**Dynamics, rate and nature of retreat of the British Irish Ice-Sheet offshore of NW Ireland following LGM.**

* Glacial related landforms on the continental shelf offshore of Brittan and Ireland indicate that extend of the British Irish Ice-Sheet (BIIS) reached the continental margins during LGM. The exposed location of the North-Western sector of the BIIS adjacent to the North Atlantic makes this area ideal for the study of ice sheet dynamics, rate and nature of retreat following the LGM.
* High resolution swath bathymetry and sub-bottom profiler data along with sedimentological, micropalaeontological and geochronological investigations of sediment cores, collected across the NW Irish shelf, have been used to establish the extent, timing and nature of retreat of this sector of the BIIS.
* A series of arcuate recessional moraines stretching from the shelf edge to the mouth of Donegal Bay, record progressive still stands and minor re-advances of a lobate ice margin during its retreat. This is an indication of a highly sensitive ice lobe that during retreat got grounded, possible as a result of fluctuating sea level and continued activity of the ice stream, delivering sediments to the shelf deposited as arcuate moraines.
* Radiocarbon dates from marine shells imbedded in till at the shelf edge, and from foraminifera on the mid shelf, show that maximum glacial extend happened sometime after 26,2 cal ka BP with a rapid retreat from the shelf edge, reaching the mid shelf by 24,8 cal ka BP. By 17.8 cal ka BP Donegal Bay Moraine, a prominent moraine at the mouth of the bay, had been formed, and retreat had reach east of this point.
* Palaeoenvironmental analysis of glacimarine facies in sedimentcores from across the shelf, show the dominance of two key cold water/glacimarine indicator species *Elphidium excavatum f. clavata* and *Cassidulina reniforme*. This show that retreat happened in a glacimarine environment. Timing indicate that retreat was initiated at a period with falling global sea level. Results from previous studies from the south coast of Donegal Bay show that the area was subject to glacioisostatic depression between 140 and 210 m. Retreat was therefore a result of glacioisostatic depression, or as a result of a short lived RSL rise associated with the H2 event.