The background image shows an aerial view of the Liverpool waterfront and the Mersey estuary. In the distance, the city of Liverpool is visible across the water. A large industrial ship is seen on the water, leaving a white wake. To the right, a small island with a lighthouse is visible. The water is a deep blue, and the sky is clear.

PECS 2008: Physics of Estuaries and Coastal Seas

25–29th August

LIVERPOOL
European Capital of Culture 2008

Process studies in the
pre-operational era

Program and Abstracts

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PECS 2008 is grateful for the support of



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Program and Abstracts

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Welcome to the PECS 2008 Conference

Welcome to the 14th biennial international PECS Conference and to the City of Liverpool. PECS promotes cooperation between coastal engineers and coastal oceanographers, to exchange information on recent developments in the physics of estuaries and coastal seas. Young scientists and engineers are encouraged to present and test their ideas. This International Conference is a biennial event organized by the PECS advisory board and the local committee.

The PECS 2008 Conference is hosted by the Proudman Oceanographic Laboratory and takes place in the Foresight Centre at the University of Liverpool. The topic for PECS 2008, ‘Process studies in the pre-operational era’, serves as a guide for presentations and discussions. This conference series emphasizes informal exchanges in a collegial environment.

The idea behind PECS

PECS (Physics of Estuaries and Coastal Seas) is an independent organization whose sole purpose is to organize the PECS biennial conferences. The objectives of these conferences are:

- to promote exchange of information on recent developments in physics of estuaries and coastal seas;
- to stimulate cooperation between coastal engineers and coastal oceanographers, and
- to provide a forum for junior scientists and engineers where they feel comfortable presenting and testing their ideas.

Emphasis is on the results of field and laboratory measurements, and theoretical and numerical analysis, with the aim of better understanding the underlying physical processes.

The history of PECS

by Prof J. van de Kreeke

During the 1950s and '60s, coastal engineers and coastal oceanographers focused on different problems with regard to estuaries. Coastal engineering problems related mostly to stability of tidal inlets, land reclamation and the closure of estuaries and bays for storm surge protection. Solving these problems required knowledge of tides and tidal currents. In contrast, coastal oceanographers tended to concentrate on tidal mean properties including salinity, stratification, and gravitational circulation. While coastal engineers derived their tools from hydraulics, coastal oceanographers relied on geophysical fluid dynamics.

In the seventies the coastal engineers started to face different types of problems relating mostly to water quality. Because water quality is largely determined by tidal mean motions, the coastal engineers began to seek help from coastal oceanographers. As a result of this the coastal oceanographers detected an interest in their work that had been absent in the community of blue water oceanographers.

The logical place for the two disciplines to meet and exchange ideas seemed to be the biennial International Conference on Coastal Engineering (ICCE). Unfortunately, the forum of the ICCE became increasingly focused on the nearshore, relegating estuarine problems to the status of stepchild. It was at the ICCE of 1976 that a small group of coastal engineers and coastal oceanographers realized that their interests would be better served by a specialty conference focusing on the physics of estuaries. The idea was to have this conference at the same venue and either directly preceding or following the ICCE. This idea ultimately was abandoned because it was difficult to find host institutions in some of the places where the ICCE was held.

With the intent of focusing on estuaries, the first conference was organized in September 1978 in Hamburg. The second conference did not take place until 1984 in Miami. Since 1984 conferences have been held every two years. With the inclusion of physics of coastal seas in 1990, the conference series became known as PECS.

PECS has an advisory board consisting of the chairpersons of the previous meetings. The board ensures that future conferences adhere to the above mentioned objectives. The board also selects the venue of future conferences. Organizing a conference and publishing conference papers is the sole responsibility of the local organizing committee.

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foresight centre

The University of Liverpool
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Tel: 0151 794 8060
www.foresightcentre.co.uk

How to find us



By Rail, nearest station is Lime Street

Situated just west of the centre, it is approximately 10 minutes walk, alternatively taxis are available from outside of the station.



By Coach

National Express coach station is 5 minutes walk from the centre.

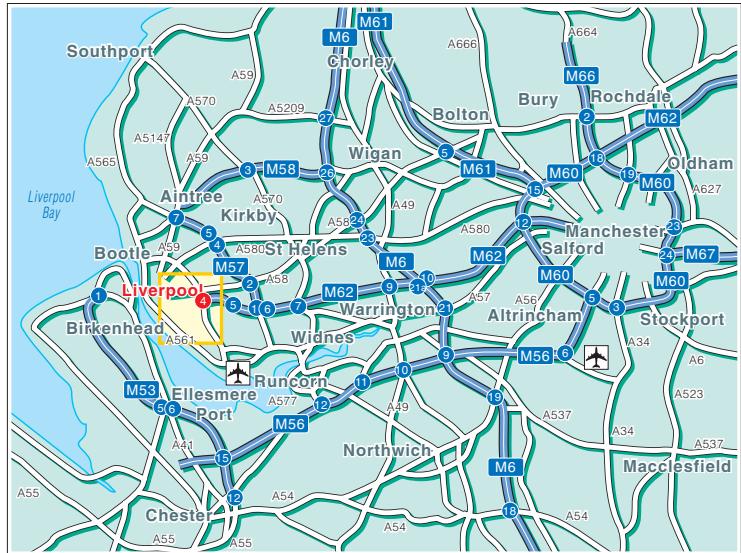


By Air, Liverpool John Lennon Airport
Follow signs onto the A561 at Speke. Travel north on A561 this will take you onto the A5053 past the docks. From here follow detailed map below.



Satellite Navigation Users

Use L3 5QA postcode and follow directions to Brownlow Street as yellow box detail.



SECTION DETAIL

Please note: Red arrows on roads and signs indicate recommended routes to follow.

SECTION DETAIL

This detailed map shows the central area of Liverpool, focusing on the Foresight Centre location. It includes:

- Highways:** A59, A565, A5038, A5053, A561, A5047, A5049, A5048, A5049, A5047, A5047, A5047, A5047.
- Rail Stations:** Lime St Station, Central Station, Kirkdale Everton B5188, James St Station, Moorfields Station.
- Bus Stop:** national express.
- Hospitals:** Royal Liverpool University Hospital, Alder Hey Children's Hospital.
- Landmarks:** Metropolitan Cathedral, Albert Dock, Central Tourist Attractions.
- Local Streets:** Old Hall St, Pall Mall, Tithebarn St, Dale St, A5, Water St, Chapel St, Victoria St, Strand St, Han St, Renshaw St, Mount Pleasant, Hope St, Hardman St, Myrtle St, Crown St, Grove St, Paddington, Irvine St, Low Hill, Brunswick Rd, Moss St, Prescot St, Stannet St, Hunter St, Vaux St, A5036, A565 JCT 1 (VIA WALLASEY TUNNEL), M53 JCT 1 (VIA WALLASEY TUNNEL).
- Signage:** Various directional signs for Manchester, St Helens, Birkenhead, Wallasey, Widnes, Liverpool Airport, and Albert Dock.

foresight centre

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Mapping sourced from Ordnance Survey

UNIVERSITY OF LIVERPOOL

1978 Hamburg, Germany
1984 Miami FL, USA
1986 Qingdao, China
1988 Monterey CA, USA
1990 Gregynog, Wales, UK
1992 Margaret River, Western Australia
1994 Woods Hole MA, USA
1996 The Hague, Netherlands
1998 Matsuyama, Japan
2000 Norfolk VA, USA
2002 Hamburg, Germany
2004 Merida, Yucatan, Mexico
2006 Astoria OR, USA
2008 Liverpool, England, UK



Photographs

Front: Liverpool and River Mersey from above Crosby Channel by Guy Woodland
Back: 'Mersey Lass' at the North Hoyle wind farm by Andy Lane