

# Cruise Summary

## 1. Cruise Information

- Cruise ID           KR14-01
- Name of vessel    Kairei
- Title of the cruise Trench biosphere expedition for the Challenger Deep, Mariana Trench
- Chief scientist [Affiliation] Takuro Nunoura [Japan Agency for Marine-Earth Science and Technology]
- Representative of the Science Party [Affiliation] Takuro Nunoura [Japan Agency for Marine-Earth Science and Technology]
- Title of proposal Trench biosphere expedition for the Challenger Deep, Mariana Trench
- Cruise period     6th Jan ~ 20th Jan 2014
- Ports of call1     Yokosuka ~ Saipan
- Research area     Mariana Trench

## 2. Overview of the Observation

- Overview of the observation

The objective of the project is to understand the geochemical and geophysical backgrounds of the uniqueness of the trench biosphere of the Challenger Deep that have been observed before shown below. 1. The trench water of the Challenger Deep harbors distinct microbial ecosystem comparing to that in the abyssal waters above the trench (Nunoura et al. in preparation). 2. Impacts of the trench geography may influence the diversity and ecology of meiofauna and microbes (Todo et al. 2005; Glud et al. 2013).

In this cruise, we took both water and sediment samples from a total of 6 stations on the transect of the Challenger Deep by using ROV ABISMO, 10K camera system and multiple coring system in order to reveal geochemical and geophysical impacts of the Challenger Deep on microbial ecosystems associated with the trench environments.