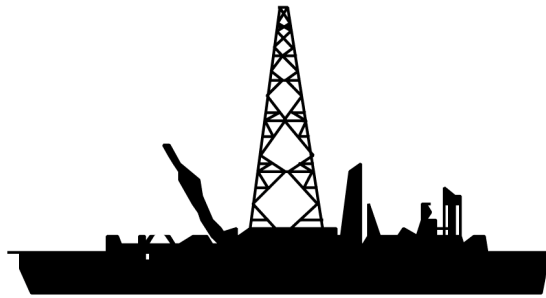


# ***SHIPBOARD SCIENTISTS HANDBOOK***



**Last modified September 2002**

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# INTRODUCTION TO THE OCEAN DRILLING PROGRAM

## **Overview and Purpose**

The Ocean Drilling Program (ODP) is an international partnership of scientists and governments that have joined together to explore Earth's structure and history beneath the ocean basins (APPENDIX II: Management/Panel Structure).

The central purpose of ODP is to provide (1) core samples and downhole measurements from beneath the oceans' floors and (2) facilities to study those samples. During each cruise, specific scientific objectives are pursued by the personnel on board. The data generated by the Program leads to a better understanding of the processes of plate tectonics, the Earth's crustal structure and composition, conditions in ancient oceans, and changes in climate through time and, in turn, to a fuller comprehension of the evolution of our planet.

## **ODP's Predecessor**

ODP's predecessor, the Deep Sea Drilling Project (DSDP), was established in 1966 at Scripps Institution of Oceanography to acquire deep-sea cores on a routine basis for scientific study. Using the *Glomar Challenger*, DSDP obtained >60 mi of core from >1000 holes at 624 sites around the world. DSDP developed techniques for computer-controlled dynamic positioning to stabilize the ship over a borehole in mid-ocean and for reentry systems that allow drill bits to be changed and reinserted into the drill hole.

## **JOI**

ODP is managed by the Joint Oceanographic Institutions, Inc. (JOI), under contract with the U.S. National Science Foundation (NSF). NSF chose JOI to act as manager of ODP (APPENDIX II). JOI is a consortium of 16 major U.S. oceanographic institutions, which provides management support to scientific research programs of international stature. The 16 institutions involved are the University of California at San Diego, University of California at Santa Cruz, Columbia University, Florida State University, University of Florida, University of Hawaii, Lamont-Doherty Earth Observatory, University of Miami, University of Michigan, Oregon State University, University of Rhode Island, Rutgers the State University of New Jersey, Stanford University, Texas A&M University, University of Texas at Austin, University of Washington, and Woods Hole Oceanographic Institution.

## **JOIDES**

The Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES) advises JOI in the overall objectives of ODP (APPENDIX II). JOIDES is an international group of scientists, which provides planning and program advice regarding science goals and objectives, facilities, scientific personnel, and operating procedures. The primary governing arm of the JOIDES organization is the Executive Committee (EXCOM). The Science Committee (SCICOM) evaluates advice from

the science advisory structure, prioritizes scientific objectives, and ranks drilling programs, forwarding recommendations on scientific objectives and drilling plans to EXCOM for final approval. The science advisory structure is headed by SCICOM and consists of two Science Steering and Evaluations Panels (Environmental and Interior) and the Operations Committee (OPCOM) along with short-lived detailed planning groups that are created as needed to assist in translating broad thematic programs into concrete drilling plans. Three service panels (Pollution Prevention and Safety [PPSP], Site Survey [SSP], and Scientific Measurements [SciMP]) and a Technology and Engineering Development Committee (TEDCOM) report to OPCOM (APPENDIX II).

### **Funding**

Funding for ODP is provided by the following agencies:

Australia/Canada/Chinese Taipei/Korea Consortium for Ocean Drilling, Deutsche Forschungsgemeinschaft (Federal Republic of Germany), Institut National des Sciences de l'Univers-Centre National de la Recherche Scientifique (INSU-CNRS; France), Ocean Research Institute of the University of Tokyo (Japan), National Science Foundation (United States), Natural Environment Research Council (United Kingdom), European Science Foundation Consortium for the Ocean Drilling Program (Belgium, Denmark, Finland, Iceland, Ireland, Italy, The Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland), and the Marine High-Technology Bureau of the State Science and Technology Commission of the People's Republic of China.

### **Science Operator**

As Science Operator for the Ocean Drilling Program, Texas A&M University (ODP/TAMU) has leased the drill ship *JOIDES Resolution* to continue the ocean exploration begun aboard *Glomar Challenger*. The operation of the drill ship is managed from facilities at ODP/TAMU in College Station, Texas.

TAMU is responsible for (1) implementing science planning and operations; (2) guiding engineering development and improvement of drilling technology; (3) selecting scientists for the shipboard scientific parties; (4) designing, furnishing, and maintaining shipboard and shore-based laboratories to meet the needs of the shipboard scientific staff; (5) curating and distributing all core samples and data; (6) publishing scientific results; and (7) providing public information about ODP.

### **Repositories**

ODP/TAMU is curator of all ODP cores in four repository facilities: Bremen, East Coast, West Coast, and Gulf Coast. Bremen, located in Bremen, Germany, stores ODP cores from the Atlantic, Arctic, and Antarctic Oceans and the Mediterranean and Caribbean Seas. Cores from the Pacific and Indian Oceans and the Red Sea are housed at TAMU in the Gulf Coast Repository. DSDP cores from the Pacific and Indian Oceans and the Red Sea are stored in the West Coast Repository at Scripps Institution of Oceanography. DSDP cores from the Atlantic, Arctic, and Antarctic Oceans and the Mediterranean and Caribbean Seas are stored at the East Coast Repository, a repository facility located at Lamont-Doherty Earth Observatory (LDEO).

## SCIENTISTS PRECRUISE PREPARATIONS

### Physical

It is the responsibility of each shipboard scientist to obtain a physical examination by a duly licensed physician. All pertinent forms along with instructions are mailed by ODP to participants 4 months in advance of each leg. **The completed physical examination form must be returned to ODP 2 months in advance of the cruise port call to allow sufficient time for review by the ship's physician. In order to board the ship, each participant must have a completed physical examination form on file at ODP/TAMU.**

**Note: Shipboard participants who have experienced motion sickness** are advised to discuss precautionary measures with their doctor. Medications are available to prevent seasickness but are less helpful after symptoms have begun. Also, it is advisable to notify the ship's doctor as soon as possible at the beginning of the cruise that seasickness may be a concern.

### Prescriptions

Shipboard participants requiring special or prescription medicines must bring an ample 2-month supply for their use. Prescriptions cannot be refilled on board, and only small quantities of over-the-counter drugs are maintained.

### Passport/Visas

Before the cruise, **each shipboard scientist must obtain a passport and the necessary visas and inoculations required by the countries to be visited.** Since the *JOIDES Resolution* is a Liberian registered vessel, it is necessary for all U.S. personnel to have valid U.S. passports in their possession upon joining or leaving the vessel at American ports as well as during international travel to and from the ship.

Each scientist is responsible for having the correct tourist or transit visas.

Visa requirements may differ if arriving/departing by ship vs. airplane, so **CHECK** with the appropriate consulate or embassy.

On rare occasions, special visas are required.

If your trip includes personal travel time before or after the cruise, you may require more time on your visa or a different visa altogether: **CHECK!!!**

### Travel Arrangements

#### *Non-US*

Scientists from countries other than the U.S. **must make their own travel arrangements**, both

for the cruise and for the postcruise meetings. Travel costs for non-U.S. scientists are paid by funding sources within their own countries.

### ***US***

For U.S. scientists at academic institutions and government agencies, travel to and from the cruise and postcruise meetings is arranged by ODP/TAMU and paid for by funds available through the U.S. Science Support Program (USSSP). **Questions about travel arrangements may be addressed to the ODP/TAMU Travel Supervisor, Ocean Drilling Program, 1000 Discovery Drive, College Station, Texas 77845-9547 or via e-mail Denise DeShetler at [deshetler@odpemail.tamu.edu](mailto:deshetler@odpemail.tamu.edu).**

### **Scientific Prospectus**

The leg scientific prospectus presents scientific and operational program details for the leg. It is the main reference for prospective leg participants and potential shore-based investigators. The prospectus also represents the contract between the Co-Chief Scientists, ODP, and the JOIDES community.

The Prospectus is placed on the web ~2 months after the precruise meeting. This is highly dependent on how complete the document is at the end of the precruise meeting.

**<http://www-odp.tamu.edu/publications/SCIPROSP.HTML>**

### **Sample Requests**

Sample requests will be reviewed by the Staff Scientist and the Curator 2 to 3 months before the cruise. Copies of the requests will be sent to the Co-Chief Scientists 1 to 2 months before the cruise begins.

The **Sample Request Form** may be accessed at:  
**<http://wwwodp.tamu.edu/curation/subsfrm.htm>**

**The Sample Distribution, Data Distribution, and Publications Policy** may be accessed from the Curation web page at:  
**<http://www-odp.tamu.edu/publications/policy.html>.**

### **Computer Environment**

ODP maintains an open multiplatform environment (i.e., Windows, Mac, UNIX, and DOS). If you have any special computing/platform needs or are planning to bring equipment and/or software aboard the ship, contact the ODP/TAMU Staff Scientist at least 1 month before the cruise.

For detailed information on what computers, software, and support are available on the ship see:  
**<http://www-odp.tamu.edu/isg/>**

**Special Lab Needs**

Scientists should alert ODP as early as possible if special equipment, supplies, laboratory space, and so on are needed. A list of supplies generally available on board the ship is posted on the ODP web page.

**Shipping Supplies and Equipment**

All luggage, including official ODP hand-carried items and personal effects, is subject to inspection by Customs.

***Shipping from ODP***

Supplies/equipment for each leg are staged at ODP/TAMU, then packed/shipped from ODP via surface and/or air freight to the port call. Special research equipment can be sent to ODP/TAMU to the attention of the Staff Scientist for the leg. If these items are received by the posted cut-off dates, they will be included in the ODP/TAMU shipments. Documentation will be required for items sent for transshipment to generate proper shipping papers. Information accompanying equipment/supplies for shipment should include: (1) individual item description, (2) serial/model numbers, (3) quantity, (4) value (US\$), (5) dimensions/weights, and (6) PO numbers (if applicable).

***Shipping Directly to Port***

Items intended for the ship should be sent directly to our port agent only in exceptional circumstances. Such direct shipments MUST be preapproved and coordinated with the ODP/TAMU logistics office. Direct shipments will be opened for inspection prior to loading on the ship. Note that by law the Ship Captain has the authority to refuse to load any substance considered hazardous from a health or safety point of view.

***On-Loading Freight***

All freight sent to a port is usually loaded on board beginning on day 2 of the port call. Day 1 is usually taken up with clearances, crew changes, and information exchanges known as “cross-overs.”

***Off-Loading Freight***

Freight from a port call is off-loaded as soon as possible after clearances have been granted.

**Ship's Stores**

A **ship's store** operated by the Sedco crew sells miscellaneous personal supplies and toiletries. The store is small, so it is better to bring what you need from home or buy it at port call. A store run by ODP sells ODP/TAMU t-shirts and sweatshirts, *Resolution* baseball caps, small cloth ODP patches, ODP coffee mugs, and *Resolution* note cards.

**Money**



ODP accepts U.S. currency and credit cards for e-mail and ship’s stores (t-shirts, mugs, etc.). However, phone calls have to be paid with U.S. currency (cash or traveler’s checks). ODP does not accept foreign currency or personal checks.

**Dietary Issues**

Any special dietary requirements should be brought to our attention (contact the Staff Scientist) as early as possible prior to the leg.

*Do NOT bring the following items on board the ship as*

**THEY ARE STRICTLY PROHIBITED**

***See APPENDIX I: ODP/TAMU ADMINISTRATIVE INFORMATION AND SHIPBOARD POLICIES.***

➤ Firearms
➤ Alcohol
➤ Illegal Drugs

***Things ODP DOES Supply:***

➤ Safety glasses (NOT prescription)
➤ Hard hats: hard hats are required outside aft of the accommodations area and at all life boat drills. <b>See APPENDIX I: Shipboard Policies and Safety</b>
➤ Work gloves
➤ Hearing protection (when necessary)
➤ Limited cold-weather gear ONLY for high-latitude legs
➤ Laundry bags and service
➤ Linens and towels (beds are tended and sheets changed by the Catermar crew)
➤ A collection of paperback books and various magazines
➤ A selection of movies

## ***CHECKLIST OF ITEMS TO BRING TO THE SHIP***

- \_\_\_\_\_ Passport, ODP identification card, and ODP travel information
- \_\_\_\_\_ ODP letter stating you are joining the cruise (important for port security)
- \_\_\_\_\_ Backup media: JAZ, MO, tape, ZIP, or CDs
- \_\_\_\_\_ Work for slow periods (e.g., data for that paper you've been wanting to write)
- \_\_\_\_\_ Soap, shampoo, toothpaste, tissues
- \_\_\_\_\_ Sunscreen
- \_\_\_\_\_ Vitamins or other dietary supplements
- \_\_\_\_\_ A small alarm clock or watch with an alarm (power in the cabins is 120V, 50 cycle [NOT 60]; it can do strange things to digital alarm clocks)
- \_\_\_\_\_ Small flashlight to move around the cabin when others are sleeping Extra batteries for all battery-powered equipment
- \_\_\_\_\_ Backpack to carry personal belongings during your shift when access to the cabin is limited because cabinmates are sleeping
- \_\_\_\_\_ Sunglasses: reflection off the water, clouds, and ice can be fierce
- \_\_\_\_\_ Extra pair of **prescription** glasses/sunglasses
- \_\_\_\_\_ Sweater or jacket for indoors (air conditioning can be strong)
- \_\_\_\_\_ Plain t-shirts for silk-screening leg logo at the end of the cruise
- \_\_\_\_\_ Prescription medication (enough for 2 months at sea and travel)
- \_\_\_\_\_ Necessary paperwork for medicines: some types are illegal in other countries
- \_\_\_\_\_ Camera and manual (**See ODP/TAMU Photography and Microscopes Section for detailed information**)
- \_\_\_\_\_ Film (**not** available for purchase on ship)
- \_\_\_\_\_ Macro lens (if planning to take core photos)
- \_\_\_\_\_ 100 ASA 35-mm daylight balanced process E6 film for core photos
- \_\_\_\_\_ Steel-toed boots if you plan to spend time on the rig floor (required for Co-Chief Scientists, loggers, CORKers, etc.)
- \_\_\_\_\_ Close-toed shoes are required in the laboratories and on the rig floor
- \_\_\_\_\_ Pair of indoor shoes or slippers: footwear worn outside on catwalks, deck, or rig floor **is not to be worn in accommodation areas**
- \_\_\_\_\_ Old/tough clothes, as you will probably get dirty (mud, grease, paint, etc.) The ship's laundry is efficient (clothes returned within 6 hr and door-to-door service) but can be **hard** on clothing. Don't bring your favorite stuff.

### **Gym Items**

- \_\_\_\_\_ Extra towel (also for sunbathing)
- \_\_\_\_\_ Workout clothes
- \_\_\_\_\_ Shoes
- \_\_\_\_\_ Water bottle
- \_\_\_\_\_ Workout tapes: some machines (but **not** all) play all formats of DVD and VHS videos

### **Items to make the trip more enjoyable**

- \_\_\_\_\_ Music (CDs or tapes)

- \_\_\_\_\_ Family pictures
- \_\_\_\_\_ Candy and/or chocolate
- \_\_\_\_\_ Coffee (most labs have cappuccino machines and bean grinders)
- \_\_\_\_\_ Herbal teas
- \_\_\_\_\_ Dry fruit, etc.
- \_\_\_\_\_ Laser discs and DVD movies

**Tip:** You can usually shop close to the hotel/ship for many of the above items before you board, however do not depend on being able to do so.

## SCIENTISTS CRUISE INFORMATION

### **Port Call**

#### **Scientists Arrival**

Scientists are usually scheduled to **arrive at the departure port on the second day of the port call**; thus, you probably won't need a hotel room and can go straight to the ship. Co-Chief Scientists are usually scheduled to meet the ship when it first docks to cross-over with the previous leg Co-Chief Scientists. Scientists will be provided with information on how to contact the ODP/TAMU Logistics Coordinator at his hotel at port, or the port agent's office, to learn the ship's location. If any major delays are encountered when traveling to the port call, scientists should promptly notify the Logistics Coordinator at his hotel at port or, if he is not available for some reason, contact Denise DeShetler at ODP Travel (979-845-3205), Pat Thompson at Material Services (979-845-2113), or the designated port agent by telephone or telex.

#### **Check-in**

When boarding the ship you will need to check in with the Yeoperson. The Yeoperson will collect your passport information and provide you with information regarding room assignments, life on the ship, and any ongoing events (e.g., meetings).

#### **Room Assignments**

Room assignments are also posted by the Laboratory Officer upon arrival at the ship. Cabin assignments are made by the Laboratory Officer, Staff Scientist, and Operations Manager. Scientists normally move into their cabins immediately upon arrival at the ship. Changes in berthing must be cleared through the Laboratory Officer.

#### **Safety Information**

Before starting work in the shipboard laboratories, you will be asked to confirm that you have reviewed the material safety data sheets (MSDS) for the hazardous materials in the laboratory and are familiar with the necessary procedures for handling these materials safely. If you are not familiar with the MSDS used in the U.S., there is a set of these available on the ship and ODP/TAMU will provide you with appropriate training.

#### **Safety Meeting**

The Captain and Staff Scientist will hold an orientation/safety meeting before the ship sails.

### **Science Meeting**

A second orientation meeting for the shipboard scientific staff is held on board as well, usually before the ship sails. This meeting serves to introduce the scientists to the ship and to discuss the leg objectives, shipboard sampling programs, and arrangement of shipboard work schedules (including scientists' shifts at the sampling table).

## **Under Way To The First Site**

### **Personnel List**

Shortly after the ship leaves port, the Yeoperson sends to ODP/TAMU a list of all scientific and technical crew members.

### **Sampling Plan**

Within 24 hr after sailing, the Curatorial Representative sends a complete cruise sampling plan that has been approved by the Co-Chief Scientists that includes the fate of all submitted sample requests.

### **First Transit**

While **in transit** from the departure port to the first site, scientists have time to familiarize themselves with laboratory equipment and with standard ODP/TAMU data collection entry policies. The ODP/TAMU Staff Scientist and technical personnel devote much of their effort during the transit to helping scientists with this task.

If the transit time to the first site is more than a couple of days, there is often time to set up an informal seminar series, during which shipboard scientists can present talks on their research interests to other members of the shipboard staff. A 35-mm carousel slide projector, transparency projector, Toshiba overhead projector that hooks up to computers for PowerPoint presentations, and a microphone are available in the conference room on the 7th level of the labstack.

## **Sailing Personnel**

### **Co-Chief Scientists**

Each cruise has two Co-Chief Scientists, who represent the JOIDES community in the shipboard leadership team (with the Leg Project Manager/Staff Scientist, the Operations Manager, the Lab Officer, and the Curator) in coordinating the shipboard science activities toward attaining cruise objectives set by the JOIDES scientific and operational committees.

### **Staff Scientist**

Is the ODP/TAMU representative responsible for ensuring the successful implementation and

completion of the cruise-based science plan as defined by the JOIDES panels. The Staff Scientist coordinates the scientific activities before, during, and shortly after the cruise; works with the Curator to develop and implement a curatorial plan for the cruise; assists with precruise and cruise operational planning; and works with the Co-Chief Scientists to prepare and edit cruise reports and publications.

### **Scientists**

During each cruise, specific scientific objectives are pursued by the personnel on board. The complement of ~25 scientists works as a team on routine core studies in addition to performing special sampling and analytical projects within their own fields.

### **Operations Manager**

Is the official representative of ODP/TAMU responsible for seeing that the SCICOM drilling and logging guidelines are followed during cruise planning and cruise operations. During the cruise, the Operations Manager coordinates the execution and modification (as required) of the leg operations plan with the rest of the shipboard leadership team and the drilling contractor and the logging contractor personnel. For information about drilling services and tools see <http://www-odp.tamu.edu/dsd/>.

### **Technical Support/L.O.**

About 20 technicians and other ODP personnel provide technical support for shipboard data collection and operational procedures and assist in upgrading and maintaining the shipboard laboratories, computers, and scientific equipment. For more information about the laboratories and technical support see <http://www-odp.tamu.edu/sciops/>.

The ODP/TAMU technical support group is under supervision of the **Lab Officer (L.O.)** and the Assistant Lab Officer (ALO), who are part of the shipboard leadership team.

### **LDEO**

The **LDEO Borehole Research Group (BRG)** manages wireline logging operations to obtain electronic measurements in ODP drill holes. For more information on logging services and tools see [http://www.ldeo.columbia.edu/BRG/brg\\_home.html](http://www.ldeo.columbia.edu/BRG/brg_home.html).

### **ODL/TSF**

Ocean Drilling Limited/Transocean Sedco-Forex (ODL/TSF) is contracted to supply a drill ship to carry out the drilling program at sea. The registered ship name is *JOIDES Resolution*. The ship's crew of 52 consists of those personnel engaged in the drilling operations and running of the ship (TSF) and those who provide cleaning, laundry, and galley service (Catermar) on the ship.

## **General Responsibilities of Shipboard Scientists**

### **Overview**

Each scientist participating in an ODP cruise has a number of general responsibilities, as summarized here, and a specific job assignment, which is addressed in the following section.

### **Cruise Objectives**

Each participant is expected to familiarize himself/herself with the scientific objectives and operational strategies of the leg as outlined in the leg Scientific Prospectus.

### **Pre-cruise Sample Request**

Each participant is required to submit a sample request 3 months before the cruise with an outline for the proposed post-cruise research. This request/proposal will be used to allocate core samples and coordinate post-cruise research.

### **Safety Information**

Before starting work in the shipboard laboratories, you will be asked to confirm that you have reviewed the material safety data sheets (MSDS) for the hazardous materials in the laboratory and are familiar with the necessary procedures for handling these materials safely. If you are not familiar with the MSDS used in the U.S., there is a set of these available on the ship and ODP/TAMU will provide you with appropriate training.

### **Data Collection**

Shipboard scientists working as a team collect, analyze, and compile data conforming to ODP procedures and format established for each laboratory station and job description. Working times are usually 12 hr per 24-hr day. All data collected during a cruise are the property of the entire shipboard party for 1 yr and then become public.

### **Reports**

Shipboard scientists produce scientific reports in the form of site chapters for the ***Initial Reports (IR)*** volume and present their findings to the other participants in shipboard science meetings. They also assist the Co-Chief Scientists in writing summary reports such as the **Weekly Report, Site Summary Report, and the Preliminary Report for the IR**. Authorship of cruise reports is collective, individuals contribute according to their job assignment and scientific expertise.

**Weekly Report:** Is a brief report, written by the Co-Chief Scientists and the Staff Scientist and sent each week to ODP/TAMU while at sea. The weekly reports cover the operations and the science conducted by the scientific team during the previous week.

**Site Summary Report:** Is a report written by the Co-Chief Scientists assisted by the Staff

Scientist at the end of each site. These reports contain a summary of operations conducted at the site provided by the Operations Manager and of the science as reported by the team of scientists.

**Preliminary Report:** The Preliminary Report presents a summary of the operational and scientific cruise results. It is the only cruise report available to the general scientific community until the *Initial Reports* volume is published 1 yr after the cruise. The Preliminary Report also satisfies contractual obligations with JOI, NSF, and the U.S. State Department. The Preliminary Report is placed on the World Wide Web ~2 months after the cruise, when the document is complete at the end of the cruise.

**Initial Report:** The *Initial Reports* (IR) volume is the first volume produced in the two-part set called the *Proceedings of the Ocean Drilling Program*. The second volume is the called the *Scientific Results* (SR) volume. Both volumes are primarily intended to be used as reference texts.

The *Initial Reports* volume is a record of the scientific and operational results from an ODP leg. Together with the ODP database and the cores recovered, it presents the immediate legacy of each ODP leg.

### **Sampling**

Scientists are assigned core sampling shifts during the cruise, typically 2 hr a day out of their 12-hr shift for a soft rock leg. When a core is ready for sampling, the assigned sampling shift takes all the samples designated for shipboard sampling by the Sample Allocation Committee (SAC), under guidance of the Curatorial Technician. Leg participants are also strongly encouraged to take part in postcruise sampling parties, if travel funding is available.

### **Cruise Evaluations**

At the end of the cruise, all shipboard scientists are encouraged to complete cruise evaluations. These evaluations guide ODP in upgrading laboratory equipment and procedures and in improving life on board ship.

### **Scientific Publications**

Shipboard scientists first serve the overall leg objectives. After the cruise, they are responsible for analyzing their samples as proposed in their sample request and/or cruise application and for reporting the results in the *Scientific Results* of the *ODP Proceedings* or in an appropriate scientific journal (see the ODP Publications Policy at <http://www-odp.tamu.edu/publications/PUBPOL.HTML>).

## **Shipboard Scientists Job Descriptions**

### **Overview**

Scientific participants are invited to perform particular jobs that need to be completed to ensure the success of the cruise. An individual's scientific expertise is taken into account as much as possible during job assignments. There may not always be a one-to-one relationship between an



individual's expertise and objectives and the required job. In such a case, shipboard scientists should be aware that they first serve the overall leg objectives as outlined in the Scientific Prospectus in the most effective way possible prior to auxiliary science. For more detailed information on shipboard laboratories, see <http://www-odp.tamu.edu/sciops/labs.html>.

### **Core Description**

Core describers may have expertise in a wide variety of fields including sedimentology, petrography, petrology, or structural geology. The optimal mix of expertise is determined by the leg objectives and the individuals selected by the Co-Chief Scientists, the Manager of Science Services, and the Staff Scientist. Core description may involve the following tasks:

- Macroscopic visual description of split cores, entered in the core description database, which generates the “barrel sheets” (sediments) or in more detailed core section graphic templates (igneous rocks);
- Microscopic observations from smear slides and/or thin sections, written to word processing files and, in some cases, added to the macroscopic description forms;
- Acquisition of physical properties data with the split-core track, including diffuse color reflectance, magnetic susceptibility, and digital images (these may also be done by the individual in the physical properties position);
- Preliminary interpretation of depositional, diagenetic, magnetic, or deformational processes;
- Selection of samples, in consultation with other scientists, for carbonate, X-ray diffraction (XRD), or inductively coupled plasma (ICP) analysis, and thin sections.
- Analysis of XRD and/or ICP data, if the appropriate expertise exists (otherwise it is not prudent to collect these data on the ship; XRD/ICP analyses may also be done by the individual in the geochemistry position).

### **Stratigraphic Correlation**

Stratigraphy correlators are key positions on legs where complete stratigraphic sections (achieved by coring multiple holes at a site) are an essential component of the leg objectives. Completion of a meters composite depth (mcd) depth scale in near real time guides coring operations and ensures complete stratigraphic coverage. For maximum efficiency, two correlators are needed to cover a 24-hr period and to guarantee feedback within hours. Correlation is achieved using a Sun workstation and the customized program Splicer. Precruise training is required for correlators inexperienced in Splicer software. The job typically also includes operation of the multisensor track because the main data sets used are magnetic susceptibility, natural gamma radiation, and gamma ray attenuation density from whole-core logging. Other data may be needed to improve correlation such as color reflectance logs, macroscopic descriptions from split cores, or biostratigraphic information.

### **Biostratigraphy**

Shipboard micropaleontologists provide age data and an age/depth model for each site. This is done using (1) core catcher samples as soon as possible after a core is recovered and (2) additional samples, up to one per section, in at least one hole per site. For nannofossils and, sometimes, diatoms, toothpick samples may be taken from the open ends of core sections on the catwalk. For other microfossil groups, samples taken in addition to the core catcher samples have to be taken from the split core working halves. Some stratigraphic boundaries may be analyzed in higher detail on ship, using samples taken from the split working half cores. Full assemblage analysis is not necessary on ship; rather, identification of useful microfossil datums for constructing age/depth plots and sedimentation/accumulation rate curves is the primary emphasis. Microfossil datums are also used for integration with multisensor track data for core/core correlation and construction of spliced composite sections. Paleoenvironmental or bathymetric data, principally from benthic foraminifers, may also be of primary importance on certain legs.

Shipboard micropaleontologists process their own samples and have a fully equipped processing lab with two acid hoods for this purpose. A variety of slides, mounting media, and maceration chemicals are available for all major microfossil groups.

A reference library with texts, journals, and reprints is available to help shipboard paleontologists identify microfossils. Because of limited shipboard space, this library is not comprehensive, and micropaleontologists should check with ODP before their leg to see what references are available. Micropaleontologists are advised to bring their own set of references to supplement the shipboard library. A computer image database of nannofossils is also available on a PC in the paleontology lab.

Micropaleontology Reference Collections (MRC) are available at a number of institutions worldwide. These contain reference slides of planktonic foraminifers, diatoms, calcareous nannofossils, and radiolarians from DSDP and ODP cores. Scientists may visit these collections to view material before sailing. Check the MRC web page for information about using these collections (<http://www-odp.tamu.edu/mrc/mrcpage.HTML>).

### **Magneto-stratigraphy**

Paleomagnetists conduct or supervise paleomagnetic measurements and reduction of paleomagnetic data to intensities and direction of magnetization.

Paleomagnetists also provide absolute orientation data for deformational structures measured in the core, if appropriate. Some additional rock magnetic properties can be acquired on the ship, which is particularly useful if the magnetic properties are (partly) ephemeral (e.g., post-recovery dissolution, reduction, or oxidation of magnetic minerals). For detailed information, see ODP Technical Note 15 at <http://www-odp.tamu.edu/sciops/labs/pmag/>.

### **Physical Properties**

Scientists assigned to this job usually determine the following properties:

- Moisture content and grain density on core samples,
- *P*-wave velocity on split cores and/or core samples,
- Thermal conductivity on full cores or split cores, if appropriate, and
- Vane shear strength on split cores, if appropriate.

In addition, these scientists oversee and document the overall physical properties measurement program in consultation with other scientists, including the full-core and split-core logging systems. They also ensure that calibrations and control measurements are carried out according to protocol to ensure data quality control.

For detailed information, see the physical properties handbook (ODP Technical Note 26) at <http://www-odp.tamu.edu/publications/tnotes/tn26/TOC.HTM>.

### **Geochemistry**

Organic chemists monitor cores for hydrocarbon content. They advise the Operations Manager, Leg Project Manager (LPM), and Co-Chief Scientists when hydrocarbon levels in cores may constitute a potential safety or pollution hazard. Inorganic geochemists conduct elemental analysis on interstitial water and/or solid sediment or rock samples and provide preliminary interpretations. For detailed information, see ODP Technical Note 15 at [http://www-odp.tamu.edu/publications/tnotes/tn15/f\\_chem1.htm](http://www-odp.tamu.edu/publications/tnotes/tn15/f_chem1.htm).

ODP Marine Laboratory Specialists assist in geochemical analyses.

### **Downhole Logging, Geophysics**

This job includes the following:

- Advise the Co-Chief Scientists on the logging program for the cruise;
- Work closely with the LDEO Logging Scientist in designing, implementing, and interpreting the logging program; and
- Assist the Schlumberger Field Engineer with data acquisition, if required.

This position often includes responsibility for other geophysical tasks, such as:

- Acquisition, analysis, and presentation of downhole temperature measurements;
- Seismic data acquisition and presentation (site surveys); and
- Construction of synthetic seismic profiles.

### **Microbiology**

Major responsibilities of shipboard microbiologist include the following:

- Conduct onsite contamination tests by adding highly sensitive tracers (i.e., perfluorocarbons and fluorescent microspheres) to the drilling fluids and the core barrel to evaluate the potential

- extent of contamination of the cores by the drilling process.
- Conduct sampling for shipboard and shorebased microbiological analyses.
- Conduct elemental analysis on interstitial water and/or sediment to provide preliminary interpretations of microbial activity.
- Make thin sections of sediment and/or rock for preliminary interpretations on contamination and bacterial activity.
- Start cultures and incubation of samples collected using different media.

ODP Marine Laboratory Specialists assist in microbiology sampling and analyses. For more information on contamination tests and sampling protocol, see ODP Technical Note 28 at <http://www-odp.tamu.edu/publications/tnotes/tn28/INDEX.HTM>.

### **Other**

On rare occasions, specialists may sail to perform more specialized measurements, which may include:

- Packer experiments,
- Installation of CORKs, or
- Vertical seismic profiling.

### **JOIDES Resolution**

#### **Online Ship Tour**

An online brochure guides you through the Ocean Drilling Program's scientific drill ship, *JOIDES Resolution*. <http://www-odp.tamu.edu/public/onboard.html>

#### **Vessel**

The *JOIDES Resolution* is a flush deck type drill ship with a forecastle (fo'c'sle) and poop deck. It is a dynamically positioned (DP) ship with a length of 470 ft (143 m), beam of 70 ft (21 m), and draft of 27.6 ft (8.4 m). The displacement of the ship is 16,596 long tons. On site, she can suspend as much as 30,000 ft (9150 m) of drill pipe and maintain her position in up to 27,000 ft (8200 m) of water. The drill ship can operate in air temperatures of -18° to 43°C and sea temperatures of -2° to 27°C. Crew accommodations and navigation facilities are located forward; electrical generation, propulsion machinery, and a heliport are located aft. Subdivision of the hull is provided by nine major transverse bulkheads, two longitudinal wing bulkheads, and an inner bottom. Special features of her design particularly valuable for deep-ocean drilling include dynamic positioning equipment with a computerized control system and satellite navigation equipment.

#### **Days at Sea**

*JOIDES Resolution* is a completely self-sustained unit carrying sufficient fuel, water, and stores to enable her to remain working at sea for 70 days without replenishing.

Emergency reserves for an additional 35 days are carried on board.

### **Moonpool**

A 22-ft (7-m) diameter well, the moonpool, is located on centerline amidships to provide an area for running drilling equipment to the seafloor.

### **Thrusters**

Thruster wells are located on centerline forward, on the forward port side, and on the aft starboard side of the vessel, as well as in the ship's skeg. The drilling and thruster wells are free-flooding.

### **Power**

Drilling, propulsion, and positioning equipment is diesel-electric powered.

### **Speed**

Twin propellers give her an average cruising speed of 11 kt.

### **Ship Capabilities**

(1) a 30,000 ft (9000 m) drill string, (2) a stable drilling platform, (3) large enclosed storage areas for drill pipe and casing, (4) a drawworks with 31,000 ft (9448 m) of wireline, (5) berths for 51 scientific and technical personnel, (6) 13,400 sq ft (1245 sq m) of lab and office space, and (7) a strengthened hull for drilling in high-latitude waters.

### **DP System**

*JOIDES Resolution's* dynamic positioning system employs an acoustic referencing device to maintain the ship over a specific location while drilling in water depths of up to 27,000 ft (8200 m). The positioning system uses ten retractable thrusters occupying forward, port, and starboard wells and two fixed thrusters in the skeg, each capable of 22,600 lb (100,525 N) of thrust. When operating in conjunction with the ship's main screws, the thrusters enable her to move in any direction. Four hydrophones are mounted within the hull and continually receive signals transmitted from a sonar beacon placed on the ocean floor. The signals are fed into a computer that calculates the position of the ship relative to the beacon based on the delay times of the arriving signals. The computer automatically controls the thrusters and main propulsion unit to maintain the ship's heading and location over the hole. The dynamic positioning system has both computerized and manual controls. Under normal operating conditions, the system can safely maintain the drill ship at a desired surface location within 1% of water depth.

## **Shipboard Facilities**

### **Overview**

Offices, laboratory facilities, and all living spaces on the ship are heated, air conditioned, and acoustically insulated. Hot and cold potable water, nonpotable circulation water, salt water, and cooling water are available as required. Power throughout the labstack is either 120 V or 208 V, three-phase, 60 cycle. Circuits are available in each lab for both ship's power and regulated power. Regulated power by definition is not uninterruptible power but power in which the output voltage is kept within certain limits and voltage spikes are truncated.

### **Cabins**

A variety of **two- and four-person cabins** with corresponding lavatory (four people share one lavatory facility) and shower facilities are provided for shipboard scientists and technicians. Of the 51 berths assigned to scientific and technical personnel, 32 are in four-person rooms. The rooms are heated/air conditioned and are cleaned by the ship's stewards. *JOIDES Resolution* has an excellent fresh-water storage system that allows all personnel to shower daily. Fresh towels and bed linens are provided regularly. Personal decorations may be added to the rooms but must be removed at the end of the cruise; rooms are not to be permanently modified in any way. Many of the cabins do not have windows, so you might find a lighted watch or a small flashlight helpful. Clothing and belongings can be stored in a drawer under the bed and a locker. There is usually a small desk and chair in the cabin as well. Curtains around each bunk can be drawn to provide privacy, and there is a small light at the head of the bunk.

Electric outlets are 110 V, 60 cycle.

Because the ship runs 24 hr a day, you will probably share the room with someone who is on a different shift than you; thus, there is usually someone sleeping in the cabin while you are on duty. It is helpful to bring a **backpack** to carry items you might need during the day so you do not need to return to your cabin.

### **Conference Room**

A conference room is available for meetings and science presentations. Table tennis can be set up when the room is not in use.

### **Copy Machines**

Two Canon photocopiers are available on board ship. Because of limited supplies, personal copying must be kept to a minimum. The ODP Electronics Technicians make all repairs to these machines except for replacement or unjamming of paper (the Lab Technicians handle this kind of problem).

### **Gymnasium**

The gym is located in one of the storage holds and is not air conditioned. There are three

adjustable-tension exercise bicycles, a treadmill, two flywheel-resistance rowing machines, and a three-station weight machine with a bench press, upper and lower pulleys, leg extension/leg curl bench, and abdominal board, a squat press, two stairmasters, a full set of free-weights, exercise mats, and a punching/speed bag. The gym has an audio-video system (with aerobics videotapes) and a ping-pong table.

### **Hospital**

The ship's hospital is located on the fo'c'sle deck just inside the starboard door to the quarters. The hospital is staffed by a certified medical doctor (MD), whose regular office hours are posted at the beginning of each cruise. **The doctor is on call 24 hr a day.**

The hospital has two beds plus a triage table/bed, sleeping quarters for the doctor, and its own lavatory and shower facilities. It has an X-ray machine, defibrillator, and artificial respirator apparatus in addition to medicines, bandages, and other first-aid supplies. However, the hospital has limited medicines, so please bring adequate supplies of any **prescriptions** you need. The ship is not equipped to handle problems if someone has a reaction to an allergy shot, so the doctor does not give allergy shots. If you have any questions about medicines, please contact the Staff Scientist for your leg.

**Note: Shipboard participants who have experienced motion sickness**, or have reason to believe it may be a problem, are advised to discuss precautionary measures with their doctor before the cruise. Medications are available to prevent seasickness, but are less helpful after symptoms have begun. Also, it is advisable to notify the ship's doctor as soon as possible at the beginning of the cruise that seasickness may be a concern.

### **Labstack**

Laboratory and data collection facilities are housed in a separate structure installed aft of the main superstructure and forward of the rig floor. The "labstack" contains seven levels: four above deck and three below deck in the casing hold. An elevator connects all levels of the laboratory structure and is used primarily for transportation of cores and supplies. The topmost level contains the downhole measurements laboratory, thin section lab, and a conference room. The next level down, the bridge deck, contains the core entry and core splitting areas of the core lab as well as the sedimentology, magnetics, and physical properties labs. Below is the fo'c'sle deck with chemistry, X-ray diffraction, microbiology, paleontology preparation, and microscope laboratories. The main deck houses shipboard computer facilities, the science lounge, the Yeoperson's office, and the Curatorial Representative's office.

Below deck are three more laboratory levels. On the upper 'tween deck are the electronics shop, the photography lab, and a storage area for lab supplies. The lower 'tween deck has the second look lab, refrigerated core storage, and more storage for lab supplies. The hold deck has more refrigerated core storage and lab supplies storage. Additional information about the shipboard laboratories can be found at: <http://www-odp.tamu.edu/sciops/labs.html>

### **Computer Environment**

ODP maintains an open multiplatform environment (i.e., Windows, Mac, UNIX, and DOS). If you have any special computing/platform needs contact the ODP/TAMU Staff Scientist for your leg

### **Library**

The science library is located forward on the fo’c’sle deck of the ship’s superstructure. PC and Mac computers are located in the library. Funding for the library is limited. If you have any questions on available resources contact the Staff Scientist for your leg.

### **Laundry**

The ship provides free laundry service, and because of this service, it is not necessary to bring many changes of work clothes. However, since it takes equal time to launder a small amount as a large amount of clothes, it is requested that laundry be accumulated for a few days before sending it out to be washed. Soiled clothes placed in the bags provided are to be left in front of the cabin doors. Laundry is picked up daily and returned the same day.

### **Mess Hall**

The **mess hall** is on the ship’s upper ‘tween deck. It is open throughout the day and night, except for 1 hr before and after each meal to allow time for cleaning and set-up. Meals are served cafeteria style. The capacity of the mess hall is 40 persons, with no predetermined seating arrangement. It is expected that everyone wear clean clothes to meals, with the exception of on-duty drilling crew members. Cereal, milk, coffee, tea, bread, and sandwich fillings are always available.

### **Meals**

The food is prepared by a subcontractor Portuguese company called Catermar. Comments from previous cruise evaluations indicate that the staff are extremely helpful and are interested in doing their best to make your meals a pleasant experience. They are usually quite willing to accommodate to the best of their ability any special food requests you may have. Breakfast usually consists of typical food choices such as eggs, sausage, cereal, fruit, oatmeal, etc. They usually do not serve more typical lunch or dinner foods but if you need something else, talk to the camp boss.

There are usually three choices of entrees, starches, and vegetables at lunch, supper, and the second shift mid-day meals. Unfortunately, the second shift mid-day meal is not always to the excellence of the noon and supper meals and the 6:00 a.m. meal only provides breakfast food when it is the dinner meal for the second shift. However, they will cook a hamburger for you at the 6:00 a.m. meal, if you ask.

A salad bar with fresh vegetables is available as long as the vegetables last. As you might imagine, after 8 weeks at sea, the choice of fresh vegetables may diminish. The cooks make wonderful pastries and breads and have quite a selection of desserts. Soft drinks, juice, milk, and fresh yogurt



are available in the cooler in the mess hall.

Please remember that individual tastes are highly subjective, and it is not an easy task to provide a large, diverse, multicultural group of people with foods that everyone likes. If you are a vegetarian, you may find that your choices are limited.

### **Special Foods**

If you have special food needs (e.g., soy milk, tofu, etc.) please contact the Staff Scientist 4 months prior to the cruise, and ODP will try to accommodate your request if possible. It is often cheaper and easier to find special food items in the U.S. and ship them to the port call; thus, we need as much notification as possible.

### **Meal Hours**

**Breakfast** - 5:00 a.m. to 7:00 a.m.

**Lunch** - 11:00 a.m. to 1:00 p.m.

**Supper** - 5:00 p.m. to 7:00 p.m.

**2nd Shift mid-day** - 11:00 p.m. to 1:00 a.m.

### **Offices**

The Operations Manager and the Laboratory Officer have offices on the ship's bridge deck, and the Co-Chief Scientists and the Staff Scientist share office space next to the laboratory officer's office. The main deck houses the Yeoperson's and Curatorial Representative's offices.

### **Science Lounge**

The science lounge contains audio-video equipment in designated viewing and reading areas. Video equipment includes a DVD player, a VHS player (compatible with Sedco's system), a Pioneer laser disk player, 25-in and 19-in color monitors, a 50-in movie screen, and a 16-mm movie projector. Videotapes are provided by Sedco. Slide projectors, an overhead projector, and a screen are also available. A Casio electronic keyboard is kept in the science lounge. It has headphones, so a keyboardist can enjoy making music without disturbing others. A selection of paperbacks and magazines is kept in the lounge for leisure reading; more are located in the science library. Various games are available on the ship's network.

### **Ship's Intercom**

In every lab, there is an **intercom** system near each phone. One person can call another by paging over the intercom system and then conversing by phone. There are dedicated voice-powered phone lines from the bridge to the engine room and rig floor for use by the ship's crew.

### **Shipboard Communications**

#### **Proprietary Information**

Please remember that all communications from you to your colleagues or family (verbal or

written) must not contain scientific results from the cruise. These should appear in a form authored by the entire shipboard scientific party.

### **E-mail**

#### ***General***

1. Procedural details and instruction on the use of GroupWise e-mail system will be given at the beginning of the cruise.
2. E-mail on board and between ship and shore is available to every cruise participant through software available on both Macs and PCs.
3. Each participant is usually assigned an account before ship's departure.
4. Regular ship-to-shore communications are halted at the end of the cruise during crew change while messages from the previous cruise are archived.

#### ***Cost***

1. You are allowed **500 Kbyte** of messages sent and received free.
2. Thereafter, you are **billed** at the rate of **\$3.30/100 Kbyte** sent. This price is subject to revision at the beginning of each cruise.
3. Periodic updates as to the status of your account will be posted on the ship during the cruise.
4. All users will receive an invoice for usage beyond the free 500-Kbyte allowance at the end of the leg. Payment for usage about 500 Kbyte is expected in **U.S. Dollars or Credit Card** at the end of cruise to the Yeoperson.
5. Messages sent or received cannot be larger than 20 Kbyte (may decrease) each.

#### ***File>20kbyte***

1. So that you will not receive (and have to pay for) unwanted large files, a filter has been set on the system to transfer to the ship only files that <20 Kbytes. Larger files will be rejected and the sender will receive a notice that their message exceeded the allowable size.
2. If it is absolutely necessary to send a large file, the filter can be opened by the system Manager. You may contact ODP/TAMU Help Desk at (979) 845-7918. Unfortunately, we do not have the option of setting a similar filter on outgoing mail from the ship, so check your messages carefully before sending them.

#### ***Shipboard Scientists' E-mail Address***

JRS\_lastname@odpemail.tamu.edu

*Example:* JRS\_doe@odpemail.tamu.edu

Underscores are only for Internet access—not for internal e-mail messages.

#### ***Questions***

If you have questions about shipboard communications, please contact Ms. Doris Cooley in the Science Services department (979) 845-7209.

**Direct Voice Communication**

MARISAT calls can be made worldwide and may be made collect or paid for in U.S. dollars (cash or traveler's checks only) before the end of the cruise. The charge for these MARISAT calls is ~\$3/min for voice/fax call with a **3-min minimum**. However, credit card calls can be placed from the library's telephone at \$2.85/min for Zone 1 through IDB provider set-up. Prices are subject to change.

**End-of-Cruise Port Call Mail**

The shipboard addressee will receive regular postal mail sent to the following address at the end of the cruise when the ship arrives in port.

(Name of Shipboard Participant)  
c/o Science Services - A155  
Ocean Drilling Program  
1000 Discovery Drive  
College Station, TX 77845-9547

## SCIENTISTS END OF CRUISE AND POSTCRUISE INFORMATION

### Samples and Personal Items

#### Cruise Sampling Plan

As coring operations are completed at a site, the Co-Chiefs, Staff Scientist, and Curator (Sample Allocation Committee; SAC) prepare a final sampling plan based on original and revised sample requests. The shipboard Curatorial Representative is responsible for preparing a complete cruise sampling plan at the end of the leg.

#### Shipping Samples/Data/Equipment

At the end of the cruise we will assist you in shipping items home. Detailed information will be provided to you near the end of the cruise, but you should be aware of the following:

**For all shipments complete addresses are required and post office boxes cannot be used.** The recipient must ensure that correct phone numbers and the name of a contact person are provided to the ODP staff preparing the shipment, and that the contact person will be available on the receiving end, since express courier shipments often arrive at the destination before the returning scientist.

#### *Non-U.S.*

Samples/personal items sent to non-U.S. destinations are normally dispatched via express courier service. It is important to provide the name of the international airport and the airport code that is located near your address. Note that the recipient is responsible for clearing items through customs in the destination country. Shipments bound for destinations outside the U.S. will be sent via freight importer in the destination country. It minimizes potential problems and delays (critical for some samples) if non-U.S. participants can provide the name of the freight importer customarily used by their home institution.

#### *U.S.*

Shipments sent to U.S. destinations may be sent via air freight or surface freight, depending on the transit times. It is important to provide complete contact information to the ODP staff preparing the shipment. Additional information may be requested if required. Shipments from foreign ports to U.S. addresses will be sent via ODP/TAMU's agent in Texas and then forwarded to their final destination.

#### *Special Shipments*

If you expect to have shipments requiring special handling, e.g. refrigerated, or frozen samples, you should advise ODP of this as early as possible, if possible even before the beginning of the leg. In the case of shipments requiring special handling it is especially important that correct

phone numbers and the name of a contact person are provided to the ODP staff preparing the shipment, and that the contact person be available on the receiving end. Shipments requiring special handling are sent to all destinations via express courier services (DHL, Federal Express, Airborne, etc.).

### **Personal Box / Data Box**

U.S. participants may send one “**personal box**” from the ship with the regular ODP/TAMU freight. The box can contain only work clothes, boots, books, toiletries, or similar low-value, nonvital items. Please do not include food, as an **insecticide** is added to the shipping container. The maximum size box allowed is 12 in x 18 in x 6 in. Every personal box sent from the ship to the U.S. must be accompanied by a completed U.S. Customs form 3299 (available on board); the form requires, among other information, exact departure and return flight information of the sender. If changes in return scheduling occur, it is the responsibility of the owner to notify ODP Material Services (979-845-5780) and supply the correct information immediately upon return to the U.S.

### **Postcruise Scientific Publications**

#### **Obligation to Publish**

All shipboard and shore-based participants who receive ODP samples or data during the first 12 months postcruise are required to submit one of the following:

1. A manuscript to the *Scientific Results* volume for the leg.
2. A manuscript related to leg objectives, or to a related discipline, to an internationally recognized peer-reviewed scientific journal that publishes in English.

See the ODP Sample Distribution, Date Distribution and Publications Policy, available at <http://www-odp.tamu.edu/publications/policy.html>

#### **Scientific Results**

A *Scientific Results* (SR) volume is a collection of peer-reviewed papers presenting results of postcruise research relating to the aspects of scientific drilling from a leg. Publication of results in this volume fulfills the individual’s obligation for participating in the cruise.

An SR volume may contain regular scientific papers, data reports, and/or synthesis papers.

The SR volume is distributed ~4 yr after the cruise. *Scientific Results* volumes are published electronically on CD-ROM and World Wide Web formats and are no longer printed on paper.

## ODP/TAMU CONTACT NAMES AND NUMBERS

*Note: This is a list of key ODP/TAMU staff who interact with participating scientists, not a comprehensive list of all ODP/TAMU personnel. In general, the Staff Scientist assigned to the leg will be your primary ODP/TAMU contact.*

### **HEADQUARTERS**

<b>Director</b>	Jeff Fox	<a href="mailto:fox@odpemail.tamu.edu">fox@odpemail.tamu.edu</a>	(979) 845-8480
<b>Deputy Director</b>	Jack Baldauf	<a href="mailto:baldauf@odpemail.tamu.edu">baldauf@odpemail.tamu.edu</a>	(979) 845-9297

### **SCIENCE SERVICES**

<b>Manager</b>	Tom Davies	<a href="mailto:davies@odpemail.tamu.edu">davies@odpemail.tamu.edu</a>	(979) 862-2283
<b>Staff Scientists</b>	Gary Acton	<a href="mailto:acton@odpemail.tamu.edu">acton@odpemail.tamu.edu</a>	(979) 845-2520
	Peter Blum	<a href="mailto:blum@odpemail.tamu.edu">blum@odpemail.tamu.edu</a>	(979) 845-9299
	Adam Klaus	<a href="mailto:aklaud@odpemail.tamu.edu">aklaud@odpemail.tamu.edu</a>	(979) 845-3055
	Mitch Malone	<a href="mailto:malone@odpemail.tamu.edu">malone@odpemail.tamu.edu</a>	(979) 845-5218
	Jay Miller	<a href="mailto:miller@odpemail.tamu.edu">miller@odpemail.tamu.edu</a>	(979) 845-2197

#### **Administrative Assistants**

	Doris Cooley	<a href="mailto:cooley@odpemail.tamu.edu">cooley@odpemail.tamu.edu</a>	(979) 845-7209
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*(General queries, meeting agendas, laboratory facilities, and ship communications)*

	Janice Muston	<a href="mailto:muston@odpemail.tamu.edu">muston@odpemail.tamu.edu</a>	(979) 845-3602
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*(Submission of applications and staffing status)*

#### **CURATION Fax (979) 845-0876**

<b>Curator</b>	John Firth	<a href="mailto:firth@odpemail.tamu.edu">firth@odpemail.tamu.edu</a>	(979) 845-0507
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### **TECHNICAL SERVICES**

<b>Supervisor</b>	Brad Julson	<a href="mailto:julson@odpemail.tamu.edu">julson@odpemail.tamu.edu</a>	(979) 845-5716
<b>Laboratory Officers</b>	Burney Hamlin	<a href="mailto:hamlin@odpemail.tamu.edu">hamlin@odpemail.tamu.edu</a>	(979) 845-2496
	Bill Mills	<a href="mailto:mills@odpemail.tamu.edu">mills@odpemail.tamu.edu</a>	(979) 845-2478
	Roy Davis	<a href="mailto:davis@odpemail.tamu.edu">davis@odpemail.tamu.edu</a>	(979) 845-3602

### **DRILLING SERVICES**

<b>Manager</b>	Brian Jonasson	<a href="mailto:jonasson@odpemail.tamu.edu">jonasson@odpemail.tamu.edu</a>	(979) 845-2024
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<b>Supervisor of Material Services</b>	Pat Thompson	<a href="mailto:thompson@odpemail.tamu.edu">thompson@odpemail.tamu.edu</a>	(979) 845-2113
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<b>Administrative Asst.</b>	Marti Kacer	<a href="mailto:kacer@odpemail.tamu.edu">kacer@odpemail.tamu.edu</a>	(979) 845-2056
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*(To answer general questions concerning cruises or to conduct routine business)*

<b>Staff Researcher</b>	Karen Graber	<a href="mailto:graber@odpemail.tamu.edu">graber@odpemail.tamu.edu</a>	(979) 845-7924
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*(Submission of draft prospectuses and Cruise Evaluations)*

**ADMINISTRATION AND PERSONNEL**

**Personnel Assistant** Ollie Berka [berka@odpemail.tamu.edu](mailto:berka@odpemail.tamu.edu) (979) 845-2583  
*(For questions concerning the physical examination and general administrative policies)*

**BUDGET**

**Budget Planning** Valeria Day [day@odpemail.tamu.edu](mailto:day@odpemail.tamu.edu) (979) 845-2580  
*(For questions about USSSP/USSAC salary, science support, & travel funds for U.S. participants)*

**INFORMATION SERVICES: Computers, Photography, Database**

**Manager** David Becker [becker@odpemail.tamu.edu](mailto:becker@odpemail.tamu.edu) (979) 845-9324

**Supervisor of  
Computer/Network  
Development & Support** Philip Gates [gates@odpemail.tamu.edu](mailto:gates@odpemail.tamu.edu) (979) 845-9298

**Senior Photographer** John Beck [beck@odpemail.tamu.edu](mailto:beck@odpemail.tamu.edu) (979) 845-1183

**Data Librarian** Kim Bracchi [database@odpemail.tamu.edu](mailto:database@odpemail.tamu.edu) (979) 845-3897  
*(To request data or core photographs from DSDP and ODP cruises)*

**PUBLICATIONS**

**Manager** Ann Klaus [annklaus@odpemail.tamu.edu](mailto:annklaus@odpemail.tamu.edu) (979) 845-2729  
**Distribution Specialist** Kathy Phillips [phillips@odpemail.tamu.edu](mailto:phillips@odpemail.tamu.edu) (979) 845-1191  
**Senior Coordinator** Gigi Delgado [delgado@odpemail.tamu.edu](mailto:delgado@odpemail.tamu.edu) (979) 845-1909

**TRAVEL**

**Supervisor** Kathy Bass [bass@odpemail.tamu.edu](mailto:bass@odpemail.tamu.edu) (979) 845-0924

**JOIDES Resolution**

*To contact the Staff Scientist aboard ship, use the following Internet address:*

JR\_StaffSci@odpemail.tamu.edu

*Your email address while on board the Resolution will be:*

JRS\_lastname@odpemail.tamu.edu  
*Example: JRS\_doe@odpemail.tamu.edu*

## WEB ADDRESSES

### **OCEAN DRILLING PROGRAM**

What is ODP	( <a href="http://www.oceandrilling.org/">www.oceandrilling.org/</a> )
The Drill Ship	<a href="http://www.oceandrilling.org/ODP/ODP.html">www.oceandrilling.org/ODP/ODP.html</a>
International Members	<a href="http://www.oceandrilling.org/ODP/ODP.html">www.oceandrilling.org/ODP/ODP.html</a>
JOI (Program Manager)	<a href="http://www.oceandrilling.org/ODP/Members.html">www.oceandrilling.org/ODP/Members.html</a>
JOI/USSSP	<a href="http://www.joiscience.org/">www.joiscience.org/</a>
JOIDES	<a href="http://www.joiscience.org/USSSP/Default.html">www.joiscience.org/USSSP/Default.html</a>
Long-Range Plan	<a href="http://www.joides.rsmas.miami.edu">www.joides.rsmas.miami.edu</a>
Meetings/Panels	<a href="http://www.oceandrilling.org/Documents/LRP/LRP.html">www.oceandrilling.org/Documents/LRP/LRP.html</a>
Operations Structure	<a href="http://www.oceandrilling.org/Meetings/Mtgs.html">www.oceandrilling.org/Meetings/Mtgs.html</a>
Public Information	<a href="http://www.oceandrilling.org/ODP/ODPorg.html">www.oceandrilling.org/ODP/ODPorg.html</a>
	<a href="http://www.oceandrilling.org/Newsroom/News.html">www.oceandrilling.org/Newsroom/News.html</a>

### **NATIONAL SCIENCE FOUNDATION**

[www.geo.nsf.gov/oce/programs/drilling.html](http://www.geo.nsf.gov/oce/programs/drilling.html)

### **ODP/LDEO/LOGGING**

[www.ldeo.columbia.edu/BRG/ODP/](http://www.ldeo.columbia.edu/BRG/ODP/)

### **ODP/LDEO/SITE SURVEY DB**

[www.ldeo.columbia.edu/databank/](http://www.ldeo.columbia.edu/databank/)

### **ODP/TEXAS A&M UNIVERSITY**

#### **Drilling Services Department**

Coring/Transit Time Estimator	( <a href="http://www-odp.tamu.edu/dsd/">www-odp.tamu.edu/dsd/</a> )
Drilling Operations	<a href="http://www-odp.tamu.edu/dsd/drillest.html">www-odp.tamu.edu/dsd/drillest.html</a>
	<a href="http://www-odp.tamu.edu/public/onboarddrillops.html">www-odp.tamu.edu/public/onboarddrillops.html</a>

#### **Information Services Department**

Shipboard Computing	( <a href="http://www-odp.tamu.edu/isg/">www-odp.tamu.edu/isg/</a> )
Network Computer Development and Support	<a href="http://www-odp.tamu.edu/isg/shipboard.html">www-odp.tamu.edu/isg/shipboard.html</a>
Development	<a href="http://www-odp.tamu.edu/isg/network.html">www-odp.tamu.edu/isg/network.html</a> ODP Application
Database Services	<a href="http://www-odp.tamu.edu/isg/appldev.html">www-odp.tamu.edu/isg/appldev.html</a>
Janus Database	<a href="http://www-odp.tamu.edu/isg/database.html">www-odp.tamu.edu/isg/database.html</a>
Database Overview	<a href="http://www-odp.tamu.edu/database/">www-odp.tamu.edu/database/</a>
Predefined Queries	<a href="http://janusexp.tamu.edu/predef_queries/general/dbtable.cgi">janusexp.tamu.edu/predef_queries/general/dbtable.cgi</a>
SQL Queries Paleontology Dictionary	<a href="http://janusexp.tamu.edu/predef_queries/links/links_all.shtml">janusexp.tamu.edu/predef_queries/links/links_all.shtml</a>
Data Policy	<a href="http://janusexp.tamu.edu/predef_queries/paleo/paleo_dict.shtml">janusexp.tamu.edu/predef_queries/paleo/paleo_dict.shtml</a>
Data Librarian e-mail	<a href="http://www-odp.tamu.edu/publications/policy.html">www-odp.tamu.edu/publications/policy.html</a>
Link to LDEO DB	<a href="mailto:database@odpemail.tamu.edu">database@odpemail.tamu.edu</a>
	<a href="http://www.ldeo.columbia.edu/BRG/ODP/DATABASE/DATA/search.html">www.ldeo.columbia.edu/BRG/ODP/DATABASE/</a> <a href="http://www.ldeo.columbia.edu/BRG/ODP/DATABASE/DATA/search.html">/DATA/search.html</a>

#### **Publications Department**

Prospectus	( <a href="http://www-odp.tamu.edu/publications/">www-odp.tamu.edu/publications/</a> )
Preliminary Reports	<a href="http://www-odp.tamu.edu/publications/pubs_sp.htm">www-odp.tamu.edu/publications/pubs_sp.htm</a>
Initial Reports	<a href="http://www-odp.tamu.edu/publications/pubs_pr.htm">www-odp.tamu.edu/publications/pubs_pr.htm</a>
Scientific Results	<a href="http://www-odp.tamu.edu/publications/">www-odp.tamu.edu/publications/</a>
Publications Instructions	<a href="http://www-odp.tamu.edu/publications/">www-odp.tamu.edu/publications/</a>
Sample Distribution, Data Distribution, and Publications Policy	<a href="http://www-odp.tamu.edu/publications/CONTRIB.HTML">www-odp.tamu.edu/publications/CONTRIB.HTML</a>
	<a href="http://www-odp.tamu.edu/publications/policy.html">www-odp.tamu.edu/publications/policy.html</a>
Leg Related Publications (Leg Summaries, Logging Summary, Citation List)	<a href="http://www-odp.tamu.edu/publications/pubs.htm">www-odp.tamu.edu/publications/pubs.htm</a>



<b>Public Information</b>	(www-odp.tamu.edu/public/)
News Releases	www-odp.tamu.edu/public/newsrel.html
For News Media	www-odp.tamu.edu/public/newsmedia.html
Promotional Materials	www-odp.tamu.edu/public/promomat.html
Ship Tour	www-odp.tamu.edu/public/onboard.html
Life on the Ship	www-odp.tamu.edu/public/onboard.html
Merchandise	www-odp.tamu.edu/public/shipsstores _catalog/stores_catalog.html
<b>Science Services Department</b>	(www-odp.tamu.edu/sciops/)
Cruise Application	www-odp.tamu.edu/sciops/cruise_application_info.html
Curation & Repositories	www-odp.tamu.edu/curation/
Leg Abstracts	www-odp.tamu.edu/publications/tnotes/fy0102/ fy0102toc.html
ODP/DSDP Site Maps	www-odp.tamu.edu/sitemap/sitemap.html
ODP Micropaleontological Reference Centers	www-odp.tamu.edu/mrc/
Sample Request Form	www-odp.tamu.edu/curation/subsfrm.htm
Scientific Resources	www-odp.tamu.edu/sciops/resources.html
Ship Laboratories	www-odp.tamu.edu/sciops/labs.html
Ship Library	www-odp.tamu.edu/sciops/ship_lib.html
Technical Notes	www-odp.tamu.edu/publications/TECHREP.HTML
<b>Administration Department</b>	(www-odp.tamu.edu/admin/)
Travel/Meeting Information	www-odp.tamu.edu/admin/meetings.html
Employment	www-odp.tamu.edu/admin/odpjobs.html
US/foreign per diem rates for most often visited cities	www-odp.tamu.edu/admin/perdiem.html
Port call information (i.e., port agent and hotel info for upcoming leg)	www-odp.tamu.edu/admin/meetings.html
<b>Online Ship Tour</b>	www-odp.tamu.edu/public/onboard.html
<b>TRANSOCEAN SEDCO-FOREX</b>	(www.deepwater.com/)
<b>PLANNING FOR POST-2003 OCEAN DRILLING</b>	
Conceptual Design Com.	www.joiscience.org/USSSP/cdc/default.html
COMPLEX	www.oceandrilling.org/COMPLEX/Default.html
CONCORD	mstip1.jamstec.go.jp/jamstec/OD21/CONCORD /result.html
COMPOST I	www.joiscience.org/USSSP/Pubs/COMPOST/ COMPOST.html
COMPOST II	www.joiscience.org/USSSP/Pubs/COMPOST2/ COMPOST2.html
Integrated ODP (IODP)	www.iodp.org/
IODP Planning Subcommittee	www.iodp.org/ipsc/default.html
IWGSO	www.iodp.org/iwgso/iwg_sup.html
JAMSTEC	www.jamstec.go.jp/
OD21	www.jamstec.go.jp/jamstec/OD21/
Science and Tech. Agency	www.sta.go.jp/index-e.html

## **APPENDIX I: ODP/TAMU ADMINISTRATIVE INFORMATION AND SHIPBOARD POLICIES**

### **ODP/TAMU Administration Information**

#### **Operations Deviations From The Prospectus**

Changes to the operational strategy presented in the Scientific Prospectus require approval. This is primarily for safety considerations and pertains mainly to relocating a site, operating in a new site not previously identified, or drilling deeper than previously approved. These requests should be forwarded to Jack Baldauf, Deputy Director of ODP/TAMU. If Jack is not available, contact Tom Davies, Manager of Science Services (see contact list). You also need approval if you wish to deviate from the clearance approved document.

Any changes to the Scientific Prospectus can be only effected with the approval of the SCICOM and/or the Safety Panel through communication with ODP management.

#### **Drug-Free Workplace/Alcohol Policy**

##### ***Drug-Free Workplace Act***

Federal contractors and grant recipients are required to maintain drug-free workplaces by adhering to certain requirements. The act specifically prohibits the “unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance” in the workplace.

##### ***Compliance***

Failure to comply could result in the loss of government funding and/or impoundment of the ship.

##### ***TSF/ODP Endorsement***

This policy, as well as the prohibition of alcoholic beverages and firearms, is fully endorsed by the Ocean Drilling Program and Transocean Sedco-Forex because it contributes to safety throughout the ship. Policies that enhance the safety of our operations at sea and of the participating personnel are non-negotiable.

##### ***Distribution***

These policies are:

1. Posted on board the vessel,
2. Common knowledge to those who routinely sail on the ship; and
3. Distributed in the package of briefing material that is provided to all shipboard scientists.

### ***Additional Information***

The staff scientist will be happy to answer any questions you may have on this policy, or contact Nancy McHugh with ODP Human Resources at:

[McHugh@odpemail.tamu.edu](mailto:McHugh@odpemail.tamu.edu)

### **Texas A&M Harassment Statement**

#### ***Overview***

The employment and educational environment throughout the A&M System shall be free from all forms of sexual discrimination and sexual harassment. Conduct constituting sexual harassment is specifically prohibited and will result in appropriate sanctions. Sexual harassment, as defined below, is a Class A misdemeanor under Texas Law, and is directly applicable to activities on this vessel.

#### ***Definition***

Sexual harassment means unwelcome sexual advances, requests for sexual favors, or other verbal, visual, or physical conduct of a sexual nature, submission to which is made a condition of a person's exercise or enjoyment of any right, privilege, power, or immunity, either explicitly or implicitly.

#### ***Examples***

In relation to the foregoing, sexual harassment may range from unthinking and often unintentional verbal denigration of a person on the basis of gender to actual physical assault. Some examples that may constitute sexual harassment are:

- Offensive sexual flirtations, advances, or pressure for sexual activity;
- Unwanted touching, pinching, or unnecessary brushes;
- Unwanted exposure to sexual graffiti, photographs, or suggestive objects;
- Sexual innuendoes or statements made at inappropriate times or disguised as humor, or obscene gestures; disparaging remarks about one's gender; or
- Any offensive or abusive physical contact.

#### ***Procedures***

To deal promptly and fairly with charges of sexual harassment and to protect the and dignity of all individuals involved, each A&M System component will establish and give wide publicity to a rule for filing a complaint.

Such rules shall facilitate and encourage reporting, and shall assure timely investigation, resolution, and appropriate sanctions against persons found to have violated this policy. Complainants should know that the reporting of allegations of sexual harassment is a very serious matter and that steps will be taken to resolve complaints.

### ***Retaliation***

Retaliatory action of any kind is prohibited when taken against a witness or other person providing testimony, or against the complainant seeking redress under the applicable rules dealing with sexual harassment. Such retaliatory action shall be regarded as a separate and distinct cause for complaint.

### ***Contact***

If you believe that sexual harassment has occurred or it has been brought to your attention, please contact the staff scientist, operations manager, and/or Nancy McHugh with ODP Human Resources at [McHugh@odpemail.tamu.edu](mailto:McHugh@odpemail.tamu.edu).

## **Shipboard Policies and Safety**

### **Alcohol**

**Use of alcoholic beverages or controlled substances is forbidden.** In 1988 the U.S. government enacted the Drug-Free Workplace Act, which contains a requirement for federal contractors and grant recipients to maintain drug-free workplaces by adhering to certain requirements. The act specifically prohibits the “unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance” in the workplace. Workplace is defined as all areas of the vessel. Failure to comply with this law may result in loss of government funding. Accordingly, ODP relies upon the integrity, professional attitude, and good judgment of all cruise participants to refrain from engaging in these types of activities.

### **Compassionate Emergencies**

It is the policy of the ODP not to interrupt or alter the course of a cruise for the purpose of evacuating an ODP employee or a cruise participant in the event of a personal emergency on shore. Personal emergencies include but are not limited to a death in the family or the serious illness of a family member. Exceptions to this policy may be made at the discretion of the ODP/TAMU Director or Deputy Director. An exception would be based in part on the location of the ship, availability of resources for evacuation, and the nature of the emergency.

### **Derrick**

Personnel are prohibited from going aloft in the derrick because of safety issues.

### **Drills**

The scientific work of the *JOIDES Resolution* takes her to areas where immediate assistance is unavailable. Thus, it is necessary to rely upon the knowledge and experience of the ship’s crew to avoid potentially dangerous situations. This is done in a systematic way developed through the practice of **weekly drills**. These drills are required by law, and the ship takes pride in the serious

manner in which they are organized and executed. Fire drills, man overboard drills, and abandon ship drills are held at least once weekly; **attendance is mandatory**. Helicopter emergency drills are held less frequently. Procedures and details connected with these drills are explained at the first drill, held a few hours out of port.

### **Hard Hats**

**Hard hats and safety glasses must be worn** by all ODP and Sedco-Forex personnel when outside on catwalks, rig floor, or aft decks (on the way to the helipad or underway geophysics lab, for example).

### **Firearms**

**Firearms or other weapons cannot be transported or possessed.**

### **Fires**

If you should discover a fire or a similar dangerous situation, do not try to combat it! **The first and most important action to take is to notify the bridge immediately and stand by to aid or point out the area involved to the Emergency Squad as they arrive.** If, in your judgment, you would be able to help by using an extinguisher on a fire at its inception, you may do so only after you notify the bridge. After the Emergency Squad has taken control, go to your assigned emergency station.

### **Halon**

**The shipboard computer facility is protected by a Halon fire extinguisher** system, located in the Koomey room on the upper 'tween deck. This system protects the computer machine room, system manager's office, and computer user's area. Only the Captain may authorize manual activation of the Halon system in the event of a fire. A loud alarm sounds, and protected areas must be evacuated immediately and all doors tightly closed. Halon is nontoxic but it must be contained within the air-tight protected area to be effective. As in all emergency situations, the bridge must be notified **FIRST**.

### **Lifeboats**

**JOIDES Resolution is equipped with four (4) motor-propelled, self-contained, totally enclosed lifeboats**, each with a capacity of 56 persons. The boats contain oxygen breathing systems to be used when operating in a fire area. There is also a complete exterior water-spray system to prevent buildup of excessive interior temperatures. Lifeboats are located above the bridge deck, two each on port and starboard. They are launched and boarded from the fo'c'sle deck. In addition to the lifeboats, the ship has inflatable life rafts.

### **Lifeboat Assignments**

**Lifeboat assignments and emergency signals are posted in passageways and personnel**

**stations.** This information must be thoroughly and carefully read; the Chief Mate or Captain can answer any questions.

### **Life Jackets**

**Life jackets** are worn during every boat drill by all persons. Regulation-type life jackets are kept aboard for all personnel. They are stored in each cabin and near each lifeboat. **Immersion suits** are also stored in each cabin and in the lab stack.

### **Alarms**

Personnel not directly involved in dealing with an emergency are to report to their assigned stations immediately upon hearing an alarm. This facilitates assignment of additional help or directing abandon-ship procedures. Depending on the severity of an emergency, the Captain may call upon any or all hands aboard for assistance; therefore, **everyone must be ready to respond to any order the Captain or ship's officers may issue in a drill or real emergency.**

### **Types of Alarms**

There are different emergency alarms to signify unsafe conditions aboard ship:

1. **General Emergencies:** For a general emergency, such as a fire or collision, the general alarm and ship's whistle sound for at least 10 s and instructions describing the type of emergency and location are given over the public address system.
2. **Abandon Ship:** For abandon ship circumstances, six short blasts followed by one long blast are given on the alarm and whistle. One short blast means to lower boats; two short blasts means to stop lowering boats. Accompanying commands and instructions to abandon ship are given over the public address system.
3. **Man Overboard:** If a person falls overboard, an alarm is given by hailing "Man Overboard" and notifying the mate on duty. Three long blasts on the whistle may be given.
4. **Return to Safe Conditions:** When an emergency is over, the "All Clear" signal for dismissal is given by three short blasts of the whistle and general alarm.

### **Rig Floor**

In the interest of preventing accidents, it is requested that while on site all persons not directly connected with drilling operations stay off the rig floor. For those who are not familiar with the machinery and its operation or who do not take proper precaution, crossing the rig floor while pipe operations are in progress can be extremely hazardous. The driller and his team are operating equipment that handles loads of over 300 tons under dynamic conditions and that is unforgiving of error. The driller is responsible for the safety of everyone on the rig floor; a lapse in concentration on the driller's part could easily result in a serious or fatal accident to a visitor or crew member. It could also cause a "wreck" with disastrous consequences to the equipment, drill string, or even the voyage.

The following guidelines must be observed:

1. Wear a **hard hat and safety glasses outside** the deck house and lab stack areas, and wear

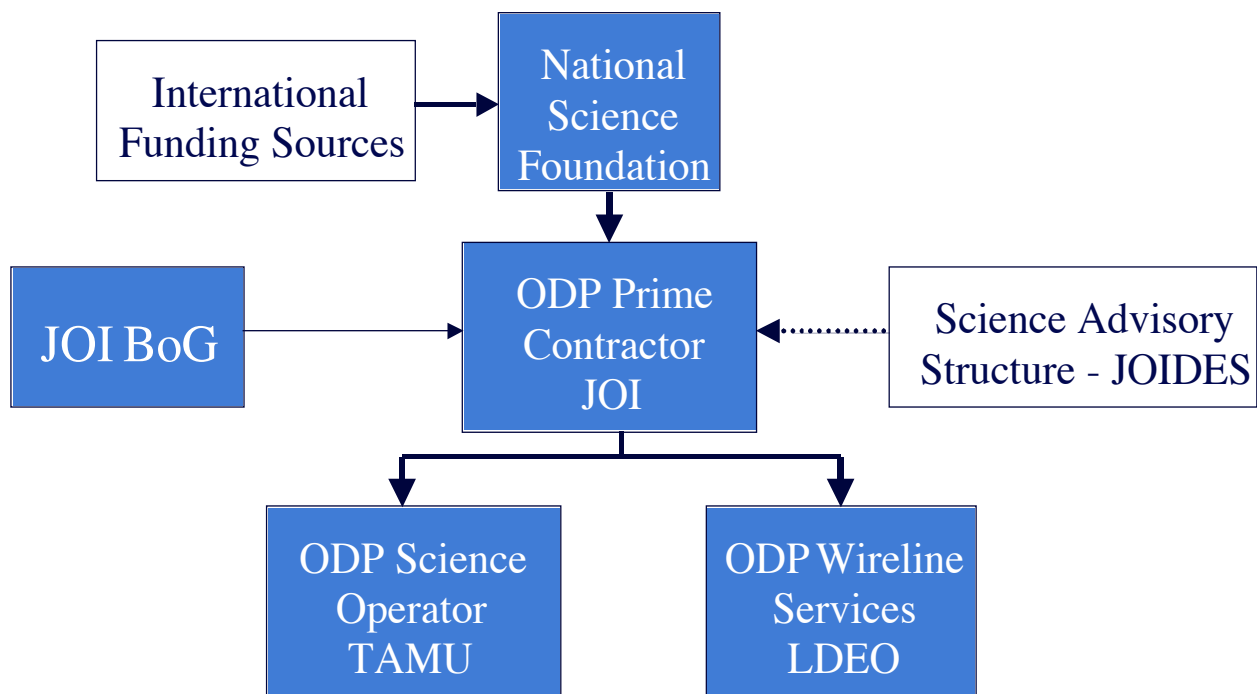
- safety shoes on the rig floor** and around machinery or moving loads.
2. **Avoid the drill floor during pipe handling operations** unless you have specific business there, and then walk around behind the drawworks as an alternative to crossing the drill floor. Don't visit with or otherwise distract the driller while he is operating machinery.
  3. **Don't ever walk between the iron roughneck or the dual elevator system** and the centerwell, and don't walk on the piperacker catwalk unless you have a real need to do so and are fully aware of the current operational situation.
  4. Be constantly **alert for men working aloft** in the derrick and for crane loads being swung overhead, and DON'T stand underneath!
  5. **Don't use the rig floor as a route of convenience** to the underway geophysics or logging winch areas.

### **Smoking**

Smoking is permitted only in nondangerous areas and is never allowed where "No Smoking" signs are posted. Smoking is permitted in the living quarters **only** where signs are are posted stating it is a "designated smoking area."

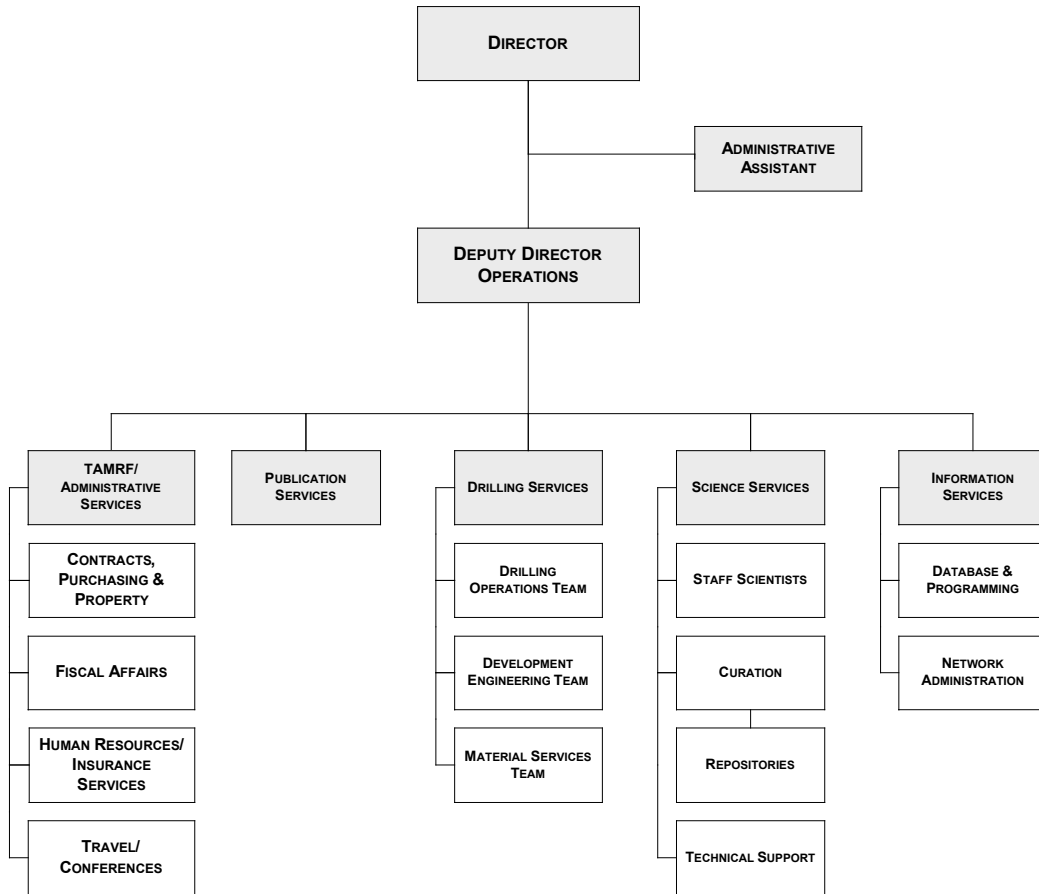
**APPENDIX II: ODP MANAGEMENT AND PANEL STRUCTURE**

**ODP SCIENCE OPERATOR STRUCTURE**

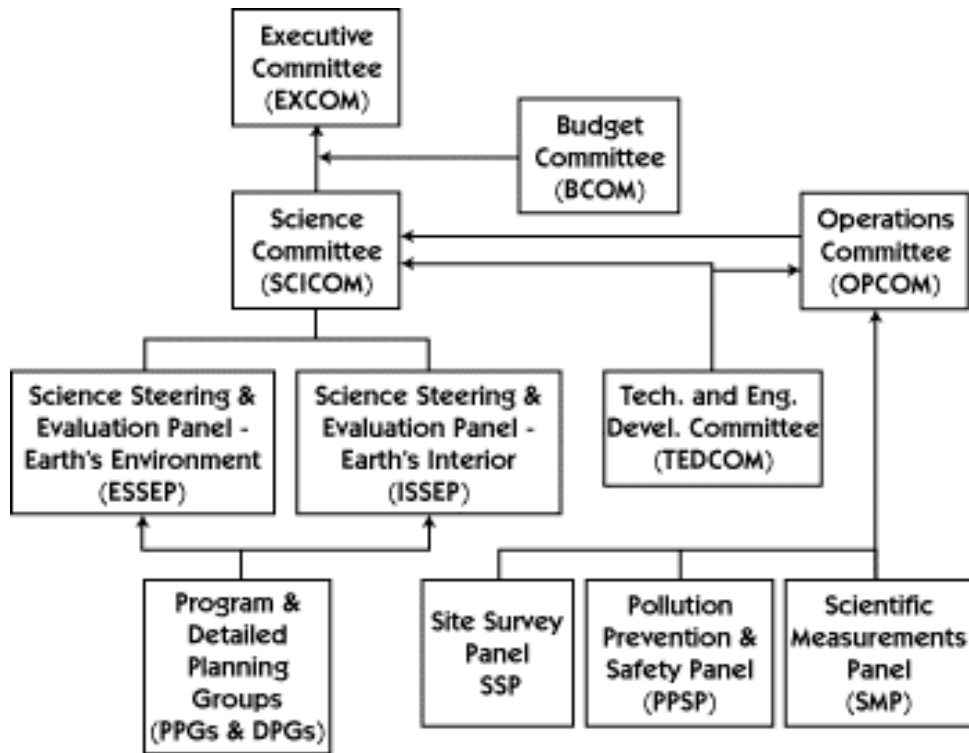




## ODP SCIENCE OPERATOR STRUCTURE



## JOIDES ADVISORY STRUCTURE



## **Amendments**