## Recent Research Results: Jer-Ming Chiu

**(5) Vp and Vs profile for the sedimentary basin in the upper Mississippi embayment from converted waves and seismic lines** – (two papers in preparation)

**Summary:** Temporary broadband seismic stations were deployed and short seismic reflection/refraction lines were conducted along two east-west lines and one along embayment axial line in the upper Mississippi embayment to study converted waves and to explore Vp and Vs information of the sediments. Results of thickness of the sediments and Vp and Vs information are compared with those independently determined from nearby well logs. Lateral and vertical Vp and Vs variations along this profile are then explored.

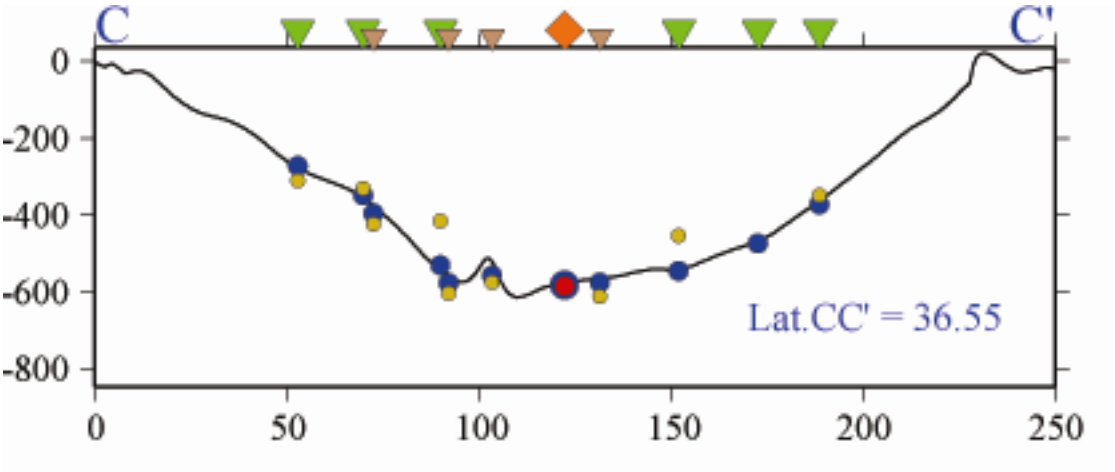


Figure. A cross-section view of sedimentary basin at latitude 36.55° N in the upper Mississippi Embayment showing station location (green inverted triangles), UK's deep well site (orange diamond), CERI permanent seismic stations (grey inverted triangles), depth of the sediments from nearby well-logs (solid blue circles), by converted waves and seismic profiles (yellow circles).

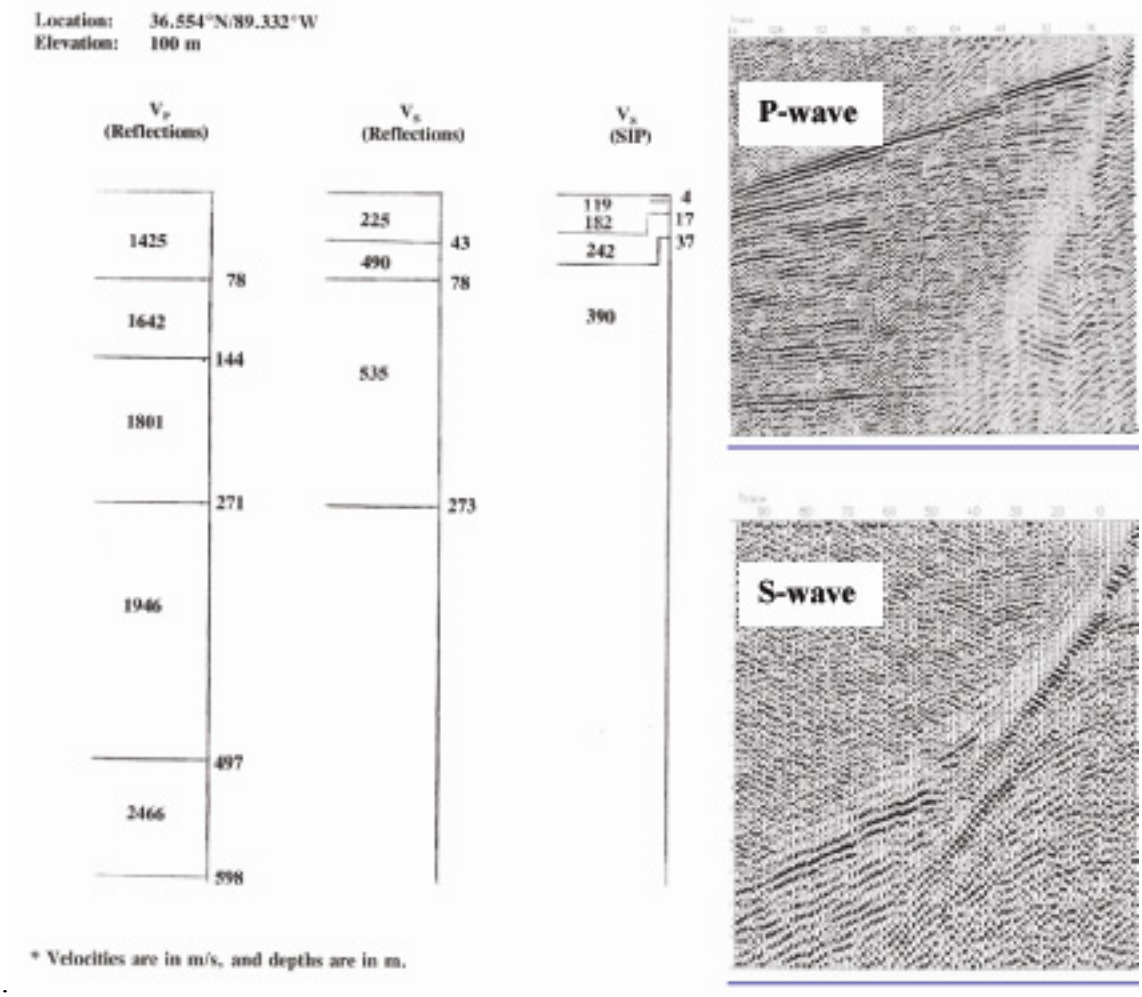


Figure. Examples of P and S seismic profiles (right) and interpreted Vp and Vs structures (left) beneath one of the stations.

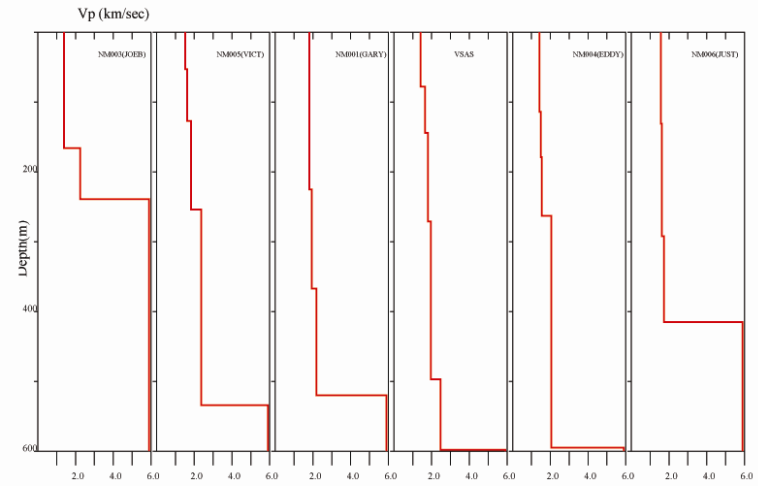


Figure. Vp profiles beneath six stations in the northern E-W line showing very dramatic lateral and vertical velocity variations.