

- 0) **Log in**
  - a. No NUCore reservation needed – purely walkup machine
  - b. On Ag500 computer, login by user netid
- 1) **Load sample**
  - a. Put sample(s) on carousel before setting up experiments
  - b. Follow indicating (dummy) sample position on carousel
  - c. Double check slot number on screen
  - d. Get familiar with color mode on slot number overview panel
  - e. If there's no empty slot available, call NMR superuser or staff to clear-up queue
- 2) Set up a new experiment
  - a. Double click on "Available" to start editing
  - b. Setting up experiment
    - i. input file name
    - ii. skip No. (auto-select)
    - iii. select a correct solvent
    - iv. select Experiment
    - v. change parameter values (optional)
    - vi. input Title (optional)
    - vii. never use Priority (except approved by NMR staff)
    - viii. make sure daytime or night time queue (see Policy Part)
    - ix. add up more experiment to this sample if needed
  - c. Click "Submit"
  - d. This sample should be queued and data will be auto-saved into a correct folder
- 3) Logout on screen by click "Change User"
- 4) Pick up your sample later, when it's done
  - a. It's user responsibility to pick his/her sample
- 5) Write on **logbook**, only if you see any instrument problem (call staff also)
- 6) Put a STOP sign on keyboard, if you think the machine broken (contact staff immediately)
- 7) Ag500 Time Policy
  - a. **NMR Staff Time 9AM-10AM**  
For training (Tues), maintenance (Thur), and other tests (some other days)
  - b. **Day Time 10AM-10PM**
    - i. Samples have to put into slot # 1-49 (day queue only)
    - ii. 10 minutes maximum per sample
    - iii. 30 minutes maximum per user per day
    - iv. limit 10 samples per day, and 6 samples maximum in a row
  - c. **Night Time 10pm-9AM**
    - i. no time limit
    - ii. samples have to sit in slot # 50-60 (night queue only)
    - iii. check that accumulated time not more than 11 hours
    - iv. Sunday redeemed as a night time

- 8) Some cautions
  - a. NMR tube requirement
    - i. length must be no shorter than 7 in, and no longer than 10.5 in
    - ii. no chipped tube is allowed
    - iii. J-Young tube: strait part (bottom to bulb) must be no less than 7 inches
    - iv. sample tube must be labeled by Sharpie marker
    - v. no paper stick is allowed on tube
    - vi. any film/tape sealing cap: using no more than ¼ inch from cap
  - b. Common mistake
    - i. wrong sample position on carousel, especially the look-like “empty” slot position, but that sample is inside of magnet now
    - ii. retrieve sample out of carousel rack too early, while the sample just finished and put back on carousel slot (sensor is still detecting this slot at that moment) – so, need to wait 5 more seconds
    - iii. manually rotating carousel while robot doing something
    - iv. put hands over carousel while robot is moving
  - c. Trouble shooting
    - i. if error happens, you will see a red light blinking on carousel
    - ii. press button CONT then RESET
    - iii. robot will do exercises for a minute, then back to normal
    - iv. if machine still doesn't work, contact staff and put a STOP sign on keyboard
- 9) Data access
  - a. [http://imserc.facilities.northwestern.edu/files/2014/01/data\\_access\\_manual.pdf](http://imserc.facilities.northwestern.edu/files/2014/01/data_access_manual.pdf)
- 10) Download MNova
  - a. Follow above instructions of mapping network drive, use /public instead of /share
  - b. Copy MestReNova-8.1.4-12489-Win-Setup to your computer
  - c. Update newer version if it's possible
  - d. Download licenses from /public/MNova/License folder if required
- 11) Download topspin (windows only)
  - a. Follow above instructions of mapping network drive, use /public instead of /share
  - b. Copy two folders of bruker and FLEXIm directly to your computer C: drive
- 12) Online Quiz (if this is your 1<sup>st</sup> NMR training)
  - a. <http://imserc.facilities.northwestern.edu/nmr/nmr-training/>
  - b. Before quiz, go to <http://imserc.facilities.northwestern.edu/about/getting-started/> to read IMSERC policy
  - c. Then, go to Step 1, click [NMR Basics manual](#) i.e. [http://imserc.facilities.northwestern.edu/files/2013/11/NMR\\_Basics\\_Manual.pdf](http://imserc.facilities.northwestern.edu/files/2013/11/NMR_Basics_Manual.pdf) for getting your NMR knowledge, then,
  - d. <http://imserctraining.northwestern.edu/NMRQuiz/multiscreen.html>
  - e. Fill in a registration form during quiz. When your quiz is passed, you will be able to log into NUCore <https://nucore.northwestern.edu/facilities/imserc>
  - f. Print out the quiz-100% page and bring it to the training session
- 13) Remotely monitoring Ag500
  - a. <http://imsercag500.northwestern.edu:8015/template-login.htm>