

R/V Robert Gordon Sproul



Ship's Handbook



Welcome Aboard

We are glad to have you on the R/V *Robert Gordon Sproul* for your research cruise, and we look forward to working with you to make this a productive and successful project.

As professional mariners and marine technicians, we have three goals when we set sail. First is to make sure that all personnel are safe and every effort is made to avoid injury during the cruise. Second is the safety of the vessel, to make sure the ship's seaworthiness is maintained. Our third goal is to complete your scientific mission as completely and efficiently as possible. Please let us know how we can help you accomplish all three of these goals while you are aboard *Robert Gordon Sproul*.

This handbook is intended as an introduction and general overview of how the ship operates, and the equipment you can expect to find aboard. If you have any questions, please don't hesitate to ask. We look forward to sailing with you.

Sincerely,
The Master, Crew, and Technicians Aboard
R/V Robert Gordon Sproul

Preface

INTRODUCTION - The purpose of this handbook is to acquaint personnel with the characteristics and capabilities of R/V *Robert Gordon Sproul*. It provides a good review of what can be done on the ship, and lists sources of more detailed information. It also directs your attention to a number of important safety matters. By reading it well in advance of your cruise, we hope you will spot potential problems in time to seek out satisfactory solutions so we are able to accomplish all of your scientific goals.

REVISIONS - The handbook is subject to ongoing revisions. We want it to represent the best information available from the experience of personnel at sea, and so we welcome comments or corrections, suggestions for better arrangement of material, additions, etc. Please send any such input directly to the Ship Scheduling Office (shipsked@ucsd.edu).

A CAUTIONARY NOTE ON ACCURACY - While reasonable efforts are made to update the handbook as needed and to issue new versions in the wake of significant changes on the ship, it is impossible to assure complete accuracy at all times. In all cases, make your particular research equipment needs known on the Ship-Time & Marine Equipment Request Form (SME) - (mfp.us) and contact relevant technical support groups to ensure that critical gear is ready for your work.

THE RESEARCH TECHNICIAN GROUP - Within Shipboard Technical Services, is the Research Technician Group. Also known as Restechs, they will be your main point of contact for cruise planning needs once your cruise dates are secured. It is important that you communicate your needs with them as early as possible. They manage a wide variety of equipment that can be used for your cruise, but equipment is subject to availability.

One or more Restechs will assist you with the mobilization and demobilization for your cruise. At least one Restech will sail with you during your cruise in an effort to accomplish your scientific goals. They will enforce safe practices in the labs and on deck while doing so. If you see something unsafe, let them know immediately. The Restech will lead and/or oversee the deck operations while communicating with the bridge. It is important that you work closely with the Restech before, during, and after your cruise so your experience with us at Scripps can be as productive, and safe as possible.

The Science party is expected to provide personnel to help complete the loading process as well as all deck operations. Help from the crew can be requested, but typically the Restech and the science party complete all science related deck operations with little or no help from the crew. Please plan to fill the ship's bunk space accordingly with the right sets of skills needed to accomplish your deployments and recoveries.

The Restechs are also your point of contact for shipments heading to the ship in San Diego. If you will not be sailing in or out of San Diego, the Restechs can advise on all shipping matters to other ports. For more information on foreign shipments, please refer to the Ship Scheduling website's page.

OTHER SOURCES OF INFORMATION -

UNOLS RVOC Safety Training Manual, Research Party Supplement

www.unols.org/document/rvoc-safety-training-manual-chapter-1-research-party-supplement

UNOLS Research Vessel Safety Standards

<https://www.unols.org/document/research-vessel-safety-standards-rvss>

Scripps Cruise Planning Portal

<http://ships.ucsd.edu>

Schedules, ship layouts and other ship-related information

<http://scripps.ucsd.edu/ships>

Shipping scientific equipment to Scripps-operated ships

<http://scripps.ucsd.edu/ships/scientific-shipments-scripps-vessels>

Scripps policies and procedures regarding ship operations

<http://scripps.ucsd.edu/ships/policies-and-procedures>

Shipboard Life

SHIP'S CREW - The ship is manned by a crew of 5: The Master, 2 Senior Boat Operators, Boat Engineer, and Cook. The first three stand watch. The engineer is "on call" and the engine room is normally unmanned.

SCIENCE BERTHING - A total of 12 scientists, including the sailing Restech(s), can be accommodated on the Sproul. There are 2 rooms with berthing for 6 scientists each. There are 3 communal heads with showers that are shared between all scientists and crew. The scientific party is responsible for cleaning science staterooms. All rooms should be thoroughly cleaned before departing the vessel at the end of your cruise.

HEADS - The ship's sanitary system cannot handle anything other than toilet paper (e.g., cigar and cigarette butts, paper towels, sanitary napkins, etc.). Please dispose of all other items using the trash. The biological system also cannot handle unapproved cleaning products. Please do not introduce bleach or other potentially harmful chemicals to the system. Public heads are cleaned by the crew.

LINENS - Clean towels and linens are available at the beginning of the voyage. At the end of the cruise, bunks should be stripped and soiled linen taken to the laundry room.

LABS - The responsibility of regularly sweeping out the laboratories is assigned by the chief scientist. All laboratories should be thoroughly cleaned before departing the vessel at the end of your cruise.

FRESH WATER - Fresh water is a precious commodity at sea and must not be wasted. Salt water should be used on deck when possible. "Navy" showers (i.e., rinse-soap-rinse, turning off water between steps) should be practiced. Full washer loads make best use of water when doing laundry.

LAUNDRY - Washing machine, laundry soap, bleach, and dryer are available. They are used on a first-come-first-served basis. Please be prompt in attending to laundry, and to do full loads as to conserve fresh water. Do not put salt water soaked clothes or footwear in the dryer.

MESS HALL - Meal hours at sea are:

Breakfast: 0700-0800

Lunch: 1100-1200

Dinner: 1700-1800

The mess hall is cleared 30 minutes prior to and after meal hours to allow for setup and cleanup. Watch standers are customarily served first. Shirts and foot coverings are required at all times in the mess hall. Cafeteria style meals are served.

Please bus your dishes and silverware to the sink when you are complete with your meal. There will often need to be more than one sitting to feed all aboard. Please vacate the mess hall once you have finished to make room for others.

Food will be available 24 hours a day. Please help yourself to the food made available and clean any dishes you may have used during non-meal hours.

Shipboard Communications

RADIOS - The ship normally carries portable VHF. They are used for internal communications, small boat operations, and communications with other ships. Permission from the watch stander will be necessary for use of the bridge radios.

INTERNAL COMMUNICATIONS - An intercom system is installed on the ship for internal communications. Numbers to reach different parts of the ship are posted next to intercoms.

SATELLITE PHONES - FleetXpress, FleetBroadBand, and Iridium satellite phones are installed for communication to other ships or shore. Permission from the Master and Restech will be necessary for use of the satellite phones.

INTERNET - Broadband internet communications are available on board for all participants. For more information, see the computing resources section on Scientific Equipment and Procedures section

Ship's Equipment & Procedures

--Propulsion--

Sproul has twin engines driving fixed pitch propellers with dual rudders for steering. A bow thruster is available when power usage permits its operation. Her cruising speed is about 8 knots. She does not have automated station keeping abilities (i.e., dynamic positioning), therefore station keeping is dependent on the operator's ability to maneuver the ship within the weather and current conditions present.

--Hydraulics & Machinery--

HYDRAULIC SYSTEM - Hydraulic power is used to run the crane, A-frame, and winches onboard. If you have portable equipment requiring hydraulic power it can be installed, however, no quick connection fittings exist so advance notice and coordination will be required. Contact the Restech group to discuss your hydraulic needs.

A-FRAME - The A-frame is located at the stern of the ship. It has a safe working load of 6,500 lbs when in motion (hydraulically driven). When parked against the aft foundation, the A-frame can safely handle up to 10,000 lbs. without conditions. Contact the Restech group to discuss the need for A-frame operations at sea and make sure to provide accurate weights for equipment that will require lifting.

CAPSTAN - The ship normally carries a portable capstan on the main deck, principally used for mooring lines, available for other line-hauling tasks. Specifics available upon request. It can be situated to mesh with other space constraints and operational requirements.

CRANES - Permission to operate cranes is strictly limited to authorized personnel. These cranes are operated at sea only by permission of the captain. A knuckle crane is normally installed on the port side after deck. Its lifting capacity varies based on reach but at its lowest rating, it can safely lift 1400 lbs at sea. Contact the Restech group to discuss the need for crane operations at sea and make sure to provide accurate weights for equipment that will require lifting.

WINCHES & WIRES - Winches on the Sproul are operated by a member of the science party. Operators will be trained and signed off on proper use of the winches before use by the Restech or a member of the crew. Winches can be operated locally, or from the aft steering console on the bridge deck. Tension, speed, and wire out readouts are at each winch with repeaters in the main lab, aft steering, and on the bridge. This information is also logged and viewable via the MET system.

CTD Winch - Hydraulic Western Gear loaded with 0.322" conductor wire. The max tension allowable in this configuration is 2000 lbs. The drum of this winch can be swapped out upon request. Contact the Restech group to discuss options.

Trawl Winch - Hydraulic Markey DESH-3 loaded 3/8" 3x19 wire. The max tension allowable in this configuration is 9800 lbs. The drum of this winch can be swapped out upon request. Contact the Restech group to discuss options.

There are also a number of portable winches available that can be installed on deck upon request. The chief scientist must make their requirements known to the Restech so the appropriate winch can be reserved for the cruise.

A log is maintained documenting the actual wire on each winch at any given time. The working end of every wire is occasionally cut off and the termination replaced. It is important that expected water depths of planned operations be made known to the resident technicians and the marine superintendent as far in advance of these operations as possible, to ensure that adequate wire is available.

--Navigation Equipment--

DEPTH RECORDING - There is a fathometer on the bridge. Maximum reliable soundings are ~800 meters.

DIRECTION FINDING EQUIPMENT - A Simrad Taiyo ADDF TD-L1620 direction finder is available on the pilot house for tracking scientific instruments that output a signal from an RDF beacon. Transmitters for use with this system are provided by the scientific group or arrangements for the appropriate equipment can be made with the Resident Marine Technicians Group.

GPS - Furuno GP-150 and GP-170 positions are logged in the MET acquisition system. A serial feed can be provided.

GPS COMPASS - A Furuno SC-30 GPS compass is logged in the MET acquisition system. A serial feed can be provided.

NAVIGATION SOFTWARE - Nobeltec navigation software is used on the bridge. A repeater screen is installed in the computer van and the main lab.

RADAR - A Furuno 72nm Radar and a Furuno 72nm Multifunction Display Radar are used on the bridge.

--Deck--

DECK LOADING - Ship stability is ultimately the responsibility of the captain. The responsibility of scientists is to consult the Nimitz Marine Facility or the resident technician early to describe loading plans and requirements so that any necessary adjustments can be made. The more complex and heavy your equipment the more advance notice is needed. Our goal is to resolve loading problems and incompatibilities well before sailing day, so that it will not be necessary to leave scientific gear on the dock in order to assure a safe ship.

DECK TIE-DOWNS - No welding is permitted directly to any deck. All installations must use the 2 ft x 2 ft grid of tie-downs (welding may be done to "ears" or plates, which in turn are bolted to the deck). Bolt holes are 1" NC thread on the main deck, 1/2" NC thread in labs and storerooms. The ship has a supply of bolts and eye bolts for use with these deck sockets. Bolt holes in equipment should be made oversize, to allow for deck grid irregularities.

SHEAVES & BLOCKS - Use of various winches and wires implies use of certain combinations of sheaves and blocks. In addition, your scientific operation may have particular requirements for fair-leading wires to certain locations. Be sure to check with the resident technician well in advance to explain all your wire rigging ideas and needs. Technicians will know how to best accomplish your task. The ship has a very limited supply of sheaves and blocks so requirements must be known before sailing.

TOOLS AND SUPPLIES - On board the Sproul the Restechs maintain a tool box from which the scientific party can borrow tools. The return of all tools is a must. Tools are limited to those most commonly used and you may not find everything you need on board. Be sure you have everything you will need before sailing.

HATCHES - Hatches and watertight doors are heavy and dangerous if not secured correctly. Careful use of all doors and hatches, especially at sea, is very important. Carelessness could easily lead to severe injury. All doors and hatches should be positively latched either open or closed at all times, never left to swing free.

FLOOD LIGHTS - Do not turn on deck lights without obtaining permission from the bridge first. Consider the night vision of the crew and use only the lights you need, turning them off when finished.

FRESH WATER - Fresh water is available on deck but should not be used for wash down purposes, except if necessary and then by consultation with the resident technicians.

SEAWATER - A pump supplies the deck with seawater via a garden hose spigot.

COMPRESSED AIR - Ship's compressed air is available for pneumatic tools and equipment. It is suitable for running pneumatic tools, but may not be dry or clean enough for laboratory use. Users should plan to supply their own filters if the air is intended for any lab use. An air compressor for air gun work can be installed on deck (contact Shipboard Geophysical Group for more info).

BOATS - The ship has one 11' RHIB with a 15 HP outboard. The Restechs have a 17' AVON with a 50 HP outboard. The Restech Avon is available on request and dependent on availability.

GASOLINE - Small amounts of gasoline for outboard motor use at sea are carried in USCG-approved containers.

INTERCOM - An intercom system is installed in the ship, as well as a marine hailer on the back deck.

Scientific Equipment & Procedures

--Laboratories--

LABORATORY SPACES - Permanent wet (12' x 8'), and main (12' x 15') labs are located on the main deck aft starboard side. The computer lab van is located in a 20ft container on the 01 deck.

UNCONTAMINATED SEAWATER - Uncontaminated seawater is provided to the lab via steel piping upon request. A thermosalinograph in the main lab logs measurements to the ship's MET system. A fluorometer can be added to this system upon request.

DRAINS - Lab sinks drain directly overboard. Please make sure to collect liquid waste and do not allow it to drain to the sea unless you have specific approval to do so.

ELECTRICAL SYSTEM - Normal ship's power is 110 VAC. Both 110 VAC and 440 VAC AC power is available in deck outlets, and 220 VAC may be obtained by advance arrangement with the ship's engineer. Scientists with stable power requirements should contact the ship. A limited uninterruptible power supply is available in the main lab.

UPS - Please do not plug science party devices into any of the UPSes in the lab racks; they are load-balanced for the rack equipment only. An STS-maintained UPS is in the main lab to supply clean and reliable power to science party devices. Please do not plug science-provided UPS's into the STS UPS's.

REFRIGERATION AND FREEZING - A large chest freezer is located in the wet lab (14 cubic ft). A mini fridge is often installed in the main lab. Additional refrigerators and freezers can be installed in the main lab upon request.

--Hazardous Materials--

Working supplies of hazardous materials may be kept in the labs. Stock supplies and spares are to be kept in the appropriate storage container and/or locker. The science party should supply emergency response kits specific to the chemicals they bring aboard.

CHEMICALS - Use care in storage, handling, and disposal of toxic chemicals, particularly inside laboratories. All chemicals brought on board should be accompanied by a Material Safety Data Sheet (MSDS) provided by the chemical manufacturer. Plastic bottles are safer at sea and should be used unless specific chemicals must be stored in glass. Disposal of chemicals is regulated by University policy and international laws. The ship's captain must know what chemicals you are carrying. A chemical storage locker is available and is the only safe way to carry most chemicals aboard ship. Please make arrangements with the resident technicians in advance for proper stowage and for appropriate disposal at the end of your cruise.

COMPRESSED GASSES - Scientists may bring their own compressed gasses on board. The Restechs have special racks to store gas cylinders on the main deck. Scientists need to provide regulators and tubing. Any gas under pressure is dangerous so be sure to consult the captain or the resident technician for safe stowage methods and locations.

LITHIUM BATTERIES - The location of lithium batteries stowed on the ship must be made known to the captain. Spare lithium batteries should be stored in a flammable materials locker. The ship carries Lith-x as its Class D fire suppressant, but the science party is encouraged to bring their own fire response equipment.

RADIOACTIVE MATERIAL - The use of radioisotopes, or other isotopes in concentrations not found in nature, is strictly controlled aboard Sproul. Permission to use radioisotopes must be obtained from the SIO Ship Scheduling Office in writing, following a written application (which is reviewed by the Radioisotope Committee) describing aims of the work and the isotopes, quantities, and procedures to be employed. Such usage must be consistent with strict precautions for safety and to prevent contamination of the ship. Use of isotopes is prohibited in ship's laboratories. All handling of isotopes must be done within a designated portable isolation van. Vans are available upon request to the resident technicians. Cleanup costs of any isotope spills will be charged to the persons responsible.

--Profiling & Sampling Equipment--

ACOUSTIC DOPPLER CURRENT PROFILER (ADCP) - Currents are measured by Teledyne RDI 150 kHz Ocean Surveyor ADCP. Data is processed and current profiles are displayed in real-time on a color monitor in the main lab and computer van. Data processing and recording are done on a Linux (Xubuntu) system using UHDAS software. Heading corrections are derived from the ship's motion reference and GPS systems. These corrections are applied to the data in real-time.

ECHO-SOUNDING - The scientific echo-sounder system on Sproul is a Knudsen Engineering, Ltd. model 3260 featuring chirp technology and digital signal processing. The echosounder may be run utilizing a 3.5 kHz transducer array or a 12 kHz transducer. The echo-sounder software runs on a dedicated acquisition computer, which provides the primary display of the echogram. The system uses a hull-mounted Airmar CS229 transducer for HF operation. In addition to the digital echogram, data are logged in a proprietary format (.KEB) or in SEG-Y format, depending on watch-standing burden.

MET ACQUISITION SYSTEM - The Shipboard Meteorological Acquisition System (MetAcq) acquires, filters, averages, corrects, displays, and distributes meteorological and uncontaminated seawater sensor data from a wide variety of sensor types and data input devices.

Meteorological sensors such as ones made by RM Young, Elektronik, Vaisala, Alden, Eppley, Biospherical, Coastal Environmental Systems, Seabird, FSI, or Omega; most sensors that have an RS485, RS422, or RS232 digital interface; or any analog sensor that can output a voltage, frequency, or 4-20ma current can be accommodated.

A typical system measures air temperature, barometric pressure, wind speed/direction, relative humidity, shortwave radiation, longwave radiation, seawater temperature, and seawater conductivity. Sensor information is combined with time and GPS position information and displayed on the local video display or web server and written to data files. Data can be acquired simultaneously on all enabled ports via a Rocketport serial distribution unit. Sensors that have analog outputs are first connected to signal conditioning modules that are physically located near the sensor. These modules then convert the analog signal to RS485 that is then routed to the lab, where the RS485 data may be converted to RS232. Collected data is stored on data files at user-selected intervals. This interval is typically once every 15 seconds. Acquired data that has been collected from the sensors (uncalibrated) is stored in uncorrected data files (YYMMDD.UCR and YYMMDD.UNC). Data that has been corrected by applying the most recent pre-cruise calibration data is stored in corrected data files (YYMMDD.MET and YYMMDD.COR).

Atmospheric meteorological sensors are generally located above the ship's upper bridge deck. Sensors that measure seawater properties are generally located near the uncontaminated seawater intake area or in one of the ship's laboratories that has a connection to the uncontaminated seawater line.

At least once a year all sensors are removed from the vessel, refurbished, and calibrated at an appropriate shore-based maintenance/calibration facility. Calibration data for each sensor is kept onboard each vessel and entered into the shipboard acquisition/setup file that is used by the acquisition program to correct sensor data for display and storage.

More information about each individual sensor, and documentation of the software is available in the docs directory inside the provided MET's data directory.

--Computing Resources--

INTERNET - Two internet connections provide limited bandwidth Internet to the ship. Everyone has Internet access. Some websites and high bandwidth functionality are disabled to maximize the usability of the connection. There are two internet links available. The network will choose which link is used automatically based on availability and performance.

Internet connections available:

1. Satellite Inmarsat FleetXpress: Has potential to reach ~2Mbps with ~715ms latency; however, throughput rate is not guaranteed as there can be bandwidth contention with other ships operating in the same region.
2. Verizon LTE cellular modem: Speeds vary based on operating area and environmental dynamics, but this connection can be significantly faster and vastly lower latency than the satellite link.

PUBLIC COMPUTER - There is one public terminal available for general internet use. It is accessible from either the lab van or the main lab.

PRINTERS - An HP Color LaserJet Pro MFP M283fdw is networked and located in the computer van. It is recommended that the printer driver is loaded onto computers being brought aboard ahead of time.

Safety Aboard

EMERGENCY DRILLS - A fire and abandon ship drill must be held within 24 hours of leaving port and once every seven days thereafter, by Coast Guard regulation. Fire and abandon ship station bills are posted throughout the ship. Individual responsibilities are posted on small cards near each bunk. There are U.S. Coast Guard-approved "personal flotation devices" (lifejackets) in each stateroom for the occupants. Upon room assignment, all scientists should familiarize themselves with their fire and boat stations. It is also important to learn where the lifejackets are stored and how to wear them properly. Lifejackets are to be worn during all drills.

With the captain's permission, the chief scientist may assign a "skeleton watch" to continue working during fire and boat drills. Proper dress (i.e., long pants, hats, shoes, shirt, etc.) is required at all drills. Bare feet, flip-flops, and shower shoes are unsafe on deck. Sproul also carries cold water survival suits for all people onboard, which are in the staterooms.

MAN OVERBOARD - If someone has the misfortune to fall overboard, first pass the word to the bridge, "MAN OVERBOARD," designating which side of the ship they fell over if possible. Next throw anything that floats, including one of the strategically located life rings, over the side to mark the spot and provide flotation. At all times, you should keep your eyes on the person. When the person is in your sight, you must point to the victim. This helps the mates and Captain on the bridge locate the victim while maneuvering the ship.

The alarm signal for a Man Overboard is 3 long blasts on the general alarm and ship's whistle. If you hear this alarm, muster on the main deck and attempt to maintain visual contact of the victim while pointing in the victim's direction when in sight.

FIRE - If you see or suspect a fire, notify the bridge immediately. If you feel comfortable doing so, use a fire extinguisher and attempt to put the fire out. If it is too large, close hatches and doors as you evacuate the space.

The alarm signal for a Fire is a continuous ringing of the general alarm and ship's whistle for 10 or more seconds. If you hear this alarm, muster on the main deck with your lifejacket and exposure suit. Await instructions and be prepared to assist in fighting the fire.

ABANDON SHIP - The alarm signal for Abandon Ship is 7 short blasts followed by 1 long blast on the general alarm and ship's whistle. If you hear this alarm, muster on the main deck with your lifejacket and exposure suit. Await instructions and be prepared to assist in launching life rafts.

PERSONAL FLOTATION DEVICES - You will find your lifejacket in your assigned room. It should be equipped with a whistle on a lanyard and a waterproof light. All life jackets also have reflective patches attached front and back near the shoulders. Lifejackets are important safety devices and should be put on immediately in case of a fire or abandon ship alarm. They should not be left about the ship, or used as cushions/pillows. If you think there is a problem with your lifejacket or it is missing a light or whistle, notify the mate on watch who will make arrangements to take care of the problem.

Exposure Suits are located in your assigned room. Exposure suits are important safety devices, but should not be donned inside the ship. They should not be left about the ship, or used as cushions/pillows. If you are unsure how to put on an exposure suit, a mate or the Restech can show you the proper donning procedure.

Work vests are provided by the ship and are located in the wet lab. These vests must be worn when the safety lines are down or if you are involved in over-the-side handling of equipment.

LIFE RAFTS - The ship carries 2 automatic-release, self-inflating life rafts. They are in cradles on the port 01 deck, and atop the computer lab van (starboard). Each has a 20-person capacity.

ENGINEERING SPACES - These spaces are off-limits to scientific party members except by permission of the engineer. These can be dangerous areas and caution must be taken when maneuvering within them.

BRIDGE - If you wish to visit the bridge or engine room, please request permission from the watch officer. These are busy places, so you may be asked to come back another time, depending on the current operation.

MEDICAL MATTERS - The ability of the ship to handle medical emergencies is limited. There are first aid kits, a stocked sick bay, officers have limited first aid training, and help can be summoned by Internet. The best course of action is to prevent emergencies.

To this end:

- Do not try to disguise or pass over any abnormal conditions you may have, especially any which might erupt suddenly and require treatment.
- Prevent injuries by thinking about safety all the time. Watch for dangerous situations and fix them or bring them to the attention of someone who can.
- Sproul currently has Maritime Medical Access contracted to provide medical assistance over the phone or via Internet.

DECK SAFETY - Seagoing operations are by nature hazardous. Strict compliance with safety precautions is necessary to prevent injury to personnel and damage to the ship.

Deck operations should be discussed well in advance whenever possible with safety and efficiency the foremost concern. The bridge should be informed of all deployments before anything is put over the side. At night or during heavy weather, no one should go out on the working deck without informing the bridge. Permission must be obtained from the bridge prior to turning on any deck lights or operating any equipment on deck. Work vests shall be worn by everyone on the working deck whenever the lifelines are down.

Hard hats are required for any overhead operations (e.g., crane lifts, over-the-side deployments, etc.). These are provided by the ship and are stored in the wet lab. Wear proper shoes when working on deck. Sandals or other flip-flop-type of footwear which cannot be securely fastened to one's feet are unsafe and will not be allowed for deck work.

Stand clear of all wires, ropes and blocks which are under stress. Do not handle any moving wire or rope.

Due to vessel motion in heavy seas, the scientific party members should ensure that all of their equipment is securely lashed down and properly stowed. It is the chief scientist's responsibility to ensure that this task has been accomplished. If you see any items not secured properly and are in doubt as to how to stow or lash it down, ask the Restech or any crew member for assistance. Pick up, clean up, and securely stow all loose gear after each use. Do not walk away from any piece of loose equipment.

Keep all doors and hatches secure at all times. Either latch it open with the hook supplied or close it tight. Never allow doors or hatches to swing freely with the roll of the ship. Be aware of air conditioning boundaries and leave these doors shut at all times. When opening and closing doors, be courteous to sleeping shipmates and do not let the door slam.

Special Equipment Requests

We maintain many kinds of equipment and capabilities that are not routinely aboard the vessel, but are available with advance planning.

WORK BOAT - The Restechs have a 17' AVON with a 50 HP outboard. The Restech Avon is available on request, contingent upon scheduling demand.

GASOLINE - If larger amounts of gasoline are needed, a special "portable" tank can be placed aboard but it must be requested in advance from the Restechs.

DISTILLED WATER - There is no means aboard *Robert Gordon Sproul* to produce deionized (DI) water to chemical standards. Carboys can be filled with DI water and loaded prior to sailing when the start port is San Diego. Please contact the ResTechs about DI water needs.

BIOLOGICAL SAMPLING EQUIPMENT – The Scripps Restechs maintain several different kinds of sampling nets for use aboard SIO-operated research vessels. If you would like to use these nets aboard *Robert Gordon Sproul*, please contact the Restechs when you begin the planning process for your cruise.

GEOLOGICAL SAMPLING EQUIPMENT - Gravity coring equipment, multicores, a box corer, a glass corer, and rock dredges are maintained by the Restechs, for use aboard Scripps-operated research vessels. If you would like to use these systems aboard *Robert Gordon Sproul*, please contact the Restechs. Detailed plans should be submitted with the longest possible lead time to allow us to supply critical items, such as pipe liners for core barrels, and dredging supplies.

VANS - A container or portable laboratory van can be mounted on the main deck. Plans to use any vans should be indicated on the Ship Time Request Form and details should be discussed with the resident technician well in advance of departure. Portable laboratory vans are available from the UNOLS Van Pool with advance notice. All vans must comply with existing UNOLS safety standards, described in the Portable Scientific Van manual. A handy checklist is provided in Appendix C of the UNOLS Safety Standards.

RADIOACTIVE WORK - All handling of isotopes must be done within a designated portable isolation van, which are available from the UNOLS Van Pool with advance notice. If you plan on using radioisotopes, please check out the information regarding isotope use on Scripps ships at scripps.ucsd.edu/ships/planning/isotopes

MAGNETOMETER - *Robert Gordon Sproul* does not routinely carry a magnetometer, but it can be arranged. Contact the Restechs in advance.

XBT - A Turo Quoll XBT system is permanently installed. It is available for general use; however, XBTs are not carried aboard. The Restechs can provide XBTs at a cost or the science party can provide their own.

SCUBA DIVING - All diving from Scripps' vessels is controlled by the Dive Safety Officer. Each diver must have a valid AAUS certification and Scripps Scientific Diving authorization. Please obtain a Diving Form from the SIO Ship Scheduling Office. Your dive plan, submitted via this form, must be received and reviewed for approval well in advance of the voyage. For additional information, see the [Scripps Scientific Diving Program](#)

Scientific diving from Scripps' vessels is overseen by the Scripps Dive Safety Officer. Divers must have a valid certification, and all scientific diving from Scripps-operated ships must have Scripps Scientific Diving authorization. If you plan to use scientific diving in your program, please read and submit the following:

- Read the Scripps Scientific Diving Manual: https://scripps.ucsd.edu/sites/scripps.ucsd.edu/files/sio_ucsd_scidivemanual_2019.pdf
- Discuss your plan with the Scripps Diving Officer: Email Christian McDonald (cmcdonald@ucsd.edu) •

For additional information, see <https://scripps.ucsd.edu/scidive>

There is no recompression chamber or diving gear on *Robert Gordon Sproul*. Arrangements can be made with the Restechs to have a portable scuba air compressor, tanks and weights put on board.

Preventing Harassment and Discrimination

WE SUPPORT A SAFE, FAIR, AND WELCOMING ENVIRONMENT FOR EVERYONE

We want you to have a safe, productive, and memorable experience aboard Scripps-operated research vessels.

- We are committed to maintaining a climate of fairness, cooperation, and professionalism on board.
- We embrace diversity, equity, and inclusion as essential ingredients of excellence in seagoing science.

We will not abide discrimination or harassment on board. We are guided by the UC San Diego Principles of Community (<https://ucsd.edu/about/principles.html>) and our approach to prevention is provided in this document.

If you experience any form of harassment or discrimination on board, we have several ways for you to get assistance.

At sea, report bias, harassment or discrimination to the Captain, ResTech, or Chief Scientist. All are obligated to follow an established protocol for responding shown graphically on the flowchart provided in this document.

You may also report harassing conduct directly to the UC San Diego Title IX Office (<https://ophd.ucsd.edu>).

If you have any problems, questions or concerns with the vessel or any experience on board, please discuss with the Master or the Restech.

Preventing Sexual Harassment

The University of California is committed to creating and maintaining a community where all persons who participate in University programs and activities can work and learn together in an atmosphere free of all forms of harassment, exploitation, or intimidation. Every member of the University community should be aware that the University is strongly opposed to sexual harassment, and that such behavior is prohibited both by law and by University policy.

The University will respond promptly and effectively to reports of sexual harassment, and will take appropriate action to prevent, to correct, and if necessary, to discipline behavior that violates this policy. At sea, reports of sexual harassment should be brought to the chief scientist and/or the captain, who will investigate and take appropriate steps to remedy the situation.

The social atmosphere at sea is very different from that on shore. When people work and live in close proximity for lengthy periods of time, personal and professional boundaries may become blurred. The usual shore-based distinctions between “at work” and “at home” become meaningless aboard ship. University policy therefore applies to both “on duty” and “off duty” behavior on ships.

UCSD encourages all sea-going personnel, including volunteers, to recognize the unique circumstances of shipboard life and to take practical steps to prevent sexual harassment from occurring. Because complaints are most effectively resolved at the earliest stages, UCSD encourages early reporting of concerns or complaints regarding sexual harassment.

Sea-going personnel are also reminded that certain consensual relations involving a UC student, volunteer or employee may also be governed by policy, including the Faculty Code of Conduct (governing relationships between faculty and students) and the Policy on Conflicts of Interest Arising out of Consensual Relationships.

More information on all of these policies may be found at the UC San Diego Office for the Prevention of Harassment and Discrimination (<http://ophd.ucsd.edu>). Aboard ship, these policies are incorporated into our Safety Management System, outlined in Safety Management Manual 296.

YOUR AGREEMENT TO COMPLY IS REQUIRED

Everyone who embarks aboard a research vessel operated by Scripps is required to affirm that they understand and will abide by our policies regarding drugs, alcohol, and the prevention of harassment & discrimination. Prior to sailing, all participants will be asked to read, sign, and return a Drug, Alcohol & Sexual Harassment (DASH) form that constitutes their agreement to comply to these policies. DASH forms are available on the Ship Scheduling Portal, which all participants access as part of their cruise preparation. Forms are also available from the Scripps Ship Scheduling Office (shipsked@ucsd.edu).

Who must file? All members of scientific parties aboard SIO-operated research vessels. A signed DASH form is valid for one year for use aboard all SIO-operated ships.

When to file: Two weeks prior to ship sailing, or as directed by your chief scientist.

Where to file: Email your signed form to the SIO Ship Scheduling Office (shipsked@ucsd.edu).

Purpose: To inform you of SIO's no-tolerance policies regarding alcohol, illegal drugs, harassment and discrimination aboard SIO-operated research vessels, and to secure your commitment to abide by these policies. Scripps Institution of Oceanography is committed to creating and maintaining a safe, healthy and harassment-free environment. As part of this commitment, we do not tolerate alcohol, illegal drugs or sexual harassment aboard SIO-operated research vessels. The policies described below comply with Federal and California state law, UC San Diego policy, and University-National Oceanographic Laboratory System (UNOLS) policies. Violation of these policies may result in dismissal from the vessel as well as other disciplinary actions involving the person involved, their research group, their employer, and their funding agency.

How this information will be used: Your signature indicates your understanding of, and agreement to abide by, the rules described here. Your signed form will be kept on file for one year, and may be re-used aboard any SIO-operated ship during that period.

Questions? If you have questions regarding these policies, please contact the SIO Ship Scheduling Office (shipsked@ucsd.edu).

Disputes. Disputes will be referred to the SIO Associate Director, who follow UC San Diego procedures for resolution.

We care about your health and safety at sea. If you have any concerns about health and safety on board, please discuss them with your chief scientist prior to your cruise, or while at sea with the ship's Master, the chief scientist, the Restech, the UC San Diego UC San Diego Title IX Office (contact information linked here).

Bruce Appelgate

Associate Director, SIO

Alcohol and Illegal Drugs: Zero Tolerance

ALCOHOL

Alcoholic beverages are not allowed aboard SIO-operated research vessels. No person may bring, possess or consume alcohol aboard an SIO-operated research vessel. No person should report for duty while under the influence of alcohol whether the vessel is in port or at sea. The Master of the vessel is legally authorized and empowered to search any part of the ship at any time for alcoholic beverages or any other contraband (based on reasonable suspicion). Any person in violation of this policy is subject to immediate removal from the ship as well as additional actions that may include, but are not limited to, administrative actions involving the person involved, their research group, their employer, their funding agency, and UNOLS.

Chief Scientists are responsible for the behavior of all members of the scientific party, under authority delegated by the Master. Chief Scientists must ensure that all members of the scientific party are aware of the rules, and take action to ensure compliance and report any violations to the Master.

Additional details regarding authority, responsibility and special circumstances regarding alcohol are contained within the complete SIO alcohol policy, which is posted aboard each SIO ship as part of our shipboard Safety Management system.

ILLEGAL DRUGS

All illegal drugs are completely forbidden on SIO vessels. The vessel Master is empowered to conduct searches of personal effects as well as any space aboard ship based on reasonable suspicion that illegal substances may be present. Narcotic detector dogs will be used on a random and unannounced basis. If illegal drugs are found on any SIO vessel, the person(s) responsible will immediately be turned over to the proper authorities.

SIO vessels comply with United States federal regulations governing possession and/or use of illegal or controlled substances. These policies are fully described in SIO's shipboard safety management manuals (MSM 6, MSP 723, MSP 726).

YOUR AGREEMENT TO COMPLY IS REQUIRED

Everyone who embarks aboard a research vessel operated by Scripps is required to affirm that they understand and will abide by our policies regarding drugs, alcohol, and the prevention of harassment. Prior to sailing, all participants will be asked to read, sign, and return a Drug, Alcohol & Sexual Harassment (DASH) form that contains the information described below. DASH forms are available on the Ship Scheduling Portal (<https://ships.ucsd.edu/>), which all participants access as part of their cruise preparation. Forms are also available from the Scripps Ship Scheduling Office (shipsked@ucsd.edu).

Who must file? All members of scientific parties aboard SIO-operated research vessels. A signed DASH form is valid for one year for use aboard all SIO-operated ships.

When to file: Two weeks prior to ship sailing, or as directed by your chief scientist.

Where to file: Email your signed form to the SIO Ship Scheduling Office (shipsked@ucsd.edu).

Purpose: To inform you of SIO's no-tolerance policies regarding alcohol, illegal drugs and sexual harassment aboard SIO-operated research vessels, and to secure your commitment to abide by these policies. Scripps Institution of Oceanography is committed to creating and maintaining a safe, healthy and harassment-free environment. As part of this commitment, we do not tolerate alcohol, illegal drugs or sexual harassment aboard SIO-operated research vessels. The policies described below comply with Federal and California state law, UC San Diego policy, and University-National Oceanographic Laboratory System (UNOLS) policies. Violation of these policies may result in dismissal from the vessel as well as other disciplinary actions involving the person involved, their research group, their employer, and their funding agency.

How this information will be used. Your signature indicates your understanding of, and agreement to abide by, the rules described here. Your signed form will be kept on file for one year, and may be re-used aboard any SIO-operated ship during that period.

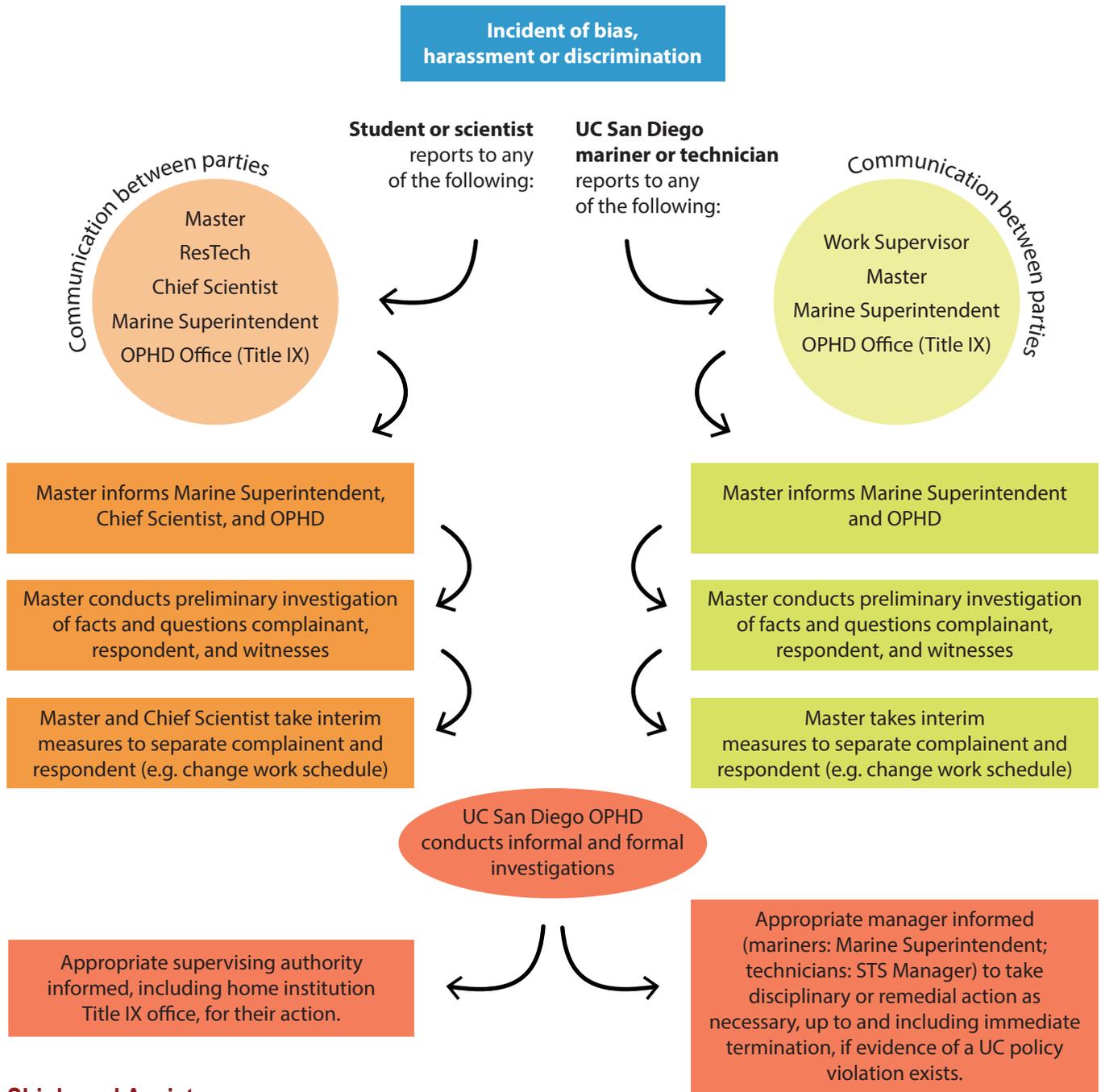
Questions? If you have questions regarding these policies, please contact the SIO Ship Scheduling Office (shipsked@ucsd.edu).

Disputes. Disputes will be referred to the SIO Associate Director for resolution. We care about your health and safety at sea. If you have any concerns about health and safety on board, please discuss them with your chief scientist prior to your cruise, or while at sea with the chief scientist or ship's captain.

Bruce Appelgate
Associate Director, SIO

Preventing Harassment & Discrimination at Sea: Complaint Resolution Flow Chart

We support UC San Diego's Principles of Community, and our mission reflects the University's commitment to maintaining a climate of fairness, cooperation, and professionalism. We join others at UC San Diego in embracing diversity, equity, and inclusion as essential ingredients of academic excellence in higher education.



Shipboard Assistance:

Contact the captain, restech, chief scientist or your work supervisor

Off-Ship Assistance:

Marine superintendent: Zoltan Kelety - zkelety@ucsd.edu - 858-534-1643

OPHD Title IX Coordinator: Carol Rogers - ophd@ucsd.edu - 858-822-3702

Report bias: reportbias.ucsd.edu

Sexual Assault Resource Center: sarc.ucsd.edu

University of California Policy

The University of California is committed to creating and maintaining a community dedicated to the advancement, application and transmission of knowledge and creative endeavors through academic excellence, where all individuals who participate in University programs and activities can work, learn, and live together in an atmosphere free of harassment, exploitation or intimidation. Every person is protected against discrimination, harassment and retaliation in our educational programs and activities, and employment settings, whether on shore or at sea.

Anyone who sails on the Scripps Fleet must follow University of California policies.

The Scripps Fleet

Scripps Institution of Oceanography is one of the oldest, largest, and most important centers for ocean and earth science research, education, and public service in the world. Research at Scripps Institution of Oceanography encompasses physical, chemical, biological, geological, and geophysical studies of the oceans and earth.

Scripps operates one of the largest academic fleets in the world and our research vessels are recognized for their outstanding capabilities. These ships constitute mobile laboratories and observatories that serve students and researchers from institutions internationally.

Our Mission

The Scripps mission is to seek, teach, and communicate scientific understanding of the oceans, atmosphere, Earth, and other planets for the benefit of society and the environment.

SCRIPPS INSTITUTION OF OCEANOGRAPHY

UC San Diego



UC San Diego

 SCRIPPS INSTITUTION OF
OCEANOGRAPHY UC San Diego

**HARASSMENT
PREVENTION AND
RESPONSE GUIDE**

2016

What is discrimination?

Discrimination is the unfair or unequal treatment of an individual or group of people based upon certain characteristics. Harassment is a specific type of illegal discrimination, which is defined as unwelcome conduct in a work or educational setting that is so severe or pervasive, and objectively offensive, that it unreasonably interferes with and adversely impacts the educational experience or work environment.

What are different types of harassment and discrimination?

UC San Diego prohibits harassment and discrimination in education and employment based upon age, ancestry, citizenship, color, disability, gender, gender expression, gender identity, genetic information, marital status, medical condition, national origin, pregnancy, race, religion, sex, sexual orientation and veteran status. Each individual is also protected against bias based on perceived membership in any of these categories.

How is life at sea different from research or employment on shore?

Life aboard a research vessel is unique because crew members and science parties work and live in very close quarters. An environment that is conducive to the work of the science party and the crew is imperative. Each individual on board has a role in creating an equitable, diverse, and inclusive climate. The inappropriate conduct of one individual can adversely impact all members onboard. Be respectful of personal space and maintain professional boundaries. There really is no on-duty or off-duty when aboard a ship. All individuals on Scripps' vessels are expected to follow University of California policies.

Who is the onboard point person to receive reports of harassment or discrimination?

The vessel Master (Captain) is ultimately responsible for everything that happens aboard the ship. At sea, any individual may report unwelcome behavior to the Marine Research Technician who is the liaison between the crew and the science party. One may also report bias, harassment or discrimination to the Captain or the Chief Scientist. An individual may report harassing conduct directly to the UC San Diego Office for the Prevention of Harassment & Discrimination (OPHD) via email at ophd@ucsd.edu or through reportbias.ucsd.edu, an online bias reporting system.

Who is a responsible employee?

Any UC San Diego employee who receives information that a student has suffered sexual violence, sexual harassment or other prohibited behavior must promptly notify OPHD. This includes student employees, when disclosures are made in their capacities as employees.

What if I believe I have been sexually assaulted?

The UC San Diego Campus Advocacy, Resources & Education at the Sexual Assault Resource Center (CARE at SARC) provides confidential services for students, staff and faculty affected by sexual assault, dating violence, domestic violence or stalking. OPHD investigates complaints of sexual assault under the University of California Policy on Sexual Violence and Sexual Harassment, available at <http://policy.ucop.edu/doc/4000385/SVSH>

What are the reporting options available to someone who is a victim of sexual assault?

Reporting options include Criminal, Civil, Administrative and Non-Reporting. More information about these options can be found at http://ophd.ucsd.edu/_files/ReportingOptions.pdf

What if I am afraid of retaliation for reporting harassment or discrimination?

Threats, other forms of intimidation and retaliation against anyone for reporting harassment or discrimination are prohibited. Retaliation is a violation of the law and university policy and is a serious offense.

Scripps Resources

We encourage early reporting of concerns or complaints, because complaints are most effectively resolved at the earliest possible stage. Resources are available for all personnel at sea including crew members, members of the science party, students, staff, postdocs and faculty.

Contacts

Office for the Prevention of Harassment & Discrimination (OPHD)
Carol Rogers, Interim Director/Title IX Coordinator
ophd@ucsd.edu

Report Bias
reportbias.ucsd.edu

CARE at the Sexual Assault Resource Center (CARE at SARC)
sarc.ucsd.edu

Ship Operations and Marine Technical Support (SOMTS)
Zoltan Kelety, Marine Superintendent
skelety@ucsd.edu