



David Cockayne Centre for Electron Microscopy

Facility for
TEM, SEM & FIB

e: emaccess@materials.ox.ac.uk
w: www-em.materials.ox.ac.uk

Dr Neil Young

Manager, David Cockayne Centre

Dr Phani Karamched

*SEM Support Scientist,
David Cockayne Centre*

Part II Induction

12th Sept 2022



www.ox.ac.uk



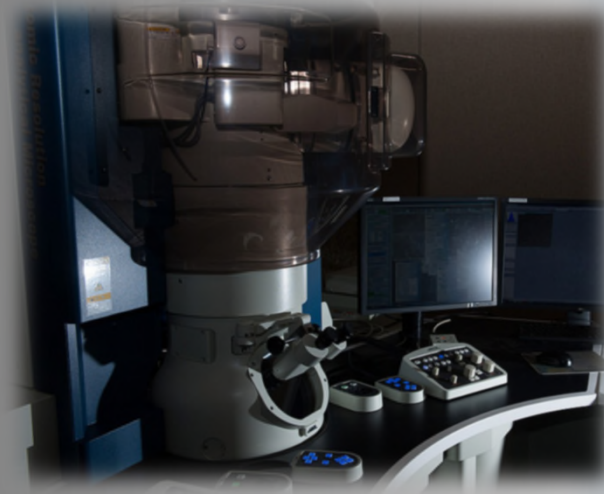
UNIVERSITY OF
OXFORD



OxfordMaterials

DAVID COCKAYNE CENTRE FOR ELECTRON MICROSCOPY

- The David Cockayne Centre for Electron Microscopy supports characterisation via SEM, TEM, FIB and related techniques within the Department of Materials
- The centre acts as a hub for characterisation in the physical sciences across the University of Oxford. It is supported by 3 research support scientists (specialisms in FIB, SEM and TEM respectively), a senior facility manager and an EM technician.



<http://www-em.materials.ox.ac.uk>



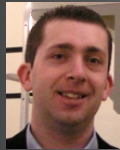
UNIVERSITY OF
OXFORD



OxfordMaterials

DAVID COCKAYNE CENTRE FOR ELECTRON MICROSCOPY

TEM



Neil Young
EM Facility Manager
TEM Support



Ian Griffiths
Research Support Scientist
(TEM/Aberration-corrected STEM)

SEM



Phani Karamched
Research Support Scientist (SEM)

FIB



Gareth Hughes
Research Support Scientist (FIB)
Deputy Facility Manager



Graham Wyatt
EM Technician

Access for PtlI Research Projects:

- Many PtlI projects will be using EM instrumentation during the year. For some EM will be a major component of the project, others less so. The 'SF1' form submitted by your supervisor conveys this information
- Generally students will be supported and trained primarily by members of their research group who are already experienced in EM.
- Each EM theme has a support scientist who will oversee the sign-off of PtlI's on instruments, and add any additional training required, beyond what the research groups will support.
- The facility maintains a suite of EM, FIB and related instrumentation at the main Parks Road site (Holder Building), this will be where the majority of PtlI access EM. There are also some SEM facilities at Begbroke run by OMCS.
- All of you will have seen some of these instruments during your practical classes and also the characterisation module, so will have some experience.



Access for PtlI Research Projects:

- The majority of PtlI's will use entry-level SEM instruments such as the Zeiss EVO or the Jeol-5510. These are capable research instruments and provide everything that most PtlI's need, including EDX and EBSD
- Those who need a little more, such as the Zeiss Merlin will be supported by a member of their group or (co-) supervisor.
- A few PtlI's will use TEM or FIB-SEM, this will have been pre-arranged with the DCCEM at the time of writing the project description and will usually be supported via your supervisory team.
- Normal working hours for PtlI's within the DCCEM labs are 9am-5pm, working outside of these hours, i.e. during evenings and weekends is not possible.
- As such PtlI's receive priority access to instruments, DCCEM staff take care of this. Please approach them with an queries.





DAVID COCKAYNE CENTRE FOR ELECTRON MICROSCOPY

Booking the instrument :

<https://oxford.corefacilities.org/> (sign up using your SSO and ask to be added to your research group)

The screenshot shows the booking interface for the Zeiss Evo SEM instrument. The page title is "David Cockayne Centre for Electron Microscopy > View Schedule". The instrument name is "Zeiss Evo SEM". There are "Advance Booking Rules (>24hrs)" listed, including a 2x session advance booking rule, a 24-hour availability rule, a 4am vacated rule, and a no restriction on users rule. There are also "Samples may be run unattended overnight" instructions. The main part of the page is a calendar for the week of Monday, 12 Sep to Sunday, 18 Sep 2022. The calendar shows time slots from 09:00 to 20:00. A red block indicates "Unavailable" on Tuesday, 13 Sep, from 09:00 to 17:00, with the reason "Bottle air ion servicing - filter change". A green block indicates a booking for "Phani Karamched" on Thursday, 15 Sep, from 09:00 to 18:00. Other sessions are color-coded: Morning (light green), Early Afternoon (light blue), Late Afternoon (light purple), Evening Session (dark blue), Weekend AM (pink), Weekend early afternoon (light pink), and Weekend late afternoon (light purple).

Each instrument has a separate mail list for communication from staff and amongst users

- Ask to be added to the corresponding mail lists after initial training
 - em-evo@maillist.ox.ac.uk
 - em-ebsd-merlin@maillist.ox.ac.uk
- Separate user account on the instrument



DAVID COCKAYNE CENTRE FOR
ELECTRON MICROSCOPY

Contact:

For general queries regarding EM training and research support, contact any one of the three EM support scientists,
or emaccess@materials.ox.ac.uk

If you have a technical problem or microscope fault, contact
em-faults@maillist.ox.ac.uk

We will run regular 'drop-in' sessions during term time – likely on Teams. These will be opportunities for any user of the DCCEM to have an informal chat with us