Lake Suigetsu, Honshu Island, central Japan (35°35’N, 135°53’E) provides an ideal sedimentary sequence from which to derive a wholly terrestrial radiocarbon calibration curve back to the limits of radiocarbon detection (circa 60 cal. ka BP). The presence of well-defined, annually-deposited laminae (varves) throughout the entirety of this period provides an independent, high resolution chronometer from which radiocarbon measurements of plant macrofossils from the sediment column can be directly related. The importance of this site for radiocarbon calibration purposes was brought to the attention of the community through the works of Kitagawa and van der Plicht (1998a, 1998b, 2000). However, data from this initial Lake Suigetsu project were found to diverge significantly from alternative, marine-based calibration datasets released soon thereafter (e.g. Beck et al., 2001; Hughen et al., 2004). The reasons for such divergence lie in the absolute age chronology of the initial Suigetsu project – the result of both missing sections of the retrieved sedimentary column, as well as varve counting uncertainties.

Lake Suigetsu was re-cored in summer 2006, with material obtained from four separate bore-holes, producing a composite core of 73.19 m length, lacking any of the age gaps of the
former study. The purpose of the present paper is therefore to refresh the community’s knowledge of the Lake Suigetsu site; to discuss the multi-disciplinary techniques being utilised to derive both chronological- (Schlolaut, Marshall et al., this conference) and palaeoenvironmental- data from throughout the sedimentary profile; and to demonstrate the AMS radiocarbon results thus far obtained from the Suigetsu 2006 project.

References: