

Users guide to the NMR Facility - October 2022

Abide by these core principles when using our instruments

- All work must be undertaken according to Department of Chemistry/University guidance.
- The NMR Facility specific risk assessment **MUST** be downloaded, signed and returned (as a PDF ideally) before you use **ANY** of our services.
- Doors to rooms B19, B25 and B28 should be open to all NMR users via their Mifare card. Inform us if you need access to these rooms and your card isn't working.
- **OPEN-ACCESS** instruments are available on a walk-up basis. The doors to these rooms (apart from B25) are only accessible via Mifare to those members of the department who have completed the open-access training programme. Please let the previous user complete their submission before entering the room or liaise with them if they are waiting for a sample to complete. You can use any of the standard open-access instruments if your first choice is busy.
- User-operated instruments must be **BOOKED** via the Clustermarket booking system. Please try to avoid more than two users at the instrument at once to minimise occupancy of rooms.
- Hands should be **SANITISED** as required to protect yourself and other users from all viral infections. Please be responsible and do not book instruments if you have respiratory illnesses.
- **YOU ARE RESPONSIBLE** for any equipment and substances that you bring into the NMR rooms. Appropriate risk assessments should be carried out if using hazardous materials or needles.
- Any potentially contaminated material should be **DISPOSED** of in the **BIN** provided, as should **SHARPS** such as needles. **NEVER** put these items in general waste bins as needlestick injuries have occurred previously which are not pleasant for the individuals involved. The DSO will investigate any such incidents and the NMR team will supply records of instrument bookings if required.

Submitting samples to an automated (open-access) system 07:00 to 24:00

There are four automated systems available, to users that have been previously trained to use them. New users should email nmr@ch.cam.ac.uk to request the training programme. We have produced a video guide which will explain the majority of the process.

- You can submit and collect samples **at any** time throughout the day.
- If you are suffering from any **respiratory illness**, be careful not to contaminate surfaces.
- Users should spend the minimum time possible in the rooms – no processing of data please!
- Allow the previous user time to complete their submission or collection before entering an open-access NMR room. You can wait in the corridor outside the door or liaise with the current occupant.
- Abide by the latest fair use rules in operation.
- Join Clustermarket when invited to receive emails from us about instrument downtime.

Using a trained user-operated system 07:00-24:00

- The instruments available are Auchentoshan (400MHz) in B13B, Arran (700MHz) in B14 and Glengrant (500MHz) in B19, as well as Tobermory (400MHz) in B25 as required and agreed.
- If you are suffering from any **respiratory illness**, be careful not to contaminate surfaces.
- Users can book **their slots using Clustermarket**. 15-minute minimum slots are available on Auchentoshan and Tobermory, 30 minutes on Arran and Glengrant. There is no maximum amount of time that can be booked but please be aware of other users' needs
- The overnight slots can be booked as required but note there is no access to the department overnight.

Submitting samples to the NMR service in B28

- Download and complete a submission form – **email as PDF** to nmr-submission@ch.cam.ac.uk.
- The labelled NMR tube should be left in the **cold room lobby (CRL)** at any time the department is open.
- Results will be **emailed** – please inform us if your data doesn't arrive when expected.
- If data has been **checked** by the researcher, **email** nmr@ch.cam.ac.uk **for faster return**. If no email is received the sample will be returned if the service judges the result to be sufficient.
- **NMR tubes** will then be returned to the CRL for **collection**.
- **NMR interpretation** will be provided only where the problem is deemed sufficiently complex that extra work needs to be carried out in order to solve it. Most results will be returned either automatically by email or with brief comments.
- **Email or visit B28** to talk to us about particular issues and problems that you need us to solve using NMR as we may offer alternative experiments to assist interpretation.

NMR Consumables purchase

- **Our Merck Vending Machine** can be found in Room B25. This stocks around 20 of the most common lines at the best prices in the University.
- **For rarer or little used consumables** downloaded consumable request forms should be emailed as a PDF to nmr-consumables@ch.cam.ac.uk
- **Consumables supplied by the NMR Facility** will be supplied to the cold room lobby (CRL) for collection. You will be emailed once they are delivered to the CRL.
- **Out of stock vended consumables** can be provided by visiting the NMR Service room B28 as we hold an emergency **buffer** of most items.

Links

www.ch.cam.ac.uk/analytical/nmr
app.clustermarket.com

Training/Troubleshooting

Training in a traditional **face-to-face** setting is **usually the preferred method**. We do offer some sessions via Teams if there are multiple trainees. In case of **instrument problems**, email us on the [nmr](mailto:nmr@ch.cam.ac.uk) address, ring 36397 (internal) or come to see us in B28 or around the corridor. We will sometimes fix instruments remotely using our laptops to save having too many people in rooms at any time.

Further Notes

Andrew, Pete and Duncan will sometimes be working from home or from a remote location in the department. There is generally **always one of us in the NMR Facility** between 8.30am and 6pm. If you cannot find us, then an email to nmr@ch.cam.ac.uk is the best way to get in touch as one of us is usually monitoring the inbox. With the appointment of Pete Gierth we are now able to offer a lot more services such as some interpretation help, video guides, reliability upgrades and improvements to automated and service experiments.

Check twitter ([@camnrmrservice](https://twitter.com/camnrmrservice)) and our website regularly for updates.