

NSSC Summer School 2019

Neutron Activation Analysis activity – MNRC visit and sample irradiation

There will be two time slots allocated for the MNRC visit on Wednesday, August 14th.

Team A and B will go with Vincent leave at 6:45 am – Everyone will fit in a van.

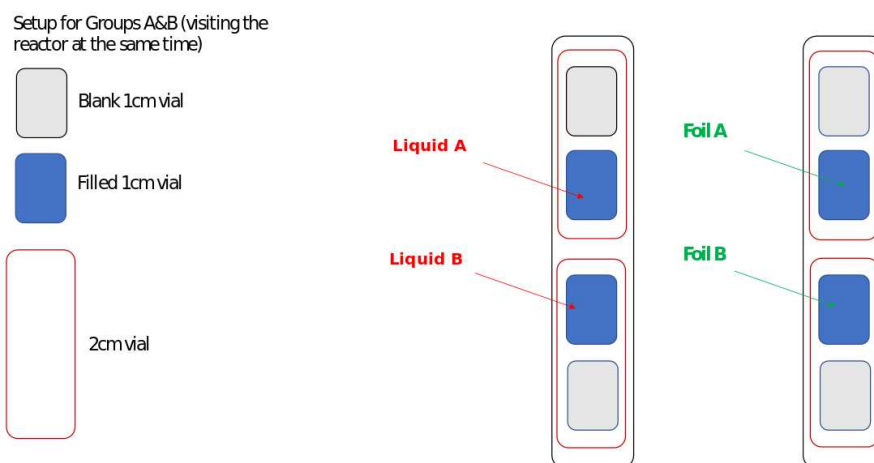
Team C and D will go with Julie and Lena and leave at 8:45 am – There will be a van and a car.

Before visiting the MNRC, each student will have to fill an online safety form (very quick):

<https://mnrc.ucdavis.edu/form/briefing>

We will recirculate this information the days before the visit.

- The meeting point is the loading dock accessible from the basement of the physics building. One instructor will wait for the students there while the other will wait in front of the physics building.
- We will be on a relatively tight schedule so **please be on time** as we won't wait for too long.
- Upon arrival at the reactor complex, Wesley Frey, the MNRC director, will welcome us and start the tour of the reactor
- The instructors will receive an active dosimetry which final dose will be common to everyone.
- The 4 samples prepared during the NAA1 activity (2 per team) will be cleaned and inserted into “rabbits” as such:



- The MNRC visit will go on, directed by Wesley, with the instructors staying with the students.
- The rabbit containing the control samples (foil) will be irradiated for 30 seconds. The rabbit containing the liquid samples will be irradiated for 2 minutes.
- Upon irradiating the samples, everyone will go to the counting room where the High Purity Germanium (HPGe) detectors will be available to count the samples.
- The control samples will be measured for 10 minutes. Team A will use the 50% HPGe and team B the 99% HPGe
- Then the two liquid samples will be measured in the same fashion and left to count until after the students leave the MNRC
- The visit is now over