

X-RAY DIFFRACTION CLUB, UNSW **MEMBERSHIP SCHEME**

(2025)

1. PURPOSE AND SCOPE

The X-ray Diffraction Laboratory, UNSW has established an excellent working environment. It possesses 10 diffractometers: including three dedicated for powder diffraction, four for thin films and advanced measurement, two for single crystal diffraction, and one with an Ag X-ray source. The high and low temperature attachments are also available to control the testing environment. The laboratory operates 24hours/7days. Each year, the lab provides basic training to above 350 new users and runs short courses on quantitative diffraction and thin film diffraction, and carries out wide-ranging XRD services. It is the most comprehensive XRD laboratory nationwide.

X-ray Diffraction Club UNSW membership is designed to encourage users to engage in high-level diffraction work, obtain high-quality results, and help research groups manage their usage costs.

2. DESCRIPTION

X-ray Diffraction Club membership is offered only to all academics within UNSW. Its members pay an annual subscription fee, starting from \$7700 (equivalent to 220 hours of machine time at 2024 rates), which is determined by SSEAU Management and reviewed annually. The detail of the charge rate is listed in Appendix 1.

Benefits of Subscription:

1. The Club Member and all XRD users under the Member's supervision have use of all the instruments in the X-ray Diffraction Laboratory. Non-members pay usage charges each month based on hourly use (currently \$35/hr).
2. The Member, as well as students (students must be enrolled at UNSW) under the Member's supervision, will get an 80-hour booking limit per month (currently 24 hours for each user).
3. The Member, as well as students under the Member's supervision, will have access to browse hard copies of X-ray Diffraction journals to which the XRD Lab has subscriptions.

4. Club Members will have no monthly invoices, but they can request ONE ONLY annual usage report (hours used over a 12-month period), providing the total usage of users under the Club Member's supervision.

Responsibilities of Subscribers:

1. To ensure users from the Member's group use the facilities in XRD Lab as specified in their instrument training, **particularly when using the Lab after hours.**
2. Users must be aware of OHS procedures for the Lab and trained on instrument safety.
3. To ensure that 1/3 of the usage by the Member's group should be conducted **outside of peak times** – i.e. 5 pm to 8 am on weekdays and all day at the weekend.
4. To ensure the Users log in to the system and choose the AAA-XRD-Club account for their usage.
5. To ensure the Supervisor nominated on their user's profiles is the Club member.
To provide professional suggestions and technical information that might assist XRD Lab in developing the Lab's facilities and capabilities, and to provide support for any Lab grant applications.
6. Apart from the conditions of membership mentioned above, Members and non-members have the same opportunities to book and use any instrument, to comment on the lab development and support.
7. Any charge on "XRD services" is not included in the subscription, such as phase identification by XRD staff, setting up variable temperature XRD, and complicated XRD measurement supported by XRD staff.

3. OPERATION

Membership forms and fees for the following year will be sent to all Supervisors of XRD Users at the beginning of the year. Supervisors who wish to take out a new subscription or renew their membership **will need to return the membership form to the X-ray Diffraction Lab by 30th January 2025 via email: yu.wang@unsw.edu.au.** Membership acknowledgments will be sent via email. If preferred, the membership fee can be paid in two instalments: the first to be deducted from the nominated ACTIVE project codes in February, and the second in August. The period covered by the annual membership subscription is 1st February to 31st January 2025.

4. RECOGNITION

The support from the XRD laboratory should be acknowledged when the club members publish their work using XRD results. It is your obligation to report any studies accepted for publication, such as peer-reviewed journals, conference proceedings, or books. The report can be made via the XRD user's portal account in the user's portfolio – my publications, or an annual summary with the application for membership renewal. This is not applied to new members in the first year.

PLEASE NOTE:

1. There will be no refund of annual subscriptions.
2. Late applications for membership will pay the full subscription fee with no deduction for early usage.

Please read the “Questions and Answers” section, which has answers to common questions.

Q & A:

1. Can we take out a membership for our whole group, irrespective of the supervisor?

No. The membership is only offered to individual academics, not group or joint partnerships.

2. Is there any limit on the number of users per supervisor/group?

Yes. There is a limit to the number of students; otherwise, the scheme would favor the large research groups. The limit is 12 users per group. However, one supervisor may have more than one membership, i.e., can pay for two memberships and get a maximum of 24 users in the scheme.

Users not nominated under the Club Member’s subscription pay normal user rates.

3. What happens if my Subscription Users go over 220 hours/year? Do we get charged for the extra time?

The guide is that, if the prospective usage for the whole year from one group is larger than 220 hrs, it is worth joining the scheme; **there is no surcharge if the total usage is within the upper limit, see Appendix 1. Any excess hours will be charged at a half-normal rate.**

4. Can we add new users to the group?

New Users cannot join unless they were nominated on the 2023 application form submitted by 30th January. After attending all relevant training sessions, a new user registers. If the User’s name appears on the Supervisor’s application form, the new user is assigned to the subscription. It is the supervisor’s responsibility to ensure the application form is inclusive of all students who will join in 2025.

5. What does “1/3 of the usage be conducted outside of peak time” mean?

As the subscription cost is a benefit to Members, it is only fair to all users (especially full-rate users) that one-third of the total hours used annually per subscription be utilised outside of peak time. This applies to experienced users only. New users must have 5-10 hrs operations in peak hours before using off-peak time.

6. Can we change the Users of the group due to a status change, such as graduation or transfer?

No. The users under the Subscription are listed for the whole year, so the XRD Laboratory cannot accept changes. Supervisors should select their users carefully; for example, users

doing quantification, refinement, high resolution, or variable temperature XRD should be considered first.

Appendix 1:

Charge Rate of Subscription

Charging rate and method	Annual fee (\$)	Equivalent usage (hour)	Up-limit (hour)	Overlimit hour rate	Charging method	Index rate (\$)
Class 1	7,700	220	500	\$17.5/h	Quarterly	15.40
		Un-used refund	215			
		Threshold	883			
Class 2	14,400	440	1,100	\$17.5/h	Quarterly	13.09
		Threshold	1420			
Class 3	20,000	600	Unlimited			

- Unused refund – If the group usage does not reach the equivalent usage hour (normal rate), the group will get a refund of the unused funds.
- Threshold – If the expected usage is larger than the threshold, choosing the next class would be a good consideration to save money.
- Index – It is an indication of the equivalent hour rate charged to you if your usage hour reaches the upper limit.

Previously, the scheme had only one level charge with a 500-hour up-limit, as class 1. The up-limit was not implemented. The new scheme from 2025 will divide the subscription into 3 classes. Class 1 is the same as the previous fee and usage limit. Once the usage is above the limit, the over-limit hour rate will be applied. This rate is half the price of the normal rate. The charge will be provided to the supervisor quarterly. To heavy-use groups, we provide a choice of classes 2 and 3. The upper limit of class 2 is 1100 hours, and there is absolutely no limit for class 3.

Supervisors can use the previous usage as a guideline for the selection of the usage level. The threshold is the upper limit for saving. For example, if the average usage hours of your group were 1000, this value is above the class 1 threshold (883h), the selection of class 2 will be the best choice. When their usage is over the up-limit, the subscriber will receive a bill quarterly, rather than monthly.

“Unused refund” means that if a subscriber does not use up their equivalent usage hours (Class 1: 220h), they will get a refund for the unused portion. For example, a supervisor’s group has only used 150 hours over the whole year for some reason. In February next year, he will get a refund of (215-

150)h*\$35/h. Note: There is an administration fee of \$175, which is not refundable. Alternatively, the fund can be transferred to next year. This guarantees that the subscribers will benefit from the club subscription. The eventual cost is no more than a normal usage rate. This will encourage researchers to join the club.

Classes 2 and 3 have no refund policy.

The user number in each subscription has not been changed. 12 members in each subscription group

Fundamentally, the club scheme will continuously provide a usage rate of up to 50% off. The purpose is to promote XRD technologies, to encourage users to use XRD for high-quality results, and to balance instrument operation and research support.