A WORD FROM THE EDITOR: ‘WHAT’S IN A NAME?’

BY FILIP BRAET

I want to start with a word of fond farewell to the EMU Newsletter from its long-time editor. Then I offer a warm welcome to this 25th issue, which is in fact the first ‘ACMM Newsletter’.

My introductory sentence is dedicated to the users, students and staff I have welcomed and farewelled over the years since the appearance of the first EMU Newsletter in April 2005.

Between then and March 2010, the EMU Newsletter appeared 24 times. In those nearly five years, we succeeded in compiling 172 pages of news from the unit, corresponding to 399 megabytes of data stored on my computer (sadly, falling just short of the more satisfying 400 megabytes).
When lined up head-to-foot, all the printed A4 pages of these issues would stretch 49.88 metres (once again, just missing the 50-metre record).

I still wonder exactly how I ended up as editor of the EMU Newsletter back in 2005. Even the definitive history of the first 50 years of the EMU leaves something to the imagination: “Now, there is some dispute as to whether Deputy Director Filip Braet put up his hand for this task or rather was ‘volunteered’, but what is certain was that everyone agreed on the merits of the EMU Newsletter and that Filip took the helm, providing the necessary impetus to get the newsletter produced on a regular basis”. Despite any gentle arm-twisting that might have occurred to see me become editor, I was one of the first-line defenders of the concept, seeing the obvious merits of a regular forum to stay in contact with past, present and future users. Indeed, the success of the forerunner of the current newsletter, the imaginatively titled EMUser (subtitled ‘News from the Electron Microscope Unit’) that appeared sporadically between May 1983 and December 1991 (see logo above), further illustrated the point.

After too long an absence of a dedicated EMU news forum, in my opinion, it was time to revive the good old tradition of a dedicated EMU newsletter in a contemporary high-quality format, available in hardcopy from the unit and in softcopy from our website and via email.

Let me assure you, these newsletters never come together through one individual or a single idea; rather they are an amalgam of collective thoughts, a selection of staff experiences, and a forum to announce major events or to report on new instruments and staff. Typically, the content of each newsletter is decided by a group of voluntary idealists, otherwise known as our editorial team, with content drawn from across the team and the unit. I vividly recall our entertaining bimonthly team meetings during the past five years, as we discussed what should make the news or what items we should ‘filter’ or maybe ‘nurture’ for future editions. Some of those potential stories actually never made the newsletter because they weren’t deemed suitable or were too sensitive or humorous, or there just wasn’t space. We were especially sensitive when considering user experiences – although who wouldn’t like to read news stories about electrons that are green or about the fact that somebody was autoclaving penicillin/streptomycin solutions for sterilisation purposes? Personally, I like occasional humour in news and I hope to find the lighter side of life in forthcoming editions of the ACMM Newsletter.

Apparently my successor, Allan Jones, our new newsletter editor-in-chief, has already found some amusing images of me from the last few years (see below). As a closing note, Allan and I are very proud to deliver to you the first ACMM Newsletter as a team effort, decked in a modern outfit thanks to the stylish newsletter template provided by the University of Sydney’s branding team. One might suspect we planned it all, seeing the almost unbelievable coincidence of our changing the style of our newsletter and the name of our unit at the same time, but let me assure you the University of Sydney branding process was the catalyst in all of this and our editorial team can’t be held responsible for that. More on our name change can be found on the forthcoming pages of this newsletter.

Enjoy!

Finally, I would like herewith to express my heartfelt gratitude to my fine colleagues in the editorial team, who have been mentioned at the end of the 24 newsletters that have appeared since 2005.

After a long time, I can now look forward to reading the ACMM newsletter without knowing what the content will be. Long live the ACMM Newsletter!
NEW SPECIES DISCOVERED: EMU TAKES FLIGHT WITH A NEW NAME

The Australian Centre for Microscopy & Microanalysis rises, phoenix-like, from the EMU.

Unless you’ve had your head in the sand for the past few months (alright, we’ll stop with the ornithological puns!), you’ll know that the University of Sydney is in the throes of a rebranding process. As part of this process and the associated strategic planning, Sydney has renamed its Electron Microscope Unit the Australian Centre for Microscopy & Microanalysis, or ‘ACMM’. The reasons for replacing this well-regarded and longstanding name are threefold.

The major impetus is to have a modern name that actually reflects what the centre does: microscopy and microanalysis in many forms. Consider the current stable of instruments. Sure the centre offers researchers 11 electron-based platforms (soon to be 12, with the new high-end FIB–FESEM), including various transmission electron microscopes and scanning electron microscopes as well as instruments that also incorporate focused ion beams. But it also has nine light and/or laser microscopes, two local-electrode atom probes, two scanning probe instruments, two X-ray microtomography systems and one nanotomography instrument, and two X-ray diffractometers. All these instruments are supported by a host of laboratories (including PC2 ones) for preparing diverse specimens, from hard materials to biological samples, and by capabilities for reconstruction and analysis of complex datasets, images and tomograms. As you can see, it’s not just electron microscopy.

Another reason for the name change is to recognise the national, and increasingly international, leadership role of the centre, leadership that is conveyed by the ‘Australian’ part of the new name. Take the centre’s leading role in providing high-end microscopy and microanalysis to support Australia’s research. This started in 2002 with funding from the Commonwealth, under its Major National Research Facilities Programme, to establish the Nanostructural Analysis Network Organisation, or ‘NANO’, which had its headquarters at the ACMM (though under its previous nomenclature, obviously). This national facility for nanoscale characterisation brought a variety of new ‘flagship’ instruments into the country, including nanoSIMS, advanced FIB technologies, and local-electrode atom probe. In 2007, NANO was expanded into the new Australian Microscopy & Microanalysis Research Facility (AMMRF), thanks to the Commonwealth’s National Collaborative Research Infrastructure Strategy (NCRIS). Once again, the ACMM is headquarters of this national facility, which has also seen further expansion of the flagship instruments available to support national research and innovation. As a result of this leading role, the centre is increasingly being asked to participate in international characterisation networks with international synchrotrons and overseas microscopy networks. Likewise, it has been asked by the Australian Microscopy and Microanalysis Society (AMMS) to spearhead a bid to host the 2014 International Microscopy Congress, the Olympics of microscopy conferences, in Australia. Other examples could be given here about the centre’s leadership in training microscopists and organising international workshops and conferences, or its research activities that have pushed, and continue to push, the boundaries of what can be done with the latest microscopes, research that has been recognised and supported by considerable ARC and NHMRC funding over the years; but you get the point.

The third, and perhaps most prosaic, reason for the name change is structural and organisational simplification. ACMM replaces two interlinked, and potentially confusing, names – the Electron Microscope Unit and the Australian Key Centre for Microscopy and Microanalysis – with a single coherent one. This is part of Sydney’s move towards a future vision that is more focussed and more strategic.
STAY TUNED

GET AN INSIDE LOOK AT THE ACMM!
The ACMM will be holding an afternoon showcase on Friday 4 June from 2–5pm. The showcase will allow current users – as well as other interested academics, researchers and students – to see firsthand the latest instruments and laboratories in the centre and to learn, through talking with centre staff, how these research tools can advance their research. The afternoon’s activities will conclude a day officially launching the centre’s new capabilities in microscale and nanoscale X-ray tomography, which were funded by an ARC LIEF grant, as well marking the change in name to ACMM.

Keep an eye out for further details and promotional material in the coming weeks, which will include further details of the showcase and how you can attend.

UPCOMING NEW LINK TO ‘ACCESSING THE ACMM’ AREA ON WEBSITE
If you are a regular user of our facilities there is a good chance that you have set a bookmark or favourite for the ‘Accessing the ACMM’ website in your browser. Please be aware that – due to the changes that come with the new centre name and the new Sydney URL – we will be having a new link for this area shortly, and it may be necessary to update your bookmark or favourite for this page.

ONLY THE NAME’S CHANGED

BY SIMON P. RINGER, DIRECTOR, ACMM

Fifty-two years after the inception of the EMU, we are celebrating another important milestone.

I suspect that some of the long-time users and associates of the Electron Microscope Unit might not have seen much need for changing to such a well-established name: “Sure there’s a lot more than just EMs these days, but everyone knows that, don’t they?” Unfortunately they don’t, and we would regularly find ourselves having to spend time correcting the inaccurate notions that ‘Electron Microscope Unit’ conjured up in potential users, international visitors, government officials and many other people.

This isn’t a new problem. It has been a recognised issue for the unit for two decades now, ever since the first non-electron system, the Bio-Rad MRC 600 confocal microscope, arrived in 1990. The problem, however, has been trying to find a suitable replacement, resulting in the continued use of the Electron Microscope Unit through the difficulties in identifying a better name and through sheer inertia. Fortunately, the recent branding process of the University of Sydney and the ongoing strategic planning associated with the arrival of our new Vice Chancellor, Dr Michael Spence, have provided the opportunity to finally get agreement on a new name, the University-approved ‘Australian Centre for Microscopy & Microanalysis’.

I want to take this opportunity, however, to emphasise that this is a change in name only, and we will continue to be committed to our core missions of:

(1) providing research services, the latest in well-supported microscopy and microanalysis, to our large user community;

(2) offering research training in microscopy and microanalysis, from short courses and workshops for users to degree courses for postgraduate coursework students; and

(3) undertaking research programs, which are grant-funded projects on the development and application of advanced techniques in microscopy and microanalysis that advance that science in the field as well as better positioning us to solve the research problems of users.

As always, check out our website, sydney.edu.au/acmm, for more information, and I look forward to seeing you in the centre in the near future.
HISTORY EXPLAINED

BY KYLE RATINAC

Where did the EMU and Key Centre names come from, anyway?

Over the years, many a user has been puzzled by exactly how the Electron Microscope Unit and Australian Key Centre for Microscopy and Microanalysis fitted together. It has even caused consternation among new members of the EMU staff. So, while it might seem a bit late in the day, let’s make an effort to finally clear this up with a brief historical tour.

Our story starts during the 1950s at the University of Sydney where a number of academics and researchers in the biological and medical sciences saw the need for access to electron microscopy to continue their research. After on-again-off-again discussions with CSIRO about possible joint acquisitions and then years of careful planning on its own, the University eventually established the Electron Microscope Unit (EMU) in 1958. It was the first such centralised electron microscopy service laboratory in an Australian university, and it was unique in that it was independent of any school or faculty and so was available to support the research of academics and students from anywhere within the University of Sydney and from outside it as well. By late 1958, the EMU was a going concern, with a Siemens Elmiskop I, the leading microscope of its day, and some other essential gear for preparing specimens and for developing negatives and printing photos, all housed in the bowels of the Bank Building on Science Road. The EMU was led by Dr David Gordon Drummond (or ‘Doc Drummond’ as he became known), a leading British electron microscopist who cut his teeth on one of the first EMs in wartime England, supported by technician Mr Laurie Carruthers.

Now let’s fast forward to the mid 1990s. As we do so, of course, we glimpse many important milestones in the development of the EMU: the rapid growth in the number, and in the performance, of transmission electron microscopes in the unit; forays into new forms of electron microscopy, including microprobe and scanning electron microscopy; the retirement of Dr Drummond and the appearance of a new director, Dr David Cockayne, who guided the unit for a quarter of century; new staff on academic appointments; the unit’s critical contributions, nationally and internationally, to training in microscopy; and the addition of further new types of instruments, such as confocal microscopes, a scanning probe microscope and digital image-analysis. When we finally slow down, we have reached a time when the EMU was feeling the pinch of all the growth in its stable of instruments and its user community, as well as the demands of user training, of outreach to schools and of contract work for industry. As a result, David Cockayne, then a professor, banded together with others in the EMU as well as researchers from the School of Physics to apply to the ARC’s program for Key Centres of Teaching and Research. The ARC awarded funding to Sydney in 1995 to establish the Australian Key Centre for Microscopy and Microanalysis. The Key Centre was linked to the EMU, but focussed on ‘external’ activities such as teaching, outreach and research. This led in quick time to formal postgraduate courses in microscopy and microanalysis, a new school’s outreach program, Microscopes on the Move, and an expansion of ‘local’ research done in and around the unit.

Top: ‘Doc’ Drummond, as he was affectionately known, was the EMU’s first director.
Bottom: An Elmiskop I, like the one pictured here, was the first electron microscope housed at the EMU in 1958.

Top: Dr David Cockayne, the EMU’s second director from 1974 to 1999.
Bottom: The unit’s ‘Microscopes on the Move’ van, which travelled as far as Alice Springs in 2007.
After six years of success, the Key Centre came to the end of its funding from the ARC. So, rather than dissolving entirely, the Key Centre simply became the research and training arm of the EMU. And that, in extremely abbreviated form, accounts for the dual structure that so many recent users and staff have found so puzzling. Now, you can all sleep soundly at night.

For those of you who enjoy history or want to find out more, have a look at the recently published history of the first 50 years of the EMU¹.


THE ACMM NEWSLETTER TEAM

Volume 25 and still going! We hope you find this newsletter an interesting read, and we look forward to bringing you many more good-news stories in the future.

From left:
A/Prof. Allan S. Jones, Incoming Chief-Editor
A/Prof. Filip Braet, Outgoing Chief-Editor
Dave McManamon, Coordination
Uli Eichhorn, Layout
Dr Jenny Whiting, Editor
Dr Kyle Ratinac, Editor

Not in picture:
Dr Dave Mitchell, Editor