

UNDER THE POLE III
CALL FOR PROPOSALS
Antarctic

**UNDER
THE
POLE**



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A WORD FROM THE PROJECT LEADER

BY **GHISLAIN BARDOUT**
INITIATOR & DIRECTOR OF
UNDER THE POLE



I'm **Ghislain Bardout**, leader of the Under The Pole expeditions. I'm excited to release the call for proposals for the third part (Antarctic) of a three year-long trip around the world onboard our sailing ship WHY packed with diving gear at the cutting edge technology. This ground-breaking expedition is named « Under The Pole III: Twilight zone ».

When I designed this adventure, I really wanted to offer scientists a new and innovative way to study the marine environment of the oceans. We already have a rock-solid experience of conducting diving expeditions in the extreme regions of the Arctic, and today I want to extend these exciting opportunities that the diving technology has to offer to the rest of the world.

When I bought the ship WHY with my wife Emmanuelle, I dedicated my life to exploring the world by diving in the depth of the oceans. UTP (Under The Pole) expeditions are dedicated to innovative scientific projects aiming at a better understanding of humanity's most beautiful and fragile wealth, the oceans. Whether you are a senior scientist, a post-doc researcher or a PhD student, we already are thrilled to receive your project, and to have you onboard for this amazing expedition.

Ghislain Bardout

A handwritten signature in blue ink, appearing to be 'Ghislain Bardout', written in a cursive style.

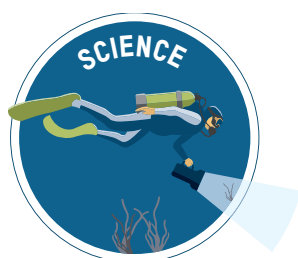
ABOUT UNDER THE POLE

Held by a pioneer spirit, the Under The Pole submarine expeditions have for objective to bring Man to explore the unknown thanks to an audacious approach and permanent innovation. Internationally recognized for their expertise in polar diving, they have already gathered 150 crew members, as well as 180 companies and partner research institutes. At their forefront, a couple who turned their passion for exploration into a job and a lifestyle.

THE VISION

Human exploration of the submarine habitat, prodigious source of inspiration and vital tool for an accurate knowledge of the oceans, is a powerful lever for a durable world to arise.

4 MISSIONS



- ◆ Apply our technical expertise to scientific research in the fields of oceanography, polar systems, and hyperbaric physiology.
- ◆ A better understanding of the oceans and the role they play in the global climatic balance in order to face the modern ecological



- ◆ Invent, test, and offer innovative tools dedicated to tomorrow's submarine exploration.
- ◆ Share the validated techniques and protocols, to accelerate acquisition of new knowledge.



- ◆ Produce a cinematographic and photographic work to narrate the discoveries and the highlights of the expedition.
- ◆ Internationally stream to a large audience for a high-profile media impact.



- ◆ Awaken, inspire and pass down our passion to the younger generations.
- ◆ Demonstrate and create tools bringing awareness to climate change and to the different action modes to slow it down.

PRESENTATION OF UNDER THE POLE III EXPEDITION - TWILIGHT ZONE

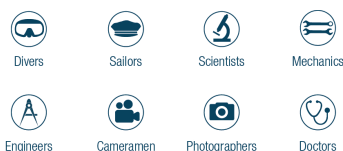
UTP III expedition is a circumnavigation around the world from pole to pole. It has started in spring 2017 and will end in June 2020. As presented in the flexible sailing itinerary page 6, this three years expedition is composed of three legs focused on the following exploration areas: 1/ Arctic, 2/ Pacific and 3/ Antarctic.

For this third expedition, UTP designs and offers to live and work comfortably in the marine biosphere down to 130 meters. The expedition is built around the following components:

- 1 A 3 year-long trip around the world, set to sail in spring 2017 through the Northwest Passage, the Pacific Ocean and the Antarctic Peninsula region (see map and time schedule in the next page). It should be noted that it will be adjusted according to the selected scientific projects. Each study can be conducted for a maximum of 3 months along the way. Multiple stays may be considered if the scientific project requires it.
- 2 Logistical platform: 1) A 20 meter-long sailing ship named « WHY », built to withstand navigation in polar regions and offering scientific storage facilities, 2) A support team based in France capable of handling all the logistics related to the scientific programs.
- 3 Innovative underwater exploration tools: 1) Highly qualified polar deep divers capable of diving down to 130 meters anywhere in the world, 2) UTP is currently designing and testing a technology to live and work underwater for up to 3 days, 3) Innovative video and photographic equipment (low-light camera, natural fluorescence captation tools, 360° cameras).

36 months
80,000 kilo meters

1 multidisciplinary team



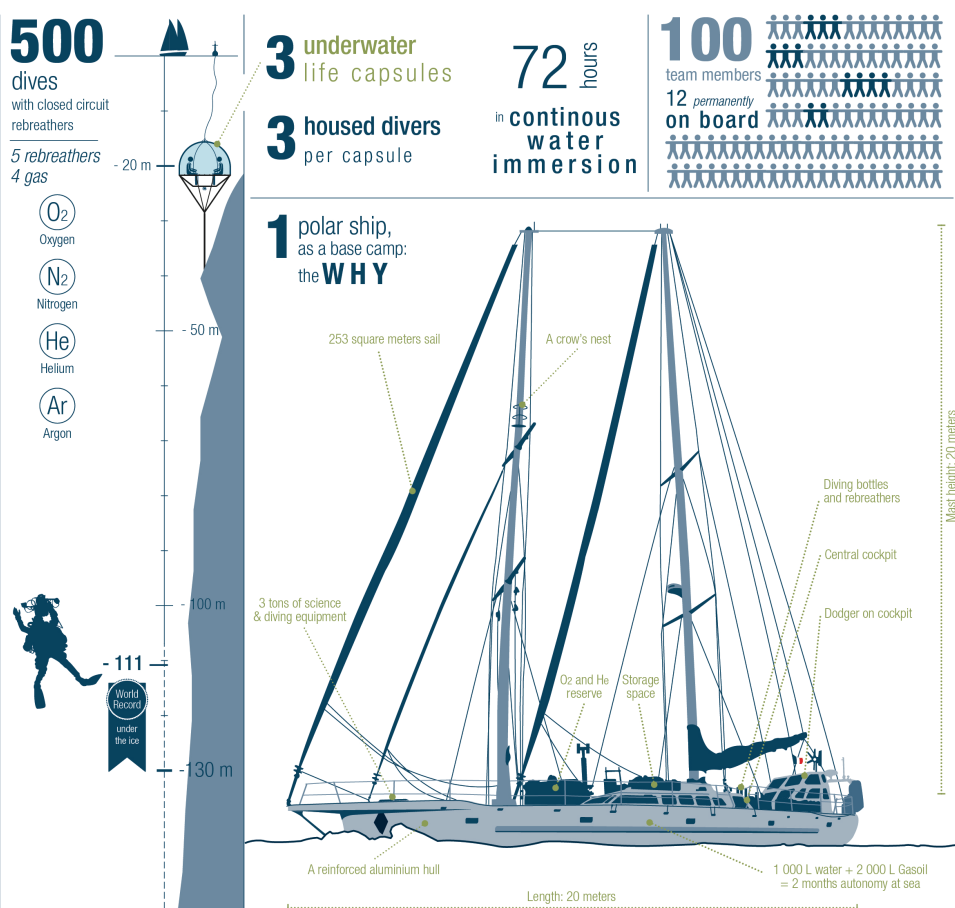
1 educational program in partnership with Ministry of National Education, Higher Education and Research

3 fields of scientific research



5 features-length documentaries broadcasted internationally

1 webdoc of the adventure

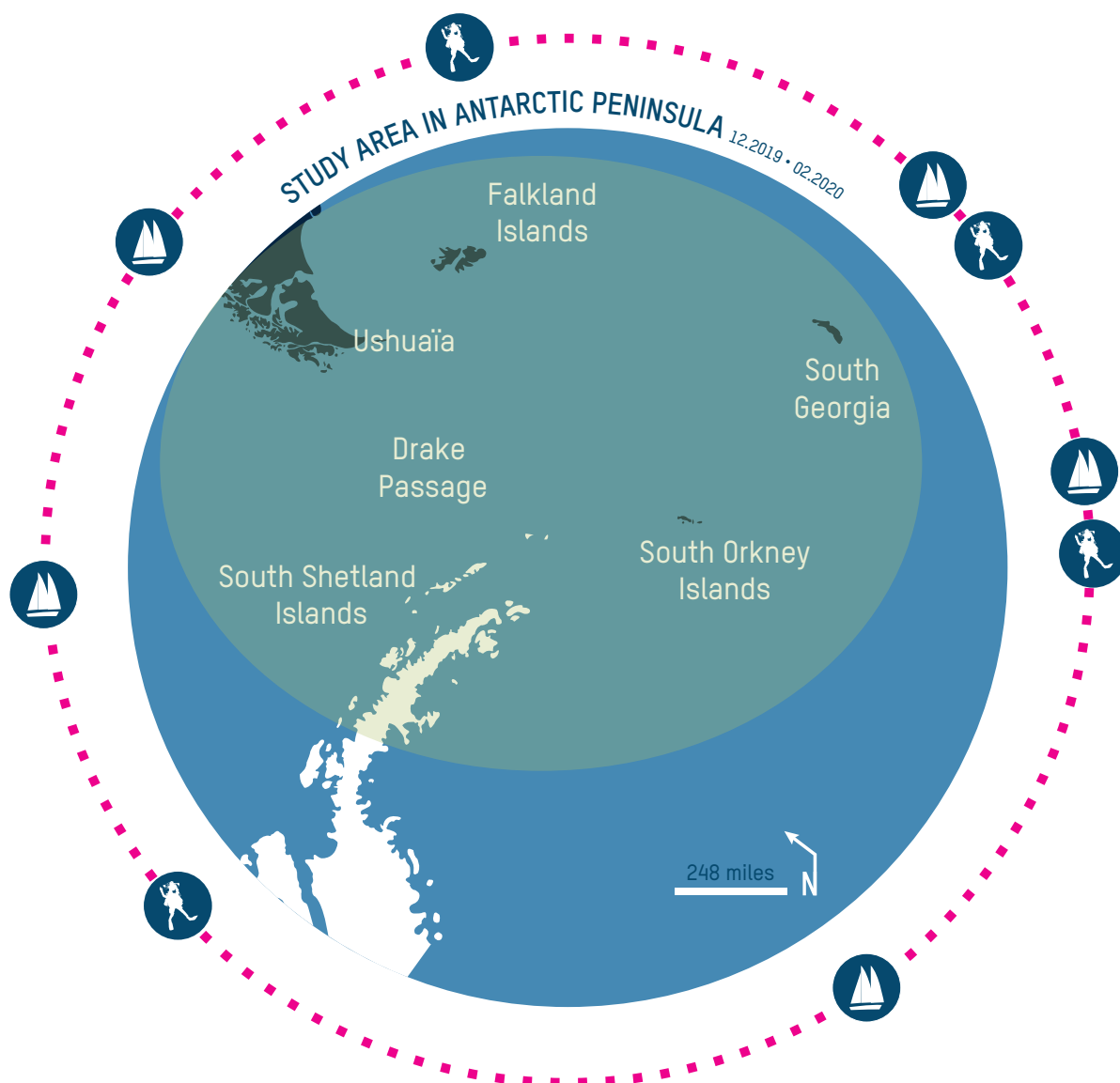




UNDER THE POLE III - TWILIGHT ZONE

ANTARCTIC

12.2019 • 02.2020



THE SCIENCE : IN SEARCH OF THE TWILIGHT ZONE

A UNIQUE COLLABORATION BETWEEN SCIENTISTS AND DIVERS TO EXPLORE THE DEEP ECOSYSTEMS

The twilight zone, the ocean layer of « medium light », located between 50 and 150 meters below the surface has only recently become accessible thanks to advanced diving technologies and techniques. Very little explored until now, it possesses an unparalleled potential for discoveries.

Creeping into the Mesophotic zone, where the last sunrays seep into the ocean, requires know-how and a lot of experience. Beyond 60 meters, classic diving techniques are no longer sufficient. The submersibles, which are very expensive to operate, are mostly deployed below 150 meters. The in-between is left to explore.

This ocean layer hosts new species to discover, ecosystems to study and behaviors to understand. One averages 7 species discovered per hour! For this third expedition, Under The Pole puts to good use its experience of diving in extreme and remote environment for the scientific research to be able to study these unsung zones.

SERVICES AND UNDERWATER TOOLS



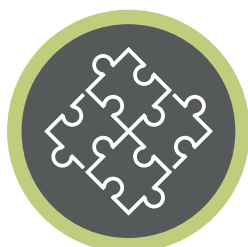
A ROBUST SAILBOAT

The schooner WHY is a logistical diving base capable of sailing across all the seas of the world. Thanks to stocks of food onboard as well as diesel tanks and a desalinator, the 20-meter schooner has a two-months autonomy for 12 crewmembers. From the poles to the tropics, it adapts to the needs of the scientists on board in order to facilitate and encourage their research. The WHY provides a mean to access remote zones.

The ship WHY was designed to navigate all around the world and has been operational since 2013.

- ◆ 20m-long, 5.5m-wide, made of aluminum, weighs 40 tons empty;
- ◆ Capable of hosting a crew of maximum 12 people in operation;
- ◆ Cruising speed of approximatively 6 knots;
- ◆ Main room is converted to a communication room during the dives;
- ◆ Storage facility of approx. 20 kg of scientific samples (freezer, -20°C);
- ◆ Storage facility of approx. 1 ton of scientific gear;
- ◆ Autonomy of 2 months at sea with a crew of 12;
- ◆ The crew is composed of sailors, divers, diving assistants, mechanical, doctor, photograph, cameraman, cook, scientific coordinator.

Depending on the needs of the scientist, the main room onboard can be arranged to host several collected data and laptop. Power supply is available for any kind of electronic devices up to 220V.



INTEGRATED PROJECT MANAGEMENT

The multidisciplinary Under The Pole team, partially based on the WHY and partially based in Concarneau, gathers all of the exploration trades (divers, sailors, logisticians, scientific coordinators) and sharing professions (videographers, photographers, communication managers, pedagogic coordinators). The team brings to the scientists and partners its expertise in terms of large-scale project management, logistics, and communication. Under The Pole accompanies them through project design within the expeditions, through their undertaking in the field, and all the way to their mainstream broadcasting (books, TV documentaries, photo exhibitions, social networks, museum exhibitions).



DEEP DIVING EQUIPMENT AND EXPERIENCE

The Under The Pole divers use submarine scooters and closed circuit rebreathers that allow the diver to stay longer, deeper, and get closer to the fauna because they do not produce bubbles and are therefore silent. By validating for two years these techniques in Polar Regions and by achieving two world firsts (first dive beyond 100 m in polar region and first dive beyond 100 m below sea ice), they have gained a unique experience.



DIVING TECHNIQUES INNOVATION

For Under The Pole III, the Research & Development team has developed systems that will allow the scientists to explore the oceans more efficiently. The first innovation is a communication system between the surface and the divers that will multiply the efficiency of the scientific dives: the divers become the eyes of the researchers who can give live instructions (where to look, what to sample...).

The second innovation is a saturation living "capsule", which will be tested in 2019 in the warm waters of French Polynesia. Saturation is the balance reached by the diver after a certain amount of time spent in immersion. From this moment on, the diver can stay indefinitely at this depth without increasing the time required to go back up. Until now, this technique has mostly been used in industrial diving on oil or gas rigs, but a lighter version of it could revolutionize the scientific study of the submarine environment.



VISUAL AND COMMUNICATIVE INNOVATION

The divers are equipped with cameras, a microphone and headphones that produce a live feed to the boat. The live feed is also recorded and access to the tapes is free and unlimited for the scientific team, during and after the time of the study. The live feed is also recorded and access to the tapes is free and unlimited for the scientific team, during and after the time of the study.

Remotely Operated Vehicles (ROV):

Operated from the ship WHY, it assists the divers in the recognition of the environment.

A camera equipped with a highly sensitive sensor allowing to collect observational data in low-light conditions.

An underwater housing is currently being tested to allow for a VR camera to record the underwater environment down to 130 meters. It could be integrated to the Video Link system so that anyone equipped with a VR headset can monitor the dive 360° live.

CALL FOR PROPOSALS

The third part of Under The Pole III Expedition, in Antarctic, is expected to set sail in December 2019.

The expedition scientific team (see the « Selection Process » part for more details) will select 2 research projects focused on marine science, marine biology, marine conservation and biodiversity.

Projects shall stay within scope of the expedition, in accordance with the approximative scheduled time and area. The duration of the onboard stay is limited to 3 months maximum per project. Multiple stays may be considered if the scientific project requires it.

Funding

The access to the boat and its facilities is free for the research projects that are selected, but the following remains in the charge of the scientists:

- ◆ Transportation fees to reach the boat;
- ◆ Fees related to the transportation and analysis of scientific samples;
- ◆ Board and lodging fees.

Although these fees are not covered by the expedition, all the related logistics can be handled at no cost by the expedition team based in France. Moreover, grants covering some of the above-mentioned costs can be awarded, on a case-by-case basis.

Research Topics

Research projects can cover a wide range of topics, among which:

- ◆ Diving Physiology;
- ◆ Ocean Life (Corals, Jellyfish and Plankton, Marine Mammals, Shellfish, Sharks and other Fish);
- ◆ Polar Systems (Cryosphere, Polar Marine Life);
- ◆ Ocean Physics and Chemistry (Carbon Cycle, Ocean Acidification, Currents).

The expedition's scientific team will also consider projects that do not belong to the above topics.

Eligibility criteria

The projects must be science-driven and make innovative use of the onboard underwater exploration facilities.

Under The Pole aims at promoting the research of young scientists (PhD students, post-Doc). It is not mandatory for applying scientists to have previous experience in undertaking research in the visited areas.

An identified host institution is a pre-requisite for applying to the program. Eligible host institutions are organisations active in research or research training - e.g. universities, research centers, research and innovation companies, etc.

Selection criteria

- ◆ Scientific excellence of the project: potential scientific discoveries, enhancing knowledge of a key subject, innovative nature of the project.
- ◆ Relevance of the project to the objectives of the UTP expeditions (as detailed page 4).

- ◆ Innovative use of the underwater exploration facilities offered by the expedition (Capsule, rebreather divers, divers-to-scientists communication system, long dives).
- ◆ Quality of the structure of the project and its feasibility: candidate's involvement in the project, consistency of the tasks of the project with the objectives to achieve, perspectives for publication.
- ◆ Match between the scientific project and the research policy of the candidate's institution.
- ◆ Importance of the means dedicated by the institution for the achievement of the project of the candidate.
- ◆ Potential impact with the general public: can the project be understood by the general public? What could be the impact for civil society?

Selection process

Submitted projects will be evaluated by the team of the expedition and scientific experts, which will review each project from a logistical, diving and scientific perspective. External reviewers will participate in the selection process based on the research topics of the projects.

To apply for the expedition, please refer to the Application Form section page 12. Each project will have the full attention of the team.

Each proposal will be submitted to an evaluation process consisting of 3 phases:

1. Evaluation of the submitted proposal
2. Oral presentation - Skype interview
3. Organisation and meeting phase

Deadline

As several scientists asked for a deadline extension, UTP team decided to let the Call open until the end of summer 2018. We invite applicants to apply as soon as they can and not to wait upon closure date.



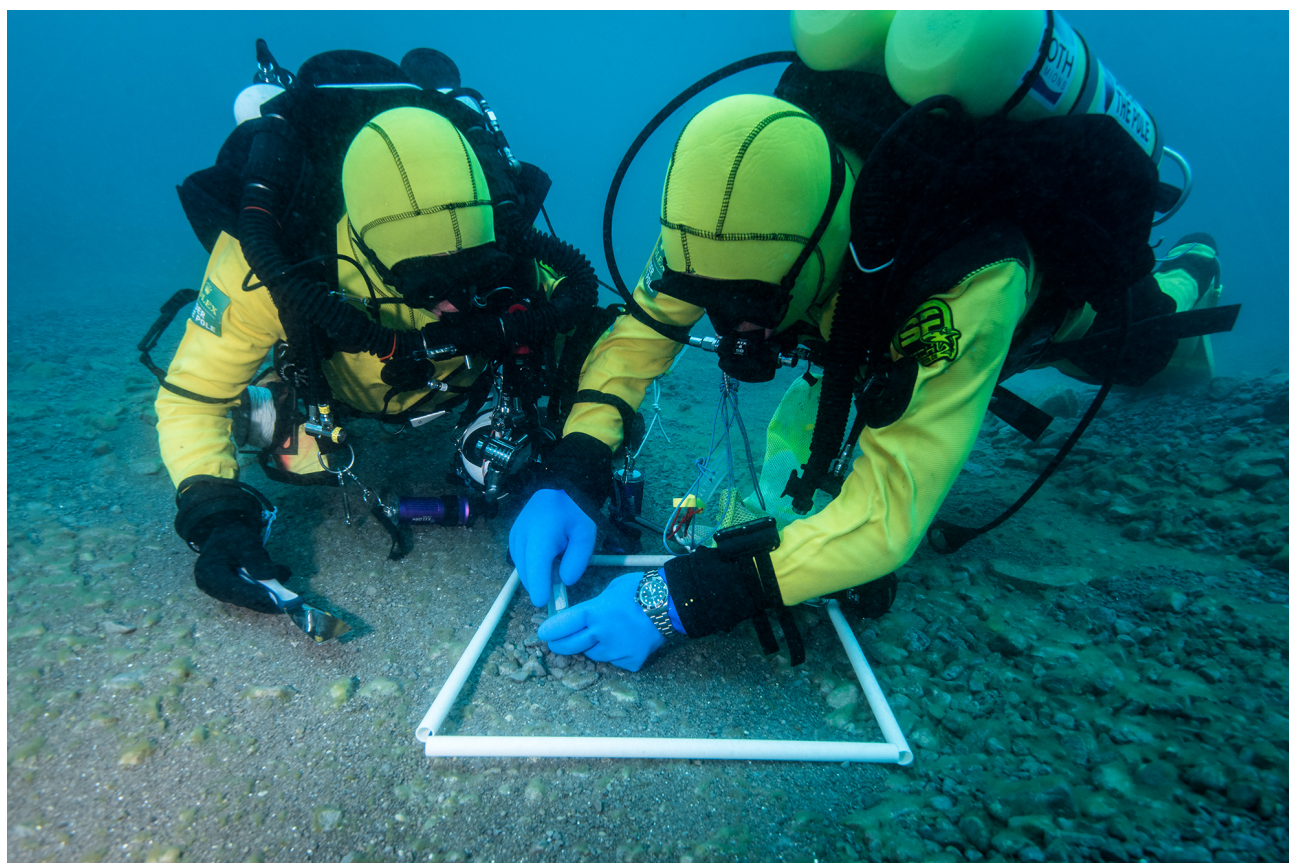
APPLICATION FORM

The Application Form is a 6-page .doc document that you should have received along with the present Call for Proposals. If you have not, you can contact our scientific coordinator by science@underthepole.com. The application can be written in English or in French. **A CV of the applicant is expected for the project to be reviewed.**

The following, non-exhaustive, information has to be submitted to science@underthepole.com.

1. Research Topic
2. Title of the proposed project
3. Candidate's identification
4. Identification of the host institution
5. Scientific summary of the scientific project
6. Details of the proposed project
 - a. Objectives of the research project
 - b. Work plan (including detailed methodology and time schedule)
 - c. List of equipment needed onboard, uses and applications of this equipment
 - d. Perspectives of publication in science papers
7. Does the project use the human underwater exploration facilities offered by the expedition and if yes how?
8. Can the project be understood by the general public? Can it have an impact on civil society and if yes why?
9. How is the project relevant to the objectives of the UTP expeditions?

Candidates will receive an email acknowledging their submission upon reception of the filled form.



FAQ

Please find answers to the most frequently asked questions below. Feel free to send us an e-mail at science@underthepole.com if you have any unanswered question regarding the Call for Proposals.

Q: Who should prepare the application?

A: The proposal should be written by the scientist.

For young scientists doing their master or doctoral thesis, it is the student who prepares the proposal and the supervisor should agree on the content after passing the first phase of selection.

Q: Is there a list of eligible institutions?

A: Eligible institutions for UTP III are organisations active in research or research training located all around the world. The following types of research organisation can take part in UTP III:

- National organisations (e.g. universities, research centres, etc.)
- Commercial enterprises
- Non-profit or charitable organisations (e.g. NGOs, trusts, etc.)

Q: Does an application need to have letters of recommendation?

A: It is not mandatory for accreditation proposals to send letters of recommendation. But the application joined with referees will have a better chance to be selected.

In such cases, the applicant encodes the e-mail address of the referee(s) of his/her choice when registering on the UTP III Call for Proposals.

Q: Is the subject of a research project proposed under the UTP III scheme bound to the above mentioned sailing route?

A: The UTP III Twilight zone expedition is open to all fields of research that contribute to the scientific and technological objectives of the UTP III expedition presented in the call for proposals. Although the trip has already been planned, the route is tentative and may be adapted. Researchers are invited to submit proposals covering any Antarctic's geographical area, and such proposals will be duly evaluated by the scientific team.

Q: Should an applicant for UTP III present his/her diplomas, at any stage, to certify his/her status?

A: No certificates or any other documents are necessary at the proposal stage. They could be verified during the second phase.

Q: Could two (or more) researchers submit applications for a joint research project?

A : Yes.

Q: Is it possible to have two candidates from the same institution?

A : Yes, if the two topics are exciting.

Q: Is there an age limit for researchers who wish to apply to the UTP III scheme?

A: No. The eligibility of a researcher is mainly based upon the research topic, the enthusiasm of the candidate and his active experience in research.

CONTACT INFORMATION

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For general inquiries
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