



OPERATION BISMARCK

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TRAVEL AND HEALTH REQUIREMENTS

Important

The health and visa requirements listed in these pages are current as of February 2005. All passengers should check with their local travel agent or consulate for complete passport, visa and health requirements before departure. Please note that the following information is subject to change.

Passport

A valid passport is required for participation in this program. It must be valid for six months after the end of your expedition. If you do not have a passport, or if it is not valid for the correct length of time, you should apply for one as soon as possible. Please have a minimum of four blank pages available for entry/exit stamps in your passport and secure additional pages if necessary. We suggest that you carry a photocopy of your passport's information page when you travel.

Visa Requirements

Entry visas for European Community countries (Germany and Ireland) are not necessary for U.S., European or Australasia citizens. If you are traveling on this expedition and are not one of the above nationalities you are advised to check with your travel agent to obtain specific visa requirements.

PLEASE NOTE: It is the passenger's responsibility to ensure that all documents are complete and current.

Health Recommendations

At this time no inoculations or prophylaxes are required in conjunction with this expedition. However, travel-medicine experts do advise passengers to be immunized against the flu and other infectious diseases before leaving the country.

It is also recommended that you bring precautions for the common cold. For all of your personal medications, be sure to bring a sufficient amount, as prescriptions cannot be refilled at sea.

Personal Health Information

Health information is provided for your guidance only. Avoiding infection, ensuring that food and drink are as safe as possible, immunization and drug prophylaxes may prevent many forms of illness. Travelers are asked to contact their personal physician or local health services for advice on travel immunizations for the entire trip. We also suggest the following:

- It is advisable to carry with you an up-to-date record of your allergies or chronic medical problems so that emergency treatment, if necessary, can be carried out without endangering your health. Your physician can prepare a summary record for you.
- You should carry the telephone number for your physician's 24-hour

Important

Check with your travel agent for travel requirements

Passport

Passport must be valid for at least six months after you return home

Visa Requirements

No visa necessary for U.S., European or Australasian citizens

Health Recommendations

Personal Health Information

Contact your personal physician for advice on immunizations

Carry up-to-date record of your allergies or chronic medical conditions

Carry your physician's 24-hour answering service number

answering service.

- Bring your International Certificate of Vaccination, which documents all of the required inoculations you have received for traveling out of the country.
- Always take medicines for the length of time prescribed by your physician, and bring an adequate supply. Prescription medicines should always be carried in your hand luggage in their original, labeled containers. Do not put them with your checked luggage.

Any major health problem, disability, or physical condition that may require emergency care must be brought to our attention prior to trip departure.

In case of serious injury or illness while traveling, it is important to understand that satisfactory medical facilities may not exist nearby. Should you require emergency medical care, it may be necessary to depart the country by international medical evacuation services. This service can be extremely expensive, and therefore, we strongly urge you to consider purchasing travel insurance that includes sufficient medical evacuation coverage.

For More Information

The information above is a guideline and is subject to change without notice. Contact your physician or local health center for current and other information concerning health precautions, immunizations, and prescriptions based on your physical condition and medical history. Another good source of reference is *Travel Health Online*, a web site that contains health and safety recommendations and advice for over 220 countries. It also includes a list of travel medicine providers throughout the world. The site can be found at www.tripprep.com

The U.S. Department of State issues Consular Information Sheets for every country of the world. They give important information about each country, including immigration and currency regulations and the location of U.S. Embassies and Consulates abroad. Their web site can be found at www.travel.state.gov

Bring International
Certificate of
Vaccination

Bring adequate
supply of
prescription
medicines

Medical evacuation
insurance strongly
recommended

**For More
Information**

GENERAL INFORMATION

Accommodation

A complimentary night of hotel accommodation is included in your package. This accommodation is provided for the 30th May 2005, the night prior to your embarkation. Contact details for this hotel, the Steigenberger Hotel Hamburg, are below. If you wish to extend your stay at the hotel please contact them directly at reservierung@hamburg.steigenberger.de

STEIGENBERGER HOTEL HAMBURG

Heiligengeistbrücke 4

20459 Hamburg, Germany

Phone: +49-40-36806-180 / Fax: +49-40-36806-775

www.hamburg.steigenberger.de

Airport Arrival and Departure Taxes

These are not included in your fare. The individual must pay all airport arrival and departure taxes.

Baggage Allowance

International flights to / from Europe generally allow two pieces of luggage, maximum weight 32 kgs each, plus one carry-on although this does vary depending upon which carrier you fly.

Your carry-on bag should include anything you may need in transit. We recommend that you carry with you essential toiletries, prescription medications, and a change of clothing appropriate for the initial activities of our itinerary, so that you will be more comfortable in the unlikely event that your baggage is delayed in transit.

PLEASE NOTE: Most airlines strictly enforce their baggage regulations.

Excess baggage charges, which can be substantial, are the personal responsibility of each participant.

Please attach a luggage tag to each piece of luggage, including your carry-on bag, to help facilitate baggage claim at transfer points.

Climate

Temperatures can range from 40-70° F, and weather conditions can vary greatly – anything from delightful, to breezy, cold and “North Atlantic Nasty.” Seas can be calm to significantly rough. We will be at the site during the best weather window of the year and can reasonably expect significant periods of acceptable operational weather and sea conditions.

Currency

The Euro is the monetary unit of Germany and Ireland. Major credit cards and

Accommodation

Steigenberger,
Hamburg,
Germany

Airport Taxes

Note these must be paid individually

Baggage Allowance

Two pieces of luggage maximum 32 kgs. each, plus one carry-on

Excess baggage charges are responsibility of each participant

Climate

Temperatures can range from 40° - 70° F

Currency

EURO

traveler's checks are widely accepted.

The U.S. dollar is the standard currency on board the *Akademik Keldysh*. While traveler's checks can be exchanged for cash aboard the ship, such transactions should be for limited funds only.

Customs Information

If you plan to take any foreign-made articles such as cameras, binoculars, videos, expensive watches out of the United States, it is a good precaution to bring with you the receipt from the retailer or some proof that the item was purchased in your home country. If you bought the items on a previous trip abroad and you have already paid duty, bring the receipt with you.

U.S. residents returning to the U.S. from abroad are allowed to import free of duty up to US\$400 worth of articles purchased abroad. The duty-free allowances may include the following maximum quantities of:

- Tobacco: 200 cigarettes, 100 cigars and reasonable amount of tobacco
- Liquor: 1 U.S. liter

Local Time

The local time in Kiel, Germany is 1 hour ahead of GMT (Greenwich Mean Time). The local time in Cobh, Ireland is GMT (Greenwich Mean Time).

On this expedition the *AKADEMIK KELDYSH* will initially observe Kiel local time and later change to Cobh, Ireland local time.

Transfers in Kiel, Germany and Cobh, Ireland

Group transportation from Steigenberger Hotel Hamburg to RV *Keldysh* on embarkation day is included. A representative from DEEP OCEAN EXPEDITIONS will transfer you from the hotel to the vessel in the port of Kiel. You will be notified of these transfer arrangements via email.

Transportation from the vessel once alongside in Cobh, Ireland at the conclusion of your voyage is not included. However DEEP OCEAN EXPEDITIONS can assist you with taxis or similar arrangements upon arrival.

Return air transportation from your city of departure to Kiel, Germany and Cobh, Ireland is not included. Transfers from Hamburg airport to the Steigenberger Hotel Hamburg are not included.

Travel Insurance

Travel insurance for trip cancellation and interruption, medical problems, baggage loss and delay, etc, is highly recommended. Please be sure to carry the details of your travel insurance coverage with you on this program. If you need further travel insurance information, applications or assistance, please do not hesitate to notify us at your earliest convenience.

Customs Information

Local Time

Ships Time

Transfers

Transfers to the vessel in Kiel, Germany are included.

Transfers can be arranged upon disembarkation in Cobh, Ireland

Travel Insurance

CLOTHING AND PACKING INFORMATION

The following contains helpful information for you to prepare for your *Operation Bismarck* voyage. Please keep in mind that weather in the North Atlantic is quite unpredictable, and it's best to be prepared for possible cold, wet days.

PLEASE NOTE: *None of the items on the packing list or the photo and video checklist will be included or available for purchase on board.*

General Information

It is essential to maximize the versatility of your travel wardrobe by packing clothing that can be layered. Wash and wear, lightweight natural fabrics are recommended. As you pack, consider your own internal thermostat and personal tastes, and adjust accordingly.

Please refer to the PACKING CHECKLIST for details about what you will need.

Shipboard Clothing

Akademik Keldysh is a working research vessel, not a cruise ship, so please pack accordingly. Casual clothes such as jeans, sweatshirts and T-shirts are acceptable.

Informal clothes for the occasional party are also recommended. For footwear, water-resistant, rubber-soled shoes, deck shoes, sneakers, or tennis shoes with good traction are suitable.

A swimsuit for the sauna is recommended. Workout clothes for the gym and volleyball court are also a suggestion.

Expedition Clothing

As it may become chilly in the submersible, warm clothing that can be layered is recommended. A waterproof jacket is good to have on deck. Following are suggested items for your dive and time spent on the deck:

Fleece jacket and pants: Ideal for the submersible

Long underwear: Silk and polypropylene are highly recommended for extra warmth. The trim fit adds warmth and comfort without adding bulk.

Sweaters: Bring 1-2 sweaters. We also recommend a turtleneck (preferably polypropylene or silk).

Hat/Light Gloves/Scarves: It might get chilly on deck and in the submersible.

Warm Socks: Make sure you have an ample supply of warm socks. Again, silk or polypropylene can be worn as liners and wool for the heavier outer layer.

General Information

Shipboard Clothing

Expedition Clothing

Fleece jacket and pants

Long underwear

Sweaters

Hat/Light Gloves

Warm socks

Waterproof booties

Outdoor Outfitters

There are many manufacturers who specialize in adventure, cold-weather, and outdoor clothing – Eastern Mountain Sports, Helly-Hansen, Lands' End, Snow and Rock, and Patagonia. The following are just a few stores that can help with travel clothing:

L.L. Bean, Inc.

Freeport, Maine 04033
Phone: (800) 441-5713
Web site: www.llbean.com

Eddie Bauer

1330 Fifth Avenue
Seattle, WA 98101
Phone: (800) 426-8020
Web site: www.eddiebauer.com

R.E.I.

222 Yale Avenue North
Seattle, WA 98109
Phone: (206) 223-1944
Web site: www.rei.com

The North Face

1023 1st Avenue
Seattle, WA 98104
Phone: (206) 622-4111
Web site: www.thenorthface.com

Travel Smith

60 Leveroni Court
Novato, CA 94949
Phone: (800) 950-1600
Web site: www.travelsmith.com

Magellan's

110 West Sola Street
Santa Barbara, CA 93101
Phone: (800) 962-4943
www.magellans.com

**Outdoor
Outfitters**

PACKING CHECKLIST

Clothing

- Warm jacket
- Waterproof jacket (hooded)
- Sweaters
- Turtleneck
- Light gloves
- Hat
- Scarf
- Warm, woolen socks
- Sturdy, non-skid, walking shoes
- Fleece jacket and pants
- Thermal or long underwear
- Plastic sandals for the shower
- Lightweight slippers
- Warm, long-sleeve shirts
- Casual / informal wear
- Swimsuit
- Workout clothes

Miscellaneous Items

- Passport, visa, airline tickets*
- Credit cards*
- Photocopies of documents/tickets
- Waterproof backpack or fanny pack
- Favorite snacks (granola bars, etc.)
- Sunblock / lip balm
- Sunglasses
- Personal first-aid kit
- Prescription medicines*
- Physician's letter
- Spare eyeglasses
- Walkman CD/mp3 player.
- Tissue
- Plastic Ziploc bags
- Flashlight and batteries
- Binoculars
- Travel alarm clock
- Electrical converter
- Hair dryer
- Personal toiletries
- Sewing kit
- Small first aid kit
- Converter and adapters
- Small gift items (i.e. magazines, T-shirts, cigarettes, gum, and candy). You will make friends amongst the Russian crew and may want to bring along a selection of gifts.

**These items should be packed in your hand luggage, together with a change of clothing for unexpected delays of checked luggage.*

PRACTICAL VOYAGE INFORMATION ON BOARD THE *AKADEMIK KELDYSH*

Accounts On Board

The ‘chit’ system is used in the bar/lounge, dining room, radio room and laundry. A chit will be signed and the amount debited to your shipboard account, which is presented for settlement at the end of the voyage.

The U.S. dollar is the standard currency on board the *Akademik Keldysh*, and all shipboard accounts and credit card charges will be rendered in U.S. dollars. All accounts are payable in either U.S. dollars, traveler’s checks, or by Visa, MasterCard, or American Express.

Air-Conditioning and Heating

All cabins on board the *Akademik Keldysh* have heating and air conditioning.

Baggage

Baggage is restricted only per the airlines’ regulations. Please ensure that your luggage is clearly labeled with your name and home address.

Beverages

There is a basic bar on board offering complimentary beer, house wine and soft drinks. A quality selection of wine and champagne, spirits, and liqueurs is also available for purchase. The ship is unable to offer a full range of mixed drinks. Should you have a special request for a particular item to be stocked in the bar or on the wine list, please advise us well in advance and we will try to fulfill your request.

Cabins

You will be accommodated in comfortable cabins on board the *Akademik Keldysh*. These cabins were originally designed for scientific personnel and while not luxurious, they are pleasant and of good size. Each cabin has a window or a porthole. There are several different cabin designs, thus, participants will not all have identical cabins. Several are provided with one berth only, while others either have an upper and lower berth or a two-berth design.

Every cabin has an attached bathroom, but in some cases, two cabins share a bathroom. In the latter case, we will try, wherever possible, to leave the second cabin empty. Friends and family members traveling together may be paired in a “duplex” arrangement, sharing one bathroom between two cabins. All cabin bathrooms contain a shower.

ACCOUNTS

AIR CONDITION/ HEATING

BAGGAGE

BEVERAGES

CABINS

Daily Programs

The daily program is distributed to all cabins and posted in common areas every day on board ship. The program announces the schedule of the day's activities (including dives), lectures, and meal times.

Dietary Needs

Special dietary foods can be provided, but we must be notified in writing to info@deepoceanexpeditions.com at least one month prior to the expedition.

Dining Room

Meals on board will be designed around an international menu prepared by two Western chefs brought aboard especially for our expedition. They will use excellent quality European and US provisions. A Russian chef and his team will support the European chefs and feature a Russian specialty cuisine dinner. A pastry chef will also be on board to bake fresh bread and pastries.

Meal times will be planned around a normal schedule of breakfast at 0730, lunch at 1230, afternoon tea at 1600, and dinner at 1930. Should circumstances require, those times may vary. Breakfast and lunch will be buffet-style with breakfast including both continental and American-style choices. Dinner will normally be served with two main course choices. Tea, coffee, and biscuits will be available on a 24-hour basis. All meals will be open seating with tables unassigned. Meal hours are posted in the daily program. We ask you to please observe the respective hours.

There is no smoking in the dining room.

Electricity

Power on board the vessel is 220 volts AC. There are two types of electrical wall plugs, European 2-pin round, and the 3-pronged style. They are created for Russian appliances so you will need an adapter for American, British or Australian plugs. Also, if you have any devices that only work on 110 volts AC, you will need a converter (rated to the wattage of your device). There are sufficient outlets in each cabin.



PLEASE NOTE: Some video camera battery packs require heavy-duty converters rather than the normal travel type. Please check your equipment to be sure you bring what is necessary for your personal needs.

Gratuities

Tippling is a personal matter and the amount you wish is completely at your discretion. Following are suggested amounts for diving passengers:

US \$100 total per diving passenger for your sub pilot.

US \$100 total per diving passenger for the sub crew.

US \$100 total per diving passenger for the general crew.

DAILY PROGRAMS

DIETARY NEEDS

DINING ROOM

ELECTRICITY

GRATUITIES

For non-diving passengers, we suggest tipping the general crew only.

Gratuities can be paid with cash, traveler's check, or credit card in envelopes found on the ship. Further instructions will be provided later. If you wish to tip the catering staff, you may do so, on an individual basis or in envelopes found on board. We ask that all gratuities are paid through the expedition leader and not given directly to crew members.

Gym and Sauna

There is a sauna and a basic gym on board the *Akademik Keldysh*, as well as a small volleyball court.

Language

English and Russian are the official languages on board the *Keldysh*. You will be able to get by without knowing Russian, but it is both interesting and educational to learn some of the basic greetings. We recommend taking a phrase book and/or dictionary with you.

Laundry

There is a laundry and pressing service available on board the *Akademik Keldysh* for a fee, which is debited to your shipboard account. However, because of your relatively short stay, we suggest you bring a sufficient supply of clothes without relying too much on laundry service. Dry cleaning is not available.

Lectures

Our onboard experts/lecturers from DEEP OCEAN EXPEDITIONS will offer a comprehensive series of lectures about the Battleship *Bismarck*, deep-diving submersibles, the world's oceans, deep-sea marine life, and other related topics. Our team of experts and onboard scientists offer a superb level of expertise in all of these fields. Briefings about the dive program, photography from the MIR's and dive techniques will keep you fully informed about the practical side of the dive program.

Library

The small shipboard library has a focus on *Bismarck*, with additional texts available covering the topics of submersibles, the history of deep ocean diving and oceanography. There is also an extensive on-board video library with *Bismarck* documentary and feature videos available, in addition to other related topics.

Medical Services and Special Needs

Facilities may not be available for the disabled traveler. If you have special needs, please contact us directly.

The *Akademik Keldysh* has a basic infirmary on board, and a qualified physician will be available throughout the voyage.

GYM/SAUNA

LANGUAGE

LAUNDRY

LECTURES

LIBRARY

**MEDICAL
NEEDS**

Passengers requiring special medications should bring sufficient quantities to last the duration of the expedition. DEEP OCEAN EXPEDITIONS is not responsible for providing medication should passengers run out of any specific drug.

It is essential that persons with any medical problems and related dietary restrictions make them known to us well before departure, so we can brief the ship's doctor accordingly. All required medical forms should be completed and returned to DEEP OCEAN EXPEDITIONS one month before your departure.

Shipboard Facilities

The *Akademik Keldysh* is basically an open ship, but you are requested not to enter the crew cabins unless invited. Entry to the engine room and laboratories will only be offered on an organized and scheduled tour basis only. The bridge is normally open to participants 24 hours day, except during launch and recovery or in the event of difficult sea conditions or other important situations. You may also track the submersibles and monitor communications in the navigation room.

Although the bridge and submersible deck will be closed during launch and recovery, there will be other open areas on deck for viewing, observing, and photographing the entire diving operation.

A lounge/conference area will be available for socializing. As the *Akademik Keldysh* is a scientific research vessel, there is no hair salon, gift shop or mail service.

Ship and Submersible Statistics

Akademik Keldysh

Type of vessel: Scientific research vessel
Built: Finland 1981. New electronic instrumentation 1994
Owner/Operator: P.P. Shirshov Institute of Oceanology,
Russian Academy of Sciences
Length: 400 feet
Tonnage: 6,240
Maximum Speed: 12.5 knots
Number on board: Approximately 90 (45 crew, 20+ pilots, engineers and technicians, 10-12 scientists and lecturers and 16 passengers)

MIR I and II Submersibles

Type of Vessel: Deep-diving submersible
Built: 1987 in Finland. Rebuilt 2004
Owner/Operator: P.P. Shirshov Institute of Oceanology,
Russian Academy of Sciences

FACILITIES

SHIP AND SUBMERSIBLE STATISTICS

Size: Length – 25.6' (7.8m), breadth – 11.8' (3.6m)
Dry weight: 18.6 tons
Number on board: 3 people (1 pilot, 2 passengers)
Number of voyages: Over 550 deep-sea dives including over 90 to the *Titanic*
Maximum speed: 5 knots

Smoking Policy

Smoking is not permitted in the dining room or during lectures and briefings.
Smoking is only allowed one designated area on the outside deck.

Valuables

Please try to leave any non-essential valuables at home. DEEP OCEAN EXPEDITIONS will not be held responsible for the loss or theft of any jewelry, cash, etc. There will be a safe place available for passengers to store small valuables.

Water

Bottled water will be available on board free of charge.

SMOKING

VALUABLES

WATER

CONTACT INFORMATION FOR THE RV AKADEMIK KELDYSH

Telephone and fax facilities are available on board the *Akademik Keldysh*. The radio station is open to passengers, and the radio officer will assist you in placing telephone calls and in sending faxes. Radio room charges will be charged to your shipboard account and settled at the end of the expedition. Those at home may contact you aboard via telephone or fax.

Telephone and Fax

- Ocean codes for dialing on this expedition:

Atlantic West – 874

Atlantic East – 871

- When calling from a direct dial phone in the U.S. or Canada:

Phone: Dial 011 + ocean code (871) + 761 322 469

Fax: Dial 011 + ocean code (871) + 761 322 471

If there is no reply from the ship, contact the next nearest ocean region telephone code.

- For non-direct dial telephones, for person-to-person calls, and for calls from outside the U.S.:

Call the international operator and ask to place a satellite call.

Give the ship's name (*Akademik Keldysh*) + ocean region code (871) + 761 322 469.

- To call ship-to-shore you must make your call from the radio room on board. Calls are transmitted via satellite and cost approximately US \$10 per minute. Calls will be charged to your shipboard account.
- A limited email service is also offered to passengers. Please advise all persons sending email to you on board to refrain from sending attachments or large files to the vessel. The service is for text only. The email address is deepocean@uuplus.com. Please advise them to place your name in the subject field.

WHAT TO EXPECT ON YOUR DIVE

The following information is provided to you as a basic guideline for your upcoming dive to the *Bismarck*. If you have additional questions not covered in this section, feel free to contact our office.

1. How do I get in and out of the MIR?

You will board/disembark the MIR I or MIR II submersible on the *Akademik Keldysh*, where they are stored in special hangars. There is a ladder system from the deck to the entrance hatch of the submersible and all entry and egress to and from the submersible will be made using that system. There will be no entry or egress while the submersible is in the water, as the hatch remains sealed to prevent flooding of the interior.

Climbing up and down the ladder to and from the MIR requires care and there will be trained personnel to assist you. Particular care is needed when exiting after the dive, as you may be a little stiff and tired. The crew is there to help you, but you need to carefully watch your step. The entrance hatch is approximately two feet (60 centimeters) in diameter and the inside of the submersible is relatively compact. There are no official limitations as to a participant's size, but we suggest that if your height exceeds 6 feet 8 inches (2 meters) and/or your weight exceeds 280 pounds (126 kilos), please advise us so that we can determine if there are any serious impediments to your participation.

Prior to your dive, you will be taken individually into the interior of the submersible and given a "tour" of its facilities to orient you for your upcoming experience.

Once inside the submersible, you should position yourself to be as comfortable as possible. It is imperative that you avoid touching or manipulating any of the control systems or instruments, either intentionally or by accident.

2. What is it like inside the MIR? / What do I bring?

The habitation sphere (pressure hull) of the MIR submersible is 6 feet 10 inches (2.1 meters) in diameter and is specifically designed to carry people – in our case one expert pilot and two participants/observers.

Inside the sphere the pressure is "one atmosphere," just like a room in your home. Throughout the entire dive the interior of the sphere remains at normal atmospheric pressure, so there is no need for decompression. Around the inside of the sphere are many controls, instruments, and electrical circuits. At the forward end of the sphere are three viewports, each providing a forward and a partial peripheral viewing arc.

There are two couches/mattresses for the two participants/observers, enabling both to lie comfortably with their faces close to the view ports. You can also sit or stand up to stretch and relax during the dive. The pilot sits or kneels at a

**Getting
In and Out
of the MIR
Submersibles**

**Interior of the
MIR**

central control console and guides the submersible using the main central view port. There is no vision directly to the sides or the aft end of the submersible.

As you dive, you will notice the temperature changes. Depending on weather conditions, it may be somewhat hot and humid at the start of the dive, but the temperature will soon drop to a constant 50–57 °F (10-14 °C). The temperature will remain within this range for most of the descent, the time spent at the *Bismarck*, and for the majority of the ascent. Please note: while this temperature does not sound too cold, the inside shell of the MIR attracts moisture due to condensation.

Therefore, you need to ensure that you dress warmly. It is recommended that you wear comfortable, loose fitting clothes (tight jeans, for instance, are not recommended). You should wear your clothing in layers, allowing you to add or subtract layers to adjust to temperature variations. We suggest two pairs of warm socks; warm water-resistant booties; light, thermal full-length underwear; a warm comfortable pair of sweat or fleece pants; a thick warm sweater, pullover, or fleece jacket; a woolen cap; and a light pair of gloves. In addition, we will issue everyone with a pair of special NOMEX overalls (suit), which is a fire-resistant garment. Your clothing will be inspected before the dive to make sure that you are adequately prepared. For the dive, we will provide you with a packed lunch and drink (not too much of either to avoid added bathroom needs). A hearty ‘welcome back’ meal will await you at the end of the dive.

In addition, we recommend that you bring a camera and/or compact video camera, tissue, a notebook and pen to record your observations, and a small tape recorder to record your impressions. Be aware that the following items are **not allowed** on the submersibles: anything made from a petroleum base (lip sticks, lip balm, Vaseline, some lubricants, etc.), matches, and lighters or other combustible materials. Please note that there is **absolutely no smoking** in the submersibles

3. Exactly how does the ‘bathroom procedure’ work in the MIR?

Because of the size and design of all deep diving submersibles, there are no installed/fixed bathroom facilities. Because our dives are scheduled to last from 9½ to 11 hours (maximum), we will be providing temporary portable “man/woman hour – extender bottles” that enable you to deal with “non-serious” matters. These bottles are designed to be conveniently used in relatively confined spaces such as light aircraft, helicopters, tents in inclement conditions, etc. There will be an ample supply of them on board. We will also provide some sort of “privacy curtain” although it has been recognized that privacy has its limitations in a submersible.

As for “serious” matters, it is largely a case of “mind over matter” but a suitable device will be carried for absolute emergencies. In order to better

Submersible
temperatures
During the dives

What type of
clothing to wear
during
the dive

What to
bring and what *not*
to bring during the
dive

**Bathroom
Procedures On
Board
the MIR**

control the need for the bathroom facilities, we will be recommending an eating plan that minimizes the amount of food and drink that you should consume for about 12 to 18 hours prior to your dive. You should also know your general needs and reactions and plan accordingly.

4. How does the dive operation begin?

You will be advised of your planned dive time well in advance so you can prepare and also go into your pre-dive eating and drinking regimen. However, you must understand that the actual dive time depends on weather and sea conditions and the mechanical readiness of the submersibles (occasional maintenance needs may mean postponement of dives and must be accepted as necessary).

You should adopt a flexible approach to the dive schedule and be prepared to accept postponements, even though you may have built up your excitement and expectation level prior to a planned dive time. The decision of when to dive is *solely* in the hands of the expedition leader, Dr. Anatoly Sagalevitch, and the captain of the *Akademik Keldysh*. Their decision is final and absolute. Any such decisions will be made based on many years of experience and will be predicated upon the general safety of the operation.

About an hour prior to dive time, you and your dive partner (either chosen by you or assigned to you) will be called to a final briefing and equipment inspection. When the final order to prepare to dive is given, you will be escorted to the ladder for entry into the submersible on the deck of the *Akademik Keldysh*. Once you, your partner, and the pilot (who will speak English) are settled in and comfortable, the hatch will be sealed and the submersible lowered by the ship's crane into the ocean. The surface test team will inspect the outside of the MIR and then release it from the crane, after which a launch will tow the craft to its dive point (a little offset from the *Bismarck* so that you don't land directly on top of it). This towing process can take a little time, and if the ocean surface is choppy, you will experience some rolling of the submersible.

For some people this can induce some temporary motion sickness (it will quickly disappear once the dive starts and you descend below the surface). As a precaution, we advise those prone to motion sickness to use tablets (taken in advance) or behind-the-ear patches to help relieve symptoms. It is best to consult your physician for their recommendation prior to your trip.

Once the pilot has checked all systems, he will start to pump water slowly into the ballast tanks, and the MIR will begin to descend. The descent rate will be approximately 100 feet per minute. The water color turns from light green, through deepening shades of blue, and in a short time to black as ambient light disappears at around 700 to 800 feet (200 to 230 meters), assuming, of course, that it is a daytime dive.

It is worth noting, however, that we are not restricted to daytime dives, and

there will certainly be nighttime dives made, especially if weather and sea conditions are favorable. As our dive does not rely on ambient sunlight underwater, day and night dives are of equal quality.

The total descent time to the *Bismarck* is about three hours. During that time, you may relax, enjoy the music, watch the pilot manipulating the MIR, and scan the ocean depths for bioluminescent creatures. From time to time the pilot will turn on the submersible's powerful external lighting system to look for search for marine creatures living in the water column. In order to preserve the pilot's night vision, the interior of the MIR is lit by faint red lights similar to those found in a photographic studio.

The pilot is in constant voice communication with the *Akademik Keldysh* to assist his navigation. As you near the *Bismarck* wreck site, excitement will build.

5. Will both MIR submersibles dive together at the same time?

The dive plan for the MIRs will vary according to circumstances and prevailing conditions. As a general plan, we would usually dive the two submersibles closely together, remembering that the launching of the two vessels into the water needs to be done one submersible at a time. This means that the dive schedule for each may be slightly staggered by an hour or so.

Note that it is not *required* for the MIRs to dive in tandem; each submersible is designed to be fully autonomous. From time to time, logistical considerations such as battery charging time, need for servicing, weather/sea conditions, or other contributing factors may lead to single submersible dive patterns. It is preferable to have both vessels down at the same general time as they are then able to photograph each other at the wreck site; however, we cannot guarantee that this will always be possible.

6. What is the size of the three MIR viewing windows?

The center view port is approximately eight inches (200 millimeters) in diameter and the two smaller view ports, one on each side of the center window, are approximately five inches (120 millimeters) in diameter.

As you will be able to position your face up against the view ports, you will have good views ahead and somewhat to the sides. The view through the side ports is slightly obstructed as due to some equipment on booms in front of the submersible.

7. What will the video memento be like?

You will receive a video memento that will be sent to you after *Operation Bismarck*. It will include footage shot previously incorporated with footage shot from this expedition's dives. It will also feature onboard *Akademik*

Diving Together

MIR Viewing Ports

Video Memento

Viewing the Bismarck

Keldysh footage, footage from inside the MIR, and many images of the *Bismarck*.

8. What will I see of the *Bismarck*?

During our three to four hours down at the *Bismarck* wreck site, we aim to visit and observe most of the significant areas of interest. The wreck is surprisingly intact, although it shows obvious signs of the large-scale damage wrought by the pounding of the British shells. Part of the stern section has broken away, and the main gun turrets are missing. Many of the smaller guns, including the anti-aircraft guns are still in place. The bridge area was largely obliterated during the battle, but the remaining superstructure is intact although obviously damaged. Some of the wooden planks are still visible on the deck.

The MIRs will also move out into the debris field to explore artifacts lying on the ocean floor. Please remember, however, that we are only there to look and there will be absolutely no attempts to salvage anything from the *Bismarck* site. You will also visit one of the vessel's main gun turrets as well as other debris.

While your dive focuses on the *Bismarck* wreck, don't forget to look for deep-sea marine life. Large animals are relatively sparse at these great depths, but you are likely to see a variety of bottom dwelling fish and invertebrates. These may include rattail fish, which swim lazily over the bottom, strange sea cucumbers that live on the muddy bottom, deep-sea relatives of corals, and pale squat lobsters perching on the wreckage itself.

Keep in mind that you are one of only a few who have ever dived to these great depths –15,000 feet, or nearly five kilometers. The *Bismarck* lies in the rarely visited region known as the 'abyssal zone', 3,000 feet deeper than the average depth of the world's oceans.

Time will pass quickly as the MIRs maneuver slowly and deliberately around the wreck; the experience will entrance you, and you will be moved by the sense of history that pervades the scene. Ample time will be built in for photography, quiet observation and reflection.

9. How will we decide the dive order?

A schedule showing the order of divers will be determined once you are on board. This will be done well in advance, so you are comfortably prepared and know when you will need to alter your diet.

**Marine
Life**

**Dive
Order**

PHOTOGRAPHY SUGGESTIONS

Film

You will want to bring back many photographic memories of your expedition – pictures taken both above the water and during your memorable dive to the *Titanic*. Bring lots of film, as you will be unable to purchase anything on board.

Whether you choose print or slide film depends on your intended use. If you enjoy giving slide presentations to groups and family or think you might like to sell your images to an agency, then slide film is the preferred format. If you enjoy sharing your photographic records and like to maintain albums, then print film is the best. An added advantage of shooting with print film is that in the processing lab the print can be adjusted for lighting by first viewing the negative. When slide film is processed, there is no room for error; therefore, your light readings, when shooting, need to be accurate.

Film speeds you will most likely need are 200 or 400 ASA or higher. Film can be shot at speeds other than its designated ASA; for example, if you need more speed from your available film, you might want to *push* the film. You can also *pull* back the film, although this is not recommended. If you push or pull your film, remember that you must push the entire roll and mark the exposed canister with the ASA used so that it can be processed at the proper speed.

Film types change rapidly, so it is best to check with your nearest professional photo store for the latest in film. For slide film, we have found Fuji Velvia 50, Fuji Provia 100, Kodak E100VS, Kodak 100S, and Kodak E100SW to be excellent choices if you are planning on your trip becoming a photo expedition. In print film, the Kodak Royal series is very good and comes in a variety of speeds.

Camera

Most of today's 35mm SLR (SLR - single lens reflex, aka interchangeable lenses) cameras have automatic settings, making them as easy to use as the 35mm point and shoot cameras. However, please remember to always bring along the instruction manuals and spare batteries.

Many camera manufacturers offer 35mm SLR cameras with autofocus and integrated flash. You will need a flash unit in dark shadowy areas to use as fill-in light; otherwise your photo may not show all the detail that you remember. If your camera does not have an integrated flash, there may be a dedicated flash unit available specifically for the camera. The camera salesperson should be able to help and give you some tips on using the flash.

If you do not wish to go with the SLR for your trip, there are many rangefinder (point and shoot) cameras available. This camera is auto everything and has a variety of autofocus zoom lens, integrated flash, auto film load and ASA

Film

Bring adequate supply of film

Film speeds:
200 or 400 or
higher

Camera

Bring
instruction
manual

setting and so on. Again, if you are purchasing a system of any kind for the first time, please get the assistance of a qualified salesperson.

Lenses

You may want to consider buying a zoom lens if you do not already own one. Bring a lens hood for your zoom lenses, as zooms are susceptible to lens flare when aimed directly into any light source. Zoom lenses are reasonable in price, so we suggest two, a 28-70mm and a 75-300mm or something of similar focal length.

Filters

Always have a UV or Skylight filter on every lens you own. The most important reason is to protect the front lens element from dirt, fingerprints, and damage. These filters do not alter the amount of light reaching the film plane; therefore, it is not necessary to adjust the 'f' stops on the lens to compensate. These filters will reduce the amount of blue or haze you see through the viewfinder.

A polarizing filter will reduce the amount of reflective light reaching the film, thereby reducing the glare seen through the viewfinder. A polarizer is a necessity for shooting around water. Make sure you know the type of exposure meter your camera has. With an auto focus camera, you need a circular polarizer because of the beam-splitting meter. Check your camera manual to see if you need a standard or circular polarizer.

For best results, always bracket. Bracketing involves taking several photos of the same subject with slightly different ASA settings (normally the recommended ASA, and one 'stop' either side of this setting). This should ensure that at least one image is correctly exposed, and is especially important when using slide film.

Batteries

Most cameras use special batteries that will not be available for purchase or replacement on our expedition. Batteries have a limited duration; so for whatever camera you bring, take along an extra supply of batteries.

Video

Videography is a wonderful way to capture not only the incredible things you will see, but the sounds as well. Another advantage is that a video camera makes shooting in low light ideal as the lens opens up to compensate for these types of conditions. Be sure to bring along the charger and extra batteries. Also, remember to bring a voltage converter and adapter.

Digital Cameras

If you have purchased a new digital camera, welcome to the 21st century. The possibilities are endless. However, digital cameras use a lot of battery power so

Lenses

Filters

Bring a UV or skylight filter

Polarizing Filter

Circular Polarizer

Batteries

Video

Digital Cameras

be sure to carry an ample supply or get a rechargeable battery pack.

Remember, in the case of video or digital cameras, battery recharging is not always available. *Don't be caught without power.* Carry spare batteries.

Photography (Still and Video) Inside the MIR's

For your own photography and video shot from inside the submersible, you will be able to put your lens up against or close to the viewing port, which will give you good photographic angles. Prior to this, an inspection of every camera will be conducted to add an anti-scratch modification to the lens.

For lighting outside, you will use the powerful HMI lights attached to the forward end of the submersible. These lights will be on fully as we explore the *Bismarck* site. Your own flash can be used inside the MIR's for interior pictures but remember to bring a wide-angle lens (24mm, 28mm or even a fish-eye lens). For "through the porthole" still photography, a 35 – 70 mm or 35 – 85 mm zoom lens would be ideal. If you are using a more basic camera with non-detachable lenses, try to get one that allows you to zoom the angle of view.

Most modern video cameras all have an extensive zoom system, which will cover the appropriate wide angle and medium angle range. Keep in mind that for interior shots you will need flash for still photos and low light capability for video cameras, as the interior lighting is kept dim so that the pilot maintains his 'night vision'.

Additional Photography Recordings

There will be two types of photos/video recordings made during each dive. One type is photography shot by each individual participant from inside the submersible (still photos and/or video footage). The second is still photos and video footage shot remotely by the pilot using the submersibles outside video and still camera. Copies of these will be provided to participants after the completion of the program when prints have been developed and video footage edited.

A well-produced video memento of *Operation Bismarck* will be sent to you at a later date. We cannot, however, take responsibility for any possible malfunctioning of the outside camera systems if such an event takes place. All efforts will be made to include in your video memento actual footage from your individual dive, but should technical reasons prevent this, we will use other appropriate stock video footage and still photos of the wreck site.

Going Home

Carry your film in your hand luggage. X-ray machines may or may not be safe for any speed of film, although most are in the USA. You have the right to ask that your camera and film bag be inspected manually rather than passed through the X-ray machine.

Photography Inside the MIR's

Additional Photography Recordings

Going Home

PHOTO AND VIDEO CHECKLIST

- Camera and lenses
- Extra camera batteries
- Film (plenty)
- Film extractor
- Filters (skylight, polarizing)
- Neck strap
- Light/spot meter, batteries
- Notepad
- Instruction manual(s)
- Plastic bags
- Lead foil film pouch
- Scissors
- Lens cleaner/tissue/brush
- Masking tape

NOTE: A 300mm lens is highly recommended (200 mm minimum).

RUSSIAN PHRASES

Basic Expressions

ENGLISH

PHONETICAL TRANSLITERATIONS

Hello.....	Zdrastvuitye
Good morning	Dobroye utro
Good evening	Dobry vecher
Goodbye	Do svidanya
So long	Vsevo kharosheva
Yes	Da
No	Nyet
Please	Pazhalusta
Thank you	Spasibo
Excuse me	Prostite
My name is	Menya zavut
Nice to meet you	Ochen priyatno s vami paznakomitsa
Do you speak	Gavarite li vy
I (don't) speak Russian	Y (ne) gavaryu po-russki
Please speak slower	Gavarite medleneye pazhalusta
I (don't) understand	Ya (ni) panimayu
Please repeat	Paftarite pazhalusta
We (I) need an	Nam (mne) nuzhen
Please,	Pazhalusta
tell me	skazhite mnye
show	pakazhite
help	pamagite
Entrance	Vkhot
(no entrance)	(vkhoda nyet)
Exit	Vykhot
(no exit)	(vykhada nyet)
Stop	Stoyte
Go	Idite
Men's WC	Muzhskoy tualyet
Women's WC	Zhensky tualyet
Where	Gdye
When	Kagda
Who	Kto
Why	Pachemu
What	Shto
How	Kak

Russian Phrases (in a restaurant)

Please, bring me the menu	Pazhalusta, prinisite mnye minyu
Please, take my order	Primate zakaz, pazhalusta
Appetizer	Zakuska
First course	Pervaye blyudo
Second course	Ftaroye blyudo
Be so kind	Budtye dabry
Dessert	Slatkaye
Meat	Myaso
Fish	Ryba
Soup	Sup
Salad	Salat
Beer	Pivo
Vodka	Votka
Wine	Vino
Brandy	Kanyak

Additional Russian Phrases

Bring me	Prinisite
a blanket	adeyalo
a towel	palatentse
tea	chai
coffee	kofe
mineral water	mineralnuyu vodu
Please call	Vyzavite pazhalusta
a doctor.....	vracha

Numbers

Zero/one/two/three	nol/adin/dva/tri
four/five/six/seven	chityri / pyat / shest / syem
eight / nine / ten / twenty	vosyem / dyevyat / dyesyat / dvatsat
thirty / forty / fifty / sixty	tritsat / sorok / pidisyat / shisdisyat
seventy / eighty / ninety	semdisyat / vosimdisyuat / divianosto
hundred	sto

EXPEDITION TEAM MEMBERS

In addition to the crew of scientists and technicians aboard the *Akademik Keldysh*, *Operation Bismarck* will be led by a collection of experts and lecturers from DEEP OCEAN EXPEDITIONS who will enhance your expedition with their knowledge and experience. A combination of the following will be aboard during your voyage.

Dr. Anatoly Sagalevitch – Dr. Sagalevitch played a major role in the design and implementation of the MIR I and II submersibles. He has been the chief scientist and expedition leader on board the *Akademik Keldysh* since 1990. He has led many expeditions in the MIR submersibles, including several to the hydrothermal fields of the Pacific and Atlantic as well as to the nuclear submarine wrecks of the *Kursk* and *Komsomolets*. Dr. Sagalevitch was expedition leader for all MIR dives for the IMAX film *Titanica* and James Cameron’s Hollywood epic *Titanic*. He has piloted the MIR on numerous *Titanic* dives and will lead the team of submersible pilots and technicians. More recently he has featured in the Disney / Discovery Channel features entitled *Wreck of the Bismarck* and *Aliens of the Deep*. He has also featured in several BBC and James Cameron special productions. Dr. Sagalevitch has written over 200 scientific publications in foreign and Russian editions and is a member of the New York Academy of Sciences, Marine Technology Society, and the National Geographic Society.

Dr Holger Herwig – Dr Herwig received his PhD from the State University of New York in 1971 and has held positions at Vanderbilt University, the Naval War College, and the College of William & Mary. He is Director of Research and a Canada Research Chair at the Centre for Military and Strategic Studies at the University of Calgary and is a Fellow of the Royal Society of Canada. He has co-produced five Television projects and has published 16 books, some of which have been translated into Chinese, Czech, German, Polish, Serbo-Croatian, and Spanish. He recently co-authored *The Destruction of the Bismarck* and was a key historian in a recent James Cameron/Discovery Channel *Bismarck* documentary. Dr Herwig made a dive to the Bismarck wreck in 2002.

Peter Batson – Peter is a science writer with a background in marine biology and a passion for deep-sea exploration. He specializes in deep-sea biology, and lectures on this topic at several New Zealand universities. His popular book, *Deep New Zealand: Blue Water, Black Abyss*, won the 2004 Montana

Dr. Anatoly Sagalevitch:
Head of
Submersible
Programme

Dr Holger Herwig:
Bismarck
Historian,
Author and
Lecturer

Peter Batson:
Author and
Lecturer

Mike McDowell:

Book Award for environment writing. He is also a marine photographer, whose deep-sea images have appeared in dozens of books and magazine articles.

Mike McDowell – Australian born Mike is a leading innovator in Expedition cruising and eco-tourism. He has been involved in organizing expeditions worldwide for over 25 years. Mike also founded Quark Expeditions in 1985, which pioneered the use of icebreakers to take tourists into the frozen reaches of the Arctic and Antarctica. Since that time, thousands of discerning travelers have enjoyed these unique expedition experiences.

In 1998 Mike developed a new direction in expedition cruising: diving into the oceans depths for adventure and in support of science. This was the beginning of adventure diving using manned submersibles to explore man's history and natural phenomena beneath the sea.

Mike has recently formed a business partnership and purchased the research vessel *DeepOcean Quest*. The vessel will act as mothership for two *Deep Rover* submersibles. They will soon begin a series of underwater exploration expeditions throughout the world's oceans.

Belinda Sawyer – Belinda has had a varied and interesting seagoing career. She is a ships master and engineer and her maritime work varies from leading submersible diving expeditions and Antarctic expeditions, to commanding super yachts or implementing inshore fisheries management programmes. She has worked as Expedition Leader in many parts of the world and in particular for Deep Ocean Expeditions on the deep diving submersible MIR I & II programme since 1998. She has been involved with expedition diving to the wrecks of the *RMS Titanic*, the Battleship *Bismarck* and a variety of oceanic hydrothermal ridges.

She also spends considerable time beneath the ocean participating in both recreational and scientific research scuba diving in such locations as Australia, Indonesia, the South Pacific, New Zealand and Antarctica. Belinda is a native New Zealander and is a member of the Explorers Club.

Deep Ocean
Expeditions
President

**Belinda
Sawyer:**
Deep Ocean
Expeditions
Operations
Manager