# Regulations and rules

for

# Collective Dynamics Lab

(Brief Outline)



Attachment I: XX (yellow page to be hung in lab and work stations)

Drafted by: Kai Huang
Version: June 2020

# 1. Emergency number

- Please refer to the 'Emergency number' from Duke-Kunshan University office for Environmental Health and Safety (xx add link xx) for the latest version.
  - **Emergency or Fire** **Tel. 112**
  - **Police** **Tel. 110**
  - **Defibrillator** (xx link to map xx) **Tel. xxx**

- In case of an emergency call, please provide information using the following guideline:
  - **WHO is reporting?**
  - **WHERE does the accident take place** (Detailed location)
  - **WHAT happened** (Fire, Injure, Slip & Fall, etc.)
  - **HOW MANY people are injured** (Exact number)
  - **WAIT for further instructions**
- After the emergency call, notify campus service (Tel. 3665-7111) at DKU immediately.

# 2. Important contact

| | | | |
|---|---|---|---|
| ▪ Supervisor | Prof. Dr. K. Huang | Tel. | 3665-7272 |
| ▪ Physics lab manager | Dr. Y. Zhang | Tel. | XX |
| ▪ Safety officer | X. XX | Tel. | XX |
| ▪ First-aider | X. XX | Tel. | XX |
| ▪ Radiation safety officer: | Dr. X. XX | Tel. | XX |
| ▪ Safety engineer @ Operation | XX | Tel. | XX |
| ▪ Campus clinic (24 h ?) | X. XX | Tel. | xx |
| ▪ Department of environmental health and safety | | Tel. | xx |
| ▪ Disposal of hazardous materials | | Tel. | xx |

# 3. Scope of application

| | |
|---|---|
| Area of application (Division/Room): | Collective Dynamics Lab<br>Division of Natural and Applied Sciences<br>Room: IB2073 (part of Appl. Sci. Lab)<br>IB1034 (Vibration Lab) |
| Responsible person | Prof. Dr. Kai Huang, Tel: 3665-7272 |
| Safety officer | xx, Tel: xx |
| Effective on | _____<br>Date, Signature |

The laboratory rules and regulations apply to anyone who uses physical, chemical or physical-chemical methods to prepare, analyze or handle potentially hazardous substances in CDL.

Any DKU employee (including intern, research assistant, and postdoc), student, as well as technical staff should contact the safety officer (or the responsible person) to get basic on general guidelines and potential danger working in the lab, before he or she starts to work in CDL and collects updated safety briefing regularly on a yearly basis. The first training should be documented and signed by both trainer(s) and trainees.

This short introduction shall provide CDL users an overview on the rules of conduct concerning working safety in laboratories, following the current national standard: (XX replace with Chinese standard XX)

Below is the link to German standard BGI/GUV-I 850-0 for your reference:

**http://bgi850-0.vur.jedermann.de/index.jsp**

# 4. General rules and regulations for CDL

**If you take (e.g., temporarily borrow) any equipment from its original place (all equipment should have a labelled 'home' in the lab), please leave a clearly visible note with your name, contact information, and a short description with a clear indication where to find it!**

- In case of using potentially hazardous substances in the lab, an experimenter should always keep in mind the potential danger of using those substances and protect him or herself correspondingly. Please try to avoid using hazardous substances while designing new experimental protocol. In case potentially hazardous substances have to be used in the lab, detailed information on safety sheets, producer's catalog, particularly the notice from standard hazardous substance data bank should be placed together with those substances or equipment in a clearly visible manner and also online in the starter's page of CDL internal website.
- Workstations should be arranged to minimize the access to potentially hazardous substances. For instance, all lab equipment should clearly be organized and cleaned after each use. It is recommended to have a photo of each experimental setup hanging nearby together with a printed operation protocol.
- All safety relevant facilities (e.g., emergency power shutdown) should have free access and should not be disabled in any case. In case any of such disabilities discovered, please report to the safety officer and campus operation.
- One should NOT eat in a lab where hazardous substances are handled regularly. Generally speaking, it is not recommended to eat in any lab. Similar rules apply to cosmetics and makeups.
- In case of handling chemicals in an experiment, please use PPE (**P**ersonal **P**rotective **E**quipment; Safety Goggles, Disposable gloves, lab coat) in accordance with the aforementioned safety guide.
- In case of working in potentially dangerous conditions, it is highly recommended to have at least a second person nearby. Dangerous conditions are defined as those having potentially high risk of injure arising from working protocol, type of activity, as well as uncertainty in the working environment, especially in cases where sufficient safeguarding cannot be easily implemented.
- The high power vibrator located in the vibration lab can only be operated by trained individuals and the training should be documented and signed by both trainer and trainee(s). While operating the vibrator on site, it is mandatory to use protective glasses and earplugs provided in the lab (close to the entrance). While mounting containers or fixing test samples to the vibrator, please make sure that the vibrating

parts are defects free before use. In case clear defects are detected, please contact safety officer or line manager immediately before proceed.

- In case of handling granular materials, please use vacuum cleaner to clean all resting particles after each experiment so as to avoid danger of slippery.
- The microwave radar tracking system should be handled by individuals trained by lab members who had experience on the system. The training should be documented and signed by both trainer and trainee(s).

## 5. Hazardous substances and proper labelling

Hazardous substances are defined as those

- may generate explosion and/or fire
- may have direct or indirect negative impact on human health
- may impose threats to environment

Be aware that those substances can be absorbed into the human body by inhalation, by absorption through the skin or mucous membranes, or by ingestion. Anyone handling such substances should consult XX lab manager or supervisor XX concerning the potential danger, protective methods to be taken, action to be taken in case of danger, possible first aid approaches, as well as the protocol of dispose those substances properly.

In case the handling substances, the harmlessness of which is not certain, one should treat those substances in the same way as if they are hazardous substances.

XX The new classification and labeling system for chemicals according to GHS XX has entered into force and hazard pictograms are used in accordance with the CLP regulation. Please consult lab manager or supervisor for more information.

## 6. General guide on protection and lab safety

- Hazardous substances should only be stored in suitable containers, XX following e.g., rules used in integrated-science chemistry labs XX. Hazardous substances should never be stored in containers that can potentially be used to store food.
- All vessels in use should be labeled with the name of the substance and the hazard symbols. Large vessels (volume larger than 1 Liter) should be labelled following the standard hazardous substance labeling rule (XX link XX). It is highly recommended to write down the opening date of a vessel. Double labeling of a vessel is strictly forbidden.

- Hazardous substances in the lab should be checked at least once per year for validity and potential damage. Substances not in use anymore or cannot be used anymore should be disposed according to regulations listed in the following section.
- It is recommended to limit the amount of flammable liquids stored in the lab to within 1 Liter, particularly those with flam temperature below 55°C.
- In the case of handling portable electrical devices, a visual inspection for damage must be carried out before starting work or before starting up an apparatus.
- Everyone working in the lab should be informed about the locations emergency shut-off devices for gas, electricity and water supply. After an emergency shutdown, the laboratory manager or supervisor must be informed immediately.
- Staff and students must be familiar with the emergency facilities in the working area. This applies in particular to eye and body emergency showers, fire-fighting equipment, first aid facilities as well as escape and rescue routes in the building.

# 7. General guidelines on waste reduction and disposal

- Hazardous substances should in any case NOT be disposed directly into water sinks in the lab. In case those substances accidentally flow into water sinks, please inform lab manager or supervisor immediately.
- To protect the environment, please minimize the amount of substances used in experiment to absolute necessary.
- Any residual materials that cannot be reused and are classified as hazardous waste should be packed, labeled, and delivered to the relevant collection points of the university in accordance with the current disposal guidelines of Duke Kunshan University.
- The Environmental Healthy and Safety office is the corresponding contact point for disposal at Duke – Kunshan University. The contact person (collection, treatment, and delivery) for disposal of waste substances is:

  Dr. Eng. XX,  Email, Phone number