COASTAL MARINE LABORATORY REGULATIONS

Hong Kong University of Science and Technology, Updated July, 2015

In case of emergency, call the University emergency line at 8999 and contact the Lab management at 23588402

This memo is intended to ensure safe working practices, environmental protection and operating efficiency with regard to the use of this research and education facility. These targets are to be achieved by responsible, competent and correct use of the equipment, chemicals, as well as an economical use of energy.

WORKING PERMISSION

1) Only authorized users are allowed to work in CML. Here "authorized users" refers to people who have finished all the application procedures from a) to e) below as required by CML:

    a) Submitted the CML Research Request Form and had obtained the approval of the Director of CML;

    b) Signed the Laboratory Regulations with witness signature to agree following the regulations of CML;

    c) Passed all the mandatory (MC03, MC07 and MC06) and additional (MC01) required HSEO Safety Courses; showed the proof of pass to the lab management;

    d) Finished the Safety Tour offered by CML; and

    e) Completed the Safety Clearance Form and returned to CML.

2) Referring to point 1), exemptions will be granted to visiting scholars from other institutions or foreign countries who have the formal approval of work by the Director of CML. Hosting users should seek for approval in advance of guest arrival.

3) Referring to point 1), students, technical staff and research staff from other institutions or foreign countries must complete 1a) to e), except c) if they can substitute with equivalent safety trainings in their home institutions.

4) Referring to point 1), since it takes a week or two for receiving the certificates issued by HSEO, a maximum of one month of transition period will be granted to new comers. They can be issued with key card after completion of 1 a) and 1 b) for entering the CML. However, they cannot work with any equipment, chemicals or dangerous materials until finishing all the safety-related procedures 1 c) to 1 d). If the user cannot finish all the safety procedures within one month of arrival, his/her key card shall be called back and re-application is required. No more transitional period will be granted.

5) Users must not let unauthorized people working in CML nor open the door to strangers, especially during the non-office hours. Those who let them in shall be in full responsibility of their safety and conduct or any damage or loss caused by them.

6) Users who have guests to visit CML must acknowledge CML Lab Management in advance, especially if the visit is during the non-office hours. And the guest cannot carry out any work in CML unless approved by the Director of CML. Moreover, user who let the guest in shall be in full responsibility of the safety and conduct of the guest.

Users are urged to familiarize themselves with the following issues and incorporate them into their daily use of the laboratory.

SECURITY AND ACCESS KEY CARD

Doors For security reasons, keep the main doors of both floors close all the time. Do not let unauthorized people into the laboratory after office hours.

Access Card All regular workers in CML need to obtain official approval from CML Director before working in or registering his/her staff/student card for accessing CML. Technicians in charge have the authority to deter from his/her working at CML if he/she does not have the approved permission by the CML Director. Worker should never lend his/her access card to unauthorized people for entering CML. The identity of the worker must match with the information on the access card. Access to CML will not be granted to non-HKUST user unless permitted by CML Director.

Final Year Project (FYP) Students Access rights may be granted to FYP students who need to work after office hours provided they have staff or postgraduate student of their group accompanied with, especially when operating laboratory instrument. FYP students must have the continual supervision from their supervisors on their research work in CML.

University Research Opportunity Project (UROP) Students and Student Helpers Access right will not be granted to UROP students and student helpers. They can only work in CML during the office hours with staff or postgraduate student of their group accompanied with.

Workers from other departments Access right will not be granted to worker from other departments unless permitted by CML Director. They can only work in CML during the office hours with staff or postgraduate student of their collaborative group member of CML.

SAFETY MEASURES

Attire No short, cropped pant, dress or skirt is allowed unless you are ready for or back from field works. Users cannot wear long socks or leggings as a substitute of long pants. Wear closed toe footwear; no sandal is allowed. Users should wear lab coats when handling chemicals or bio-hazardous materials. Wear safety goggles and compatible gloves when conducting chemical experiments or handling chemical wastes. Gloves must be removed before touching door handles, telephones, and computers.

Food and Beverages Eating and drinking are prohibited in the laboratory, except in the pantry, general office and conference room.

Ductless Fume Hoods As the laboratory is immediately below the swimming pool and very close to student dormitories, two ductless fume hooks have been installed to ensure no chemicals produced during the laboratory's daily operation will enter the air. One of the fume hoods is for organic compounds and another for inorganic compounds. Special filters are installed for certain chemicals commonly used in the laboratory. A list of these chemicals is posted on the glass door of the fume hook. Check to make sure the chemicals you are handling are on the list. If not, contact the lab management. Change of filter may be required before you can use the fume hook.

Handling Chemicals Chemicals should be treated as hazardous until proven safe. Solvent use should be confined to the organic ductless fume hood. Make sure no flames (Bunsen burners) are on near you while you are handling flammable solvents. Strong acids or bases should never be mixed with each other or with organics. This is the most common cause of laboratory fires and explosions. For acids and bases wastes less than 10 ml, dilute with copious amounts of water and pour them down the sink. Large quantities of acid or base waste should be disposed in separate containers and disposed by HSEO. There are five waster streams in CML: inorganic acids, inorganic bases, non-halogenated organic, halogenated organic wastes and due to the strong oxidizing properties of nitric acid, a separate container is designated for its collection. A log sheet is kept for each container. Any additions of more than a few ml should be recorded.

Bio-hazardous Wastes Bacteria-contaminated or any bio-hazardous materials (e.g., Petri dishes, cultures) should be collected in appropriate containers (e.g., autoclave bags for solids) and sterilized before disposal. Open the autoclave bags loosely (e.g., with a piece of masking tape) during autoclave so that steam can get into the bag to sterilize all contents. All materials must be placed into a stainless steel bucket for autoclave. After sterilization, the biohazard bags can be dumped into the garbage bin. If agar leaked from your autoclave bag, let it solidify inside the stainless steel bucket before discard to the waste can. Never pour liquid agar into any sink.

Glass or Sharp Wastes Regular solid garbage is deposited into the waste cans. Broken glass waste is collected in the "glass-only" containers; vials must be emptied as appropriate before disposal. Needles or sharps are placed in the "sharps container" which can be discarded when full, with screw-tightened caps, into domestic waste cans.

Electrical Hazards When using high-voltage equipment (e.g., electrophoresis, or DGGE), beware of the conduction through spilled running buffer.

Pressurized Gas Cylinders and Bottles Pressurized gas cylinders may only be transported with the protective cap screwed shut and using special transportation trolleys. When in operation they must be secured with the chain and belt provided onto the wall mounts so that they cannot tip over. They must be kept away from sources of heat. Pressure-reducing valves must be attached or exchanged only by an expert. Consult technician in charge before you adjust the pressure gauge.

Liquid Nitrogen A series of dangers can arise with the use of liquid nitrogen when handling incorrectly. These include spraying of liquid, risk of burns, danger to the eyes, reduced oxygen level in the surrounding air due to evaporation. Please wear cryogenic gloves, goggles, keep good ventilation, use suitable container in transferring or handling, and retrieve frozen samples with tools.

Radioactive If you are using radioisotopes, you must register with HSEO and familiarize yourself with the appropriate procedures. Notify CML before any experiment or purchasing isotopes. Radioactive wastes will be collected separately inside the hot room.

After-Hours Procedures Users are encouraged to work during regular hours (9:00 a.m.-5:30 p.m.) and not to work alone. If you are working outside of these hours or on weekends, you should notify someone of your whereabouts and your expected time of return. No student helper can work in CML after office hours or work alone. Undergraduate final-year-project students should be accompanied by postgraduate student or staff when working at night or on weekends.

Accidents Make yourself familiar with the operation and location of emergency shower/eyewash fountain, fire extinguishers, fire blankets, exits, and gas shut-off valves. Use the First Aid materials to treat minor cuts or burns. Call the University Security Office at x8999 and the lab management at x8402 if necessary.

TIDINESS AND ORDERLINESS

Communal Area No personal item can be left or stored in communal area. Remove all used lab wares and chemicals around the equipment after use.

Equipment Some equipment requires online booking in advance. Check CML website before use. Sign every log sheet provided after using communal equipment. Take good care of all equipment and facilities; clean up if you messed up.

Labels and Seals Label your personal lab wares, reagents or utensils. Samples stored in the refrigerator, freezer, or cold room must be clearly marked with name of user, contents, and date. Sample vials should be stored in sealed or screw-cap containers. Petri dishes must be sealed with Parafilm or in a securely-tied plastic bag. Unmarked samples will be discarded without notification.

Lab ware Users are responsible for cleaning their own lab ware. Never leave used lab ware at the communal area (e.g., sink area, chemical hoods or biological safety cabinets) unattended; they may be discarded without notice.

Balances Clean the balances after use, all weighing paper and tissues must be well dispose of.

pH Meter Open the air hole on the probe during measurement. Close it after use and soak the probe back into the pH 4.0 solution provided. Wash the probe thoroughly with deionized water and blot dry in-between buffer solutions or samples. Empty the collection beaker after use.

Microscopes Avoid spilling water into the observation stand. Clean the microscopes (eye pieces, stands, etc) and turn off power after use. Clean the objectives with ethanol or xylene on lens paper after oil application.

Centrifuges All rotors should be stored with absolutely no moisture in or on them. Any spills (seawater, algal cultures, bacterial cultures, etc.) in rotors and centrifuges must be cleaned up immediately with mild detergent and water. Check for leakage from centrifuge bottles. Use correct bottles and do not fill your bottles more than 70% of the maximum volume; weight-balance your bottles to less than 1 g before start. Make sure the contents in your bottles are balanced not only by weight but also their volumes and densities or viscosities.

Autoclaves Do not autoclave any vessel where the volume of liquid is more than 70% of the container. Liquids expand when heated. All liquids are to be autoclaved in buckets to contain possible spills. If buckets are not available, use other autoclavable containers to hold them or make

sure the content is less than 70% and no spillage will happen. If anything was spilled into the chamber, flush with plenty of tap water, and drain the water. Brush the bottom and the coil if necessary. Keep washing till the water is clean.

Rearing Organisms Attend your culture daily to ensure your animals are alive. Dead animals should be removed promptly to prevent smells. Clean the experimental tanks upon the termination of your experiment. Wipe with wet cloth if seawater spilled out onto the wooden frame. Minimize seawater spillage in the aquarium and salt crystallization on benches.

USER ACKNOWLEDGMENT.

I have read and understood this laboratory regulations document. I have kept my copy of the laboratory regulations document for future reference. I agree to cooperate in ensuring the implementation of these regulations. Any questions concerning the lab usage that I have at the present time have been answered to my satisfaction.

User Name (printed): _____ User Signature: _____

Witness Name (printed):_____ Witness Signature: _____

Date: _____