



Greetings,

We are looking for students to participate in the occupation of the [U.S. GO-SHIP](#) (Global Ocean Ship-based Hydrographic Investigations Program) hydrographic long-line cruise known as ARC01 (Tromsø, Norway to Juneau, Alaska). This will be the first single-ship high-resolution occupation of the ARC01 hydrographic trans-Arctic section. This expedition will last ~8 weeks from late-August to late October 2024.

Deadline for applications (see below for details): March 1, 2024, or until filled.

PARTICULARS:

- We will be sailing on the Coast Guard Icebreaker USCGC Healy
- Chief Scientist Lauren Juranek laurie.juranek@oregonstate.edu (she/her)
- ~55 days at sea
- The cruise will start in Tromsø, Norway and end in Juneau, Alaska
- U.S. GO-SHIP Contacts
 - PI: Lynne Talley ltalley@ucsd.edu (she/her)
 - Project Manager: Alison Macdonald amacdonald@whoi.edu (she/her)

The U.S. GO-SHIP program (<http://usgoship.ucsd.edu>) collects data for global CO₂ and climate variability programs. Its mission is to provide accurate global measurements covering the ocean basins from coast to coast and top to bottom, with approximately decadal resolution of the changes in inventories of heat, freshwater, carbon, oxygen, nutrients, and transient tracers. U.S. GO-SHIP contributes to International GO-SHIP (<http://go-ship.org>) and is part of the Global Ocean Observing System (GOOS, <https://www.goosocean.org/>). Scripps Institution of Oceanography (UCSD) operates the NSF-funded portion of the US national program, which includes various student positions on this upcoming 2024 NSF/UNOLS cruise.

U.S. GO-SHIP pays all travel costs. It pays salary to those who already have the ability to work in the U.S.

- If you are a graduate student, it pays your current salary.
- If you are not graduate student but are affiliated with an institution that can accept subcontracts (e.g., an undergraduate), you will receive support similar to a UCSD graduate student.
- If you are not affiliated with an institution that can accept subcontracts you will be temporarily hired by UCSD at a rate similar to a graduate student

The program cannot assist candidates in obtaining US work visas and all existing visas must be valid at the time an offer is accepted and remain valid through the full duration of the cruise. Tuition costs will also be covered during the time at sea plus the few travel days before and after the cruise, but if and only if the participant is an enrolled graduate student at a U.S. institution.

We are seeking a total of 6 NSF-funded student participants:

- 4 for conductivity/temperature/depth (CTD) measurements and deck operations (typically, but not always, Physical Oceanography background),
- 1 to assist with transient tracer (e.g., chlorofluorocarbons (CFCs) and SF6) sampling and analyses (typically, but not always, Chemistry or Biogeochemical Oceanography background), and
- 1 to operate the Lowered Acoustic Doppler Current Profiler (LADCP) operations (typically, but not always, technical, engineering, ocean engineering, or physical oceanography background).

In Addition:

Our seawater pH/Total Alkalinity (pH/Talk) science team may also be seeking a student participant. Note compensation for this team may differ from that explained in this announcement.

DUTIES: The U.S. GO-SHIP cruises operate 24/7 with 12-hour shifts.

- The **CTD** participants' duties include operating the CTD and rosette bottle system both on deck and in the lab, drawing and documenting water samples (typically salts as well as sampling requested by PIs who do not sail), and contributing to data quality control and analysis alongside the chief and co-chief scientists. We will ask you to contribute to and possibly lead a component of the cruise blogs. You may also be asked to assist other science groups (for example assisting various science teams with their sampling, deploying autonomous sensors). The CTD-watch is pivotal to the entire cruise as it is their dedication to their responsibilities that provides the basis for most of the measurements obtained.
- The **Tracer** participant will collect tracer samples and perform onboard tracer analysis as part of the tracer science team. On-board training will be provided.
- The **LADCP** participant is responsible for data acquisition and with shore-based assistance from the LADCP PI, preliminary quality control of the LADCP data. Pre-cruise training will be provided.
- The **pH/TALK** participant works with the pH/Total Alkalinity team taking water samples and measuring samples in labs onboard. On-board training will be provided.



Arctic Icescape - Ice floes (Image credit: L Juranek)

Requirements:

- A valid passport is required for participation in the cruises.
- U.S. citizenship is not required. However, if being paid salary through U.S. GO-SHIP and the participant does not hold a U.S. passport - an appropriate U.S. work visa or permanent U.S. residency is required and must be valid at the time a position is accepted and throughout the entire period for which salary is provided.
- Proof of a passport valid through at least the end of April 2025 and with at least 2 consecutive blank pages must be available for review at the time of acceptance of an offer.
- Please **do not** send passport details with your application.

For those who are interested:

Be aware that dates and ports can change during final ship scheduling. While such changes are usually minor, candidates are requested to allow two weeks availability before and after the cruise period.

The cruise is long and will be crossing the entire Arctic Ocean. Therefore, it will likely encounter challenging weather with rough sea conditions at some point. So, while we do not expect our science party members to be immune from sea sickness, we recommend that those who apply be reasonably confident that they can handle rough conditions and bring medications if they need them.

(1) Let us know that you are contemplating applying and get more information if you have questions. Please contact:

- **CTD candidates:** Chief scientist Laurie Juranek (laurie.juranek@oregonstate.edu), cc Alison Macdonald (amacdonald@whoi.edu)
- **Tracer candidates:** Tracer PIs Mark Warner (warner@uw.edu) and Dong-Ha Min (dongha@austin.utexas.edu), cc Alison Macdonald (amacdonald@whoi.edu)
- **LADCP candidates:** LADCP PI Andreas Thurnherr (ant@ldeo.columbia.edu). cc Alison Macdonald (amacdonald@whoi.edu)
- **pH/Talk candidates:** pH/Talk PI Andrew Dickson (adickson@ucsd.edu)

General Questions:

About the program - Alison Macdonald amacdonald@whoi.edu

About the cruise - Laurie Juranek laurie.juranek@oregonstate.edu

(2) Talk to your advisor to be sure that this will work with your program. We note, these are full time positions (12-hour workdays, 7 days/week). *Neither participants nor advisors should expect non-US GO-SHIP efforts to be undertaken during the cruise.* We encourage our student participants to make use of the data both on the cruise and beyond, and we encourage mentorship from the science party. However, it is good to be aware that our working hours often focus on measurement collection rather than scientific data analysis.

(3) If you wish to proceed - please send

- Your CV. (We do not need your academic transcripts, however if you come from a non-US academic background or hold a non-US academic position, some further explanation of your background and/or current position can be helpful.)
- A cover letter indicating your interest and background information, including:
 - For students: year & academic program. For non-students: current position.
 - Name & contact information for your current advisor or supervisor. Do not send reference letters. We will contact your advisor or supervisor.
 - The type of research you are carrying out if you are at that stage,
 - Prior cruise experience if you have any.
- You may apply for more than one position with the same application. Please indicate the position(s) of interest and be sure to simultaneously send to all appropriate contacts as listed above in (1).
- It is also possible that other assistant-type positions will be available for one or more of the various lab teams. Please indicate if you are willing to have your application materials shared should these positions become available. Note, compensation will likely be different from that described in this announcement.
- Please send your materials in one email to all the relevant PI(s), the chief scientist Laurie Juranek (laurie.juranek@oregonstate.edu) and the project manager (Alison Macdonald (amacdonald@whoi.edu)), so that everyone is aware of your interest(s).

Graduate students in good standing at US institutions will be given preference. Those from Alaskan indigenous communities are encouraged to apply. Undergraduates, postdocs, and non-students may also apply (but only a graduate student-level salary can be provided).

Application Deadline: March 1, 2024, or until filled.

This is an excellent opportunity to gain experience in oceanic fieldwork, participate in the collection of full water column hydrographic data of the highest quality available globally, learn new skills, interact, learn from world-class scientists and technicians, and become a valuable member of a team.

Laurie Juranek, ARC01 Chief Scientist

Alison Macdonald, ARC01 Co-Chief Scientist

