

Core-Log-Seismic Investigation at Sea: What is the role of the Nankai frontal prism in tsunamigenic earthquakes & slow slip?

New directions building on NanTroSEIZE Stage 1

This investigation at sea will allow scientists to examine the role of the Nankai frontal prism in past tsunamigenic earthquakes and slow slip, using logging-while drilling data from Site C0006 and cores from Sites C0006 and C0007. It will be held onboard D/V *Chikyu*, concurrently with IODP Expedition 380, NanTroSEIZE Stage 3: Frontal Thrust Long-Term Borehole Monitoring Systems (LTBMS). Participants will build on existing knowledge and address emerging science questions by conducting high-density sampling and focused integration of core-log-seismic data under the guidance of experienced NanTroSEIZE scientists and technicians, with the opportunity of sampling for additional new shore-based analyses. Specific target intervals are likely to include: (1) shallow turbidite sequences that record uplift in the upper prism, (2) fault gouges and zones of extensive fractures in the middle section of imbricate thrusting, and (3) accreted hemipelagic sediments in the basal hanging-wall to the décollement. Research teams will draft proposals to address unanswered scientific questions raised during thematic discussions at the start of the expedition.

This program will emphasize interdisciplinary collaboration, discussion of previous NanTroSEIZE results, and submission of manuscripts to international journals. An overview paper summarizing the investigation at sea is desired. Additional papers might address details related to work performed onboard using *Chikyu* lab and computing facilities (e.g., SEM, X-ray CT) or samples analyzed on shore.

Structure:

There are two options for participation: short vs. full session. The full session will be for the length of the expedition (ca. 40 days); the short session will last ca. 2 weeks. Participants choosing the 2-week program will require helicopter underwater escape training (HUET) certification from an approved OPTIO training center. Costs for this certification would be a responsibility of the participant's Program Member Office (PMO), where applicable.

Applications

To apply for the investigation program, please submit to the relevant PMO your CV, a 1-page description of proposed research objectives and sample/data targets, and a letter of endorsement from your advisor or supervisor. Successful applicants will be

notified by their respective PMO. Preference will be given to graduate students, early career investigators, and researchers new to IODP science. Application deadline is 31 August 2017. Successful applicants will be notified by 10 October 2017.