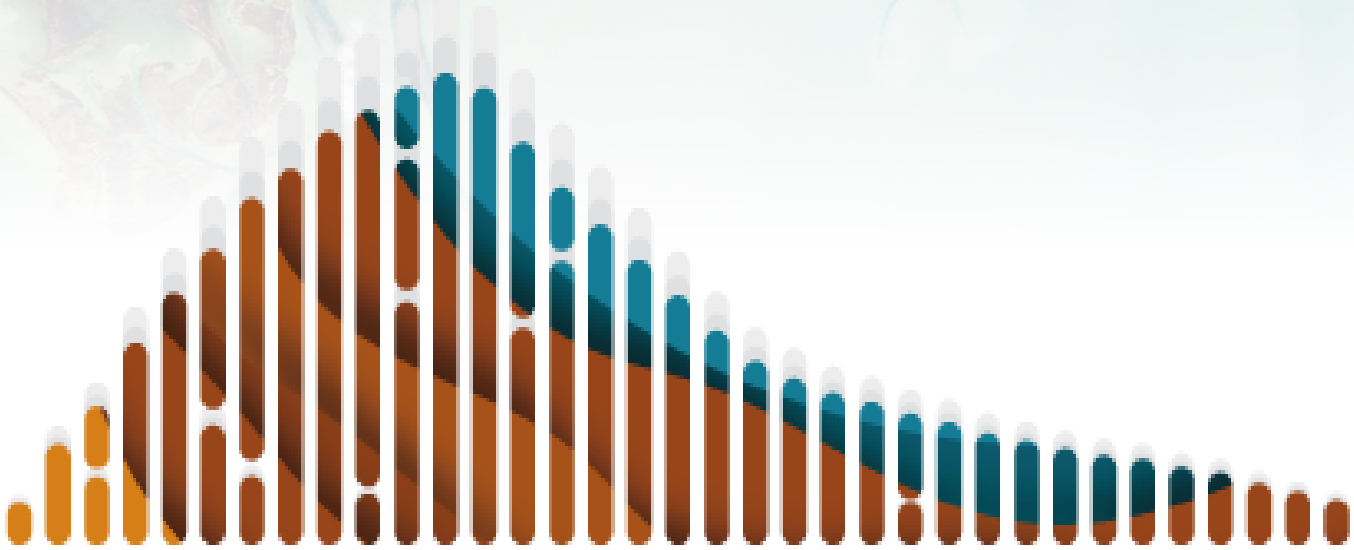
UNIVERSITY OF LIVERPOOL



TIDALITES 2025

LIVERPOOL 9-11 SEPTEMBER

11th CONGRESS OF TIDAL DYNAMICS AND SEDIMENTOLOGY

TIDALITES_2025@LIVERPOOL.AC.UK

REGISTER HERE

SEPM Society for Sedimentary Geology

IAS

REGISTRATION DEADLINE MAY 31ST , 2025

EARLY BIRDS DEADLINE MARCH 20TH , 2025

ABOUT

The 11th Congress on Tidal Dynamics and Sedimentology (TIDALITES) will be held at the University of Liverpool from September 9-11, 2025. This exciting event will bring together leading experts from a wide range of disciplines, including sedimentology, oceanography, coastal engineering, morphodynamics, and tidal energy. The congress aims to foster vibrant scientific exchange between communities that often operate independently, creating unique opportunities for collaboration and advancing our understanding of tidal systems. Join us for an inspiring gathering that promises to push the boundaries of knowledge!

Key scientific themes include:

-The deep-time tidal sedimentary record: hydrodynamics and climate change
-Coastal dynamics of tidally influenced systems
-The role of tides in shaping the future of energy production

Other areas of interest include, but are not limited to:

- Anthropogenic impact on modern tidal environments;
- Carbon Sequestration in tidal deposits;
- Carbonate and evaporitic tidal systems;
- Climate change and tidal dynamics;
- Deep-water tidal processes and products;
- Influence of sea-level changes on tidal currents;
- Influence of tidal dynamics on coastal systems;
- Modern and ancient tidal flats, estuaries, deltas and straits;
- Numerical modelling of tidal sediment dynamics;
- Paleogeographic tidal reconstructions;
- Tidal constituents, cyclicities and sediment rhythms;
- Tidal signature in the rock record;
- Tide-dominated straits and seaways in sustainable economic strategies;
- Unconventional / extreme tidal settings;
- Renewable tidal energy resources.

In addition to engaging sessions, participants will have the opportunity to join master classes and Field Trips before and after the conference.

CONTACT DETAILS: For questions or to get involved, please contact us at tidalites_2025@liverpool.ac.uk.
Join our community at https://www.tidalites.com/join/ and follow us on X @Tidalites2025 and TIDALITES 2025 | LinkedIn and on Bluesky @tidalites.bsky.social

REGISTRATION AND ABSTRACT SUBMISSION

You can register on the University of Liverpool Online Store. If you experience any issues during the registration, please contact tidalites_2025@liverpool.ac.uk.

We offer the following registration option. All options include lunch each day of the conference as well as the Gala Dinner.
Eary bird registration fee (March 20th, 2025), £450.00
Standard registration fee (May 31st, 2025) £550.00
Students early bird registration fee (March 20th, 2025), £350.00
Students registration fee, (May 31st, 2025) £450.00

When registering, please upload your abstract using this template and the following link:

Abstracts: Text must be in English and no longer than 400 words, excluding title, authors, affiliation, figure caption and references. Abstracts can include one figure (res. 400 dpi) with caption. The total length of the abstract (including the figure) should not exceed one A4 page. Please indicate the presenting author in the author list by using an asterisk (*) next to their name. When uploading the file through the link above, you will be prompted to add a name. At that stage, please enter the name of the **presenting author** who has registered for the conference. This is to facilitate the organization of the oral sessions.

SEPM and IAS student members can apply for travel funding to attend this congress through the SEPM and IAS sites. Thanks to SEPM and IAS for their sponsorship!

CONFERENCE VENUES

The conference will be host in the Central Teaching Hub (CTH), University of Liverpool, Liverpool, L69 7BX. The CTH is a fully DDA (Disability Discrimination Act) compliant building, exceeding current legislative requirements to ensure it is accessible and useable by all.

A virtual tour of the University of Liverpool campus including some venues options is available here https://www.liverpool.ac.uk/virtual-tour/

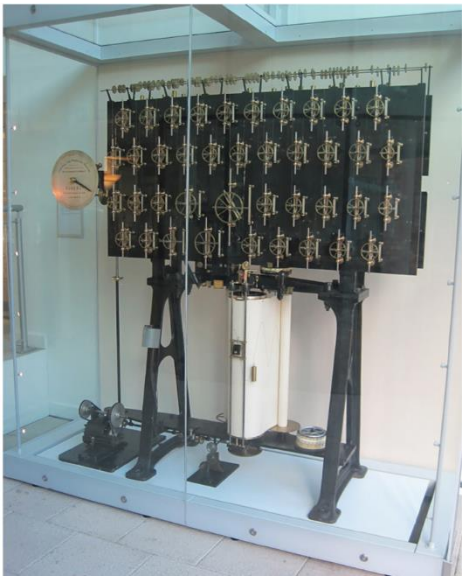
LIVERPOOL CONVENTION BUREAU

We have partnered with the Liverpool Convention Bureau to secure **competitive accommodation rates**. Please find our recommended booking options here: https://liverpoolcvbres.bzon.uk/event/tidalites/

DO YOU NEED AN INVITATION LETTER FOR YOUR VISA?

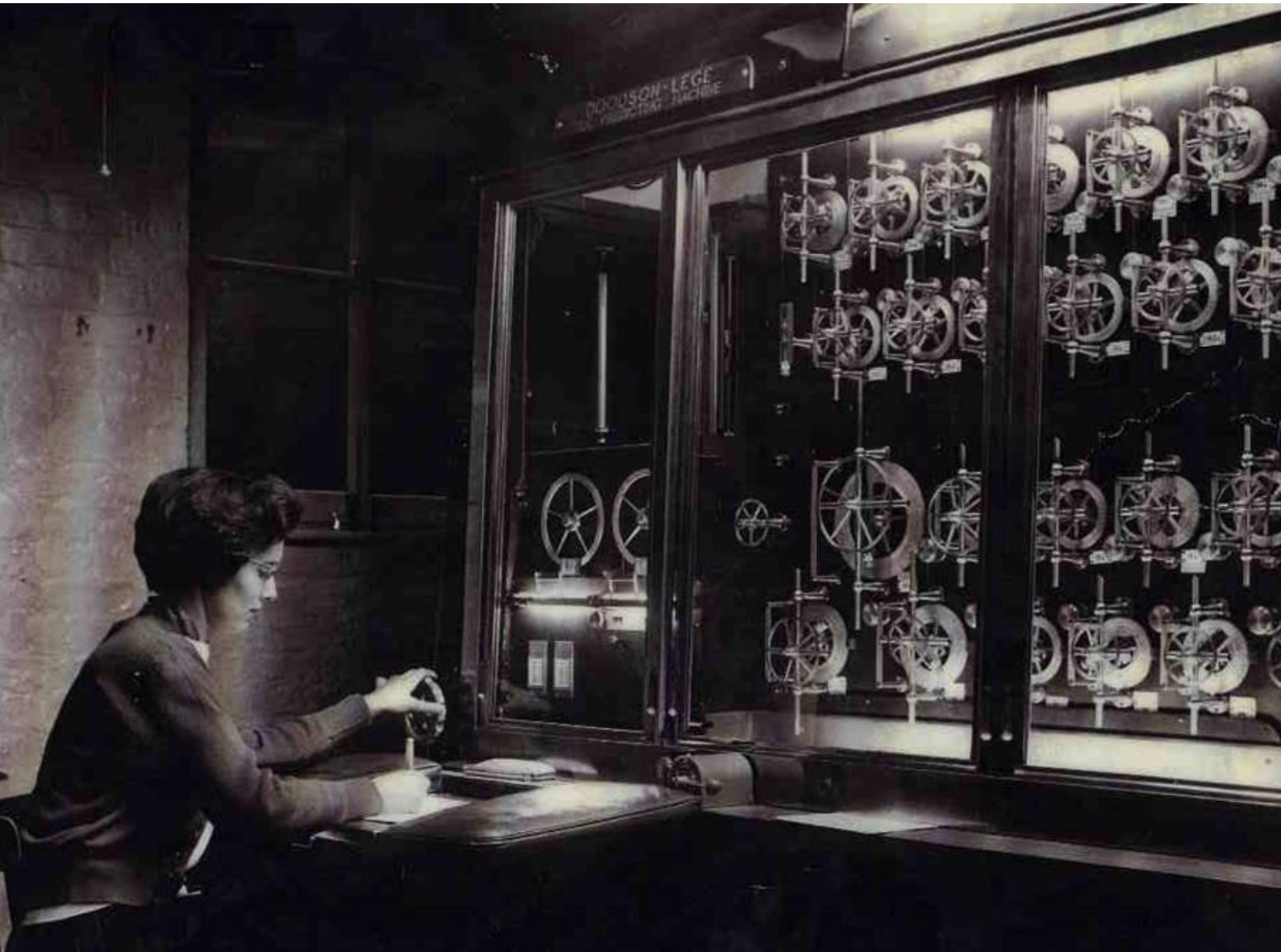
If you require an invitation letter for your visa, please contact us at tidalites_2025@liverpool.ac.uk. When reaching out, include the following details: (i)The attendee's full name; (ii) Passport number; (iii) Institution name and address, or any other information relevant to your visa letter. IMPORTANT: Invitation letters are only issued to registered participants who have completed their conference registration (including payment). This invitation letter does not imply any financial support or commitment from the organizers. The organizers cannot provide or sign EVE documents, guarantee letters, or other similar paperwork. Invitation letters are limited to details about the conference and field trips; they cannot be issued for accompanying individuals, such as family members. Please note that registration fees are non-refundable, even if your visa application is denied.

LIVERPOOL AND THE HISTORY OF TIDAL SCIENCE



Liverpool has a longstanding reputation in tidal studies and is widely regarded as the birthplace of tidal and sea-level science. Local astronomer Jeremiah Horrocks (1619–1641) documented Liverpool's tides as early as 1640, and in 1919, the Liverpool University Tidal Institute was founded under the directorship of Joseph Proudman.

Liverpool is also unique in housing two historic tidal prediction machines together: the Roberts-Légé machine, constructed between 1906 and 1908 by Légé and Co. in London, and the Doodson-Légé machine, built in 1950 by the same company. Both machines were installed at Bidston Observatory on the Wirral Peninsula, in 1929 and 1950 respectively, where they were used by the Liverpool Observatory and Tidal Institute to forecast tides at ports worldwide. Visit this website for a recent exhibition about the long history of Tidal Science in Liverpool.



CITY OF LIVERPOOL

Liverpool, the UK's fifth-largest city with a population of 1.38 million, has evolved into a world-class travel destination, especially since being named European Capital of Culture in 2008. Known for its welcoming character—it was voted the friendliest city in the UK by Condé Nast readers and ranked among the world's top three cities to visit by Rough Guide—Liverpool draws visitors from around the globe to experience its rich culture, renowned sports heritage, musical legacy, and historic waterfront.

A Walkable, Accessible City

Liverpool's compact city center is perfect for travelers. Major attractions, universities, train stations, hotels, shopping centers, cafes, bars, restaurants, and cultural sites are all within walking distance, with a stroll from one end of the city center to the other taking just about 30 minutes. The renewed waterfront and Royal Albert Dock, a city centrepiece, attracts over five million visitors annually, offering scenic views and a lively atmosphere.

Culture, Music, and Sports Excellence

Brimming with history and creativity, Liverpool is home to the UK's largest collection of national museums and galleries outside London, including the Tate Liverpool, Merseyside Maritime Museum, and The Beatles Story. As the birthplace of The Beatles, the city proudly celebrates its musical heritage, with tours and experiences highlighting iconic sites like the former homes of John Lennon and Paul McCartney. Liverpool's sporting reputation is equally impressive, as the most successful footballing city in England, hosting two Premier League teams, Liverpool FC and Everton FC.
With its vibrant arts scene, rich history, and cultural offerings, Liverpool is a premier choice for visitors seeking an unforgettable travel experience in one of the UK's most dynamic cities.

TRAVEL INFORMATION

Liverpool is conveniently served by two international airports: Liverpool John Lennon Airport, just 20 minutes from the city center, and Manchester International Airport, a 45-minute drive away. Traveling to Liverpool by train is fast and straightforward, with frequent rail services from across the UK arriving directly at Liverpool Lime Street in the city center. The journey from London takes just over two hours on Avanti West Coast's hourly direct services, while a train from Manchester to Liverpool takes just 35 minutes. Once in Liverpool, the Merseyrail network, with four stations in the city center, offers excellent connections across the entire city region. Liverpool City Region is also well-integrated with the UK motorway network. For those bringing delegates by coach, designated parking bays and pick-up/drop-off points are conveniently located throughout the city center.

FIELD TRIPS AND MASTER CLASSES

- Please note that each field trip has minimum and maximum participant limits, with spots allocated on a first-come, first-served basis. If you're unable to join a field trip because it's already full or cancelled, we'll issue a refund. If you decide to withdraw from a field trip before registration closes on May 31, 2025, we can issue a refund. However, no refunds can be processed for changes made after this date.

- For the Pembrokeshire Tidalites fieldtrip, payment details will be provided once the fieldtrip numbers are confirmed,

DEE AND MERSEY ESTUARY (MIN. 10, MAX 35 PARTICIPANTS)

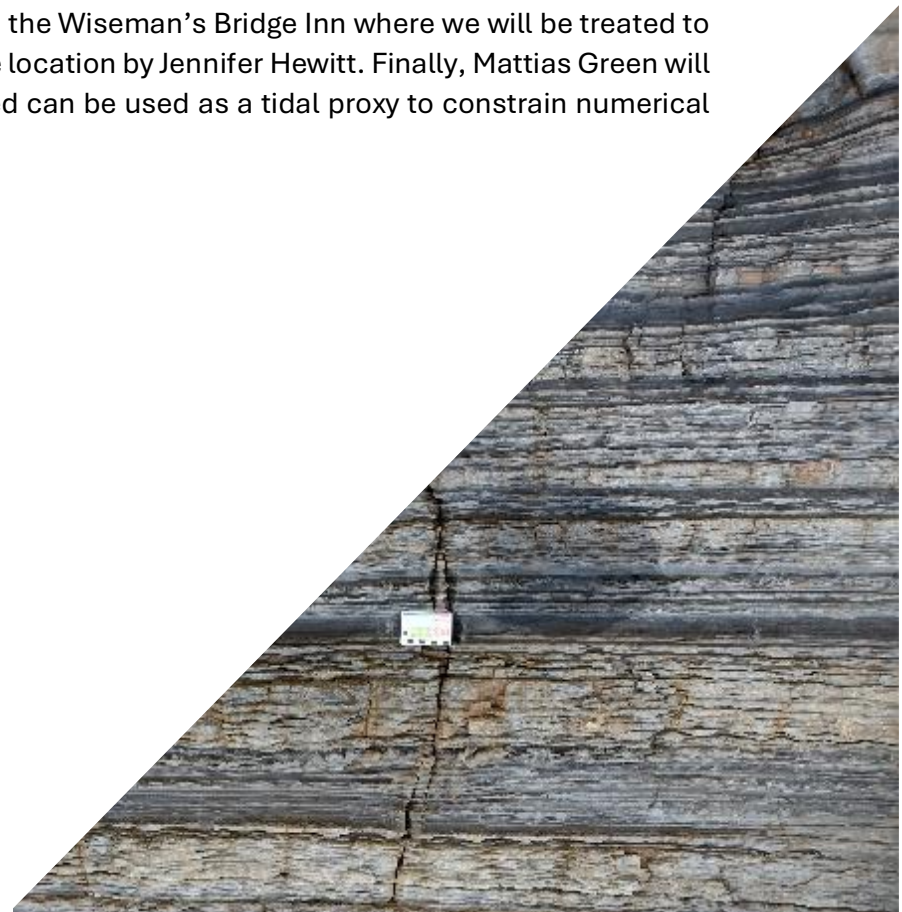
Duration: Full Day
Date: 8/09/2025
Price: £25
Expected min participants 10 - Max participants 35
Fieldtrip Lead: Prof. Andy Plater, University of Liverpool

Overview:
With a spring tidal range of up to 10 meters, what better place to explore the dynamics of tides? This field trip will cover the following topics: i) Bedforms and tidal dynamics in the nearshore and methods for monitoring them ii) Interpretation of seabed morphology iii) Tidal cyclicity and seasonality in heterolithic rhythmites preserved in saltmarsh deposits iv) Rapid tidal accretion due to human intervention – the history of tidal sedimentation in the Dee estuary, driven by navigation works to maintain access to Chester.

PEMBROKESHIRE TIDALITES (FULL DAY AND NIGHT STAY) (MIN. 10, MAX 18 PARTICIPANTS)

Duration: one and half day
Date: 11/09/2025 and 12/09/2025. Depart on the 11th after talks for hotel night, visit on the 12th.
Price: approx. £250 (payment details to be confirmed and distributed once we have participants numbers)
Expected min participants 10 - Max participants 18
Fieldtrip Lead: Prof. Mattias Green, Bangor University

Overview:
The Carboniferous Wiseman's Bridge tidalite in Pembrokeshire (South Wales) has recently been investigated in detail by a team from Bangor University. The work has led to a proposed new method of constraining modelled paleo-tidal current speeds using ripples. On this field trip, we will have an on-site introduction to the outcrop and its surrounding geology by Jaco Baas, followed by a mini-workshop in the Wiseman's Bridge Inn where we will be treated to a seminar about the work done on the location by Jennifer Hewitt. Finally, Mattias Green will discuss how the information collected can be used as a tidal proxy to constrain numerical tidal model simulations.



MERSEY DOCK AND HARBOUR VISIT (HALF A DAY) (MIN. 10, MAX 45 PARTICIPANTS)

Duration: Half Day
Date: 12/09/2025
Price: £20
Expected min participants 10 - Max participants 45
Fieldtrip Lead: Dr. Ming Li, University of Liverpool

Overview:
Visit to the Mersey Dock and Harbour Company to see the management and operation of docks of Port Liverpool since 1850s. The River Mersey has the second highest tidal range in the UK, varying from 4m at neaps to 10m at spring tides, what are the challenges of operating with such high tidal range? This field trip will discuss: i) Tide/river flow/sedimentation in the Mersey and Liverpool Bay ii) Management of the sedimentation issue during the dock operation iii) Engineering works related to the dock management iv) Long term view of the docks and sustainability in the face of climate change.

MASTERCLASS 1 ANALYSIS AND MODELLING OF TIDAL GAUGE DATA: INSIGHTS ON SEA-SURFACE VARIABILITY AND SEA-LEVEL RISE (HALF A DAY) (MIN. 10, MAX 30 PARTICIPANTS)

Duration: half a day
Date: 12/09/2025
Price: £20
Expected min participants 10 - Max participants 30
Master Class Lead: Prof. Peter Burgess, University of Liverpool

Overview:
Participants will need to bring their own laptop with MATLAB installed. Workshop participants will download, analyze, and model tidal gauge data using the PSMSL Data Explorer tool from the NOC Permanent Service for Mean Sea Level (PSMSL) pages. The modeling method employs a simple three-component numerical forward model, which calculates best-fit representations of the tidal gauge data and includes both linear trend and random-walk elements. This approach helps participants understand short- and long-term variability in tidal gauge time series. The results of the analysis and modeling provide a framework for understanding anthropogenic sea-level changes, global sea-level variability, and the potential complexity of tidal signals preserved in ancient strata.

MASTERCLASS 2 ON THE USE OF HYDRODYNAMIC AND SEDIMENT TRANSPORT COMPUTER MODELLING (HALF A DAY). (MIN. 10, MAX 30 PARTICIPANTS)

Duration: Full Day
Date: 8/09/2025
Price: £20
Expected min participants 10 - Max participants 30
Master Class Lead: Prof. Nicoletta Leonardi, University of Liverpool

Overview: Participants will need to bring their own laptop with MATLAB installed. This masterclass will introduce the fundamental tools for modeling hydrodynamics and sediment transport in coastal systems using hydromorphodynamic modeling techniques. Participants will program basic finite difference equations and run simulations to explore the results from hydromorphodynamic models. A basic understanding of programming and computer literacy is required for this course.

SEPT 2025

	HIGH WATER				LOW WATER			
Date	Time	Ht.	Time	Ht.	Time	Ht.	Time	Ht.
8	1121	9.28	2337	9.80	0549	0.77	1804	0.96
9	1158	9.55			0627	0.54	1841	0.81
10	0015	9.99	1236	9.62	0704	0.53	1918	0.87
11	0054	9.93	1316	9.47	0742	0.74	1956	1.10
12	0135	9.62	1358	9.10	0821	1.16	2037	1.50
13	0219	9.08	1444	8.56	0903	1.72	2124	2.02
14	0310	8.36	1539	7.93	0953	2.37	2223	2.57

CONGRESS PROGRAMME

All registration options include lunch each day of the conference as well as the gala dinner.

September 8
Pre-congress fieldtrips and master classes

September 9
9 am -12.30 pm presentations and posters
12.30 – 1.30 pm lunch break
1.30 pm -17.00 pm presentations and posters

September 10
9 am -12.30 pm presentations and posters
12.30 – 1.30 pm lunch break
1.30 pm -17.00 pm presentations and posters
18.00 pm 23.00 pm Gala Dinner

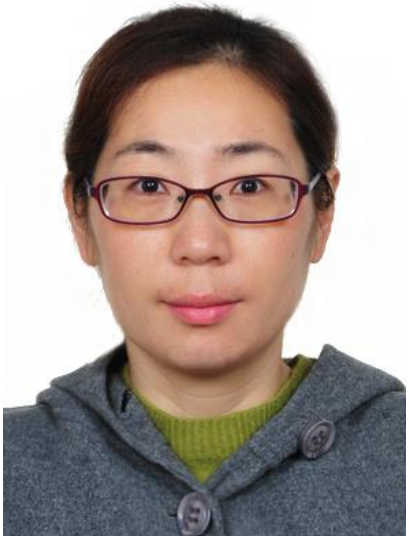
September 11
9 am -12.30 pm presentations and posters
12.30 – 1.30 pm lunch break
1.30 pm -17.00 pm presentations and posters

September 12
Post-Congress Fieldtrips
And master classes

KEYNOTE SPEAKERS

PROF. KATRIEN VAN LANDEGHEM

Bangor University
Prifysgol Bangor



PROF. XUEFEI MEI

State Key Laboratory of Estuarine and Coastal Research, East China Normal University
河口海岸学国家重点实验室

PROF. JEAN-YVES REYNAUD

University of Lille
Université de Lille

CONTACT: For questions or to get involved, please contact tidalites_2025@liverpool.ac.uk

LOCAL ORGANIZING COMMITTEE

- Nicoletta Leonardi (Chair), University of Liverpool
- Peter Burgess, University of Liverpool
- Rob Duller, University of Liverpool
- Constantinos Matsoukis, National Oceanography Centre
- Charlotte Lyddon, University of Liverpool
- Ming Li, University of Liverpool
- Andy Plater, University of Liverpool
- Iacopo Carnacina, Liverpool John Moore University

SCIENTIFIC COMMITTEE

- Sergio Longhitano – University of Basilicata, Italy
- Domenico Chiarella - Royal Holloway University, UK
- Daidu Fan - School of Ocean and Earth Science, China
- Anna van Yperen - University of Oslo, Norway
- Piret Plink-Bjorklund - Colorado School of Mines, USA
- José I. Cuitiño, University of Buenos Aires; Argentina
- Bernadette Tessier - CNRS, University of Caen, France
- Si Chen - China University of Geosciences, Wuhan, China
- Jean-Yves Reynaud, University of Lille, France
- Harshinie Karunarathna - Swansea University, UK
- Sergio Fagherazzi, Boston University, USA
- Alvise Finotello, University of Padua, Italy
- Andrea D'Alpaos, University of Padua, Italy
- Zhijun Dai, SKLEC, East China Normal University, China
- Xuefei Mei, SKLEC, East China Normal University, China
- Cornel Olariu, Jackson School of Geosciences, Texas University at Austin, USA
- Mattias Green Bangor University, UK
- Michela De Dominicis, National Oceanography Centre, UK
- Theo Gerkema, Royal Netherlands Institute for Sea Research, Netherlands

Image credits:

- https://visibleearth.nasa.gov/images/48159/tidal-flats-and-channels-long-island-bahamas/48160l
- Tidalites in Pembrokeshire. Images by Mattias Green
- Doodson-Légé machine https://tide-and-time.uk/exhibition
- The Roberts-Légé tide prediction machine. Image from: Pinardi, N., Cavaleri, L., Coppini, G., De Mey, P., Fratianni, C., Huthnance, J., Lermusiaux, P.F., Navarra, A., Preller, R. and Tibaldi, S., 2017. From weather to ocean predictions: an historical viewpoint.
- Liverpool waterfront https://pixabay.com/photos/the-3-graces-liverpool-pierhead-4590468/
- pixabay.com/photos/water-watercraft-travel-river-ship-2805114/
- https://pixabay.com/photos/docks-sand-liverpool-merseyside-4783185/
- pixabay.com/photos/beatles-statue-liverpool-music-5364076/
- Another Place, last page https://www.biennial.com/venue/crosby-beach-another
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Another Place, Crosby beach