

## **FCC Lab. Rules (July 15, 2008)**

The purpose of this FCC Laboratory Rules is to ensure an environment where students/researchers can work together safely and productively while maintaining the integrity of the Lab environment and equipment. It is the responsibility of all who enter the FCC Laboratories to observe and enforce all the rules given below. Failure to do so will result in serious reconsideration of privileges/qualification. Users are encouraged to make suggestions on how we can more effectively meet our goals

### **General**

1. Your name must appear on the *Qualified User List* to operate any piece of equipment in the Lab.
2. All equipment usage must be entered in the respective log manual. Enter your name and time in the logbook before you start operating the equipment.
3. No experiment or process should be left unattended unless absolutely necessary. For example, when you do annealing using the RTA, you should be in front of the RTA watching the process. Whenever an experiment or process is left unattended, a notice must be posted indicating the nature of the process, the expected completion time, and the name of the process owner and how they can be contacted.
4. You must go through training from the module leads for each of the systems used in the FCC Lab:
  - a) MOCVD Lab : Kaixuan Chen / Wonseok Lee
  - b) MOCVD supporting Lab : Kaixuan Chen / Wonseok Lee / Qifeng Shan
  - c) PL measurement : Qi Dai
  - d) Jasco, Film Metrics : Frank Mont
  - e) Work Station : Ahmed Noemaun
  - f) Electrical measurement : Martin Schubert / Jiuru Xu
  - g) Wire bonder/Die bonder : Sameer Chhajer
  - h) CAIBE system\* : Sameer Chhajer
  - i) E-beam evaporation system : Roya Mirhosseni
  - j) Sputter system : Frank Mont / David Poxson
  - k) RTA : Di Zhu
  - l) Dektak surface profiler : Di Zhu
  - m) Contact aligner\* : Sameer Chhajer
  - n) Chemical wet benches : Qifeng Shan
  - o) Chemicals/Lab supplies : Qifeng Shan

**\* Re-qualification of all the users of Karl Suss contact aligner and CAIBE will be scheduled and announced soon.**

5. All the module leads will have the following responsibility and authority:
  - a) Maintenance of the equipment including regular maintenance, preparing spare parts, etc.
  - b) Make new/complete operation procedure of the equipment
  - c) Training and qualification of all the users (put the Qualified Users List on the equipment)
6. Always clean up your work area before you leave, so that the work area is in a cleaner condition than it was before.
7. All hand tools should be cleaned and returned to tool box after you use it.
8. If you are unsure about any procedure or condition in the Lab or notice anything unusual, contact any of the module leads and/or Profs. Schubert/Kim.

***Epecially in the Cleanroom module/Chemical wet benches***

9. Check your clothing in the cleanroom module. Cleanroom lab coats, gloves and shoe covers must be worn at all times in the Cleanroom module.
10. Goggles or face shield must be used at all times when working in the hoods. This applies even if no chemicals are being used. Others might have chemicals in the hood, or residual chemicals may exist which could cause harm.
11. Exercise extreme caution at all times! Because most chemicals used in the lab look like water, always assume any liquid is dangerous.
12. Do not leave your chemicals unattended. If the chemicals will be in use for several hours, clearly mark the name of the chemicals, your name, where someone can contact you, and when you expect to return on a clean wipe. Leave this sign next to the chemicals.
13. Tell your supervisor about any unsafe situation. Use your judgment. For example, if a beaker of chemicals is sitting around without a label, report it.
14. Heavy-duty rubber gloves, a chemical apron, and a face mask must be worn when handling hazardous chemicals including Ammonium Hydroxide, BOE, HCl, HF, H<sub>2</sub>SO<sub>4</sub>, H<sub>3</sub>PO<sub>4</sub>, etc.
15. Use the dedicated beakers only with the chemicals and/or process labeled on the beaker. Do not cross-contaminate beakers.
16. No samples, beakers or notebooks are to be left on the working table or in the fume-hood. All beakers or containers left in the fume-hood intentionally must be labeled appropriately. Items left unattended/unlabeled will be disposed-off immediately.
17. Food and drinks are prohibited in the Lab.

**Night time/weekends/holidays**

18. It is strongly recommended not to use the equipment in the Lab. during night time (8PM~8AM)/weekends/holidays unless absolutely necessary.
19. If you have to use equipment during night time/weekends/holidays, you must get permission from Prof. Kim via email describing the process and expected time. When you leave the lab, turn off all the lights, lock the door.