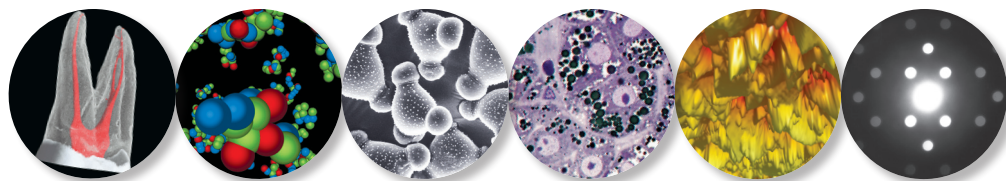


Advice to applicants for ARC and NHMRC grants for funding in 2012



Australian Microscopy & Microanalysis Research Facility (AMMRF)

For pure, applied and industrial research



The AMMRF

Established in July 2007 under the Commonwealth Government's National Collaborative Research Infrastructure Strategy (NCRIS), the AMMRF is a joint venture between Australian university-based microscopy and microanalysis centres. The AMMRF (ammrf.org.au) is a national grid of equipment, instrumentation and expertise in microscopy and microanalysis that provides nanostructural characterisation capability and services to many areas of scientific, engineering and medical research.

Operating nodes located in major capital cities with links to smaller units in specialist facilities, the facility provides access to a vast array of instrumentation. These include widely used optical (light and laser), electron, X-ray and ion beam techniques as well as state-of-the-art flagship platforms such as pulsed-laser local-electrode atom probe, high-throughput cryo-electron tomography, high-resolution SEM and spectroscopy, and high-precision ion probes (for details see www.ammrf.org.au/flagships.php).

Planning for your research needs

Each project incurs costs in terms of instrument time, preparation materials and staff input. It is necessary that a contribution towards these costs be provided by users and, so far as is possible, that these costs be planned for and included in the budget of research proposals.

Proposals to funding agencies require detailed costings in their budgets; for example, numbers of samples, estimated analysis hours and justification of why the characterisation techniques are required for the project. This guide shows how to incorporate the costs of accessing the AMMRF into ARC and NHMRC applications.

Helping your applications succeed

With the ARC's recent inclusion of 'Research Environment' as one of the selection criteria (worth 20%) in Discovery Projects, the AMMRF not only meets your needs for microscopy and microanalysis, but also forms an important part of the research environment that you need to describe in your project. To help you do that, more details about specific instruments and expertise can be found on our website, through the links to the relevant node website(s), or by contacting your local node.

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ARC example

Grant proposals to the ARC must be submitted in their online Research Management System (RMS). For ARC Discovery Project applications to be submitted in 2011, for instance, you should include a line item in the 'Project Costs' table (Part D) under 'Other' as shown below.

Step 1 → [Set Other Organisation Contributors...](#)

Step 2 → [Green Plus Icon]

Step 3 → [ARC Column Value]

Step 4 → [AdminOrg Column Value]

Step 5 → [Year 2 Header]

Step 6 → [Year 3 Header]

Description	Year 1	Year 2	Year 3		ARC	AdminOrg
					Cash	Cash
▼ Direct Cost					167,461	51,427
▼ Personnel					130,766	44,227
Research Associate (Level A, Steps 6-8; 100%FTE, incl. on-costs)				[+]	103,000	0
PhD student stipend				[+]	27,766	0
CI Prof. Example (20%FTE, incl. on-costs)				[+]	0	44,227
Teaching Relief				[+]	0	0
▼ Equipment					25,995	0
ACME Widget-600MX for synthesizing functional doodads				[+]	25,995	0
▼ Maintenance					3,500	0
Raw materials and laboratory consumables				[+]	3,500	0
Travel - International				[+]	0	0
Travel - Other				[+]	0	0
▼ Other					7,200	7,200
Advanced microscopy and microanalysis (@\$40/h)				[+]	7,200	7,200
International Collaboration Award				[+]	0	0
Discovery Outstanding Researcher Award				[+]	0	0

In this example, the project requires access to microscopy for one sample per week, at 4 hours per sample, for 45 weeks in Year 1, which yields 180 h of beam time. At \$40 per hour for access charges, this translates to a total cost of \$7,200 for AMMRF flagship instruments for Year 1 of the project (see Step 3).

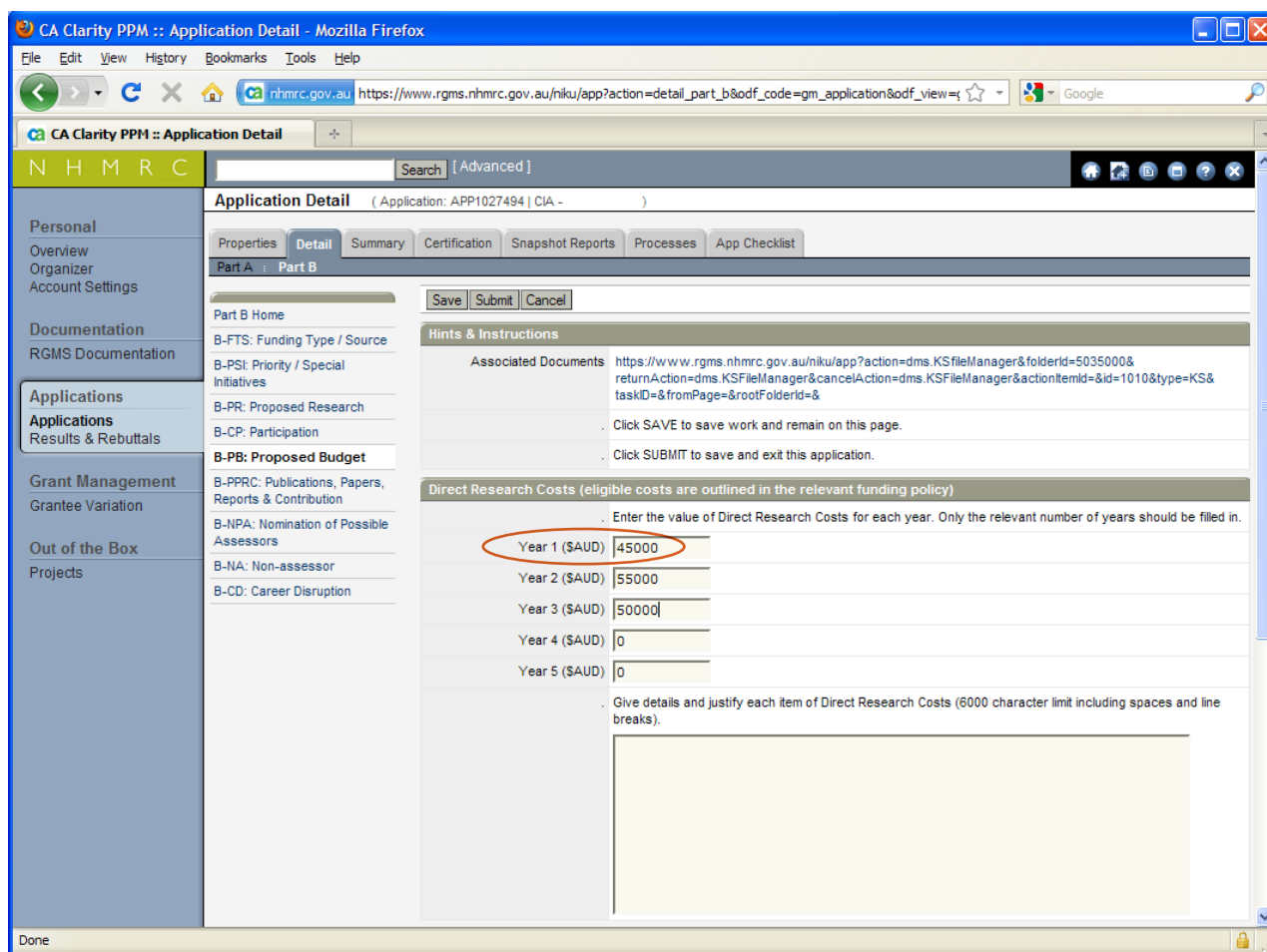
The host university maintains substantial infrastructure and the value of this is transmitted to research projects at a level at least equivalent to the instrument usage charges, so that the same total value as the request to the ARC for advanced microscopy should be added to the 'AdminOrg' column (see Step 4).

- Step 1:** Click on the 'Set the Other Organisation Contributors...' link and make sure to tick the box for the administering organisation (which you previously will have added on the home page of the application) and then press the 'Set Organisation' button. This adds the 'AdminOrg' column to the budget table.
- Step 2:** Click on the green plus adjacent to the 'Other' row in the table. In the resulting text box, type 'Advanced Microscopy and Microanalysis (@ \$40/h)', then press the 'Add Item' button.
- Step 3:** Click on the ARC column of the new 'Advanced Microscopy and Microanalysis (@ \$40/h)' row and enter the required amount; \$7,200 in our example above.
- Step 4:** Click on the AdminOrg column of the same row and enter the matching amount; \$7,200 in our example.
- Step 5:** Click on the next year, Year 2, above the budget table and then repeat steps 3 and 4, with the requested amount adjusted for the higher or lower microscopy needs of the different stages (years) of the project.
- Step 6:** Click on Year 3 and repeat the process.

NHMRC example

Grant proposals to the NHMRC must be submitted in their online Research Grants Management System (RGMS).

For NHMRC Project applications to be submitted in 2011, add your calculated access fees for each year to the corresponding direct research costs and insert the total into the appropriate year box as shown below.



The screenshot shows the 'Application Detail' page for 'CA Clarity PPM' in the NHMRC RGMS. The 'Direct Research Costs' section is visible, with a table for entering costs for each year. The 'Year 1 (\$AUD)' field is circled in red and contains the value 45000. The other years are 55000, 50000, 0, and 0.

Year	Cost (\$AUD)
Year 1 (\$AUD)	45000
Year 2 (\$AUD)	55000
Year 3 (\$AUD)	50000
Year 4 (\$AUD)	0
Year 5 (\$AUD)	0

This example was calculated as follows: Assume \$36,619 worth of other direct research costs for Year 1. The microscopy and microanalysis fee is \$7,200 for 180 h of access (as per the ARC example). Adding these costs gives a total direct research cost of \$43,819 for Year 1, which gives \$45,000 when rounded up to the nearest \$5,000 quantum. This is entered in the relevant year of PB.1 of the RGMS form (Proposed Budget under Part B), as circled above.

Proceed in a similar manner for each year of the application, with the requested amount adjusted for higher or lower microscopy needs, and other direct costs, as required by the different stages of the project.

Budget justification

The example text, with appropriate modification and/or augmentation, given on the next page can be inserted into your application to justify the ARC or NHMRC funding requested for advanced microscopy. For an **ARC Discovery Project**, the text should be included under the 'Other' section of Part E1, 'Justification of funding requested from the ARC', of the application in RMS. For an **NHMRC Project application**, include the appropriate text in the text box used for justifying each item of Direct Research Costs under the 'Proposed Budget' section of Part B.

Remember: the more specific and detailed your budget justification, and the more clearly and directly it is linked to the project, the better your chances of having the ARC or NHMRC award a larger proportion of your total budget request. This applies to instrument-access charges as much as to any other essential costs.

If you need to use flagship instruments

“This research project requires the examination of N samples per *week/month/year [as appropriate]* with the advanced *microscopy and/or microanalysis [as appropriate] technique/s of [specify; e.g. atom probe tomography]*. The estimated time required for characterisation of each sample is X hours, at a cost of \$40 per hour of instrument time.” You should add further specific explanation of why the chosen microscopy technique/s is/are necessary for the research, for example: “Atom probe tomography is a unique characterisation tool that is able to reveal elemental and structural detail at the atomic scale and is essential for exploring the structure–function relationships in these alloys with nanometre-sized grains” with a reference to further detail elsewhere in the application.

If you need to use non-flagship instruments

“This research project requires the examination of N samples per *week/month/year [as appropriate]* with the advanced *microscopy and/or microanalysis [as appropriate] technique/s of [specify; e.g. confocal and fluorescence microscopy]*. The estimated time required for characterisation of each sample is X hours, at a cost of \$ Y^* per hour of instrument time.” You should add further specific explanation of why the microscopy is necessary and how it adds value to your research, for example: “Confocal and FLIM microscopies are essential to this project to elucidate the mechanisms of cellular apoptosis” with a reference to further detail elsewhere in the application.

**Beamtime on non-flagship instruments is charged at a rate in the range \$30–\$90 per hour. Please contact your preferred AMMRF node to discuss your requirements.*

For all applications, you should attempt to estimate the time required per specimen; separate estimates of time per technique are valuable to include where using more than one instrument. Where you are unsure, please contact an AMMRF node to discuss your requirements. The following list shows a conservative estimate of time required per sample.

- Transmission electron microscopy: 3–20 hours
- Scanning electron microscopy: 0.5–4 hours
- X-ray diffraction: 1–24 hours
- Confocal or atomic force microscopy : 3–20 hours
- X-ray microtomography: 1–15 hours
- Atom probe tomography: 6–12 hours

For **ARC Discovery Projects**, don't forget to explain the ‘matching’ contribution from the Administering Organisation towards the microscopy and microanalysis access charges. This needs to be included under Part E2, ‘Details of non-ARC contributions’, of the application. There you can explain how “The University provides on-going support to the *appropriate node [specify; e.g. the Australian Centre for Microscopy & Microanalysis]* to maintain and operate instruments and provide expert support from technical staff. This cost represents a specific contribution to this project, at a level that is at least equivalent to the instrument usage charge (\$40 per hour).”

Accounting practice at your local AMMRF node

The AMMRF partners are developing increasingly uniform methods of accounting practice. Various schemes, including subscriptions, memberships and pay-as-you-go accounting systems are applied within the AMMRF. If the example-proposal overleaf was successful, this researcher may spend the \$7,200 @ \$40 per hour on a pay-as-you-go basis or, alternatively, purchase an up-front subscription or membership to the relevant AMMRF unit or centre. For non-flagship instruments hourly instrument fees will be different. Please contact the relevant node.

However, please note that schemes such as subscriptions or memberships are internal university systems and are not included on the budget of research proposals.

Before final submission, contact the relevant node to confirm budget details and project description.