

NT11-18 Cruise Summary

Cruise number: NT11-18

Research vessel: R/V *Natsushima* and the ROV *Hyper-Dolphin 3000*

Title of the Cruise:

- Elucidation of the microbial ecosystems utilizing iron and their environmental factor to support their activity in the Tarama Knoll "iron-containing flocculent mats".
- Investigating and sampling benthic biodiversity along a reef-deep transect: PICASSO as a pre-site survey tool.
- Reevaluation of geochemical study concerned with interaction between phase separated hydrothermal fluids and the associated rock.

Chief Scientist: Hiroko Makita (JAMSTEC)

Proponent of the cruise: Hiroko Makita (JAMSTEC), James Davis Reimer (University of Ryukyus) and Toshiro Yamanaka (Okayama University)

Cruise period and Ports of call: From 12th (Ishigaki) to 17th (Ishigaki) of September, 2011

Research area: Okinawa, Japan **Water depths:** 200-2,000m

Overview of the Investigation:

We operated following *in situ* experiments and samplings.

1. In situ bacterial growth experiments
2. Sampling and imaging of surface sediments, benthos, fluid
3. Turbidity and DO measurement
4. In situ incubation experiments using ¹³C-labelled substrates.

Dives

Hyperdolphin Dive#1322 (Sep. 15, 2011)

Hyperdolphin Dive#1323 (Sep. 16, 2011)