

F.A.Q.: ARICE - PONANT call

CALL TRANSARCTIC 2024

- 1. Will the ADCP sensor and the Sea Ice (Thickness) Monitoring System (SIMS) already be installed for this expedition?**

The SIMS is installed and will be kept continuously. The ADCP will be installed in March 2024 but its functioning in ice has not yet been tested and will be in April-May 2024: no guarantee of good functioning as of today.

- 2. Is the underway seawater pumping system and water supply kept on during transit across the ice? Or just in ice-free waters?**

Until now we stop the pumps when the ship is sailing in the ice. However in March 2024, we plan to install an ice filter (same as on the Polarstern) to be able to run continuously even the ice.

- 3. We're interested in the potential of deploying a multicore- Would your winch be able to deploy a 600kg piece of equipment? Is there space on the vessel to process samples from a multicore?**

The winch is limited to 450kg SWL. Regarding the space to process samples, there is the wet lab. However on the transect, the number of days where the sea bottom will be at less than 1000m would be very few, and we do not have the capacity to sample deeper.

- 5. What is the maximum depth of operation for the CTD?**

Maximum depth is limited by our cable which is 1000m long.

CALL ARICE-PONANT 2022

Acoustic equipment: there is (already installed) a Kongsberg EA440. I know that this instrument may have a sub-bottom profiling functionality. DIs this the case for the instrument on the vessel?

No sub-bottom profiling functionality yet.

Is there a multibeam echosounder installed?

There is no plan for the installation of the EM712 yet. Earliest in 2025.

The ROV REVOLUTION de Deep Trekker is planned for April 2023. However, what are the capabilities of such ROV? And I understand that only at the North Pole the station time is 12 hours. I assume that some (limited) ROV dive can be possibly performed in 12 hours, but I doubt that it is possible in the shorter stations (those of 4 and 6 hours). What thus could be the real feasibility for using the ROV?

Capabilities are mostly for observation and small sediment sampling (20 cubic cm) until 300m of depth. The launching of the ROV takes 15mins. So observations at limited depth are possible even during the 4h stops.

I have seen the maps of the itineraries. However, I notice that some (e.g CC050523 – May 5 th May 15th, 2023) have some dots on it, whereas others (e.g. CC260823 August 26th - September 10 th, 2023) don't have any (except the ports of departure and return). Do these dots indicate the station? Are the stations only those indicated by dots? Is each dot indicating a station?

The circles in the maps indicate probable stations. When there is no information, this means the stations are not yet defined.

Is there any chance to get a kmz file (or a map with coordinates) for the planned CC271223 leg?. We are interested in this area and the application would be more precise with such information.

CAII ARICE-PONANT 2021

Station time:

Generally the vessel is stopping at least 4h per day for passenger activities.

Once or twice per leg, stations of up to 6h could be managed. If more than that is needed, it will be assessed on a case by case basis.

Station time at the North Pole: 12h.

Deployment of instrumentation:

- Weight: we have a capacity range going maximum to 2t.
- Cable: Max depth 1000m.
- Time: we have approx. 6h timeframe to perform this activity. Our winch has a speed of 0.7 m/s.
- We have 1 dedicated crew member to help. To use the winch, there would be need of 1-2 additional crew member: it can be done but not every day.

About the availability of CTD / rosette:

Unfortunately there is not a rosette because the infrastructure is not optimal: on the side of the ship, the ice will block the access to the water 80% of the time. Aft of the ship, there is no space for a rosette + winch.

However, the vessel will be equipped (from April on) with a small autonomous CTD to be used with the mooring winch and a set of Niskin bottles which can be activated by messenger. It is quite old-school but flexible.

We hope to be able to reach 1000m and we will see for next years if we can increase the depth.

On the number of transects/legs to apply for

You can submit a single application for several legs if it is for the same research project.

Please indicate clearly to which legs you are applying, if it is a requirement to get funded for all of them or if you are flexible and any of the legs would work. Also indicate how many berths are you applying for (i.e. 1 person per leg). The number of berths has to be justified with the work to be done on board.

Further information on CTD/rosettes

Regarding the CTD and water sampling. We will manage to do it daily if the ship actually stops.

For now there is neither a winch or crane in the wet lab.

There will be 8 Niskin bottles of 8 liters.