



David Cockayne Centre for Electron Microscopy

Facility for
TEM, SEM & FIB

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w: www-em.materials.ox.ac.uk

Dr Neil Young

Manager, David Cockayne Centre

Dr Ian Griffiths

*TEM Support Scientist,
David Cockayne Centre*

Part II Induction

Oxford – 11th September 2023



www.ox.ac.uk



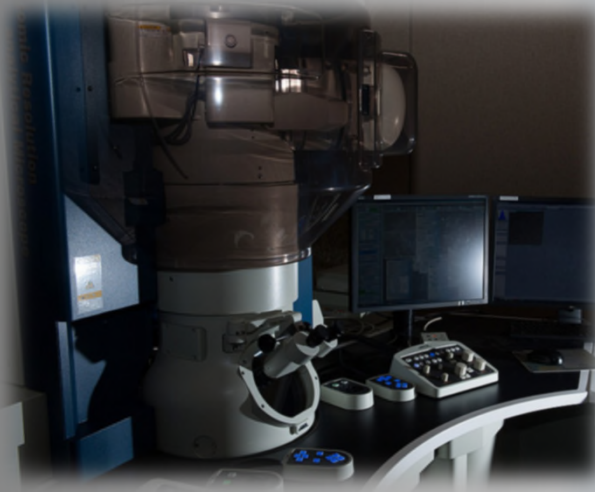
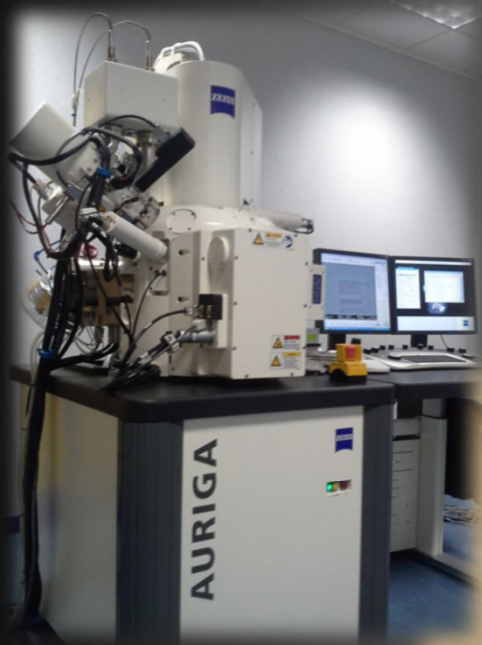
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DAVID COCKAYNE CENTRE FOR ELECTRON MICROSCOPY

- 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>



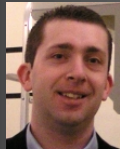
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DAVID COCKAYNE CENTRE FOR ELECTRON MICROSCOPY

TEM



Neil Young
EM Facility Manager
TEM Support



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

SEM



Phani Karamched
Research Support Scientist (SEM)



Graham Wyatt
EM Technician

FIB



Gareth Hughes
Research Support Scientist (FIB)
Deputy Facility Manager

Access for PtII Research Projects:

- Many PtII 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 PtII'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 PtII 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 Ptl Research Projects:

- The majority of Ptl'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 Ptl'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 Ptl'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 Ptl's within the DCCEM labs are 9am-5pm, working outside of these hours, i.e. during evenings and weekends is not possible.
- As such Ptl's receive priority access to instruments, DCCEM staff take care of this. Please approach them with an queries.





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Booking the instrument :

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

David Cockayne Centre for Electron Microscopy > View Schedule

Zeiss Evo SEM

Advance Booking Rules (>24hrs)

- Users may book up to 2x session in advance.
- If the system is available in the next 24 hours, then an additional booking may be made.
- The lab must be vacated by 4am and remain empty until 9am
- There is no restriction on the number of users present at the system.

Samples may be run unattended overnight. Users must:

- contact the following day's user and make an arrangement for a safe transfer of specimens in advance.
- Ensure that the run / data collection will be complete before the 9am session starts.

Week (7 Days) Mon, 12 Sep - Sun, 18 Sep 2022

	Mon, 12 Sep	Tue, 13 Sep	Wed, 14 Sep	Thu, 15 Sep	Fri, 16 Sep	Sat, 17 Sep	Sun, 18 Sep
09:00	Morning	Unavailable Bottle air on servicing - filter change	Morning	Phani Karamched Morning - Price: £31.25/hr ... (Daytime - Approved, Out of Hours) Ross Anderson / Alexandra Morton - Hayward Earth Sciences	Morning	Weekend AM	Weekend AM
10:00							
11:00							
12:00	Early Afternoon		Early Afternoon		Early Afternoon	Weekend early afternoon	Weekend early afternoon
13:00							
14:00							
15:00	Late Afternoon		Late Afternoon		Late Afternoon	Weekend late afternoon	Weekend late afternoon
16:00							
17:00							
18:00	Evening Session	Evening Session	Evening Session	Evening Session	Evening Session	Evening Session	Evening Session
19:00							
20:00							

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



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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