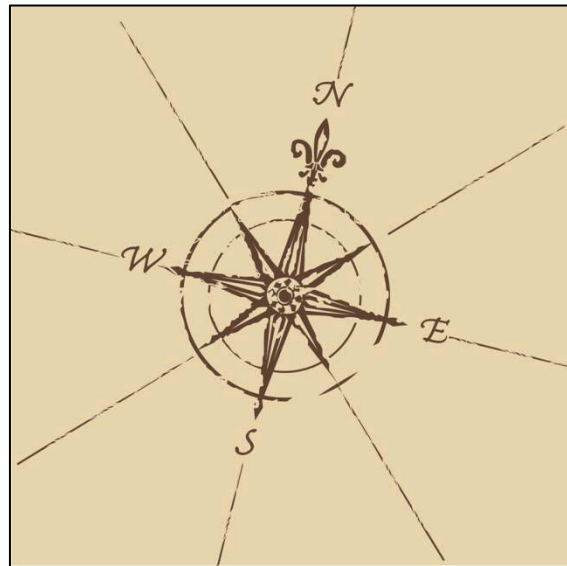


Field Research General Guidelines



**King Abdullah University of
Science and Technology**
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1. General Field Research Safety Guidelines

The safety guidelines should be followed for any type of fieldwork, in any location. Of course, each field trip is unique and the best –and required – way to address your specific hazards is to prepare your own Field Research Plan.

For more specific information on fieldwork hazards and precautions, researchers are encouraged to discuss their plans with colleagues, conduct online research, and/or use other similar methods to allow for appropriate identification and mitigation of hazards.

1.1 Before You Leave

One of the most important phases of your fieldwork experience is planning and preparation *before* you leave. Here are some directives, required to be prepared in advance.

|Field Research Plan

Prepare a written *Field Research Plan* of your trip. Provide a copy to each member of your team and leave a copy with a responsible party. As you prepare your Plan, talk with other fieldworkers, local residents, and authorities who may be able to provide you with helpful information.

Include the following:

- **Your itinerary:** Locations, arrival and departure dates, names, addresses and phone numbers of all fieldwork participants.
- **Contact persons:** Names and phone numbers of persons to contact in case of emergency – a spouse, parent or friend, as well as a campus contact.
- **Activities:** General nature of activities that will be conducted.
- **Local contacts:** Names of people at or near your fieldwork site who can reach you if necessary, as well as your check- in/check-out arrangements.
- **Possible Risks:** Potentially hazardous plants, animals, terrain and weather conditions where you plan to work.

Helpful Link:

[Field Research Plan Template](#)

The template may be used by the Principal Investigator (PI), or Project Lead, to assist with the development of your specific plan. **The completed Field Research Plan must be shared with all the members of the field research team and kept on file on campus.** Multiple trips to the same location can be covered by a single Field Research Plan. The Field Research Plan must be revised whenever a significant change to the location, the team or the scope of field work occurs. The Health, Safety and Environment department is available to review the Field Research Plan.

Vaccination and Medical Preparation

If your trip involves travelling outside of the country, you should contact KAUST HEALTH to learn about the required and recommended vaccinations for your location. Some countries require proof of vaccinations prior to entry. An appointment should be scheduled as far in advance as possible since some vaccines are given as a series over a six-month period. While two are preferred, it is required to have at least one first-aid trained personnel on any field trip. Trips without sufficiently qualified first aiders are not permitted.

Your Safety Gear

Assemble safety provisions and check everything *before* you leave. Safety provisions may include:

- Allergy treatments (if you have allergies).
- First aid kit appropriate for the anticipated hazards and first aid manual. These must be taken on *every* trip and are in the [Medical Care and First Aid](#) section of this document.
- Flashlight.
- Flares (do not take on plane).
- Medications you regularly take (if your medication involves syringes or liquid preparations, consider carrying a note from your physician documenting your need for such due to airline or country specific restrictions).
- Personal protective equipment for fieldwork activities (safety glasses/goggles, gloves, hard hat, sturdy work boots, etc.). The Health, Safety and Environment department can recommend protective equipment depending on your activities.
- Seasickness tablets (be aware of drowsiness side effects).
- Sunscreen and hat.
- Tool to remove fishhooks from skin if using hooks for fishing.
- Two, two-way radios or satellite phones (if you will be working in an isolated or dangerous area).
- Vehicle emergency kit.
- Water purification tablets or filter devices.

Other Actions

- Be sure to evaluate the risks associated with driving; this is often the most dangerous part of field trips! Consider taking a course from an accredited instructor.
- Institutional Animal Care and Use Committee (IACUC) approval is required for field research involving animals. Approval must be obtained before the start of research activities. Contact IACUC@kaust.edu.sa.
- Institutional Biosafety and Bioethics Committee (IBEC) approval may be required for field research involving microorganisms (including isolating, concentrating, culturing or growing field samples), toxin-producing algae and recombinant DNA. Approvals must be obtained prior to the start of research activities. Contact IBEC@kaust.edu.sa.
- You may also need to consult with other committees depending on the nature of your research. Please see the [Resources section](#) for more information.
- Ask your health insurance provider about how your coverage applies to medical treatment in the fieldwork locale, should that become necessary.

1.2 In the Field

- Fieldworkers must check in with their group office daily, and must advise the group office of any changes in schedule or points of contact.
- Where possible, fieldworkers should also inform someone in their work locale (for example, local search and rescue personnel, police, sheriff, or motel employee) each day about the daily fieldwork location and the approximate time of return.
- After each day's work, the fieldworkers must notify the contact and the group office when they return.
- The local contact should be provided with the telephone numbers of people to call (group office, university contact, etc.) if the workers do not return or report in within a predetermined interval of the scheduled return time.
- When risk analysis determines this is essential, fieldwork activities must be done in teams of at least two people. Even if not required, the "buddy" system is always the safest way to work. Make sure your supervisor and designated contacts know where you will be and when you will return.

1.3 Medical Care and First Aid

The following guidelines apply to all off-campus operations including field stations, academic field trips, field research, excursions, etc. that involve employees and students:

- A first aid kit must be maintained at all times during the operation or exercise. Departments must purchase and maintain first aid kits including any special equipment or medication that is required. Kits and refills may be ordered from the Chemical Warehouse or other safety supply companies.
- At least one, preferably two or more, employees who are trained and certified in First Aid and CPR must be present during field operations within 2 minutes of each party and immediate first aid kit access.

Job Related Injuries or Illnesses

If a university employee or student suffers a job-related injury or illness, he/she must notify his/her supervisor. The employee's department/supervisor must complete an incident report via Report It (Reportit.kaust.edu.sa). If the injury is "serious" (e.g. amputation, permanent disfigurement, overnight hospital stay, fatality) notify your supervisor **immediately (as soon as possible)**.

2. Physical and Environmental Hazards

There are many physical and environmental hazards that exist in nearly every location worldwide. All field researchers, regardless of the work location, should read through this section to learn more about some general physical and environmental hazards.

This list is not exhaustive and it is strongly recommended that researchers get information concerning specific hazards in the locations where they will be working.

2.1 General Hazards

Hazard	Cause	Symptoms/Possible Results	Prevention
Boating Accident	<ul style="list-style-type: none"> • Lack of proper training. • Fatigue. • Severe weather. • Alcohol impairment. • Dangerous/unfamiliar conditions. 	Various injuries or death.	<ul style="list-style-type: none"> • Proper training and certification by appropriate authority. • Wear floatation device or life preserver.
Carbon Monoxide	Running a vehicle or burning a fuel stove in an enclosed space.	<ul style="list-style-type: none"> • Severe headaches. • Disorientation. • Agitation. • Lethargy. • Stupor. 	<ul style="list-style-type: none"> • Keep areas adequately ventilated when burning fuel. • Ensure that vehicle tailpipe is not covered by snow.
Dehydration	Not enough water intake.	<ul style="list-style-type: none"> • Increased thirst, dry mouth. • Flushed face. • Dizziness, headache. • Weakness, muscle cramps. • Dark urine. 	<p>Drink plenty of water (at least 2 quarts per day).</p> <p><i>More if working strenuously or in a warm climate.</i></p>
Extreme Weather	<ul style="list-style-type: none"> • Blizzards. • Heavy rains. • Tornadoes. • Hurricanes. • Flash floods. 	Severe weather can result in physical injury and/or death.	<ul style="list-style-type: none"> • Be aware of special weather concerns. • Bring appropriate equipment to deal with severe weather.
Frostbite	Prolonged exposure to cold temperatures.	<ul style="list-style-type: none"> • Waxy, whitish numb skin. • Swelling. • Itching. • Burning. • Pain as the skin warms. 	<ul style="list-style-type: none"> • Dress in layers. • Cover your extremities with warm clothing, e.g., hats, facemask, gloves, socks, and shoes.

Hazard	Cause	Symptoms/Possible Results	Prevention
Heat Exhaustion	Prolonged physical exertion in hot environments.	<ul style="list-style-type: none"> • Fatigue. • Excessive thirst. • Heavy sweating. • Cool, clammy skin. 	<ul style="list-style-type: none"> • Acclimate to heat gradually. • Drink plenty of liquids. • Take frequent rest breaks.
Heat Stroke	Prolonged physical exertion in hot environments.	<ul style="list-style-type: none"> • Exhaustion. • Light-headedness. • Bright red warm skin. 	<ul style="list-style-type: none"> • Acclimate to heat gradually. • Drink plenty of liquids. • Take frequent rest breaks.
High Altitude Illness	Decreased oxygen intake and increased breathing rate.	<ul style="list-style-type: none"> • Headache. • Nausea. • Weakness. 	<ul style="list-style-type: none"> • Allow your body to acclimatize by gaining elevation slowly.
Hunting Season	Local hunting seasons and regulations vary.	A hunting accident may result in serious injury or death.	<ul style="list-style-type: none"> • Wear appropriately colored safety clothing. • Avoid animal like behavior (e.g. hiding in thickets).
Hypothermia	Prolonged exposure to cold temperatures.	<ul style="list-style-type: none"> • Shivering. • Numbness. • Slurred speech. • Excessive fatigue. 	<ul style="list-style-type: none"> • Dress in layers. • Wear appropriate clothing. • Avoid getting damp from perspiration.
Impure Water	Harmful organisms and pathogens living in water sources.	<ul style="list-style-type: none"> • Gastrointestinal illness. • Flu-like symptoms. 	<ul style="list-style-type: none"> • Carry your own water. • Treat water before use with tablets, purifiers, or by boiling for > 3 minutes.
Poisonous Plants	Exposure to Poison Ivy, Poison Oak, or Poison Sumac plants.	<ul style="list-style-type: none"> • Itchy rash. • Red, swollen skin. 	<ul style="list-style-type: none"> • Avoid contact with poisonous plants. • Use pre-exposure lotion. • Wash clothes and skin with soap and water after exposure.

Hazard	Cause	Symptoms/Possible Results	Prevention
Red/Brown Tides	Algal Blooms.	<ul style="list-style-type: none"> • Respiratory distress. • Dead fish. • Discolored water. 	<ul style="list-style-type: none"> • Avoid areas where tides are in bloom.
Slips, Trips, Falls	<ul style="list-style-type: none"> • Loose, irregular or slippery surface. • Wrong footwear. • Poor lighting. • Obstruction. • Inattention or distraction. 	<p>Strains, fractures, bruises and contusions.</p> <p><i>(head, wrist, elbow, shoulder, back, hip, knee, ankle)</i></p>	<ul style="list-style-type: none"> • Ensure areas are free of spills. • Wear proper footwear. • Adequate lighting. • Don't carry oversized objects. • Use ladders properly.
Sunburn	<ul style="list-style-type: none"> • Excessive exposure to the sun. 	<p>Irritated skin.</p> <p>(pink or red in color)</p>	<ul style="list-style-type: none"> • Wear long sleeved clothing and a hat. • Apply SPF ≥30 sun block.
Theft	Report theft immediately to local authorities.	Loss of personal belongings.	<ul style="list-style-type: none"> • Keep wallet in front pocket. • Carry shoulder bag diagonally and keep bag in front under your arm.
Vehicle Accident	<ul style="list-style-type: none"> • Fatigue. • Impaired driving. • Driver error. • Roadway factors. • Vehicle factors. 	Various trauma injuries.	<ul style="list-style-type: none"> • Obey traffic laws. • Wear your seatbelt. • Don't drive impaired. • Don't speed or drive recklessly.
Water	<ul style="list-style-type: none"> • Currents. • Waves. • Turbulent, fast moving water. • Drop-offs. 	<ul style="list-style-type: none"> • Drowning or near drowning. • Injuries. 	<ul style="list-style-type: none"> • Familiarize yourself with water safety practices and techniques. • Use proper gear including flotation devices. • Protective footwear for wading, marsh, reef, or rocky bottom research.

3. Animals and Other Indigenous Creatures

There are many safety hazards pertaining to animals and other indigenous creatures that exist in nearly every location worldwide. All field researchers, regardless of the work location, should read through this section to learn more about some general guidelines to prevent unwanted animals and “pests”.

This list is not exhaustive and it is strongly recommended that researchers get information concerning specific hazards in the locations where they will be working.

3.1 General Safety Guidelines

A number of animals and pests may be encountered in fieldwork. Follow these guidelines to prevent close encounters of the painful kind:

- Wear insect repellent.
- Use netting to keep pests away from food and people.
- Keep garbage in rodent-proof containers and stored away from your campsite or work area. Food crumbs and debris may attract insects and animals.
- Thoroughly shake all clothing and bedding before use. Tip out shoes before donning them.
- Do not camp or sleep near obvious animal nests or burrows.
- Carefully look for pests before placing your hands, feet or body in areas where pests live or hide (wood piles, crevices, etc.).
- Avoid contact with sick or dead animals.
- Wear clothes made of tightly woven materials, and tuck pants into boots.
- Minimize the amount of time you use lights after dark as they may attract pests and animals.
- Carry a first aid kit with you on any trip so you can treat bites or stings. If the pest is poisonous or if the bite does not appear to heal properly, seek medical attention immediately.
- Be aware of the appearance and habitat of pests likely to be found, such as those described in the following pages.

3.2 General Animal Hazards

Type	What should you do?	Prevention
Aquatic Creatures (Octopus and Jellyfish)	Never touch an unidentified octopus or jellyfish.	<ul style="list-style-type: none"> • Avoid going in waters known to be inhabited by jellyfish and octopus. • Wear sandals in the water to avoid contacting a stonefish with bare feet.
Bears	<ul style="list-style-type: none"> • Do not run. • Move slowly and speak in a low soft voice. • If attacked, lay in the fetal position and protect head. • Play dead. 	<ul style="list-style-type: none"> • Keep food out of sleeping areas. • Never approach a bear or bear cub. • Wear a bell or other noisemaker.
Bees, wasps and Hornets	<ul style="list-style-type: none"> • Do not swat or kill. • Leave the area immediately and quickly. • If being chased move into a closed area if possible. • Cover face. 	<ul style="list-style-type: none"> • Bring medication if you have an allergy. • Keep scented foods, drinks and meats covered. • Avoid wearing bright colors, flower prints and perfume. • Move slowly or stand still.
Conenose “Kissing” Bugs	Remove Bugs from the premises.	<ul style="list-style-type: none"> • Use caution when working near nests and wood rat dens. • Use extra caution when working near rock shelters.
Corals (some corals can sting)	<ul style="list-style-type: none"> • Avoid the area. • Seek medical treatment immediately. 	<ul style="list-style-type: none"> • Immediate cleansing and treatment for any wounds. • Wear clothing to avoid getting scratched/stung. • Avoid touching or handling.

Type	What should you do?	Prevention
Crocodiles and Alligators	Do not provoke an alligator or crocodile.	<ul style="list-style-type: none"> • Avoid waters known to be home to crocodiles or alligators. • Keep at least 30 feet away from any crocodile or alligator.
Fish (Barracuda, Piranha, Moray Eel, Stonefish, Scorpionfish)	Do not provoke or feed.	<ul style="list-style-type: none"> • Be aware of which fish you might encounter in their habitats. • Use fish handler gloves.
Fleas and Ticks	<ul style="list-style-type: none"> • Brush away if not attached. • If attached remove quickly. • Remove from premises. 	<ul style="list-style-type: none"> • Wear long clothing with tightly woven material. • Wear insect repellent. • Tuck pants into boots. • Drag cloth across campsite to check for fleas/ticks. • Avoid shrubbery. • Stay on widest part of path.
Flies	<ul style="list-style-type: none"> • Remove insects from the area if possible. • Avoid areas with heavy fly infestations. 	<ul style="list-style-type: none"> • Keep areas clean. • Store food in sealed containers. • Dispose of spoiled food away from field site.
Mosquitoes	Refer to Disease section .	<ul style="list-style-type: none"> • Use insect repellent. • Don't leave standing pools of water. • Use bed nets.
Mountain Lions	<ul style="list-style-type: none"> • Do not run, back away slowly, do not corner it. • Look it in the eyes. • Make yourself look larger. • Use a loud voice. • Protect your neck and head. 	<ul style="list-style-type: none"> • Do not leave children or pets unattended. • Avoid outdoor activities at dawn, dusk, and at night. • Avoid walking near dense growth, rock outcroppings and ledges. • Always look up and behind you. • Carry pepper spray.

Type	What should you do?	Prevention
Rodents	Refer to Rodent Precaution section.	<ul style="list-style-type: none"> • Keep areas clean to avoid attracting rodents. • Store food in sealed containers.
Scorpions	If you cannot leave or avoid the area, remove the scorpion from the area without using hands directly.	<ul style="list-style-type: none"> • Shake out clothing and bedding before use. • Check shoes before donning. • Avoid lumber piles and old tree stumps. • Wear gloves when working outside. • Do not pick up or disturb a scorpion.
Sharks	<ul style="list-style-type: none"> • Call for help. • Swim towards safety. • Punch or kick the shark if necessary. 	<ul style="list-style-type: none"> • Never swim alone. • Don't wear sparkling jewelry. • Don't enter the water when bleeding.
Spiders	If you cannot leave/avoid the area, remove the spider from the area without using hands directly	<ul style="list-style-type: none"> • Use care around rock piles, logs, bark, gardens, outdoor privies, old buildings. • Wear gloves when working outside. • Shake out clothing and bedding before use. • Do not pick up or disturb a spider.
Snakes	<ul style="list-style-type: none"> • Back away slowly while keeping an eye on the snake. • Do not make fast movements. 	<ul style="list-style-type: none"> • Walk in open areas. • Wear heavy boots. • Use a stick to disturb the brush in front of you. • Do not pick up, disturb, or corner a snake.
Stingrays	<ul style="list-style-type: none"> • Do not provoke or feed. • Shuffle feet to let stingrays know you are there. • Move to another area if possible. 	<ul style="list-style-type: none"> • Stingray encounters usually happen when walking in shallow water. • Shuffle feet while wading. • Wear proper footwear.

3.3 Special Rodent Precautions

Steps can be taken to reduce the risk of rodent-borne diseases:

- Most importantly, make the area unattractive to rodents.
- Cover or repair holes into a building to prevent unwanted rodents.
- If camping, keep the area clean of trash and store food carefully to prevent attracting rodents.
- Do not camp near rodent burrows.
- If rodent feces or dead rodents are discovered, some precautions will help reduce the risk of exposure to rodent-borne diseases when cleaning the area:

Indoors: **Do not stir up dust.** Ventilate the area by opening the doors and windows for at least 30 minutes to diffuse potentially infectious aerosolized material. Use cross-ventilation and leave the area during the airing-out period.

Dead Rodent: Using gloves, soak the rodent, droppings and nest with a solution of 1 part bleach to 9 parts water, let soak for at least 5 minutes before picking it up with a plastic bag. Place bag in a second plastic bag.

Rodent Feces: Do not sweep or vacuum rodent droppings. Spray the droppings with 1 part bleach to 9 parts water, let soak for at least 5 minutes then wipe up the droppings. If possible, wet mop the area with the bleach solution.

4. Disease Awareness

There are diseases caused by viruses, bacteria, fungi, and parasites in nearly every location worldwide. This guide is not intended to cover every health risk in every location, but it provides information about some more common diseases. *Always check with your health care provider, KAUST Health or another travel health clinic before traveling out of the country to learn about specific health risks for the region in which you will conduct your research.* All field researchers, regardless of the work location, should read through this section to learn more about some general diseases that exist worldwide.

This list is not exhaustive and it is strongly recommended that researchers get information concerning specific hazards in the locations where they will be working.

4.1 General Diseases

Type	Location	Exposure Route	Symptoms	Prevention
Arenavirus (<i>White Water Arroyo</i>)	Asia Central America South America	<u>Inhalation</u> Dust or aerosols from the infected rodent's feces, urine, or saliva.	<ul style="list-style-type: none">• Fever.• Headache.• Muscle aches.• Severe respiratory distress.	<ul style="list-style-type: none">• Avoid contact with rodents, especially their feces.• See Rodent Precaution section.
Campylobacteriosis	Worldwide	<u>Foodborne</u> Poultry products, unpasteurized milk or water contaminated with Campylobacter.	<ul style="list-style-type: none">• Diarrhea.• Gastrointestinal symptoms.• Fever.	<ul style="list-style-type: none">• Always cook food thoroughly.• Never drink water from an impure source.• Do not drink unpasteurized milk.• Wash hands with soap and water frequently.
Cholera	Africa Asia Latin America	<u>Foodborne</u> Food and water contaminated with <i>Vibrio cholera</i> .	<ul style="list-style-type: none">• Diarrhea.• Gastrointestinal symptoms.	<ul style="list-style-type: none">• Always cook food thoroughly.• Never drink water from an impure source.• Wash hands with soap and water.

Type	Location	Exposure Route	Symptoms	Prevention
Dengue Fever	Africa Asia Australia Central America China Middle East South America	<u>Mosquito-borne</u> Infection from the bite of an infected mosquito.	<ul style="list-style-type: none"> • Flu-like symptoms. • Sudden fever. • Severe headache. • Pain behind eyes. • Nausea/vomiting. • Rash. 	<ul style="list-style-type: none"> • Wear long sleeves and pants. • Use insect repellent. • Use a mosquito net.
Gastroenteritis (from Escherichia coli)	Worldwide	<u>Foodborne</u> Beef, unpasteurized milk, unwashed raw vegetables, water contaminated with Escherichia coli.	<ul style="list-style-type: none"> • Diarrhea. • Gastrointestinal symptoms. 	<ul style="list-style-type: none"> • Always cook food thoroughly. • Wash vegetables before consuming. • Never drink water from an impure source. • Wash hands with soap and water frequently.
Hantavirus (<i>Sin Nombre Virus</i>)	Asia Central America South America	<u>Inhalation</u> Dust or aerosols from the infected rodent's feces, urine, or saliva	<ul style="list-style-type: none"> • Fever. • Headache. • Muscle aches. • Severe respiratory distress (occasionally). 	<ul style="list-style-type: none"> • Avoid contact with rodents, especially their feces. • See Rodent section.
Hepatitis A (<i>Vaccination Available</i>)	Worldwide	<u>Foodborne</u> Water, shellfish, unwashed raw vegetables contaminated with Hepatitis A virus.	<ul style="list-style-type: none"> • Diarrhea. • Gastrointestinal symptoms. 	<ul style="list-style-type: none"> • Obtain a vaccine. • Always cook food thoroughly. • Wash vegetables before consuming. • Never drink water from an impure source. • Wash hands with soap and water frequently.
Histoplasmosis	Worldwide	<u>Inhalation</u> Soil contaminated with bat or bird droppings containing spores.	<ul style="list-style-type: none"> • Mild flu-like symptoms. 	<ul style="list-style-type: none"> • Caution when disturbing dry soils or near bat/bird droppings.

Type	Location	Exposure Route	Symptoms	Prevention
Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome (HIV/AIDS)	Worldwide	<u>Direct Contact</u> Exposure to blood or body fluids infected with HIV.	<ul style="list-style-type: none"> • May have flu-like symptoms 14-60 days post infection. • Attacks the immune system, may result in opportunistic infections. 	<ul style="list-style-type: none"> • Follow Bloodborne Pathogen training when handling any unfixed human blood or tissue. • Do not engaging in risky activities.
Influenza (Vaccination Available)	Worldwide	<u>Inhalation</u> Of viral particles from person or animal infected with the influenza virus.	<ul style="list-style-type: none"> • Fever. • Headache. • Extreme tiredness. • Dry cough. • Sore throat. • Runny or stuffy nose. • Muscle aches. • Nausea. 	<ul style="list-style-type: none"> • Annual flu vaccination. • Try not to touch your eyes, nose, or mouth. • Wash hands frequently. • If you are not near water, use an alcohol based hand cleaner. • Stay away from people who show symptoms.
Leptospirosis	Worldwide	<u>Ingestion</u> Swimming, or other activities in water contaminated with Leptospira.	<ul style="list-style-type: none"> • Flu-like symptoms. 	<ul style="list-style-type: none"> • Use care when working in the water, especially after a flooding event. • Avoid entering the water with open wounds.
Lyme Disease	Asia Europe North America	<u>Tick-borne</u> Infection through the bite of an infected tick.	<ul style="list-style-type: none"> • Flu-like symptoms. • Spreading rash. 	<ul style="list-style-type: none"> • Wear long sleeves and pants. • Use insect repellent. • Check clothing and hair for ticks.

Type	Location	Exposure Route	Symptoms	Prevention
Malaria (Preventable with Drugs)	Africa Asia Central America Hispaniola India Middle East South America	<u>Mosquito-borne</u> Infection from the bite of an infective female Anopheles mosquito.	<ul style="list-style-type: none"> • Flu-like symptoms. • Fever. • Sweats. • Chills. • Muscle Aches. • Vomiting. • Jaundice. 	<ul style="list-style-type: none"> • Use a mosquito net. • Use insect repellent. • Take Antimalarial drugs (visit your health care provider 4-6 weeks before travel). • Wear long sleeves and pants.
Norovirus Gastroenteritis (Also caused by Norwalk-like viruses)	Worldwide	<u>Foodborne</u> Food, water, surfaces or objects contaminated with Norovirus. or <u>Direct contact</u> With another person who is infected.	<ul style="list-style-type: none"> • Nausea. • Vomiting. • Diarrhea. • Stomach cramping. • Chills. • Headache. • Muscle aches. • Malaise. 	<ul style="list-style-type: none"> • Wash hands with soap and water frequently. • Wash fruits, vegetables and oysters. • Clean and disinfect contaminated surfaces using a bleach-based cleaner.
Plague	Worldwide	<u>Flea-borne</u> Infected rodents passing to fleas. Or <u>Direct Contact</u> Infected tissues or fluids from sick or dead animals.	<ul style="list-style-type: none"> • Flu-like symptoms. • Swollen and painful lymph nodes. 	<ul style="list-style-type: none"> • Use care when working in areas where plague is found. • Use caution when working with wild rodents.

Type	Location	Exposure Route	Symptoms	Prevention
Rabies (<i>Vaccination Available</i>)	Worldwide	<u>Direct Contact</u> Bite of an animal with infected with the rabies virus. (raccoons, skunks, bats, foxes, coyotes, dogs, cats).	Early symptoms: <ul style="list-style-type: none"> • Fever. • Headache. • Malaise. Later symptoms: <ul style="list-style-type: none"> • Insomnia. • Paralysis. • Hallucinations. • Hyper salivation. • Difficulty swallowing. 	<ul style="list-style-type: none"> • Obtain a vaccine if you will be working with high rabies risk species. • Use extreme caution handling these animals. • Do not handle or feed stray animals or wild mammals.
Salmonellosis	Worldwide	<u>Foodborne</u> Beef, poultry, milk, eggs, unwashed raw vegetables contaminated with salmonella bacteria.	<ul style="list-style-type: none"> • Diarrhea. • Gastrointestinal symptoms. 	<ul style="list-style-type: none"> • Always cook food thoroughly. • Wash vegetables before consuming. • Wash hands with soap and water frequently.
Schistosomiasis (<i>bilharzias</i>)	Africa Asia Brazil Egypt China Philippines	<u>Direct Contact</u> Transmitted by swimming in contaminated fresh water.	<ul style="list-style-type: none"> • Fever. • Weight Loss. • Weakness. • Cough. • Headaches. • Abdominal, Joint and Muscle pain. 	<ul style="list-style-type: none"> • Avoid fresh-water wading or swimming in endemic regions. • Heat bath water to over 50°C for at least 5 minutes before use.

Type	Location	Exposure Route	Symptoms	Prevention
Tetanus (<i>Vaccination Available</i>)	Worldwide	<u>Direct Contact</u> A wound that is infected with <i>Clostridium tetani</i> ; tetanus toxin is produced by the bacteria and attacks nerves.	Early symptoms: <ul style="list-style-type: none"> • Lockjaw • Stiffness (<i>neck and abdomen</i>) • Difficulty swallowing Later symptoms: <ul style="list-style-type: none"> • muscle spasms • seizures, nervous system disorders 	<ul style="list-style-type: none"> • Obtain a vaccine for tetanus every 10 years or immediately following a suspect wound or injury.
Typhoid Fever (<i>Vaccination Available</i>)	Worldwide	<u>Foodborne</u> Food and water contaminated with <i>Salmonella typhi</i>	<ul style="list-style-type: none"> • Diarrhea. • Gastrointestinal symptoms. 	<ul style="list-style-type: none"> • Always cook food thoroughly. • Drink clean water. • Wash hands with soap and water frequently.
Typhus Fever	Worldwide	<u>Direct Contact</u> Infection from bite of lice, fleas, ticks, or mites infected with a <i>Rickettsiae</i> species.	<ul style="list-style-type: none"> • Headache. • Fever. • Rash. 	<ul style="list-style-type: none"> • Use insect repellent. • Wear long sleeve shirts. • Tuck pants into boots.

Type	Location	Exposure Route	Symptoms	Prevention
West Nile Virus	Africa Middle East	<u>Mosquito-borne</u> Infection from the bite of a mosquito infected with West Nile Virus.	<ul style="list-style-type: none"> • Asymptomatic in ~80% people. • Fever. • Body Aches. • Nausea. • Muscle Weakness. • Tremors. • Convulsions. • Paralysis. 	<ul style="list-style-type: none"> • Use insect repellent. • Wear long sleeves and pants. • Avoid areas of standing water where mosquitoes breed.
Yellow Fever (Vaccination Available)	Africa Middle East South America	<u>Mosquito-borne</u> Infection from the bite of a mosquito infected with Yellow fever virus.	<ul style="list-style-type: none"> • Flu-like symptoms. • Jaundice. 	<ul style="list-style-type: none"> • Visit doctor at least 10 days before travel for vaccine. • Wear long sleeve shirts and pants. • Use insect repellent. • Use a mosquito net.

|Other Diseases (Vector-borne)

There are many other vector-borne diseases that may pose a problem when traveling in various countries. Always check with a healthcare professional to learn the specific threats in your location of study. Some other vector-borne diseases include:

- African Sleeping Sickness - carried by the tsetse fly in Africa.
- Chagas Disease – caused by Trypanosoma parasites transmitted by the triatomine bugs (a.k.a., conenose or “kissing” bug) in Mexico and Central and South America.
- Encephalitis - carried by mosquitoes in Asia and Eastern Russia.
- Leishmaniasis – disease caused by Leishmania parasites; transmitted by sand flies in the tropics and subtropics.
- Filariasis – disease caused by infection with roundworms of the Filarioidea type; carried by mosquitoes and blood-feeding black flies in the tropics.
- Onchocerciasis – disease caused by infection with parasitic worm Onchocerca; causes ‘river blindness’ and is carried by black flies in Africa, Arabia, and Central and South America.

|Other Diseases (General)

There are other diseases to be aware of when travelling outside Saudi Arabia. While the risk of infection is generally low, it is important to be aware of and take appropriate precautions to guard against diseases such as Tuberculosis, Viral Hemorrhagic Fevers, etc. Always check with your health care provider to learn more about specific diseases that exist in the region you will be conducting your research.

5. Resources

5.1 At KAUST

Additional Trainings – [Salute](#)

Additional trainings can be found in Salute.

Consultation and Hazard Evaluations - Health, Safety and Environment

Contact: hse@kaust.edu.sa

Dive Control Board (DCB)

For research performing scuba diving or snorkeling.

Contact: DSO.DL@kaust.edu.sa

First Aid Courses – [RST Training Calendar](#)

Emergency First Aid at Work (EFAW), 1-day course.

First Aid at Work (FAW), 3-day course.

Institutional Biosafety and Bioethics Committee (IBEC)

Research with microorganisms (including isolating, concentrating, culturing or growing field samples), toxin-producing algae, recombinant DNA, etc.

Contact: IBEC@kaust.edu.sa

Institutional Animal Care and Use Committee (IACUC)

Research with vertebrate and invertebrate animals (including wild animals) in the laboratory and in the field.

Contact: IACUC@kaust.edu.sa

5.2 Off-Campus

General Information

The Centers for Disease Control and Prevention (CDC) offers a website that describes many topics related to travel, both domestic and international.

Visit: <http://www.cdc.gov/travel/default.aspx>

Diseases Information

The CDC offers more information about many diseases related to travel on their website:

Visit: <https://wwwnc.cdc.gov/travel/diseases>

Diving Safety

Addresses safe diving practices.

Visit: <https://utmsi.utexas.edu/research/scientific-diving-program>

Medical Information

Information pertaining to a variety of diseases and illnesses, including dehydration, carbon monoxide poisoning, sunburn, excessive heat, hypothermia, and high altitude sicknesses.

Visit: <http://my.webmd.com>

Research Vessel Safety

Addresses field operations abroad research vessels or larger watercraft.

Visit: https://www.unols.org/sites/default/files/RVSS_10_Dec_2017.pdf

Weather Information

Pertaining to extreme weather and how to protect yourself can be found from the National Weather Service.

Visit: <https://www.weather.gov/safety/>

5.3 Additional Resources

General Outdoor Safety

For more information on outdoor and recreational safety.

Visit: <http://www.fs.fed.us/safety/outdoor/>

Hantavirus

The CDC has detailed information about hantavirus.

Visit: <https://www.cdc.gov/hantavirus/>

Hunting Season

To get more information concerning hunting seasons and regulations, contact the U.S Forest Service.

Visit: <http://www.fs.fed.us/>

International SOS

Medical emergency response & referral and Security alerts.

Visit: <https://www.internationalsos.com/#>

(U.T. System Membership# 11BSGC000037)

Lyme Disease

The American Lyme Disease Foundation provides information about the disease.

Visit: <http://www.aldf.com/>

Poisonous Plants

More information about poisonous plants, including photos.

Visit: <http://poisonivy.aesir.com/>

Travel Health & Outbreaks

Updated information about disease outbreaks and international travel health can be found from the World Health Organization (WHO).

Visit: <http://www.who.int/ith/en/>

Travel Advisories

Current travel warnings, public announcements, and consular information sheets.

Visit: <http://travel.state.gov/>