US GO-SHIP A20 & A22

Guidelines for Support of Academic Scientists and Students in the Chief Scientist's Team, and for Official Foreign Observers

(version of 12 January 2021)

US GO-SHIP provides support for the scientific and technical teams who carry out the sea work at the heart of the program. This document deals with duties and cruise support for the academic Chief Scientists, academic co-Chief Scientists and graduate students who are part of the Chief Scientist's team, and official foreign observers. (For NOAA-supported cruises, generally on the RV Ron Brown, the Chief Scientist is supported by NOAA, so guidelines for Chief Scientist provided here do not apply.) This cruise support is provided from UCSD/SIO via an NSF grant overseen by Lynne Talley, Isabella Rosso, Sarah Purkey and Todd Martz. General guidelines for the Chief Scientist's team follow, along with some examples that will be useful for subcontracts associated with this support. These guidelines may be superseded at any time to better conform to applicable regulations. One general principle all participants should keep in mind is that unused grant funds help support participation of additional students and project-related education and outreach activities.

A. SALARY AND RELATED SUPPORT

Salary support for academic Chief and co-Chief scientists will be negotiated for each cruise and is typically supplied via subawards from UCSD/SIO to the scientists' institutions. The pre-cruise support (principally for the Chief Scientist) compensates the time spent on planning and should match the effort required for the cruise in question. Except in the case of a directly supported project post-doc, NSF has not provided support through this grant for post-cruise scientific analyses, only for time spent on final documentation, which is minimal for this program (almost all is done at sea). The NSF grant does have funds to cover costs of publications arising from the cruise. This cruise-specific salary plus benefits support for the Chief and co-Chief Scientists should never exceed (3*D/30) and (2.5*D/30) months, respectively (where D = number of days at sea), and in general will be less than this amount, in many cases much less (typically 2.0 and 1.5, respectively), depending largely on pre- and post-cruise project-related activities for each person.

Salary (research assistant level) support for a student participating in the cruise as part of the Chief Scientist's team (CTD, LADCP and CFC watch standers) covers the days at sea (12-hour watches, 7 days per week), cruise-related travel days, and any time the student spends in port loading and/or unloading the scientific equipment. Pro-rated tuition reimbursement to the student's institution for that total of days can also be provided. Students from non-U.S. institutions often volunteer to be part of the chief scientists' team, but receive only travel support; they do not receive salary, stipend or tuition reimbursement through the NSF grant although they might be supported by their non-U.S. home institution.

[Note: If a person sailing in a graduate student position on a program cruise is not a registered graduate student (with assistantship) at an academic institution, salary support can be provided by

UCSD/SIO hiring that person as a temporary employee. Because SIO research staff are paid much more at sea than graduate students, in the interest of fairness to the other students and to conserve grant funds, such "temporary SIO employee" students are subsequently asked to voluntarily report the number of weekly hours, which would count as an SIO graduate student at sea's salary. It is then requested (but not required in a legal sense) that such students volunteer their extra watch hours.]

No salary support is provided by the NSF grant to SIO for official foreign observers, although travel to and from the cruise can be supported.

See "C. Nominal Duties" and "D. Work statement templates for science team member subwards" for additional information, including descriptions of tasks assigned to the chief and co-chief scientists and the graduate students, and additional budget information.

B. TRAVEL and REIMBURSEMENTS (Transportation, hotels, foul weather gear)

Cruise-related travel is supported for academic Chief Scientists and co-Chief Scientists, students traveling as part of the Chief Scientist's team, and official foreign observers (and occasionally for project-related education/outreach participants).

1. Air travel:
Air tickets will be purchased by SIO. These will be purchased at least 3-4 weeks ahead of travel. Please send Tomomi Ushii (tomomi@ucsd.edu) an email to establish contact.
Do NOT purchase your own air ticket.
All changes to the tickets, including changes to itineraries, must be done by the SIO travel specialists.

Why: All travelers supported by the NSF grant to UCSD/SIO **must** follow applicable US guidelines for Federally-funded travel. **US-flag carriers must be used** except where unavailable as defined by the regulations, which SIO's travel specialists understand. In general, lowest net cost air travel is the objective (but following applicable US Federal travel rules); however, it is also the case that the tickets purchased for your use by SIO travel specialists might be expensive, refundable tickets. To keep costs contained, SIO is likely to purchase non-refundable tickets; if the itinerary has to change because of a change in ship schedule, then SIO will absorb the change fee. If, after the ticket is purchased, you change your mind about participating or change your itinerary for personal reasons, you will be responsible for the cost of the ticket. If, after the ticket is purchased, you have a major emergency that precludes your participation in the cruise, SIO will absorb the cost. You may not cash in the tickets and change to a different itinerary even if it is at lower cost. SIO will not reimburse your ticket and will require that you return the full cost of the ticket that has been purchased on your behalf. *SIO is forbidden by US government rules to use NSF funds to pay for air tickets that do not conform to the "Fly America" act!*

Additional travel costs including mileage for personal car travel to the airport, parking, etc. are reimbursed based on receipts and mileage.

2. Hotel and per diem:
Actual hotel costs are supported (receipts required). Due to COVID-19, for UNOLS guidance and foreign country protocol a pre-boarding isolation of 14 days (counting as spending 14 nights at the isolation location) in port will be required, and expenses covered. You will officially move onboard the ship the day before departure. We will organize your transportation from the isolation location to the port. The meal allowance is $71/day in Woods Hole, MA and $95/day in Saint Thomas, U.S. Virgin Islands. **Please, keep all the receipts and submit them for reimbursement.**

After the cruise arrival in port, one night at a hotel will be covered (receipts required).

Please, identify appropriate hotels and rates with the SIO travel officer in advance of the cruise and before booking.

If a cruise departs late due to a last-minute change in schedule and the ship will not allow the scientists to stay on board, extra nights before the cruise can be covered. If a cruise ends early and the scientists are not allowed to stay on board, SIO will cover extra hotel nights after a cruise if required to meet a schedule for an air ticket, in cases where an air ticket change fee exceeds the travel per diem or seats on earlier flights are not available. (As stated above, the SIO travel officer should be involved in any changes to flights.)

UCSD's policy for reimbursement of travel expenses, including meals and items such as sea-sickness medicine and foul weather gear, is that ***all receipts must be retained and submitted for reimbursement***. (This replaces UCSD's previous practice of a per diem allowance.) For the upcoming A20 and A22 cruises, with final port stops in Woods Hole, MA and Saint Thomas, U.S. Virgin Islands, the maximum meal allowance is $71/day in Woods Hole and $95/day in Saint Thomas, but we pay only the actual meal expenses up to this maximum, rather than this maximum: **all receipts must be retained and submitted for reimbursement.**

<u>All travelers are personally responsible for non-business travel expenses incurred during cruise travel</u>, for example, extra recreational travel days before or after a cruise. Also, if travelers voluntarily request a more expensive air ticket than that necessary for the cruise - for example to make extra stops and/or carry out recreational travel - they will be responsible to UCSD for the difference. Travelers can work with the SIO travel officer to include the extra stops in their ticket.

Efforts made by travelers to reduce the costs of their trips - for example choosing appropriately-priced hotels - are greatly appreciated in order to conserve the limited funds available.

3. Foul weather gear and steel-toed footwear for cruise:

For deck work, you will need:
a) steel-toed, waterproof boots, that look like rain boots used by fishermen. Steel-toed footwear is required for deck work by most ships.
b) foul weather gear: pants and jacket (heavy seagoing type, not lightweight hiking type)

Please do your best to borrow gear from your institution or a colleague. SIO has an inventory of foul weather gear and boots and may be able to supply your needs if requested several months prior to the cruise: contact Isa Rosso (irosso@ucsd.edu). If you cannot borrow foul weather gear and/or steel-toed waterproof boots, you may include *reasonably* priced items in your travel expenses and be reimbursed after the cruise. ***Before purchasing, please contact us with the brands and prices if you wish to be fully reimbursed.*** Note that we will not reimburse for personal items such as gloves, hats, underwear, and socks.

If you are claiming expenses for your foul weather gear and/or steel-toed waterproof boots, we prefer that you leave them on the ship with the SIO/ODF team or the Chief Scientist for use by future students. But if you anticipate using these at sea on future cruises, there is no outright requirement that you return them.

Here are some suggestions for online sources of gear. These fit within our "reasonable" price guidelines. You may buy from any vendor or store.

Waterproof steel-toed waterproof boots (under $30):
https://www.magidglove.com/Honeywell-Servus-Comfort-Technology-18821-Steel-Toe-Knee-Boot-16.aspx
Jacket (~$50):
https://workingperson.com/helly-hansen-70129-310-mens-yellow-mandal-rain-jacket.html
Bib overalls (under $40):
https://www.hhworkwear.com/en_us_ww/mandal-bib-70529
Rain pants without bib for under $40:
http://www.amazon.com/Helly-Hansen-Workwear-Mens-Mandal/dp/B00KE0A0WY

4. COVID-19 protocol:

Information and protocol can be found on the ship's website https://www.ocean.washington.edu/story/TGT_COVID19_Information_and_Protocols . The protocol is not expected to change significantly. Tests are required at the beginning and 72 hours prior to ending isolation, and both must result negative before boarding the ship. Details of how testing will be done are still being worked out and we will keep you updated.

You will need to submit a COVID-19 risk evaluation form that can be found at https://www.ocean.washington.edu/file/COVID_HighRisk_Screening_Questionnaire . Please submit it to Port Captain Meegan Corcoran meeganc@uw.edu as soon as possible.

More information on high risk categories reported in the evaluation form can be found at the CDC website: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html

Please note that:

- A20 (first leg) will be farther than 5 days from a port, making this a high-risk cruise. Therefore, anyone in a high-risk category will not be allowed to sail.
- A22 (second leg): those in a high-risk category will need a doctor's evaluation before being allowed to sail.
- If these restrictions apply to you, please let us know right away.
- Once you have boarded the ship, you cannot leave until the end of the cruise.

C. NOMINAL RESPONSIBILITIES

1. Chief Scientist (for NSF-funded cruises only; not relevant for NOAA cruises)

The duties and responsibilities of the Chief Scientist are both myriad and relatively well known. All U.S. GO-SHIP chief scientists are experienced. Here we list only a few particular expectations or differences with respect to this program.

Pre-cruise: Take over cruise planning and paperwork from Isa Rosso and Lynne Talley at a mutually-agreed time before the cruise. Note that the Chief Scientist is ultimately the responsible person for official pre-cruise activities and documents. Attend pre-cruise meeting. (The NSF grant will support Chief Scientist travel to the pre-cruise meeting, if teleconference is not used.)

At sea: In addition to all duties and responsibilities which normally fall upon the Chief Scientist (CS), the CS is usually the scientist-in-charge of one 12-hour watch. The CS mentors the students assigned to that watch and assists the co-CS with the students on the other watch. With the co-CS and other sampling teams prepares, maintains and modifies, distributes, and executes a running station and sampling plan which meets cruise and program objectives. The CS decides sampling levels for each parameter, sees that assistance with water sampling (sample cop and/or drawing samples) is provided at every cast; ensures that the CTD watch runs the CTD console on station and completes the routine forms for each station; assists with at-sea data review and documentation; works with all on-board teams to prepare a draft cruise report before the end of the cruise.

Post-cruise: The CS reviews and edits the cruise report drafted at sea, and responds as needed to continued inquiries regarding data, quality codes, and documentation. Please note that grant support for post-cruise data analyses is not supported by the NSF grant to SIO, unless specific exception has been made with the program directors.

Full information about UCSD travel policies can be found at
http://blink.ucsd.edu/travel/expenses-reimbursements/index.html

2. Co-Chief Scientist

Pre-cruise: The co-CS assists the CS with pre-cruise planning as/if needed; attends pre-cruise meeting if feasible, and by teleconference if not.

At sea: The co-CS is the scientist-in-charge on one 12-hour watch, opposite the CS with the following responsibilities: ensure that the CTD watch runs the CTD console on station and completes the routine forms and tasks for each station; mentor students assigned to the watch; decide sampling levels for each parameter; assist with water sampling (sample cop and/or assist withdrawing samples for parameters such as S, nutrients). Assist with at-sea data review and documentation. Together with the CS, the co-CS manages the cruise's blog.

Post-cruise: The co-CS assists the CS with cruise report preparation and review of data, quality codes, and documentation. Please note that grant support for post-cruise data analyses is not supported by the NSF grant to SIO, unless specific exception has been made with the program directors, for example for a post-doc supported directly by the NSF grant to SIO.

3. Students

CTD watchstanders: Assist scientist in charge (either Chief Scientist or co-Chief Scientist) during the assigned 12-hour watch, with CTD console operations and routine forms and with water sampling (sample cop and/or drawing samples), and possibly with deck work. Assist, as decided in advance with the Chief Scientist, with routine cast duties for assisting with the LADCP program and/or other oceanography sampling programs. With guidance from scientists ashore or at sea, work on a small at-sea research study such as comparison of new data with previous data.

CFC students stand watch with the CFC team, assist with sampling, assist with operation of the CFC analytic rig, and help examine the CFC data for quality, and in the context of other data.

The LADCP watchstander has primary responsibility of the LADCP operations during the cruise. Cruise tasks include: instrument preparation before a cast, data downloading and battery charging after a cast, shipboard processing and basic quality control of the resulting data. Andreas Thurnherr will be providing shore-based support during the cruise, which will require frequent (daily or more) email updates. The LADCP watchstander is also expected to contribute a short section on LADCP operations to the cruise report. The LADCP watchstander is furthermore expected to help with other tasks of the CTD team. Pre- and post-cruise responsibilities include participation in training provided in Thurnherr's lab at LDEO, as well as transport/shipping of LADCP and SADCP cruise data back to LDEO.

D. WORK STATEMENT TEMPLATES FOR SCIENCE TEAM MEMBER SUBWARDS

This section is for the use of the business offices at SIO and at subaward institutions, for support of the Chief Scientist, co-Chief Scientists, and students. The following is boilerplate text for science team member subawards. The text included here is a suggestion, not a mandate.

1. Chief scientist

[name] will be participating as chief scientist on the [name of cruise] on [name of ship], which is scheduled to depart [start port] on [cruise start date] and to arrive in [end port] on [cruise end date].

As Chief Scientist [he/she] will take over cruise planning and paperwork from program leaders at a mutually-agreed time before the cruise, and will ultimately be responsible for official pre-cruise activities and documents. [She/he] will attend a pre-cruise meeting. If this is an in-person meeting for which travel is required, SIO will support the travel costs in accord with program travel support guidelines.

At sea, in addition to all official duties and responsibilities which normally fall upon the Chief Scientist, [he/she] will be the scientist-in-charge of one 12-hour watch, will mentor students assigned to that watch, and assist the co-Chief Scientist with the other students on the other watch. With the co-Chief Scientist and the other sampling teams, [she/he] will prepare, maintain and modify, distribute, and execute a running station and sampling plan which meets cruise and program objectives. [He/she] will ensure that the CTD console is operated on station by a member of the CTD watch and that the watch completes the routine forms for each station, decide sampling levels for each parameter, and see that assistance with water sampling (sample cop and/or drawing samples) is provided on every cast. [She/he] will assist with at-sea data review and documentation, and work with all on-board teams to prepare a draft cruise report in the program's format before end of cruise.

After the cruise, [he/she] will review and edit the cruise report drafted at sea, and respond as needed to continued inquiries regarding data, quality codes, and documentation.

Altogether n.n months of support (x days at sea, y days for loading/unloading, and z days for cruise-related travel; 2.0*[x+y+z]/30) are requested for [name] for participation in the cruise and the pre- and post-cruise efforts. Cruise-related travel will be supported by SIO in accord with program travel support guidelines.

[Note to potential subawardees about the "2.0" multiplier used in "2.0*[x+y+z]/30": The "2.0" multiplier is an example number. The Chief Scientist's support via this subaward should never exceed (3*x/30) months salary and benefits (where x = number of days at sea), and in general will be less than this amount, in many cases substantially less, depending largely on pre- and post-cruise cruise-related activities. "2.0" is suggested as a typical number. Priority for future use of grant funds saved when smaller multipliers are used is support for students on the cruise to attend a scientific meeting to present results of their research related to the cruise.]

2. Co-Chief Scientist

[name] will be participating as co-Chief Scientist on the [name of cruise] on [name of ship], which is scheduled to depart [start port] on [cruise start date] and to arrive in [end port] on [cruise end date].

As co-Chief Scientist [he/she] will assist the Chief Scientist with pre-cruise planning as/if needed, and attend the pre-cruise meeting if feasible. [Note: Grant support for co-Chief Scientist travel to a pre-cruise meeting is usually not supported unless the Chief Scientist cannot attend the meeting.]

At sea, the co-Chief Scientist will be scientist-in-charge on one 12-hour watch, mentor students assigned to that watch, will ensure that the CTD console is operated on station by a member of the CTD watch and that the watch completes the routine forms for each station, and will see that assistance with water sampling (sample cop and/or drawing samples) is provided every cast. [She/he] will assist with at-sea data review and documentation.

After the cruise [he/she] will assist the Chief Scientist with cruise report preparation and review of data, quality codes, and documentation if needed. [Note: Grant support for post-cruise data analyses is outside the purview of this subaward, unless specific exception has been made with the program directors.]

Altogether n.n months of support (x days at sea, y days for loading/unloading, and z days for cruise-related travel; 1.5*[x+y+z]/30) are requested for [name] for participation in the cruise and the pre- and post-cruise efforts. [Cruise-related travel will be supported by SIO in accord with program travel support guidelines.]

[Note to potential subawardees about the "1.5" multiplier used in "1.5*[x+y+z]/30": The "1.5" multiplier is an example number. The co-Chief Scientist's support via this subaward should never exceed (2.5*x/30) months salary and benefits (where x = number of days at sea), and rarely exceed (2.0*x/30). We suggest the "1.5" figure for typical cruises where the Chief Scientist is carrying out the bulk of the pre- and post-cruise responsibilities. Priority for future use of grant funds saved when smaller multipliers are used is support for students on the cruise to attend a scientific meeting to present results of their research related to the cruise.]

3. Student member of the CTD/sampling watchstander oceanography team.

[name] will be participating as a student on the physical oceanography team on the [name of cruise] on [name of ship], which is scheduled to depart [start port] on [cruise start date] and to arrive in [end port] on [cruise end date].

[She/he] will assist the scientist on watch with CTD console operations and routine forms, assist with water sampling (sample cop and/or drawing samples), and may assist with routine cast duties for the LADCP program and/or other physical oceanography programs. With guidance from scientists ashore or at sea, [he/she] will work on a small at-sea research study such as comparison of new data with previous data.

Altogether n.n months of support (x days at sea, y days for loading/unloading, and z days for cruise-related travel; 1.0*[x+y+z]/30) are requested for [name] for participation in the cruise. Cruise-related travel will be supported by SIO in accord with program travel support guidelines.

4. Student member of the CFC team.

[name] will be participating as a student on the CFC team on the [name of cruise] on [name of ship], which is scheduled to depart [start port] on [cruise start date] and to arrive in [end port] on [cruise end date].

[She/he] will stand watch with the CFC team, assist with sampling, assist with operation of the CFC analytic rig, and help examine the CFC data for quality. [He/she] will examine CFC data in the context of other data.

Altogether n.n months of support (x days at sea, y days for loading/unloading, and z days for cruise-related travel; 1.0*[x+y+z]/30) are requested for [name] for participation in the cruise. Cruise-related travel will be supported by SIO in accord with program travel support guidelines.

5. Student member responsible for LADCP operation.
[name] will be participating as a student on the physical oceanography/LADCP team on the [name of cruise] on [name of ship], which is scheduled to depart [start port] on [cruise start date] and to arrive in [end port] on [cruise end date].

[She/he] will stand watch with the CTD team and is responsible for the LADCP operations, including data acquisition, shipboard processing and basic quality control. In this [he/she] will be assisted by Dr. Andreas Thurnherr who will provide training as well as shore-based support during the cruise. [He/she] is expected to contribute a short section on LADCP operations to the cruise report, as well as to assist with other CTD team tasks.

Training in operating the LADCP system, as well as data processing will be required prior to the cruise. This typically involves a visit to the lab of LADCP principal investigator, Dr. Andreas Thurnherr, at Lamont-Doherty Earth Observatory (Palisades, NY). The training, including travel, will take approximately two days; travel support to LDEO will be provided through the SIO grant.

Altogether n.n months of support (x days at sea, y days for loading/unloading, and z days for cruise-related travel; 1.0*[x+y+z]/30) are requested for [name] for participation in the cruise. Cruise-related travel will be supported by SIO in accord with program travel support guidelines.