

HQR010-P26

Room: Convention Hall

Time: May 26 17:15-18:45

## Utility of TOC, TN, and TS for reconstruction of paleo environmental changes in Nobi plain, central Japan

Yoshie Saegusa<sup>1\*</sup>, Toshihiko Sugai<sup>1</sup>, Kaoru Kashima<sup>2</sup>, Eiji Sasao<sup>3</sup>

<sup>1</sup>University of Tokyo, <sup>2</sup>Kyusyu University, <sup>3</sup>Japan Atomic Energy Agency

Many population and industry concentrated in coastal lowland in Japan although coastal lowland is prone to natural disaster. It is important to establish methodology to distinguish effect of global sea level changes from local effect to clarify paleo-environmental changes, because many kinds of local effect (e.g. tectonic subsidence and supply of sediment) influence on transgression and regression in coastal lowland.

This study examined the utility of TOC, TN, TS for reconstruction of Post-glacial marine transgression and regression sequences in Nobi plain, central Japan compared with diatom and facies analyses. In this study, we analyzed TOC, TN, C/N, and TS of well-dated four sediment cores, YM, KZN, NK, and MC, drilled in Nobi Plain. Horizontal distances from the present shoreline to YM, KZN, NK, and MC are 5, 15, 15, and 25 km, respectively. All cores sampled within 0.5 to 1m intervals for TOC, TN, C/N, TS and C/S. Almost these temporal resolutions are between a few decades to several hundred years.

We compared these results with sedimentary facies and diatom assemblage. All the proxies show almost harmonious results. This suggests that at inner bay area depositional environments are controlled by terrestrial deposits derived by rivers and relative position to river mouth and deltaic landforms.

To summarize Holocene deltaic coastal environment has been changing systematically associated with dynamic changes of fluvial depositional systems including prodelta under the influence of post sea-level rise. Diatom, TOC, TN, C/N, TS and C/S are useful tools for reconstructing not only Holocene sea-level changes and sedimentary environments but also local geographic effects.

Keywords: TOC, TN, TS, paleo environment, Nobi plain