

Please direct any enquiries to [arcgrants@adelaide.edu.au](mailto:arcgrants@adelaide.edu.au)

## 1. INTRODUCTION

The **ARC Linkage Infrastructure, Equipment & Facilities (LIEF)** encourages institutions (universities) to develop collaborative arrangements across the higher education sector and with organizations outside the sector in order to develop research infrastructure.

LIEF supports the purchase, upgrading, construction, transportation and installation of and/or access to major research infrastructure, facilities and equipment, including:

- a. Infrastructure, equipment and facility purchase, construction and installation;
- b. Major computing/data facilities, animal houses, herbaria, experimental farms;
- c. Salaries if these are directly associated with creating and installing the infrastructure, equipment or facility;
- d. Consortium membership costs, travel to the facility, costs associated with establishment or upgrading of the facility, reasonable operational costs, and secretariat costs in the case of Australia's participation in the use of major international research facilities; and
- e. The development of library and research information infrastructure that enhances high-quality research projects.

For further information refer to the ARC's [Funding Rules](http://www.arc.gov.au/ncgp/lief/lief_fundingrules.htm) ([http://www.arc.gov.au/ncgp/lief/lief\\_fundingrules.htm](http://www.arc.gov.au/ncgp/lief/lief_fundingrules.htm))

## 2. FUNDING DETAILS

The minimum grant under LIEF is \$100k. Funding is normally for one year only and is not recurrent, except where international agreements and national facilities are involved. The LIEF Scheme will fund up to a maximum of 75% of the direct cost of purchasing the infrastructure, equipment or facilities. At least 25% of the direct cash cost of the infrastructure must be contributed by the collaborating organisations. The ARC will not consider any direct project costs that can be covered from other sources of funding.

## 3. KEY ITEMS

### Collaboration

Projects that demonstrate genuine collaboration between two or more eligible institutions (i.e. universities) are strongly preferred. They must relate to high-quality research activity and must be broadly in line with the research directions of the institution(s) involved. Applications involving other organisations, such as government research organisations and businesses, are also encouraged but at least one higher education institution must be involved and the funds allocated must be used to build up infrastructure within the higher education sector. If only one higher education institution is involved, the application must be justified as a single-institution application, with particular reference as to why collaboration is not possible/feasible.

### Chief Investigators

A Chief Investigator (CI) should be an established researcher who will be primarily involved in the use of the equipment or facility. The first-named Chief Investigator will be the 'Project Leader' with responsibility for establishing and managing the facility. Normally, there will be at least one Chief Investigator from each collaborating institution. **However, individual researchers may not be named as Chief Investigators on more than two (2) LIEF applications in one funding round.** Contravention of this limit will result in the exclusion of all applications involving that researcher.

Further, the ARC have revised their rules to exclude occasional or intermittent users from being CIs or PIs.

It is therefore strongly advised that only one Chief Investigator per School per Institution is named on the proposal.

#### 4. ARC FUNDING RULES AND INSTRUCTIONS TO APPLICANTS

**INTENDING LIEF APPLICANTS SHOULD COMPREHENSIVELY READ THE ARC'S FUNDING RULES AND INSTRUCTIONS TO APPLICANTS BEFORE PREPARING THEIR APPLICATION FORM.**

Please familiarise yourself with:

- The ARC's [Funding Rules](http://www.arc.gov.au/ncgp/lief/lief_fundingrules.htm) ([http://www.arc.gov.au/ncgp/lief/lief\\_fundingrules.htm](http://www.arc.gov.au/ncgp/lief/lief_fundingrules.htm)),
- [Instructions to Applicants](http://www.arc.gov.au/ncgp/lief/lief_instructions.htm) ([http://www.arc.gov.au/ncgp/lief/lief\\_instructions.htm](http://www.arc.gov.au/ncgp/lief/lief_instructions.htm)) (a step-by step guide on how to complete the proposal form), and
- the *example* pdf format application form ([http://www.arc.gov.au/pdf/LIEF10\\_sampleapplicationform.pdf](http://www.arc.gov.au/pdf/LIEF10_sampleapplicationform.pdf)).

#### New Application System

LIEF 2010 proposals will be prepared on the ARC's new application system – RMS. As it is a new and unfamiliar system to all of us, applicants are strongly advised to start early. Entrance to the online application system will be accessible through the Research Branch website at: <http://www.adelaide.edu.au/rb/arc/LinkInfra.html>.

The ARC webpage for ARC LIEF can be found at: [http://www.arc.gov.au/ncgp/lief/lief\\_default.htm](http://www.arc.gov.au/ncgp/lief/lief_default.htm).

#### 5. APPLICATION PROCESS

##### LIEF 2010 Process Timetable

PROCESS ITEM	PROVISIONAL TIMEFRAME
<b>STAGE 1</b>	
<p style="text-align: center;"><b>Expressions of Interest</b></p> <p>A summary of the proposal together with details of the collaborating institutions and an indication of the expected cash contributions of all partners, including contributions applicants have negotiated with their School and Faculty, and any requested from the DVCR</p> <p><b>Required for ALL proposed applications in which the University will be involved regardless of whether another institution will be the Administering Organisation</b></p>	<p>Due in Research Branch by no later than</p> <p><b>Friday 3 April 2009</b></p>
<p><b>3 SA University Research Offices meet to identify duplications, omissions or non-complying bids.</b></p>	<p><b>Week of 14 - 17 April 2009</b></p>
<p style="text-align: center;"><b>Internal University Approvals Process</b></p>	<p><b>By 24 April 2009</b></p>
<p style="text-align: center;"><b>Meeting of three SA DVCRs to confirm final financial contributions</b></p>	<p><b>Between 27 April – 1 May 2009</b></p>
<p style="text-align: center;"><b>Advice of agreed University contributions provided to applicants and external organisations</b></p>	<p><b>Week of May 4 2009</b></p>
<b>STAGE 2</b>	
<p><b>Complete applications University Internal Deadline</b></p> <p style="text-align: center;"><i>with:</i></p> <ul style="list-style-type: none"> <li>• completed UA Internal Signature page,</li> <li>• ARC certification pro-formas; and</li> <li>• other organisations' signed certifications confirming cash and in-kind contributions</li> </ul>	<p>Due in the Research Branch by no later than:</p> <p><b>Friday 15<sup>th</sup> May 2009</b></p>

## 5. APPLICATION PROCESS – TWO STAGE (cont.)

### Stage 1 – Expression of Interest – due Friday 3<sup>rd</sup> April 2009

- University of Adelaide researchers who are named as Chief Investigators on any LIEF 2010 application (regardless of the administering institution) are required to provide a fully-signed one-page **Expression of Interest** (Eol – attached below) and indication of cash and in-kind contributions of all participants to Research Branch by no later than **Friday 3 April 2009**.
- Schools and/or Faculties may have their own internal processes for LIEF proposals. In any event, CI's will need to negotiate with their Head of School and Faculty for their anticipated cash and in-kind contributions and achieve, and obtain sign-off on the Eol form.
- On your Eol please indicate if you are requesting a contribution from the Office of the DVCR. The DVCR may consider providing funding to complement that provided by the relevant Faculty and School, although the capacity of the DVCR funds may be limited.
- On your Eol please also specify what contribution has been pledged by the other institutions/organisations involved.
- Eols involving other SA universities will be placed before a meeting of the three SA DVCRs to confirm final financial contributions.

### Stage 2 – Full Proposal, Internal Signature Page & Certifications – due Friday 15<sup>th</sup> MAY 2009

#### Full Proposal

- Please lodge one complete **hard-copy** of your proposal together with the fully-signed Internal Signature Page to the Research Branch level 7, 115 Grenfell Street by **Friday 15<sup>th</sup> MAY 2009**
- For LIEF proposals to be administered by the University of Adelaide:
  - YOU must obtain and upload into RMS the separate original signed Collaborating Organisation certification page for each other institution/organisation involved before submitting the final application to Research Branch (available from: [http://www.arc.gov.au/rtf/LIEF10\\_CO\\_certification\\_proforma.pdf.rtf](http://www.arc.gov.au/rtf/LIEF10_CO_certification_proforma.pdf.rtf) ; and
  - The set of fully-signed ARC Certification Proformas (signed by all CIs/PIs and their employers) must be provided with the proposal (available from: [http://www.arc.gov.au/rtf/LIEF10\\_CI\\_certification\\_proforma.rtf](http://www.arc.gov.au/rtf/LIEF10_CI_certification_proforma.rtf)).

#### Internal Signature Page

University of Adelaide researchers who are named as Chief Investigators on any LIEF 2010 proposal (regardless of the administering institution) are required to provide a fully-signed **Internal Signature page** (available from: <http://www.adelaide.edu.au/rb/arc/LinkInfra.html> & also attached below) confirming cash and in-kind contributions from all University of Adelaide sources with the full proposal by **Friday 15<sup>th</sup> MAY 2009**.

*Please note:* Research Branch will arrange for application certification by the University of Adelaide, provided the fully-signed Internal Signature Page and ARC certification proforma is supplied with the full proposal.

## 6. LIEF SELECTION CRITERIA

All LIEF Proposals which meet the eligibility criteria will be assessed and merit ranked using the following criteria:

- a. Investigator(s) track record & capacity: **(20%)**
- b. Significance, relevance and contribution of research to be supported with the proposed infrastructure, equipment and facilities: **(20%)**
- c. Need, availability, national benefit & value for excellent Australian researchers to access the proposed infrastructure, equipment or facility: **(30%)**
- d. Strength, benefits, commitment, efficacy, & history of collaboration between Eligible Organisations and/or other organisations: **(30%)**

Please refer to the [ARC Funding Rules](http://www.arc.gov.au/ncgp/lief/lief_fundingrules.htm) ([http://www.arc.gov.au/ncgp/lief/lief\\_fundingrules.htm](http://www.arc.gov.au/ncgp/lief/lief_fundingrules.htm)) for further detail on these criteria.

## 7. EXAMPLES OF LIEF PROJECTS FROM PREVIOUS FUNDING ROUNDS BY AREA

### ENGINEERING, COMPUTER AND MATHEMATICAL SCIENCES

#### Scanning 3D laser vibrometer for non-contact in-plane and out-of-plane vibration measurement (LE0560673)

**Investigators:** Dr BS Cazzolato; Prof CH Hansen; Dr AC Zander; Dr H Hsu; Prof GC Lin; Dr F He; Dr KM Sammut **Awarded:** \$377,178

**Partner & Collaborating Organisation(s):** The University of Adelaide, University of South Australia, The Flinders University of South Australia

**Summary:** The requested 3D scanning laser vibrometer is intended for the characterisation of 3D vibration of small and large, simple and complex structures, for the purpose of understanding the vibratory behaviour as a precursor to optimising noise and vibration control strategies. It has application to small items for which the use of contact sensors is impossible or impractical, as well as large structures for which the vibration fields can be complex and a 3D scanning capability is essential. Examples include micro-positioning actuators, piezo-electric motors, live cell response, disk brakes, aircraft and vehicles. Outcomes include the enhancement of existing research projects, allowing a greater understanding of the noise and vibration phenomena.

### HEALTH SCIENCES

#### A microarray platform for gene expression analysis and genotyping in biological systems (LE0775778)

**Investigators:** Prof WD Tilley; Prof JA Owens; A/Prof ML Whitelaw; Dr SA Koblar; Dr MR Beard; Dr GJ Goodall; Prof RA McKinnon; Prof D Watson  
**Awarded:** \$196,000

**Partner & Collaborating Organisations:** The University of Adelaide, University of South Australia, The Flinders University of South Australia, Institute of Medical and Veterinary Science

**Summary:** This technology has substantial benefits for basic science and biotechnology. The ability to rapidly study changes in gene expression in living organisms will benefit agriculture, animal and biomedical science and biotechnology. The Affymetrix platform creates opportunities for new avenues of research, such as studying epigenetic (DNA and protein modifications) mechanisms in development, ageing and disease. The project falls within the designated national research priority areas of 'promoting and maintaining good health' and the priority goals of "a healthy start to life", "aging well", "aging productively" and "preventative health care."

### HUMANITIES & SOCIAL SCIENCES

#### Dictionary of Australian Artists Online, DAAO: public release version (LE0775489)

**Investigators:** Prof VJ Johnson; A/Prof J Mendelssohn; Mr AM Wells; Prof NC Brown; A/Prof J Bennett; Dr DS Losche; Mr H Amos; Dr CM De Lorenzo; Prof R Benjamin; Dr CD Moore; Dr AJ Callaway; Dr A Marsh; Dr D Palmer; Dr CM Speck; Mr R Choate; Mr R Butler; Dr A Gray; Ms J Volker; Ms M Burn; Mr AD Bond; Ms AD Ryan; Ms S Schmocker; Ms EH Ellis; Mr RA Neville; Ms JM Ewington **Awarded:** \$300,000

**Partner & Collaborating Organisations:** The University of Sydney, Monash University, The University of Adelaide, National Gallery of Australia, National Library of Australia, Art Gallery of NSW, State Library of NSW, Queensland Art Gallery

**Summary:** The DAAO is already positioned as the sole system for the creation and discovery of research into art history in Australia. The DAAO will provide global exposure of Australian research and artists with tangible benefits both economically for cultural industries (including the art industry and tourism) and socially. It will also increase the breadth and depth of general knowledge of Australian art, contributing to the development of national identity through the diversity and richness of Australia's visual cultures.

### PROFESSIONS

#### AustLII's expanding legal research facilities: the innovation engine for development of Commonwealth, common law and Asian legal information infrastructure (LE0668368)

**Investigators:** Prof AS Mowbray; Prof GW Greenleaf **Awarded:** \$650,000

**Partner & Collaborating Organisation(s):** University of Technology, Sydney, University of New South Wales, Mallesons and other Law Firms, Counsel's Chambers Ltd and other Bar, Defence Legal, Department of Foreign Affairs and Trade, Administrative Appeals Tribunal, Migration Review Tribunal, Refugee Review Tribunal, Federal Magistrates Court, Supreme Court of Tasmania, National Native Title Tribunal, Griffith Hack and other Patent Attorneys, Takeovers Panel and other Boards and Tribunals, South Australian Industrial Relations Court, CCH Australia Ltd, Attorney-General's Department (Commonwealth), Australian Law Reform Commission, Consumer, Trader and Tenancy Tribunal of NSW, Sun Microsystems

**Summary:** The Australasian Legal Information Institute (AustLII) is increasing the sophistication and scope of its Australian Internet legal research infrastructure: more interconnections built on more data, for better research. It is leading development of new free access Commonwealth and Asian legal research facilities, and integrating them into the global WorldLII (World Legal Information Institute) platform, in cooperation with international partners. All Australian legal researchers, the Australian community, and national interests, are benefiting. Stage 1 starts the innovations and new databases on AustLII, develops the core of the new international facilities, increases system security and reliability, and satisfies increasing access demands.

### SCIENCES

#### Robotics for plant genomics: Increasing throughput in plant genetic analyses (LE0775503)

**Investigators:** Prof MA Tester; Prof P Langridge; Prof A Bacic

**Awarded:** \$255,000

**Partner & Collaborating Organisations:** The University of Adelaide, The University of Melbourne, Australian Centre for Plant Functional Genomics

**Summary:** Plant genomics has direct benefit to crop improvement, especially as focussed in the applicants' laboratories. Thus, the Australian agri-food sector will benefit substantially from the acceleration in plant functional genomics that will arise from the installation of the robotics equipment described in the current application, by both underpinning more applied research and also being used directly in crop improvement programs such as are based at the Waite Campus. The outputs will include crops with increased tolerance to biotic and abiotic stresses, a reduced dependence on chemical inputs such as fertilisers and improved food quality, with consequent benefits to the environment and human health and nutrition.

Further details of funded projects can be found at: [http://www.arc.gov.au/ncgp/lief/lief\\_outcomes.htm](http://www.arc.gov.au/ncgp/lief/lief_outcomes.htm)

## 8. MULTI-YEAR LIEF PROJECTS

LIEF Funding is generally available for 1 year only, except in the case of subscriptions or other payments in respect of major international research facilities where up to 5 years of funding may be provided. Funding for subscriptions or other payments in respect of major international research facilities would normally occur under an international agreement that is approved by the ARC. The ARC will approve such agreements only if there are significant benefits to Australia by way of access to a facility not otherwise available to Australian researchers.

### MULTI-YEAR LIEF PROJECT

#### LE0882725 Approved Access for Australian Researchers to Advanced Neutron Beam Techniques

**Investigators:** Dr D Mather; Prof JW White; Dr BJ Kennedy; A/Prof IR Gentile; Em/Prof SJ Campbell; A/Prof EM Gray; Prof EH Kisi; A/Prof I Low; Prof VM Linton; Dr DP Riley; Dr CJ Howard; Dr TJ Hicks

**Awarded:** 2008 : \$200,000; 2009 : \$200,000; 2010 : \$200,000; 2011 : \$200,000; 2012 : \$200,000

**Partner & Collaborating Organisations:** Australian Institute of Nuclear Science and Engineering (AINSE), The Australian National University, The University of Sydney, The University of Queensland, The University of New South Wales, Griffith University, The University of Newcastle, Curtin University of Technology, The University of Melbourne, The University of Adelaide, Monash University, ANSTO

**Summary:** The major national benefit will be access, by peer review, to the 35 specialised instruments at the world's leading pulsed Neutron and Muon source, ISIS. This complements the access to the eight neutron instruments that will operate at the Australian Reactor OPAL. This will support (or enable) high quality research into areas as diverse as materials development, mineral processing and aspects of biological and medical science. It will facilitate international collaborations that are important for both research and post-graduate student training.

Further details of funded projects can be found at: [http://www.arc.gov.au/ncgp/lief/lief\\_outcomes.htm](http://www.arc.gov.au/ncgp/lief/lief_outcomes.htm)

## 9. RESEARCH BRANCH CONTACTS

**General queries:** [arcgrants@adelaide.edu.au](mailto:arcgrants@adelaide.edu.au)

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**Expression of Interest**

**In submitting a proposal for ARC LIEF funding in 2010 involving the University of Adelaide**

Please return the fully-signed Expression of Interest to [arcgrants@adelaide.edu.au](mailto:arcgrants@adelaide.edu.au) by no later than **Friday 3<sup>rd</sup> April 2009**.

**Please note that University researchers can not be named on more than two (2) LIEF proposals**

<b>Title of Proposal</b>			
<b>Lead/Administering Institution</b>		<b>ARC \$ Request (min. \$100k)</b>	<b>\$</b>
<b>University of Adelaide Primary Contact</b>	Name:	Signature:	
	School:		
<b>Requested Cash &amp; In-kind contributions from UA Schools / Faculties / DVCR</b>	<b>Source</b>	<b>Cash \$</b>	<b>In-Kind \$</b>
	<b>DVCR</b>		
<b>Collaborating/Partner Organisations</b> + Lead Investigators from each other collaborating organisation + Expected cash & In-kind contribution(s) from each collaborating organisation/partner	<b>Organisation &amp; Lead Investigator</b>	<i>Cash \$</i>	<b>In-Kind \$</b>
	Org: CI/PI:		
	Org: CI/PI:		
	Org: CI/PI:		
	Org: CI/PI:		
	Org: CI/PI:		
	Org: CI/PI:		
<b>Items of Infrastructure or Equipment Items to be Purchased in Priority Order A to B to C</b>	<b>Item</b>		<b>Priority Order A→B→C</b>
	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
<b>Endorsed at this stage by: Head/s of School and Executive Dean/s of Faculty</b> <i>(please sign and date – use extra copies of this form if needed)</i>	Head of School:	Date:	
	Executive Dean of Faculty:	Date:	

**This form must be fully-signed and submitted with the complete proposal to Research Branch by Friday 15th May 2009**

<b>ARC Project ID</b>	LE10 _____	<b>Project Title</b>	
<b>Lead/Administering Institution</b>			
<b>University of Adelaide Lead Chief Investigator</b>	Name:	Phone:	
	School:	e-mail:	

**Certification by all UA Chief Investigators (CIs can not be named on more than two LIEF 2010 applications)**

I certify, to the best of my knowledge, that:

- all the details on this application form are true and complete;
- I have complied with the ARC LIEF Funding Rules and if I am successful I will accept the Funding Agreement relating to ARC LIEF 2010;
- I am not named as Chief Investigator on more than two LIEF applications for 2010 funding;
- I understand and agree that all statutory requirements must be met before the proposed research can commence; and
- in submitting this application, I consent to its referral to assessors for consideration.

**Certification by Heads of School**

- I agree to the contribution(s) in cash and in-kind by this School as indicated below;
- If applicable, I agree that the equipment/facility can be accommodated within the general facilities in my School and that sufficient working and office space is available for any proposed additional staff; and
- If applicable, I am prepared to have the equipment/facility located in my School under the circumstances set out in the application.

**Signatures of Chief Investigator(s) and Head(s) of School**

Person	Name of Chief Investigator	Signature of Chief Investigator	Name and Signature of Head of School	Confirmation by Head of School/s -Contribution of Cash & In-kind funding	
				Cash	\$
1				In-kind	\$
				Cash	\$
2				In-kind	\$
				Cash	\$
3				In-kind	\$
				Cash	\$
4				In-kind	\$
				Cash	\$

**Certification by Executive Dean or Delegate**

Name of Executive Dean or Delegate	Signature & Date	The cash contribution indicated below will be provided by the Faculty towards this Project	
		Cash	\$

**Certification by Deputy Vice-Chancellor & Vice President (Research) or Delegate (Research Branch will arrange this signature)**

Name of DVC&VPR or Delegate	Signature & Date	I agree to the contribution of cash as listed below, from the DVC&VPR Budget for 2010	
		Cash	\$
<b>TOTAL CASH &amp; IN-KIND FUNDING</b>		CASH	\$
		IN-KIND	\$

\* Make further copies if necessary (and keep a copy for your records)