

## Changes in composition of fossil diatoms from Ross Sea under gradual warming climate from MIS M2

\*Saki Ishino<sup>1</sup>, Itsuki Suto<sup>2</sup>, Rob M. McKay<sup>3</sup>, Laura De Santis<sup>4</sup>, Denise K. Kluhanek<sup>5</sup>, Expedition 374 Scientists

1. National Institute of Advanced Industrial Science and Technology, 2. Department of Earth and Planetary Sciences Graduate School of Environmental Studies, Nagoya University, 3. Victoria University, 4. Istituto Nazionale di Oceanografia e di Geofisica Sperimentale, 5. Texas A&M University

Understanding past polar environmental changes under warming climate process will help predicting future global warming. The paleoceanographic record near Antarctic ice-proximal area provides important insight into West Antarctica Ice Sheet (WAIS) vulnerability. Antarctic sediments contain numerous fossil diatoms, which are helpful to clarify past oceanographic conditions.

International Ocean Discovery Program (IODP) Expedition 374 drilled five sites from Ross Sea continental shelf and rise to investigate WAIS evolution under warm climates. Site U1524A (74° 13.05' S and 173° 37.98' W, 2394 m water depth) drilled from continental rise, which lies beneath cascading Antarctic Bottom Water current, preserves high resolution Pliocene sediments. We present preliminary results of composition changes of diatom assemblages focusing on the ages from MIS M2 to warmer climate around the interval between 3.3 and 3.0 Ma. Diatom records including abundance changes in sea-ice indicator species and *Chaetoceros* resting spores contribute to evaluate the past sea-ice coverage, primary productivity, and vertical mixing in Pliocene warm condition.

Keywords: Diatom, The Southern Ocean, Paleoenvironment