Oral | Symbol M (Multidisciplinary and Interdisciplinary) | M-IS Intersection

[M-IS30_28AM2]Paleoclimatology and paleoceanography

Convener:*Kazuyoshi Yamada(School of Human Sciences, Waseda University), Minoru Ikehara(Center for Advanced Marine Core Research, Kochi University), Tomohisa Irino(Faculty of Environmental Earth Science, Hokkaido University), Yusuke Okazaki(Department of Earth and Planetary Sciences, Graduate School of Science, Kyushu University), Ikuko Kitaba(Kobe University Research Center For Inland Seas), Akihisa Kitamura(Institute of Geosciences, Faculty of Science, Shizuoka University), Masaki Sano(Research Institute for Humanity and Nature), Ryuji Tada(Department of Earth and Planetary Science, Graduate School of Science, The Univeristy of Tokyo), Masakazu Yoshimori(Atmosphere and Ocean Research Institute, University of Tokyo), Chair:Masaki Sano(Research Institute for Humanity and Nature)

Mon. Apr 28, 2014 11:00 AM - 12:45 PM 501 (5F)

We discuss past environmental changes and events at multi-decadal to tectonic timescale toward an understanding of Earth climate system by an integration of terrestrial and marine proxy studies and numerical modeling. We welcome a variety of paleo-environmental studies from a wide range of background. This session includes a special series of presentations relating to recent progress on the age determination for geological archives which has a potential to promote broad interests in paleo-community in our country. The frontier researches for radiometric dating for instance, the IntCal13 calibration data set will be presented and discussed. We hope that this session will provide an opportunity to promote communication between participants from multidisciplinary field.

12:00 PM - 12:15 PM

[MIS30-P05_PG]Palaeoclimatic analysis for 600 ka based on the TOC contents of MD01-2407 core from the Oki Ridge, Japan Sea

3-min talk in an oral session

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Keywords:TOC, TN, Japan Sea, MD01-2407

We have measured total organic carbon (TOC) and total nitrogen (TN) contents of a sediment core, MD01-2407 (932 m depth, 55.28 m length), at 2 cm interval, This core was taken from the Oki ridge at the southern part of the Japan Sea in AD 2001. We used the age model which shows age-depth relation for MD01-2407 core proposed by Kido et al. (2007). This age model used 6 marker tephra layers, 7 ^{14}C dates, 3 TL layers and 14 delta ^{18}O events. This core covers the past 670 kyr.TOC content is generally high in MIS 15, 13, 11, 9, 7, 5, 3 and 1 (about 1.5 - 5.0 %), and low in MIS 16, 14, 12, 10, 8, 6, 4 and 2 (about 0.8 - 1.2 %). This fluctuation pattern is very similar to the marine oxygen isotope curve LR04. TN content shows similar fluctuation with TOC. C/N ratio is constantly 9 - 10, suggesting that TOC is originated mainly from marine planktons. Temporal change of TOC of the sediment can reflect the change of biological productivity in the Japan Sea (Oba and Akasaka, 1990), which may be controlled climate change. This is an excellent record of paleoclimate over Middle and Late Pleistocene in the middle latitude region.

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