CO2 sequestration & storage / Hydrogen** (1 h) *(Beatriz Benjumea)*
17:00-18:00h				**Mixed systems** (1 h) *(Sara Rodrigues & Manuel Texeira)*	**Sequence stratigraphy of deepwater systems** (1 h) *(Octavian Catuneanu)*	**Bedload transport of mud aggregates** (1 h) *(Juergen Schieber)*	**New technologies** (1 h) *(Andreas Laake)*	**Deepwater exploration: present & future** (1 h) *(Neil Hodgson)*
18:00-19:00h	Reception	**Deepwater mineralization** (1 h) *(Thomas Kuhn)*		**Tectonics / Sedimentation** (1 h) *(Debora Duarte)*	**Ichnological analysis** (1 h) *(Francisco J. Rodríguez-Tovar)*	**Deepwater evaporites** (1 h) *(Francesco Dela Pierre)*	**Gas in deepwater sedimentary systems** (1 h) *(Alexey Portnov)*	**Students presentations** (1 h)
20:00-21:00h		***Dinner***			***Dinner***		***Group Dinner***	***Dinner***

Core Workshop

The **2nd Advanced Course on Deepwater Sedimentary Systems** is designed to integrate core, log and outcrop data for deciphering sedimentary processes and identifying sedimentary stacking patterns in deepwater sedimentary systems. The core workshop will be based on a selection of continuous core material from the O Grao turbidite System (Middle Eoceone, Ainsa Basin, South Pyrenean Foreland Basin). This will be complemented with: borehole images, wireline logs, CT scans and linescan images of the entire core. All the core material is depth matched and correlated to outcrop. Participants will produce descriptions of a selection of linescan core images and additional material, with correlations to local outcrop. The suite of data will be interpreted in terms of processes and products (diverse turbidite, mass-transport and bioturbation processes) as well as depositional setting, broader scale architecture and controls on the evolution of the system.



Core material from the O Grao turbidite System (Middle Eoceone, Ainsa Basin, South Pyrenean Foreland Basin).

Field training

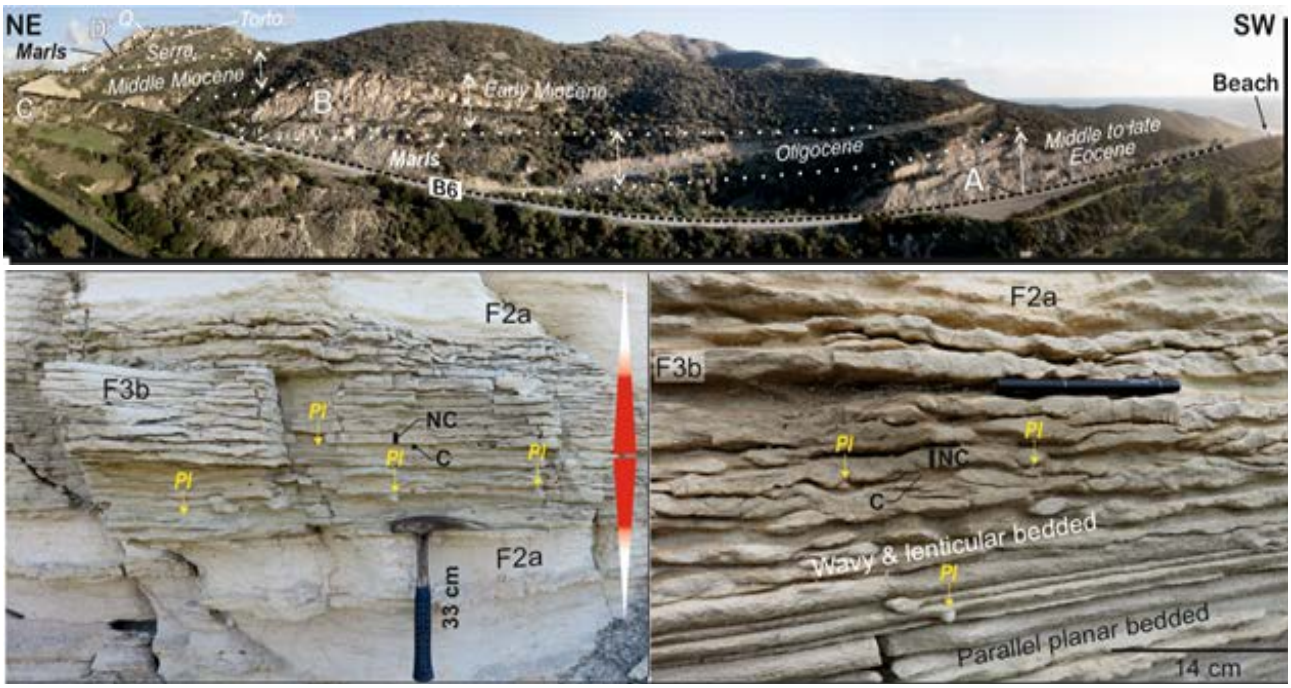
1st Field day: Full day field trip led by the Cyprus Geological Survey investigating the **Troodos Ophiolite Complex** and the **Troodos Unesco Global Geopark Visitor Centre**.

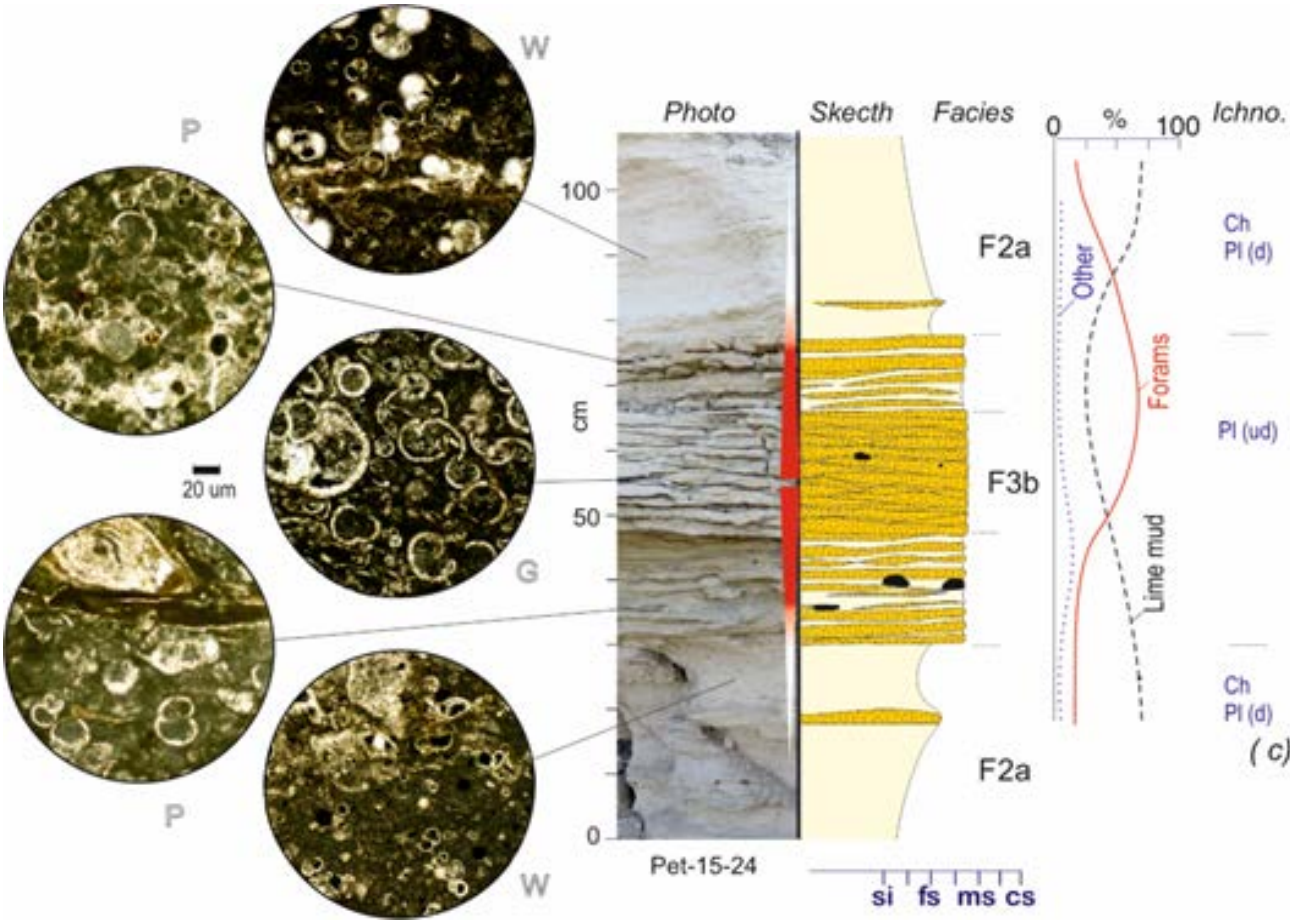
Lower Pillow Lavas, Maroulena River

Limassol, Cyprus

2nd Field day: Half-day field trip investigating gravitational and hemipelagic systems in ***Agios Konstantinos***

3rd Field day: Half-day field trip investigating contourites, turbidites, reworked turbidites and hemipelagic systems in **Petra Tou Romiou**





Contourites deposits at Petra Tou Romiou

4th Field day: Half-day field trip investigating mass transport deposit (MTD) stratigraphy including traversal of proximal to distal areas hosting turbidites, contourites, reworked turbidites and pelagic/ hemipelagic deposits in **Germasogeia**

5th Field day: Half-day field trip evaluating contourites,hemipelagic systems, corals and deepwater evaporites in **Kalavasos**

Deepwater deposits at Germasogeia

Venue _ Hotel The Royal Apollonia

Georgiou a 68 Potamos Germasog, Limassol, Cyprus

https://royalapollonialimassol.com

Social Events

- **5th Dec.** Special Greek Lunch
- **6th Dec.** Group dinner

Maximum number of participants: 50

Cost

Early registration (before 1st October 2025)	**Late registration (after 1st October 2025)**
FEES FOR:	FEES FOR:
Academic: **600 €**	Academic: **750 €**
Industry: **750 €**	Industry: **900 €**
PhD Students: **450 €**	PhD Students: **550 €**

These fees include seven (7) days of instruction with two coffee breaks and lunch each day, two social events and the field trips listed above (including transport to and from the field with box lunch). These fees do not include dinners, travel to and from Cyprus or accommodation in Limassol.

Grants

Four grants are available to cover registration fees for Ph.D. students and post-doctoral scholars. Interested applicants should submit a two-page CV and one paragraph statement describing their research topic and motivation for registering in the course.

Registrations

Pre-registration is required **before September 15th , 2025**. If admitted, applicants will receive an email with directions on how to complete the registration process.

Registration for the advanced course should be completed through the technical secretariat before **November 1st, 2025**

Technical secretariat

Starplanning

web: www.starplanning.es

Contact person: Rosa Fernández Palén

Dr. Teixeiro, 39 – Entº 7
15701 Santiago de Compostela

Tel.: +34 881 978 488 / Mobile: +34 606 599 058

E-mail: rosa@starplanning.es

starplanning
EVENTOS Y PRODUCCIONES

2nd Advanced Course on
Deepwater Sedimentary Systems
1-7 December 2025, Limassol (Cyprus)

Speakers/lecturers
(by alphabetic order)

- **Arbués, Pau** (Universitat de Barcelona and Researcher at Geomodels Research Institute, Spain).
pau.arbues@ub.edu
Core Workshop

- **Benjumea Moreno, Beatriz** (Instituto Geológico y Minero de España, Consejo Superior de Investigaciones Científicas).
b.benjumea@igme.es
CO2 sequestration & storage / Hydrogen

- **Bruno Mejías, Miguel** (Applied Physics Department, Univ. of Cadiz, Spain).
miguel.bruno@gm.uca.es
Physical Oceanography, Oceanographic processes

- Catuneanu, Octavian (Department of Earth and Atmospheric Sciences, University of Alberta, Edmonton, AB, Canada).
octavian@ualberta.ca
Sequence stratigraphy of deepwater systems

- De la Pierre, Francesco (Dipartimento di Scienze della Terra, Università di Torino, Italy).
francesco.delapierre@unito.it
Deepwater evaporites

- De Matteis, Marco (Geomodels Research Institute, Barcelona, Spain).
marcodematteis@ub.edu
Core Workshop

- De Weger, Wouter (Andalusian Earth Sciences Institute, IACT, Spanish Research Council, CSIC, Spain).
w.deweger@gmail.com
Contourites and mixed systems: sandy contourites

- Duarte, Debora (Andalusian Earth Sciences Institute, IACT, Spanish Research Council, CSIC, Spain).
debora.pascoal@csic.es
Tectonic and deepwater sedimentary systems

- Fedele, Juan (ExxonMobil Houston Campus, USA).
juan.j.fedele@exxonmobil.com
Bedforms on Deepwater

- Gibb, Arwed (Greifswald University, D-17487 Greifswald, Germany).
arwed.gibb@uni-greifswald.de
Microfacies on deepwater deposits

- Hernández-Molina, F. Javier (Andalusian Earth Sciences Institute, IACT, Spanish Research Council, CSIC, Spain).
fj.h@csic.es
Contourites and mixed systems: processes, deposits & environments

- Hodgson, Neil (Searcher, Woking, UK).
n.hodgson@searcherseismic.com
Deepwater exploration: present & future

- Hüneke, Heiko (Greifswald University, D-17487 Greifswald, Germany).
hueneke@uni-greifswald.de
Microfacies on deepwater deposits

- Kuhn, Thomas (Marine Resource Exploration, Bundesanstalt für Geowissenschaften und Rohstoffe, BGR, Hannover, Germany).
thomas.kuhn@bgr.de
Deepwater mineralization

- Laake, Andreas (slb, Germany).
laake1@slb.com
High-Resolution Seismic Attributes

- Martínez-Ruiz, Francisca (Andalusian Earth Sciences Institute, IACT, Spanish Research Council, CSIC, Spain).
f.m.ruiz@csic.es
Geochemistry of sediments

- Moore, Greg (University of Hawaii at Manoa, Hawaii, USA)
gmoore@hawaii.edu
Active continental margins)

- Phothadee, Watcharaphong (Andalusian Earth Sciences Institute, IACT, Spanish Research Council, CSIC, Spain).
w.phothadee@csic.es
Contouritic channels

- Portnov, Alexey (Andalusian Earth Sciences Institute, IACT, Spanish Research Council, CSIC, Spain).
aleksei.portnov@csic.es
Gas on deepwater deposits

- Rodrigues, Sara (Andalusian Earth Sciences Institute, IACT, Spanish Research Council, CSIC, Spain).
sara.m_rodrigues@hotmail.com
Mixed (turbiditic & contouritic) systems

- Rodríguez-Tovar, Francisco Javier
(Univ. Granada, Spain).
fjrtovar@ugr.es
Ichnological analysis of deepwater sedimentary systems

- Roque Atienza, David (King Abdullah University of Science and Technology (KAUST), Kingdom of Saudi Arabia).
david.roque@icman.csic.es
Physical Oceanography, Oceanographic processes

- Rotzien, Jonathan (Basin Dynamics, LLC/ Univ. Houston & Univ. Texas at Austin, USA).
Jon@BasinDynamics.com
Gravitational systems: processes, deposits & environments

- Sánchez Leal, Ricardo F. (Physical Oceanography Dept., Cádiz Oceanographic Center. Spanish Institute of Oceanography, IEO, Spain).
rleal@ieo.csic.es
Physical Oceanography, Oceanographic processes

- Schieber, Juergen (Department of Geological Sciences, Indiana Univ., USA).
jschiebe@indiana.edu
Accretion of muddy successions via Bedload transport of mud aggregates - Flume Studies, Processes, Bedforms and Fabrics

- Symeou, Vasilis (Cyprus Geological Survey, Nicosia, Cyprus).
vsymeou@gsd.moa.gov.cy
Geology of Cyprus

- Teixeira, Manuel (Andalusian Earth Sciences Institute, IACT, Spanish Research Council, CSIC, Spain).
m.teixeira@csic.es
Morphology, deepwater deposits and Geohazards

- Trabucho Alexandre, João P.
(Utrecht Univ., The Netherlands).
J.Trabucho@uu.nl
Pelagic & Hemipelagic systems / Mud turbidites vs mud hemipelagites

- Yin, Shaoru (Second Institute of Oceanography, Ministry of Natural Resources, Hangzhou, China).
shaoru2017@outlook.com
Multi-time scale oceanographic processes to deposits formation

Contact details

Research Professor
F. Javier Hernández Molina
The Drifters Research Group
CSIC-IACT
Avda. de Las Palmeras nº 4, 18100 Armilla, Granada, Spain.
Email: fj.h@csic.es

This international course is sponsored by,

2nd Advanced Course on Deepwater Sedimentary Systems

THE DRIFTERS RESEARCH GROUP

BOTTOM CURRENTS & DEEP-WATER SEDIMENTATION