



## **Sedimentation and stratigraphy of modern fine-grained deposits: Inner shelf off the Nakdong River, SE Korea**

Dong-Geun Yoo (1), Gwang-Soo Lee (1), Seok-Hwi Hong (1), Gil-Young Kim (1), and Yun-Soo Choi (2)

(1) KIGAM(Korea Institute of Geoscience & Mineral Resources), Petroleum & Marine Research Division, Daejeon, Korea, Republic Of (dgyoo@kigam.re.kr), (2) University of Seoul, Department of Geoinformatics, Seoulsiripdaero 163, Dongdaemun-gu, Seoul, Republic of Korea

The high-resolution seismic profiles from the inner shelf off the Nakdong River in SE Korea can be directly correlated with the lithologic characters in the borehole data. These correlations offer an opportunity to document the evolution of the inner shelf deposits with sediment supplies in response to the late Quaternary sea level changes. The inner shelf sequence in this area consists of four sedimentary units, which comprise a set of lowstand, transgressive, and highstand systems tracts deposited since the last glacial maximum: incised-channel fill (SU1), estuary (SU2), sand veneer (SU3), and subaqueous delta (SU4). The lowermost unit (SU1), which overlies the sequence boundary, is interpreted as fluvial deposits formed during the last glacial period and the early stage of transgression and belongs to the lowstand to transgressive systems tract. The lower middle unit (SU2) lying below the ravinement surface represents a paralic component that consists of estuarine sandy mud or muddy sand developed between approximately 13 and 8 cal kyr BP, whereas the upper middle unit (SU3) above the ravinement surface corresponds to a marine component that consists of sand veneer produced by the shelf erosion during the ensuing sea-level rise (8 - 6 cal kyr BP). These two units (SU2 and SU3) belong to the transgressive deposits. The uppermost unit (SU4) regarded as the highstand systems tract formed the Nakdong subaqueous delta including the proximal and distal systems developed after the highstand sea level at approximately 6 cal kyr BP. The lateral transition from the proximal to distal facies suggests a prograding delta system in the Nakdong River.