

## Management of MCEM, a multi-user research facility

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Facility management is a very broad term and here I will only consider management of a research facility. Even then, there are many different types of research facility but most have two things in common: 1) they are based around an expensive *capability* (otherwise anyone could have one) and 2) they require people with specialist skills to operate. A further distinction can be made based on who uses the *capability*. Is the *capability* only used by facility staff members or are there outside users as well, a *multi-user* research facility? Many university-based Materials Characterisation Centres and Electron Microscopy Centres operate as a *multi-user* research facility.

The Monash Centre for Electron Microscopy (MCEM) was established about 10 years ago as a *multi-user* research facility with the dual goals of:

1. execution of world class research in the field of electron microscopy, and
2. provision of advanced instrumentation, expertise and training in electron microscopy to researchers across all fields of science and engineering (except biology).

The primary KPI for MCEM is that it enables an increase in the quality and quantity of publications by Monash University researchers.

To operate effectively a *multi-user* research facility must employ many additional management procedures and must maintain additional records not needed by a research facility with no external users. In this presentation, I will discuss some of these procedures developed in MCEM over the last ten years including:

1. How people access MCEM and the role of the Supervisor;
2. User records - more than just the people who actually use a *capability*;
3. Projects - the basis for all work carried out in MCEM;
4. Inductions - a number of different types;
5. Licences - at least eight types plus endorsements;
6. Training - a formal process, all new microscope users receive the same training regardless of any previous experience;
7. Microscope operating rules - how to protect microscopes from users who cannot operate a screwdriver;
8. Booking system, booking rules and log books - essential for managing access to capabilities and for monitoring usage;
9. Data storage and security - the user's responsibility;
10. Charging - primarily to modify behaviour;
11. MCEM database - stores all MCEM User, Project, Licence, Equipment and Usage data, includes dozens of reports and hundreds of queries and provides essential data needed for management and critical reporting purposes
12. Equipment service - an MCEM microscope can have over 160 users, down time must be minimised.

