
[JJ] Evening Poster | M (Multidisciplinary and Interdisciplinary) | M-IS Intersection

[M-IS10]Paleoclimatology and paleoceanography

convener:Yusuke Okazaki(Department of Earth and Planetary Sciences, Graduate School of Science, Kyushu University), Atsuhiko Isobe(Research Institute for Applied Mechanics, Kyushu University), Akihisa Kitamura(静岡大学理学部地球科学教室, 共同), Masaki Sano(Faculty of Human Sciences, Waseda University)

Wed. May 23, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

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 will be discussed. We welcome a variety of paleo-environmental studies from a wide range of background. In particular, a series of presentations relating to the Anthropocene will be planned. This is a merged session of A-OS31 "Linkage between oceanography and paleoceanography in marginal, shelf and coastal oceans" and M-IS23 "Paleoclimatology and paleoceanography" sessions at JPGU 2017. We hope that this session will provide an opportunity to promote communication between participants from multidisciplinary field.

[MIS10-P04]North Atlantic Deep Water influenced the intensification of Northern Hemisphere glaciation?

★ Invited Papers

*Tatsuya Hayashi¹, Masao Ohno¹, Masahiko Sato², Yuuki Hikasa³, Toshiro Yamanaka⁴, Masato Makio¹, Yoshihiro Kuwahara¹ (1.Kyushu University, 2.University of Tokyo, 3.Okayama University, 4.Tokyo University of Marine Science and Technology)

A role of North Atlantic Deep Water in the intensification of Northern Hemisphere glaciation and the subsequent development of early glacial and interglacial cycles is as yet not well known. To evaluate their relationships, we reconstructed high-resolution records of ice rafted debris (IRD) and isothermal remanent magnetization (IRM) from Pliocene sediments recovered at IODP Site U1314 in the Gardar Drift (North Atlantic). Our IRD record demonstrates that the circum-North Atlantic ice sheets experienced the most drastic collapse during the MIS G4 glaciation with a subsequent large deglacial warming. On the other hand, the record of the IRM acquisition curve suggests the formation of North Atlantic Deep Water was strengthened after the MIS G4 glaciation. These suggest the possibility that North Atlantic Deep Water played an important role in the intensification of Northern Hemisphere glaciation through the development of Atlantic meridional overturning circulation.