Turbidites and slope deposits of the Clare Basin, western Ireland

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The Atlantic coastline and outer Shannon estuary of south County Clare, western Ireland are renown for their exposures of Carboniferous deep water, slope and delta deposits. The high sea cliffs provide large ‘reservoir-scale' slices that illustrate how sedimentary rocks are arranged at 100's m to km length scales, and accessible foreshore exposures allow details of the bed architecture and lithology to be examined ‘up-close’. In addition, the area includes spectacular examples of slope-driven soft-sediment deformation across a range of scales. In recent years this area of Co. Clare has also become a test bed for sequence stratigraphic concepts.

This one day ‘highlights’ field trip will focus on key exposures of the Ross Sandstone Formation basin-floor turbidites on the Loop Peninsula, and parts of the overlying Gull Island slope system using a combination of cliff and foreshore exposures. The turbidites are part of a sand-rich fan system composed of sheet and subordinate channel elements, as well as muddy condensed sections recording repeated periods of fan shutdown and chaotic deposits reflecting gravity remobilisation. The character of the main depositional elements and their distribution through the succession will be examined in a traverse from the mid-fan through into the base-of slope. The emphasis will be on the controls on sandstone texture and quality, the geometries and connectivity between beds and elements, and comparisons with subsurface examples.

You are advised to wear suitable boots, extra layers, and a rainproof/windproof jacket- the outcrop is on the edge of the Atlantic and the weather is rarely predictable!