

Microfluidics Innovated Bio-applications



# MIB Survival Kit

Last updated @ September 1, 2022

Inspired by the Weitz Lab @ Harvard

# Group Character



- We are a **"collaborative"** research group
- I cannot answer all your questions, but there is someone on campus who can answer the questions you have → actively approach the experts in the field
- **Completely open group**
  - ✓ We share all our data as we collect it (With the trust to our group members)
  - ✓ We share all our equipment (Our members have the first priority)
  - ✓ We welcome collaborations, visitors, interactions (One needs to bear the confidentiality of our group/family in mind)

# Group Culture



- **We compete with people outside our group, NOT with people in our group**
- **We interact and collaborate with EVERYONE in the group**
  - ✓ We have to, otherwise we will fail
- **We reasonably share credit and authorship**
- **We seek out collaborations with other groups**
  - ✓ If I am the only faculty member you talk to, you waste a great opportunity

# Resources



- **We do not have all equipment necessary**

- ✓ It probably can be found somewhere else
- ✓ Use other's equipment judiciously and show your gratitude (Similar attitudes goes to sharing our equipment with other groups.)

- **Some central facility equipment may be available, though may be expensive**

- ✓ Use it judiciously, but use it when you need it

# Weekly Group Meetings & Joint Group Meeting



- **Everyone must attend**

- ✓ No excuses not to attend
- ✓ Please inform me ahead of time with justification, if you can't attend the group meeting

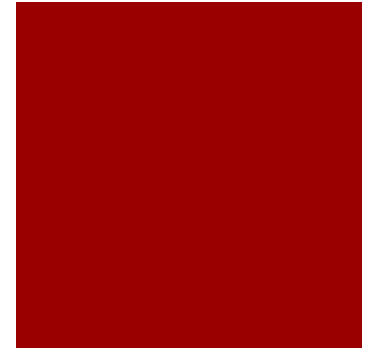
- **Group meetings are for current results**

- ✓ Meaning you are not expected to understand everything
- ✓ Everyone should participate by posing questions and comments
- ✓ Don't view the presentation as a burden, but rather an occasion to polish your thoughts and get help from others

- **Students take turns to present and host the meetings**

- **A good scientist shall learn how to communicate effectively!!**

# Individual Meetings



## ■ A pre-arranged schedule for everyone

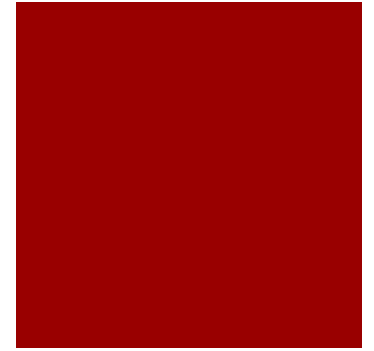
- ✓ You get to talk to me every week for at least 30 minutes every week
- ✓ You can opt out the meeting if you do not have anything to discuss
- ✓ Bring in new data or new findings from literatures
- ✓ Never skip the individual meeting for two consecutive weeks, unless you have unexcused reasons

## ■ If you have more to discuss

- ✓ Make an appointment
- ✓ Get help early and get help often

## ■ Any concerns are welcome (scientifically or personally)

# Conference Attendance



- **Conference exposure is very important**
  - ✓ Everyone is encouraged to attend one conference per year
  - ✓ You **MUST** present a paper to go to a conference
  - ✓ Please travel as economically as possible
    - Cheaper travel → more meetings

# Purchasing Policy



- **We have a lean budget**

- ✓ Salaries are our major expense

- **Research does require funds**

- ✓ Nothing gets done without sufficient funds
- ✓ Please spend the money judiciously
- ✓ Purchase only what is needed
- ✓ Please consult with Melanie before you place the order

- **Get my permission for items greater than 2,500HKD**



# Safety and Lab Etiquette



- **ATTEND the safety training before working in the lab (see next slide)**
- **Safety always comes the first**
  - ✓ There is no room for error
  - ✓ Wear safety glasses, gloves, lab coats
  - ✓ Speak out to remind others
- **We share equipment and space with other groups**
  - ✓ EVERYONE is responsible for cleaning up and maintaining equipment (Alex has spent tremendous efforts, but it's EVERYONE's job)
  - ✓ If you see something needs repair, fix it! (Consider the equipment YOURS)
- **Safety problems caused by one → the whole lab is down!**

# Safety Training



- ALL the staffs and students working in the lab need to receive safety training from the lab manager
- Research postgraduates are required to attend the general Safety (Part A & Part B) & General Safety examination
- ALL research staffs are required to attend safety trainings and examinations **for Chemistry and Biology. If your work involved laser, you are also required to receive the training of Laser Safety**

**Course schedule:** <https://www.cuhk.edu.hk/clear/prodev/ipl.html>

# Scientific Integrity



- Data never lie

- ✓ Data are not always AS expected, and one shall not assume it would be
- ✓ Try to understand and learn from the data obtained
- ✓ **Keep good record of experiments in the lab notebook (preferably in English)**

- I am happy to be proven wrong

# Journal Publications



- **Papers are crucial to everyone**

- ✓ Work is NOT completed until paper is published

- **It takes a lot of effort to get a paper published**

- **How to write a scientific paper**

- ✓ Determine the uniqueness of what the paper presents (Two sentences summary)
- ✓ Compiles the figures from your data
- ✓ Write an outline
- ✓ Discuss with me at each step: I am here to help

# Expectations for Postdoc, PhD and Master Students



## ■ Do really good work to show how it is done honestly

- ✓ Keep good record on how your work is done (organize your lab notebook)
- ✓ Presentation (mandatory attendance in the lab meeting) and regular publications
- ✓ Weekly report is highly encouraged if you would like to keep your work on the right track (with this being said, I will comment your weekly report regularly)

## ■ Good scientists are leaders

- ✓ Serve as **a role model** for the junior fellows
- ✓ Senior fellows should guide junior fellows
- ✓ Leadership demands humility
  - Many students are smarter than you (and than myself)
  - Honor, respect and encourage their contributions

# Expectations for FYP and UG Students



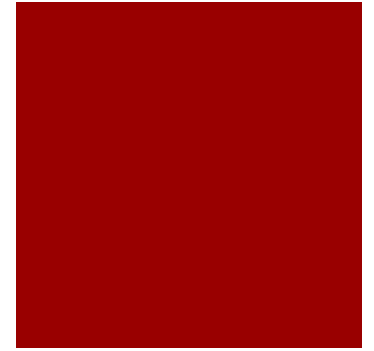
- **Do really good work to show how it is done honestly**

- ✓ Keep a good record on how your work is done (learn to use your lab notebook)
- ✓ Bi-Weekly report is **mandatory** (during the semester)
- ✓ Weekly report is **mandatory** (in the case of full-time work in the lab)

- **Good scientists are leaders**

- ✓ Serve as a role model for the junior fellows
- ✓ Senior fellows should guide junior fellows
- ✓ Leadership demands humility
  - Many students are smarter than you (and than myself)
  - Honor, respect and encourage their contributions

# Website Update



## ■ **Contribute contents to the webpage**

- ✓ Biography for the new comers
- ✓ Photo of yourself
- ✓ Make sure every paper you publish is posted on the web
- ✓ Activities, honors, awards

## ■ **Send the information to me or Melanie**

- ✓ Update will be made by end of each month
- ✓ Melanie is helping us on a volunteer basis, so please make sure your contribution is presentable without further editing