

Biomineralization of corals and paleoenvironmental studies

YOKOYAMA, Yusuke^{1*} ; BELL, Tomoko¹ ; HIRABAYASHI, Shoko¹ ; MIYAIRI, Yosuke¹ ; KUBOTA, Kaoru¹ ; SEKI, Arisa¹ ; IGUCHI, Akira² ; SUZUKI, Atsushi³

¹Atmosphere and Ocean Research Institute, University of Tokyo, ²Department of Bioresources Engineering, Okinawa National College of Technology, ³Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology

Coral skeleton is a unique archives that recoding paleoclimate since the chemical compositions are fingerprinting the temperature as well as water chemistry including pH. Recent advance in analytical chemistry as well as biological experimental techniques enables us to assess the reliability of individual proxy to better picturing environmental changes. This provide strong platforms to analyzing paleoenvironment and paleoecological studies. In this presentation, we will introduce our approach to address these issues using geochemistry and bioinformatics. We will introduce our recent study to understand adaptation of corals both temperature and pH changes throughout the last deglaciation when the large environmental change was naturally occurred.

Keywords: Biomineralization, Geochemistry, Coral, Paleoclimate