



THE UNIVERSITY OF
WESTERN AUSTRALIA
Achieving International Excellence

The University Library

M209

35 Stirling Highway

Crawley

Western Australia 6009

T +61 8 6488 2358

F +61 8 6488 1128

M

E tburrows@library.uwa.edu.au

www.library.uwa.edu.au

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Your ref:

MEMORANDUM

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Ralph Kiel

CHAIR, ONLINE SERVICES TEAM

RESEARCH COMMUNITIES at UWA: OPPORTUNITIES for the LIBRARY

Research communities can be defined as identified groups of researchers working in collaboration in a clearly defined area of research. The collaboration may be tightly organized (as in a science laboratory environment) or relatively loose (as in the ARC Network for Early European Research), and usually takes the form of a named Centre, Research Network, or Research Institute.

Research communities are different from learning communities, which are usually formed around particular courses or degrees. Postgraduates may be included in research communities, but a group of postgraduates working in the same field does not necessarily amount to a research community; they are more likely to be a learning community. Disciplinary groups, schools, and departments are not usually research communities *per se*. Individual researchers working individually in the same field do not automatically add up to a research community.

The Library's main services for researchers are currently directed at all researchers generally, regardless of whether they are working individually or as part of a specific research community:

- Journal subscriptions: the key resource for most researchers, since journals are where most research results are reported;
- Monographs collection: particularly important to humanities and social sciences researchers, since monographs contain the results of major research projects;
- Archival source collections: particularly important to humanities and social sciences researchers; increasingly in electronic form; usually commercial publications;
- *Get It!:* for items which are not held at UWA but necessary for a research project;
- Resource discovery services: a range of general and specific services, mostly directed at identifying published materials (though some are more data-oriented);

- Information skills training: useful for postgraduates and other new researchers, but probably of limited interest in its current form to more experienced researchers.

These current services are, for the most part, focused around published research outputs. Getting involved with on-line research communities will require the Library to be involved at much earlier stages of the research life-cycle.

Areas of opportunity

1. Targeting areas of strategic research outcomes and priorities

In 2008, the University identified three areas as “strategic research outcome areas” with a further eight areas as “emerging and seed priorities” (see Appendix 1). Most of these areas contain research communities which the Library could target with its initial efforts in this area.

Many of these areas are interdisciplinary or multidisciplinary, and work across organizational boundaries within UWA. A key issue for all of them is: how can they share their knowledge? Some possible initiatives for the Library are:

- Getting involved in efforts to use collaborative software to build knowledge-sharing spaces. [Note that general collaborative spaces like MyResearchSpace seem to be withering away – there are only two people occasionally posting, and almost no comment or discussion.]
- Advising on the use of taxonomies and vocabularies (and tagging generally) to provide structured access to shared knowledge sites.
- Establishing environments in which researchers can share literature recommendations and bibliographies (as well as Web site bookmarks).
- Getting involved in efforts to develop customized resource discovery services (e.g. cross-searching of free Web data sources, local data sources, and commercial bibliographic databases).
- Developing a registry of relevant data sets.
- Collaborating on the development of targeted information feeds (e.g. RSS aggregation).
- Advising on the relative merits of using free Web services for these purposes, compared with in-house developments (e.g. CiteULike versus local systems for sharing references).

2. *Contributing to the development of environments for the analysis and promotion of UWA research*

Research metrics services rely heavily on citation data. There are already other UWA players in this area, and the Library needs to work with them. Socrates, for example, is ingesting a growing amount of bibliographic data – but how sustainable is it in the longer term? Some libraries, e.g. the University of Queensland, have taken the lead in establishing and managing Researcher Profile services across their university. Cornell University's VIVO is often cited as a model.

The Library could work with specific UWA research communities to review and improve their presence and their data, as a first step.

3. *Research data management, both within UWA and across national disciplinary frameworks*

There are already some national data management services with nodes at UWA, e.g. BlueNet (marine science) and ASSDA (Australian Social Science Data Archive). These services are grappling with a range of issues relating to digital preservation, archiving, access and confidentiality, reuse of data, metadata, and so on. Many of these issues fall within the Library's general area of interest and expertise.

Research data management will become an increasingly high priority for the University in the medium term. Even if the Library does not see a role for itself in building and maintaining systems for storing and managing research data, it needs to be involved in providing advice and expertise relevant to the design of such systems. Finding out how some of the strategic priority areas manage their research data would be a good place to start.

4. *Research output management*

The digital object repository (DigiTool) will offer a range of opportunities for new services and new connections. How can the research communities use it to promote their work? How can they use it to manage their output? How can it fit into more general environments like research discovery services, research metrics, research data management, sharing bibliographic citations? Again, the needs of the strategic priority areas could be investigated first.

5. *Understanding e-research and promoting e-research tools, initiatives, environments*

In general, Library staff need to be aware of what is happening in the area of e-research and e-science (and there is a great deal already happening). E-research and on-line research communities are closely related.

Who are the e-research experts at UWA? What is happening nationally, especially in the government policy arena? What sorts of tools are being developed and used? What does (or could) e-research mean for different disciplines? We need to be able to discuss these issues with researchers who are looking for advice.

Getting involved: some suggestions

Getting involved with research communities is not something which can be done quickly. It needs to be worked at persistently on a continuing basis.

Build credibility with researchers – find out about their research methods, read some of their publications – learn from them. Be alert to different approaches between disciplines (even within the same research community).

Look at their data sets, their digital projects and services – see how they're designed, what needs they are trying to meet. Are there alternative ways of addressing these needs? Could they benefit from different approaches to metadata?

Use Library-initiated instructional and promotional sessions as an opportunity to find out informally from researchers what they are doing – what new e-research methods they are using, where and why they are having difficulty managing information.

Be clear about what we can (and can't) offer – what are our areas of expertise and knowledge? How much time and resourcing can we contribute?

Don't take the approach: "we'll tell you how to do it properly". Realize that we're learning as we go along – and so are the researchers.

Toby Burrows
Principal Librarian, Scholars' Centre

Further Reading

Reinventing Science Librarianship: Models for the Future, October 2008

Association of Research Libraries / Coalition for Networked Information seminar on the impact of e-science:

<http://www.arl.org/resources/pubs/fallforumproceedings/forum08proceedings.shtml>

The presentation by Rick Luce is particularly challenging ("librarians as middle-ware...").

Research data management seminar featuring Robin Rice

A recent Sydney event with several relevant Australian presentations:

http://escholarship.library.usyd.edu.au/dpa/robin_rice.shtml

Appendix 1: Strategic Research Areas at UWA

Strategic Research Outcome Areas

Approximately sixty percent of the research output of the University connects to these three strategic research outcome areas.

- The Management of Natural and Agricultural Ecosystems
- The Exploration, Production and Exploitation of Minerals, Oil and Gas
- Molecular, Genetic and Population Approaches to Health

1. Management of Natural and Agricultural Ecosystems

Sub Fields: agriculture; animal production; biology and biochemistry; business; civil, electrical and environmental systems engineering; chemistry; climate change studies; conservation biology; ecology and evolution; humanities and social sciences – particularly history, politics, policy, governance and anthropology; geography; hydrology, hydrogeology and water management; microbiology; microscopy, characterisation and microanalysis; natural resource economics; natural resources law; physics; mathematics, computing and statistics; psychology; organisational behaviour; oceanography; sensor technologies; soil science; restoration ecology; taxonomy and systematics; urban, landscape and regional studies and planning.

Centres at UWA with relevant expertise:

- Centre for Natural Resource Management <http://www.cenrm.uwa.edu.au/>
- Centre for Legumes in Mediterranean Agriculture <http://www.clima.uwa.edu.au/>
- Future Farm Industries Cooperative Research Centre <http://www.futurefarmcrc.com.au/>
- Centre for Marine Futures <http://sponsored.uwa.edu.au/mf/index>
- Centre for Environmental Economics and Policy <http://www.ceep.uwa.edu.au/>
- Centre for Land Rehabilitation <http://www.clr.uwa.edu.au/>
- International Centre for Plant Breeding Education and Research (new)
- Centre for Evolutionary Biology <http://www.ceb.uwa.edu.au/>
- Centre for Microscopy, Characterisation and Analysis <http://www.cmca.uwa.edu.au/research>
- ARC Centre of Excellence for Plant Energy Biology (<http://www.plantenergy.uwa.edu.au/>)
- Centre of Excellence in Computational Systems Biology (<http://www.plantenergy.uwa.edu.au/ce4csb/>)
- Centre of Excellence for Plant Metabolomics (<http://www.plantenergy.uwa.edu.au/metabolomics/>)
- Centre for Strategic Nanofabrication (<http://www.strategicnano.uwa.edu.au/>)
- Centre for Integrated Human Studies <http://ihs.uwa.edu.au/>
- Centre for Organisational Research
- Centre for Mining, Energy and Resources Law <http://www.cmenrl.law.uwa.edu.au/welcome>
- Centre for Ecohydrology <http://www.ecohydrology.uwa.edu.au/>
- Centre for Medical Research <http://www.waimr.uwa.edu.au/>

2. The Exploration, Production and Exploitation of Minerals, Oil and Gas

Sub Fields: atmospheric sciences; business; chemical, civil, electrical, mechanical and environmental systems engineering; chemistry; climate change studies; geology and geophysics; geochemistry; humanities and social sciences – particularly history, politics, policy, and governance; geography; hydrology, hydrogeology and water management; labour studies; microbiology; microscopy, characterisation and microanalysis; natural resource economics; natural resources law; physics; mathematics, computing and statistics; organisational behaviour; oceanography; sensor technologies; soil science; regional studies and planning.

Centres at UWA with relevant expertise:

- School of Earth and Geographical Sciences Centre for Exploration Targeting
- WA Geothermal Energy Centre (new)
- Centre for Land Rehabilitation <http://www.clr.uwa.edu.au/>
- Centre for Microscopy, Characterisation and Analysis <http://www.cmca.uwa.edu.au/research>
- Centre for Strategic Nanofabrication (<http://www.strategicnano.uwa.edu.au/>)
- Centre for Organisational Research (<http://www.business.uwa.edu.au/research/centres>)
- Centre for Mining, Energy and Resources Law <http://www.cmenrl.law.uwa.edu.au/welcome>
- Western Australian Supercomputer Program <http://www.wasp.uwa.edu.au/home/research>
- Australian Centre for Geomechanics <http://www.acg.uwa.edu.au/research>
- Centre for Offshore Foundation Systems <http://www.cofs.uwa.edu.au/>

3. Molecular, Genetic and Population Approaches to Health

Sub Fields: biochemistry; bioimaging; biophysics; bioinformatics; chemistry; microbiology; physics; mathematics, computing and statistics; microscopy and microanalysis; organisational behaviour; dental epidemiology and dental services for children, disadvantaged groups and rural and remote communities; oral medicine; developmental immunology, vaccine immunology, asthma genetics, respiratory disease, paediatric infectious diseases and genetic epidemiology, adolescent health, paediatric rheumatology, gastrointestinal disease and eating disorders; oncology; built environment and health; aged care; healthy ageing; geriatrics; ecology and health; genetic epidemiology; marine safety; nursing research; occupational respiratory epidemiology; emergency medicine; general practice; rural and remote medicine and oral health; aboriginal medical and dental health; neuropsychiatry; mental health; Alzheimer's research; behavioural science; education in alcohol and drugs; clinical trials, molecular and cell biology, breast and prostate cancer, vascular surgery, surgical techniques, wound healing, surgical epidemiology, orthopaedics, otolaryngology and tissue engineering; obstetrics, gynaecology and newborn medicine; reproduction; women's health; HIV immunology, immunogenetics, antimicrobial resistance, emerging infectious diseases, nosocomial infections, advanced diagnostic systems, disease surveillance, genetics of cardiovascular disease and hyperlipidaemias; [anaesthesia and pain medicine](#); [bone and dermatology](#); [oncology](#); [cardiovascular and cerebrovascular](#); [gastrointestinal and liver](#); [geriatrics](#); [nephrology](#); [pharmacology and toxicology](#); [medical imaging](#).

Centres at UWA with relevant expertise:

- Centre for Neuromuscular and Neurological Disorders
- Centre for Ophthalmology and Visual Science <http://www.lei.org.au/>
- Centre for Child Health Research <http://www.ichr.uwa.edu.au/>
- Oral Health Centre of Western Australia <http://www.ohcwa.uwa.edu.au>
- Centre for Medical Research <http://www.waimr.uwa.edu.au/>
- Centre for Asthma, Allergy and Respiratory Research <http://www.liwa.uwa.edu.au/>
- Centre of Excellence in Computational Systems Biology (<http://www.plantenergy.uwa.edu.au/ce4csb/>)
- Centre for Forensic Science <http://www.forensicscience.uwa.edu.au/>
- Marshall Centre for Infectious Diseases (<http://www.marshallcentre.biomedchem.uwa.edu.au/>)
- Centre for Integrated Human Studies <http://ihs.uwa.edu.au/>
- Centre for Legumes in Mediterranean Agriculture <http://www.clima.uwa.edu.au/>
- Centre for Evolutionary Biology <http://www.ceb.uwa.edu.au/>
- Centre for Microscopy, Characterisation and Analysis <http://www.cmca.uwa.edu.au/research>

Emerging and Seed Priorities

The University has also recognised the need to promote a number of emerging areas of research concentration in areas of strategic and local significance. These emerging areas will be regularly reviewed using input and output metrics.

Bio Engineering and Bio-Imaging

This initiative brings together research on bio-imaging in several of the Faculties and the University Centre for Microscopy, Characterisation and Analysis. Contact Prof David Sampson david.sampson@uwa.edu.au

Social Policy, Public Policy and International Studies

Contact Prof Alistar Robertson alistar.robertson@uwa.edu.au

Educational Measurement

Contact Professor David Andrich

Radio Astronomy

Two WA Premier's Fellows are leading the development of research and teaching in this area and have already won funding for a WA Centre of Excellence and for a new international research institute. Contact Prof Lister Staveley-Smith or Prof Peter Quinn

Green Chemistry

The University has recently supported the establishment of the Centre for Strategic Nanofabrication. Contact Professor Colin Raston

Organisational behaviour

Researchers from the Business School and the School of Psychology focus on people's attitudes, values, and behaviours at work. The twin aims are to improve the effectiveness of organisations, and to contribute to the wellbeing of people at work. Contact Prof John Cordery john.cordery@uwa.edu.au or Prof David Morrison davidm@psy.uwa.edu.au

Marine and Ocean Studies

The new UWA Oceans Institute will be launched in early 2009. Existing academic staff with expertise in marine science and engineering from several faculties will be co-located with members of the Australian Institute of Marine Science. Contact Prof Alistar Robertson alistar.robertson@uwa.edu.au

Medieval and Early Modern Studies

UWA is a premier venue in Australia for training and research in the field of medieval and early modern studies. The University has strong connections to the [Network for Early European Research](#), funded by the Australian Research Council, the journal *Parergon*, devoted to the study of medieval and early modern Europe published by [ANZAMEMS](#), The [Perth Medieval and Renaissance Group](#) and the [Cassamarca Foundation](#). Contact A/Prof Sue Broomhall broomhal@cyllene.uwa.edu.au [A Centre for Medieval and Early Modern Studies was established at the end of 2008, and an ARC Centre of Excellence bid is currently being developed.]