

## ANDS, the RDA and the next two years

Ross Wilkinson, ANDS



Image courtesy of [Monash University](#)

The Australian National Data Service is celebrating the next stage of its key research data infrastructure components (particularly the release of Research Data Australia ([researchdata.ands.org.au](http://researchdata.ands.org.au)) providing access to more than 87,000 research data collections) and the conclusion of many significant institutional projects.

Some key components of the Australian Research Data Commons are in place. But our work is not done, and the need to continue under the Collaborative Research Investment Scheme, and the recently announced NCRIS (National Collaborative Research Infrastructure Strategy) funding for 2013–15, means ANDS needs to plan the next two years with sharper focus.

To do this, ANDS has reorganised to deliver on four programs of work:

- » **Institutional Engagement** to support data management infrastructure at all of Australia's major research organisations.
- » **National Services** to deliver national research data services including registration, publication, discovery, and advisory services.
- » **National Collections** to deliver coherent access to collections of government, institutional, discipline and national facility data.
- » **International Collaboration** with data infrastructure providers to ensure that Australian research data infrastructure is compatible with international approaches.

These programs recognise the fundamental importance of the role of our research institutions in research data—they are the home of some of the most important collections, where research data are used, and where research data partnerships are formed. (Continued on page 3)

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## Possums seek partners

Shannon Lindsay, ANDS

Queensland's possums could be winners from global research data sharing, according to Duncan Lewis, Australian Ambassador to Belgium, Luxembourg, the European Union and NATO.

Mr Lewis used the tropical rainforest possums as an example of who—or what—stands to benefit from the launch of the Research Data Alliance and its mission to share data openly and without barriers or borders.

"Australia can do the research on possums, but we seek partnerships to build international data collections that model climate and the tropical response to climate change [which affects possums]," said Mr Lewis in his keynote speech at the launch of the RDA in Gothenburg, Sweden, in March this year.

Australia has invested significantly in research data and associated infrastructure and is ready to partner, said Mr Lewis.

"We now have a suite of state-of-the-art national facilities to boost Australia's ability to conduct world-class research, to collaborate internationally, and to attract the best researchers from around the world.



Duncan Lewis

"Australia has recognised the data deluge and it has recognised the importance of open access policies and it is acting now to respond to this new reality.

"The Australian Government is supporting national, collaborative projects that enhance Australia's capability in digital research data... Key amongst these national projects is the Australian National Data Service."

Mr Lewis sees ANDS' involvement with the Research Data Alliance, as Australia's non-governmental representative, as a natural extension of its work and a logical step towards international collaboration.

"It provides Australia with the connections and opportunities to partner with others in exploring some of the most pressing challenges of our time."

Challenges such as an ageing population, managing our environment under climate change, and building cities that respond appropriately.

"Australia has invested in research data in all of these areas and wants to be a good research partner internationally."

Citing examples from the Integrated Marine Observing System, the Terrestrial Ecosystem Research Network, and the Square Kilometre Array radio telescope, Mr Lewis said Australia has more than just possum data to bring to the table.

Being involved with the RDA, he said, "gives us some bragging rights as we showcase Australia's capability in digital research data."

## ANDS is changing how we all share data

Andrew Treloar & Stefanie Kethers, ANDS

Through its central role in the Research Data Alliance, ANDS is working to ensure that Australian researchers have the best possible influence over the international research infrastructure they use to collaborate with overseas peers.

The RDA was brought into existence by combining a number of grassroots activities with support from the funders of research infrastructure in Australia, the EU, and the US.

Its vision is for an open, seamless, self-regulatory global digital data infrastructure that is the foundation for discovery and progress.

This vision is being worked towards through a combination of top-down coordination and support, as well as bottom-up activity through a range of interest groups and working groups.

The Department of Innovation is funding ANDS to help bring about this vision, which it's doing in three distinct ways:

1. ANDS is deeply involved in the establishment of the RDA through the efforts of Stefanie Kethers, Andrew Treloar and Ross Wilkinson, ANDS' Senior Business Analyst, Director

of Technology and Executive Director respectively. Ross Wilkinson was recently announced as a founding member of the RDA Council, Andrew Treloar as an initial member of the Technical Advisory Board, and Stefanie Kethers as a member of the Secretariat. ANDS' experience of how to bring about national change in data sharing has been influential in the nascent RDA organisation.

2. ANDS is working with Australian researchers and research data practitioners to support them in proposing or joining RDA working groups. Australian linguistics researchers have driven a working group on Data Categories and Codes, recently endorsed by the RDA Council.
3. It was recently announced that Australia, in close partnership with Ireland, would host the Third RDA Plenary, 26–28 March 2014, in Dublin. Andrew Treloar is chairing the Organising Committee for this high profile international event.

Further information at [rd-alliance.org](http://rd-alliance.org) or email: [enquiries@rd-alliance.org](mailto:enquiries@rd-alliance.org)

# Kroes welcomes era of open science

Shannon Lindsay, ANDS

Digital tools will enable the new "era of open science", said Neelie Kroes in her opening speech at the Research Data Alliance launch and first plenary in Gothenburg, Sweden on 18 March this year.

The Vice-President of the European Commission responsible for the Digital Agenda said the RDA was "the right change at the right time, with the right ambition: acting on this impressive scale, you can advance research and scholarship."

She was in no doubt the world was already entering the era of open science and that its impact "will be good for citizens, good for scientists and good for society."

The EU, through policies and platforms, is "putting openness at the heart of EU research and innovation funding", and significantly increasing investment despite a poor economic climate.

"It's the right thing to do: faced with weak growth, we must all the more focus on future growth, and all the more ensure the tools and knowledge that can make us more productive," said Ms Kroes.

"But taxpayers who are paying for that research will want to see something back; directly—through open access to results and data, and indirectly—through making science work better for all of us.

"I know that our society and our future are best served through science that is faster, better and more open."

The EU will implement requirements for researchers and national funding bodies to provide open access to all publications stemming from EU-funded research, and progressively open access to the research data.

The EU is also investing in the iCordi (International Collaboration on Research Data Infrastructure) project, now rebranded as RDA-Europe, which is working to chart, demonstrate and drive convergence between emerging data infrastructures.

Ms Kroes welcomed moves by the US and Australia to also endorse open access to public records.

However, Ms Kroes stressed that the tools to make science more open and effective lie in the hands of scientists, not with government.

"This revolution offers great new opportunities: for best results, they should not be imposed from outside, but with the ownership and collaboration of the scientific community itself. That's why I'm delighted at how you're building this Alliance.

"If knowledge is an unknown land, this infrastructure is not just the network to help us discover and explore it: in time it could come to shape and define it."



Neelie Kroes

*"I know that our society and our future are best served through science that is faster, better and more open."*

## ANDS, the RDA and the next two years (Continued from page 1)

However, the data needed by researchers is often collected elsewhere:

- » Crucial observation facilities have been set up by IMOS (Integrated Marine Observing System) and TERN (Terrestrial Ecosystem Research Network);
- » Data are generated on the NCI (National Computational Infrastructure) for crucial climate models;
- » Data of many kinds are gathered by citizen scientists;
- » Data are provided by organisations such as Geosciences Australia and the Australian Bureau of Statistics.

All of those data need to be discovered, used, cited and used again. So we need national services.

But Australian researchers must be able to collaborate over data internationally. And hence our smallest program on international collaboration enables Australia to play a big role in the Research Data Alliance.

The Research Data Alliance ([rd-alliance.org](http://rd-alliance.org)) was launched in March this year through the help of funding agencies in the US, EU and Australia. Its aim is to go global to ensure research data sharing without barriers.

ANDS currently has membership on the RDA Council, RDA Technical Advisory Board, and in the RDA Secretariat, enabling Australia to be a leading partner in international research data intensive research.



# How to get your data cited

Karen Visser, ANDS

Data citation is rapidly becoming an accepted, and indeed in some cases expected, scholarly practice.

But what can researchers do to ensure their research data outputs are acknowledged and cited in national and international publications?

The Australian National Data Service is a leading player in the data citation arena and is thus in a position to forge significant advantages for our partners and the Australian research community.

As policies and standards around data citation are still evolving, ANDS is actively contributing to the global impetus to acknowledge research data as a first-class output of research.

Researchers can consider a range of actions, as outlined below, designed to ensure research data are correctly acknowledged and accurately cited in national and international publications.

1. Routinely include citation of one's own and other researchers' data to ensure it contributes to publication metrics and altmetrics. Including a Digital Object Identifier will help citation index services and also many altmetric services to track reuse of research data. Using carefully targeted social media communication tools can considerably increase the reach of research data and can shorten the reuse timeframe compared to traditional article publication and subsequent reuse cycles.
2. Connect your various scholarly identifiers and use these IDs in reference to data for greater visibility in global scholarly information systems such as the Open Researcher ID, DataCite and the Thomson Reuters Data Citation Index. All these information systems are globally linked to other publication systems.
3. Practise data management basics that encourage discovery and reuse such as:

- » submitting good descriptions (metadata) when depositing research data in your institutional or discipline repository
- » specifying Field of Research (FoR) codes
- » applying open licences where possible
- » ensuring ethics clearances includes underlying data
- » obtaining a Digital Object Identifier.

The 'Prognostic Gene Set Signatures Derived from Breast Cancer Microarray Gene Expression Data' record in Research Data Australia provides an example of FoR codes, Creative Commons licensing, citation format, related collections, software and researchers. ([researchdata.ands.org.au/prognostic-gene-set-signatures-derived-from-breast-cancer-microarray-gene-expression-data](https://researchdata.ands.org.au/prognostic-gene-set-signatures-derived-from-breast-cancer-microarray-gene-expression-data))

4. Hothouse citation and collaboration opportunities through linking data, research materials, journal publications, associated software, derived datasets, conference proceedings, and grants. 'The Hutchinson Drought Index' record in Research Data Australia connects data, software and publications. ([researchdata.ands.org.au/monthly-drought-data-for-australia-1890-2008-using-the-hutchinson-drought-index](https://researchdata.ands.org.au/monthly-drought-data-for-australia-1890-2008-using-the-hutchinson-drought-index))

Research by Heather Piwowar has shown that publications that include citations to underlying data have higher citation rates than articles without reference to the research data. (Piwowar HA, Day RS, Fridsma DB (2007) 'Sharing detailed research data is associated with increased citation rate'. PLoS ONE 2(3): e308. doi:10.1371/journal.pone.0000308)

([plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0000308](https://plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0000308))

Researchers are now able to tap into a range of strategies that increase the national and international impact of their data.

# Data licensing is a critical issue

Margaret Henty, ANDS

Data form the basis of much research. Researchers can create their own, but they also use data created by others.

In order to do so, they need to know what they can do with it. Can it be combined with their own data? Can it be used for commercial purposes? If it comes from another country, do different conditions apply to how it is used?

Licensing data provides a means of answering all these questions. Not licensing data is not the answer as this creates a barrier to future use.

Limitations created by copyright law mean the data user is not able to copy or otherwise manipulate the data without the specific permission of the creator. Licensing is not an alternative to copyright but works in association with it.

ANDS recognised early in its existence that licensing is a critical issue for data sharing and reuse, and sought to provide a licensing framework which could be used Australia-wide while being compatible with the laws of other countries.

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# How to get your data a seat at international tables

Andrew Treloar & Stefanie Kethers, ANDS

Who do you think is sequencing the genome of the platypus? An Australian institution? Wrong.

The work is being led by the US's Washington University (St Louis) Genome Sequencing Center ([genome.gov/12512287](http://genome.gov/12512287)), and is just one example of how research is becoming increasingly international.

The need for Australian researchers to attract international collaborators and to have their work cited in international journals is only increasing. Data can buy a seat at the collaboration table, but only if those data exhibit the right characteristics.

So, what are those characteristics? The ANDS Four Transformations provide some useful guidance here.

1. Data need to be **managed**. They need to be located somewhere that is stable, well curated, and where they can easily be accessed.
2. Data need to be **connected** to the context within which they were captured/created. This includes linking them to the research project, the researchers, and crucially the publications that came from those data.
3. Data need to be **findable**, both now and in the future. The best way to do this is to assign a persistent identifier, such as a DataCite DOI (Digital Object Identifier), that can be updated if those data need to move. Registering the existence of data in the right portals (such as the Protein Data Bank) is also critical for some disciplines.

4. Data need to be **reusable**. This can involve ensuring data contain information about how they were captured/created, as well as the form of licence (ideally as liberal as possible) under which they can be reused.

The impact of doing all this can be very helpful. Research recently published by Heather Piwowar and Todd Vision ([peerj.com/preprints/1/](https://peerj.com/preprints/1/)) demonstrated a 9% increase in citations for gene expression microarray studies that made their data available in public repositories.

Some Australian success stories around data sharing include the Australian Telescope National Facility Pulsar Database (featured in *share* issue 13) and IMOS's (Integrated Marine Observing System) seal tagging data and the recent discovery of a new source of Antarctic Bottom Water (see separate article on page 7 of this issue of *share*).

As ANDS expands its engagement with the international research data community, including through its involvement in the Research Data Alliance, expect to see a greater focus on enabling Australian researchers to use their data to gain that international collaboration and citation advantage.



Platypus illustration courtesy of BioDivLibrary (CC BY 2.0)

*"The need for Australian researchers to attract international collaborators and to have their work cited in international journals is only increasing."*

(Continued from page 4) The solution came in the form of AusGOAL, the Australian Governments Open Access Licensing Framework, developed to provide both federal and state governments with a means of handling their copyright publications, data and creative works.

AusGOAL is designed to support open access and provides a suite of licences to answer different needs. Most are based on Creative Commons (CC) licences, which are recognised worldwide as a

robust means of providing protection for both publications and data.

In addition, AusGOAL provides a restrictive licence for specific uses, such as health records, and a licensing option for computer software. Licences offered through AusGOAL are free and standardised, providing simplicity for the data provider and consistency for the data user.

ANDS has collaborated with AusGOAL to develop a Research Data FAQ, which can be found at: [ausgoal.gov.au/research-data-faqs](http://ausgoal.gov.au/research-data-faqs).

# Using data to halt the spread of malaria

Tim Thwaites, Science in Public

If you want to see how malaria transmission is affected by mosquito spraying in Peru or by climate change in Europe, by the end of the year you should be able to do so simply by logging onto a website.

By then, the Vector Ecology and Control Network should be up and running. VECNet is a global data library and computer analysis project funded by the Bill and Melinda Gates Foundation and based at James Cook University in Australia.



On the front line against malaria. Image courtesy of Rick Scavetta, U.S. Army Africa Public Affairs (CC BY 2.0)

JCU's Tropical Data Hub ([tropicaldatahub.org](http://tropicaldatahub.org)) has been involved with the development of VECNet and will contribute data to the project.

VECNet ([vecnet.org](http://vecnet.org)) is bringing together information from all over the world on the factors affecting the spread of malaria, a tropical disease that kills more than 650,000 people each year. Factors include climate, malaria control measures, the distribution and movement of people, as well as the behaviour and ecology of the protozoan parasite species that cause the disease and the hundreds of mosquito species that transmit it.

VECNet is also developing and providing software tools to analyse and work with these factors so researchers will be able to simulate the real world, designing scenarios and making predictions.

"Nothing like the VECNet exists in public health," announced a press release from the Pittsburgh Supercomputing Center, which is helping design the VECNet portal software alongside the University of Notre Dame in Indiana. "The closest parallel is

weather forecasting—which offers some lessons for what VECNet must accomplish. For one thing, vector control experts will need to enact a common system of data formatting, reporting procedures and a number of other compatibility steps that exist in weather reporting but not public health. For another, VECNet stakeholders will need to learn how best to use the system's predictions."

The ultimate goal is to find the most effective, efficient and economic ways to prevent the spread of malaria and, eventually, to eradicate it.

VECNet users will be able to log on, search the data library and call up the information they need. They can then use the models and software tools to answer questions, formulate scenarios and test hypotheses, according to Prof Tom Burkot, Orchestrator of VECNet and an expert in the spread of malaria now working at JCU after many years at the US Centers for Disease Control in Atlanta.

"Initially we will hire a couple of analysts to assist users to run the models," he says. "But, eventually, people will be able to do so directly." And the results of their work will be made available to all.

While users will have to register, access will essentially be open to all. "There will be no copyright. We are not interested in having restrictions. For instance, we are writing everything in open source software." The only exception, Burkot says, will be workspaces set aside to allow organisations to develop or test commercial products in private. But even those results eventually will be made public after a specified time.

Already, the project has brought JCU together with partners such as Oxford University, the Swiss Tropical and Public Health Institute, the University of Pittsburgh, the University of Notre Dame, as well as R. Farlow Consulting from Texas and the Gates-backed Intellectual Ventures Laboratory in the private sector.

Recently, the Pittsburgh Supercomputing Center was awarded a Gates Foundation contract to develop the VECNet software. "We probably have about 15 people working full-time on VECNet, but there are another 50 individuals at our partner institutions spending significant amounts of time on VECNet," Burkot says.

Increasing numbers of potential users, public health researchers and field workers, are becoming interested in VECNet. "We recently gave a presentation at the Asia-Pacific Malaria Elimination Network, and they've actually created a fellowship to send someone from at least one, possibly two, Asia-Pacific countries to learn how to use the software to create some scenarios," says Burkot.

Next, VECNet will be demonstrated at the Annual Meeting of the American Society of Tropical Medicine and Hygiene in Washington D.C. in November this year.



# Sealing the fate of Antarctic Bottom Water

Tim Thwaites, Science in Public

In February this year, Japanese and Australian oceanographers jointly announced a significant discovery for climate science in the journal *Nature Geoscience*—they had found a fourth outflow region of Antarctic Bottom Water into the world's oceans. The final piece of evidence was collected with the help of some unusual collaborators—seals.

The key set of data, which confirmed an outflow between the Australian research bases at Mawson and Davis, were gathered using Conductivity-Temperature-Depth (CTD) sensors attached to foraging seals as part of Australia's Tasmania-based Integrated Marine Observing System (IMOS). This information was then transmitted via satellite to Hobart and posted on the IMOS ([imos.org.au](http://imos.org.au)) website.

"Japanese researchers had already captured evidence of the bottom water flowing on the continental slope," says Dr Guy Williams, a polar oceanographer with the Antarctic Climate and Ecosystems Cooperative Research Centre ([acecrc.org.au](http://acecrc.org.au)) based at the University of Tasmania. "But it was the seals who managed to get to the top of the waterfall [where cold, dense water spills off the Antarctic continental shelf into the oceanic abyss]."

Antarctic Bottom Water is the coldest and densest water on Earth. It forms underneath polynyas—windy stretches of open water against the coastline which drive the generation of sea ice—and sinks to the continental shelf below, where it is known to spill to the bottom of the world's oceans. There, the bottom water makes its way towards the equator where it warms, rises and circulates back towards the pole.

"This is the major transport mechanism of the oceans, moving heat around the globe on a very large scale," says Williams. As such, it has a significant impact on the world's climate. "It also transfers nutrients and gases to the bottom of the ocean."

As part of IMOS's Australian Animal Tagging and Monitoring System, biologists tag about 20 seals each year in the Antarctic region to provide information critical to seal management. Williams and his colleagues became aware of the program in 2006. At a seminar in Hobart where they were talking about the discovery of the third source of bottom water, they were approached by biologists who told them they had a couple of seals reporting from the same area.

"We really latched onto it. We only do large-scale marine science around Antarctica on a ship every five years or so, where we can probably take 100-150 CTD profiles a voyage, and only very rarely do we go in winter, when the ship's movement is severely restricted. The seals are returning 20,000 profiles a year from March to December, and they get to all sorts of places where ships can't go."



A sensor-equipped seal. Image courtesy of Iain Field, Antarctic Climate & Ecosystems Cooperative Research Centre.

The fact that the data were originally collected for another purpose is significant. Firstly, it would be challenging to gain the ethical approval necessary to attach sensors to seals for climate science alone. Secondly, oceanographers now have access to a massive amount of new information at little cost. And thirdly, because of the random nature of seal foraging patterns, relative to organised ship-based surveys, the seals are finding things researchers would never have thought to look for.

IMOS strives to make the data it collects as easy to access and widely available as possible. "The ocean is a globally connected system and all elements of IMOS are embedded in relevant international programs," says IMOS Director Tim Moltmann.

In this case all Williams and his Japanese colleagues had to do was log onto the IMOS Ocean Portal ([imos.aodn.org.au/imos](http://imos.aodn.org.au/imos)) and download what they needed. The data appear almost in real time and are freely accessible under a Creative Commons Attribution (CC-BY) licence, under which users only have to acknowledge its source.

"The seal data has strengthened our collaboration with the Japanese and has been exposed to other groups through our work. Chinese researchers, for instance, have just become interested in an area where the seals are also active," says Williams.

Moltmann says oceanographers have a long history of sharing data, as it's the only way they can conduct their research, but this hasn't traditionally been the case for marine biologists and ecologists.

"Australia is recognised as an international leader in animal tagging research, and by making data available and fostering partnerships between physical and biological scientists, we're beginning to cross new frontiers through interdisciplinary collaboration."

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## DataConnect captures University of Adelaide

Cathy Miller, University of Adelaide,  
and Andrew Williams, ANDS

The University of Adelaide launched DataConnect this year, its online system for capturing information about the university's research data collections.

DataConnect was developed with funding from the ANDS metadata stores program and went live in April 2013. It integrates with other University of Adelaide systems and the National Library of Australia's Trove 'People & organisations' infrastructure.

A research data librarian has been employed to promote DataConnect. Day to day operation of the new service sits in the library, alongside the university's publications repository.

DataConnect is governed by a cross-institutional group, which includes the Pro Vice-Chancellor Research Operations, and Library and Technology Services representation.

The metadata stores project has catalysed consideration of the whole spectrum of eResearch activity in the university, including the required infrastructure.

The university is conducting a consultancy as the first step towards implementing a whole of institution eResearch strategy. When complete, in addition to research data management issues, the strategy will direct the university's efforts around high performance computing for research, engagement with national and local eResearch initiatives, and collaboration with other institutions. It will consider how the university needs to position itself for its



Cathy Miller at work on DataConnect

researchers to get maximum benefit from the growing range of eResearch services and service providers.

The business-as-usual phase of the university's research data agenda is now taking shape following completion of the DataConnect project.

Information about DataConnect and research data management at the University of Adelaide is available from: [libguides.adelaide.edu.au/researchdata](http://libguides.adelaide.edu.au/researchdata). A short introductory video on DataConnect is available at: [vimeo.com/user18284986/dataconnect](http://vimeo.com/user18284986/dataconnect).

DataConnect is built on the ReDBox-Mint metadata store platform, and is accessible only on the university's network at: [dataconnect.adelaide.edu.au](http://dataconnect.adelaide.edu.au).

### Sealing the fate of Antarctic Bottom Water (Continued from page 7)

"This is world leading stuff. With respect to the Antarctic Bottom Water research specifically, we expect these findings to have significant influence on the future direction of research in this region, and to underpin new knowledge and understanding of ecosystem function in a particularly sensitive part of the planet.

"The ocean is massively under observed, particularly below the surface, and especially in the southern hemisphere," says Moltmann. "As an island continent with the third largest ocean territory on the planet, this is both a huge challenge and a huge opportunity for Australia. By becoming much more systematic about the collection of marine observations and availability of quality controlled data, Australian researchers are attracting much greater international collaboration and increasing their scientific standing. This enhanced

collaboration increases the scientific effort focused on problems of significance to our nation, and provides a powerful return on investments made in the observations and data."

One recent example, says Moltmann, is the appointment of Australian researchers to the prestigious Ocean Surface Topography Science Team of the European Space Agency, in part because IMOS maintains the only calibration sites for Satellite Altimeters in the southern hemisphere. "By contributing valuable data to this international effort, our researchers get a seat at the table in planning and implementing a crucial element of the global ocean observing system."



# Connecting data and NHMRC grants

Where did these data come from? Who else worked on the project that created these data? What other data came from that research project? What other research projects contributed to this longitudinal study?

These are some of the questions the new Research Data Australia ([researchdata.ands.org.au](https://researchdata.ands.org.au)) is trying to help answer for potential reusers of research data in research, public policy, industry, and the private sector.

Research data are increasingly recognised as a valuable output of the research that comes from our highest profile competitive research grants and flagship research programs.

A recent project with the National Health and Medical Research Council has made it easier to draw the connections between datasets and the research grants that produced them. "And the preliminary connections are fascinating," said Dr Adrian Burton, Director of Services at ANDS.

For example, in 2009 the NHMRC funded a project called 'Regulation of the Calcium Sensing Receptor'. Through that grant Prof Arthur

Christopoulos (Monash University), Prof Arthur Conigrave (University of Sydney), and their team created a series of datasets that are now discoverable through Research Data Australia.<sup>1</sup>

The information provided by the University of Sydney allows you to navigate back and forth from their high profile researchers to their grants, quality data products, and publications. "Exactly what I'd like to do if I was looking to reuse data and collaborate with high profile research groups," said Dr Burton.

In the case of the 'Spinal Pain Data Collection'<sup>2</sup> at the University of Sydney, it is a series of NHMRC-funded projects by Prof Kathryn Refshauge and the Spinal and Arthritis Research Group that have contributed to and leveraged the growing collection of spinal pain datasets and supporting materials held by the university.

"A global web of information about research data is gradually cohering. These examples demonstrate the value of connections between research data, grants, publications, and high profile researchers or research groups," said Dr Burton.

<sup>1</sup> [researchdata.ands.org.au/regulation-of-the-calcium-sensing-receptor](https://researchdata.ands.org.au/regulation-of-the-calcium-sensing-receptor)

<sup>2</sup> [researchdata.ands.org.au/spinal-pain-data-collection-datasets-and-supplementary-materials-relating-to-the-diagnosis-prognosis-and-treatment-of-spinal-pain](https://researchdata.ands.org.au/spinal-pain-data-collection-datasets-and-supplementary-materials-relating-to-the-diagnosis-prognosis-and-treatment-of-spinal-pain)

# Griffith Uni wins Stanford prize

Griffith University received a commendation of merit for its ANDS-funded Research Hub in the first global Stanford Prize for Innovation in Research Libraries, announced in February this year.

"Inspiring" is what one of SPIRL's judges, Ann Okerson, Senior Advisor on Electronic Strategies, Center for Research Libraries, Chicago, called the Griffith Research Hub.

"[It's] a visionary integration of the entire research output of the university, in all formats, made discoverable and accessible for the whole world. Every kind of research institution will move to doing something like this very soon," she said.

The Research Hub ([research-hub.griffith.edu.au](https://research-hub.griffith.edu.au)), an ANDS-funded metadata stores project, is a software system that provides a single, comprehensive view of Griffith's research output, including data, activities and researchers.

The SPIRL judges noted the project serves an ambitiously wide audience, including international researchers looking for datasets, research students looking for supervisors, industry looking for expertise, and journalists looking for expert sources.

As well as the SPIRL commendation, the Research Hub won last year's VALA Award.

The VALA Award is given to an Australian library or information centre judged to have made the most innovative use of information technology during the previous two years.

Malcolm Wolski, Griffith's Associate Director of Scholarly Information and Research, said the awards "provide recognition to the Griffith and ANDS staff who worked diligently to make it all happen. They also provide external peer validation that we are on the right track with what we're doing."

Out of 24 SPIRL entries, just one other institution—the New York Public Library—received a commendation of merit, and two winners were announced: Bibliothèque nationale de France (National Library of France) and Biblioteca Virtual Miguel de Cervantes (a Spanish digital library).

The goal of SPIRL is to celebrate significant results from innovation in libraries anywhere in the world that support research.

To read more about SPIRL, visit: [library.stanford.edu/projects/stanford-prize-innovation-research-libraries-spirl](https://library.stanford.edu/projects/stanford-prize-innovation-research-libraries-spirl)

To read more about the Griffith Research Hub visit: [ands.org.au/news/andsnapshot.html#gugrh](https://ands.org.au/news/andsnapshot.html#gugrh)

## Event reports

### Tackling the tricky topic of data licensing

Margaret Henty, ANDS

Open access patents for a university are a novel approach, one successfully introduced at New South Innovations, the marketing arm of the University of New South Wales.

Open access patents were the controversial subject of discussion at ANDS' second licensing webinar for 2013 held in April. Leading the discussion was Dr Kevin Cullen, the CEO of New South Innovations where he has reset the usual model used for technology transfer by concentrating not on how much money can be made for the university, but how much good can be done by its publicly funded research.

Diane Peters, General Council for Creative Commons, joined us from Oregon for the first ANDS licensing webinar for the year. She talked about Creative Commons version 4, and the particular changes which relate to data.

In the third webinar for the year, Baden Appleyard, National Program Director of AusGOAL, and Margaret Henty, former Senior Policy Advisor with ANDS, discussed the research data licensing FAQs which were published earlier this year on the AusGOAL website ([ausgoal.gov.au/research-data-faqs](http://ausgoal.gov.au/research-data-faqs)).

Registrations show that there is a consistent level of interest in this tricky topic and ANDS is grateful to have the participation and expertise of Baden Appleyard to help answer questions and propose solutions.

Recordings of all ANDS licensing webinars can be found on the ANDS YouTube channel ([youtube.com/user/andsdata](http://youtube.com/user/andsdata)).

### Joining the DOIs with ANDS

Karen Visser, ANDS

The rapidly growing data citation community of practice around Australia gathered together online to learn, share and discuss issues around data citation during May and June 2013. Highlights included:

- » Showcasing examples of data citation in Research Data Australia that draw together data, publications and software—all linked through formal citations.
- » A series of four highly successful webinars which featured user stories from our Community of Practice members about:
  - » what you and your institution need to know about DOIs (Digital Object Identifiers) and data citation
  - » DOI minting stories at the Australian National University and the Australian Antarctic Division

- » data, journals and academic publishers: lessons from the JoRD and PREPARDE Projects in the UK
- » what Griffith University is doing to establish a culture of data citation: a step-by-step approach.
- » Gathering all the 2012 and 2013 data citation webinars into one ANDS YouTube playlist. ([youtube.com/user/andsdata](http://youtube.com/user/andsdata))
- » Updating ANDS webpages and resources aimed at researchers and institutions to guide users through implementing and leveraging the diverse potential of data citation using the Plan > Create > Use > Measure > Reward model. ([ands.org.au/cite-data/index.html](http://ands.org.au/cite-data/index.html))
- » Emerging publications (data journals, ANDS Guides and the ANDS Data Citation webpages) exposing datasets and allowing researchers and data producers to formally publish, and gain acknowledgement for their research data outputs. ([ands.org.au/publishing/data-journals.html](http://ands.org.au/publishing/data-journals.html))
- » DOI Query Tool enabling Cite My Data users to update URLs associated with their DOIs through a simple user interface ensuring their DOIs are persistent.

### On the road

Richard Ferrers & Frances Watson, ANDS

The regular Victorian (Tas) eResearch/Data Management Informal was hosted for the first time outside of Melbourne, in Ballarat on Friday, 26 April 2013.

Richard Ferrers and Frances Watson (ANDS) and Victoria University (VU) Research office representatives participated in a session on data visualisation presented by Dr Helen Thompson and members of her team from the Centre for eCommerce and Communications, University of Ballarat (UB). See Visualising Victoria's Groundwater at: [vvg.org.au](http://vvg.org.au).

The informal included representations from the VU Research Office, UB ANDS project participants, UB Research Office and UB academic participants. Representatives from the University of Western Australia in Perth, Deakin in Geelong, La Trobe and Versi participants in Melbourne, and the Australian Catholic University in Sydney joined them remotely.

The discussions were lively and involved sharing ideas and making suggestions. The ANDS staff came away with some useful feedback and the other participants were able to extend their research data community network.

Remote attendance at future informals will allow Ballarat and interstate participants to contribute to the research data community conversation.

ANDS is keen to assist the research data community to engage in a data management conversation. The informals are held on the last Friday of each month, 4pm–5pm.

## ReDBox Community Day (and a Half)

Simon Pockley, ANDS

Flinders University was pleased to host colleagues from 14 Australian universities and eResearch organisations for a ReDBox Community Day and a Half on 19–20 February 2013, sponsored by ANDS.

After a warm welcome from Prof Richard Constantine, Pro Vice-Chancellor (Information Services) and Chief Information Officer at Flinders, delegates got down to the business of the agenda.

Ian McBain, University Librarian, Flinders University, shared his thoughts on libraries and eResearch, followed by Andrew White, QCIF/ANDS, speaking about QCIF's (Queensland Cyber Infrastructure Foundation) history with ReDBox and plans for the future.

New developments in ReDBox, sponsored by various ANDS metadata stores projects, were discussed in some depth: Amanda Nixon, Flinders University, outlined progress to develop data management planning functionality in ReDBox; Vicki Picasso, University of Newcastle, talked about work to enable strategic

reporting from ReDBox; and Toby O'Hara, University of Western Sydney, gave a thought-provoking presentation on work to better enable researchers to package relevant data files together.

Delegates also heard about the different approaches to embedding data management in a number of institutions around Australia.

This was the second Community Day held to support ReDBox users and it was well attended by more than 30 delegates.



Attendees of February's ReDBox Community Day and a Half. Image courtesy of Amanda Nixon, Flinders University

## Chair's report

### Towards a sustainable research data infrastructure

Ron Sandland, ANDS' Steering Committee Chair

Late last year the Department of Innovation established a committee, which I chair, to address the future of research data infrastructure (RDIC). The terms of reference embrace: a framework for research data infrastructure; interrelationships between the varied data infrastructure investments; the roles of government(s), institutions and research facilities; optimising the efficiency and effectiveness of research data investments; and suitable governance mechanisms.

RDIC membership includes representatives from data gathering as well as data management capabilities, universities, government agencies and an outstanding secretariat provided by the Department of Innovation, very ably led by Cheryl Kut.

RDIC decided it needed a subcommittee to progress the development and writing of our report between full committee meetings. Tim Moltmann of IMOS (Integrated Marine Observing System) played an exemplary role in leading the subcommittee.

The outcome of our work is TARDIS (The Australian Research Data Infrastructure Strategy). It has been discussed with a number of stakeholders and was due for finalisation in late July 2013. TARDIS contains 17 recommendations in three broad categories:

- » sustained priority collection and infrastructure
- » enabling governance and access arrangements

» delivery of enhanced research and innovation value.

The work of RDIC has built on the 2011 Strategic Roadmap for Australian Research Infrastructure and the 2012 National Research Investment Plan (NRIP). TARDIS has accepted the principles and key conclusions in those plans but has carefully defined what they might mean for research data infrastructure.

The recommendations embody the development of a system that *collects* data systematically and intentionally, *organises* and relates data, making them discoverable and accessible, and *uses* data many times over and in as many ways as possible.

Vision statements are always the subject of vigorous debate, so it is with some trepidation that I put our provisional one before you:

***"Optimise value, productivity and innovation from Australia's research data through an open and collaborative research data infrastructure."***

Finally, I would like to pay tribute to a remarkable public servant, Clare McLaughlin, who has left her position as General Manager, Research Funding and Infrastructure Branch in the Department of Innovation, to take up the position of Counsellor in Brussels. She has been a tireless champion of research infrastructure in Australia, and research data infrastructure in particular. She will be sorely missed but we in ANDS wish her every success in the very different world she is about to enter.



Clare McLaughlin. Image courtesy of the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education



## In brief

### Data rescue competition for earth sciences

Publisher Elsevier and Integrated Earth Data Applications, a US National Science Foundation funded data facility, have launched the 2013 International Data Rescue Award in the Geosciences.

The challenge invites members of the international geosciences community who have advanced preservation and access of research data, particularly dark data, to share their work and the varied ways that these data are being processed, stored and used.

The winner will receive \$US5,000, and the top 10 entries will be invited to an award ceremony in San Francisco in December 2013 as part of the American Geophysical Union Fall Meeting.

Entries close 10 October 2013.

The judging panel includes Dr Lesley Wyborn of Geoscience Australia.

For more information visit: [researchdata.elsevier.com/datachallenge](http://researchdata.elsevier.com/datachallenge)

### Queensland Open Data Awards

The Queensland Premier's Awards for Open Data are calling for entries.

\$5,000 in prize money will be awarded in each of the following categories to the winners that demonstrate real outcomes for Queenslanders from (and the most innovative use of) public data: improved social services; public transport; economic benefits; and an open, wildcard category.

Entries close 31 October 2013.

For more information, visit:

[data.qld.gov.au/data-event/premiers-awards](http://data.qld.gov.au/data-event/premiers-awards)

## Forthcoming events

### ANDS/Intersect Research Data Management Roundtable

**When:** Friday, 6 September, 11am–3pm

**Where:** Intersect, Sydney

**What:** This fifth roundtable is widely pitched to enable professionals from the triumvirate of research office, library and information technology in ANDS partner organisations in NSW to discuss research data management. To register please contact either Ingrid Mason ([ingrid.mason@ands.org.au](mailto:ingrid.mason@ands.org.au)) or Alan Glixman ([alan.glixman@ands.org.au](mailto:alan.glixman@ands.org.au)).

### Research Data Alliance Second Plenary Meeting

**When:** 16–18 September

**Where:** National Academy of Sciences, Washington DC

**What:** The RDA invites data custodians, practitioners and researchers to join its second plenary and help shape global data management. Please register: [rd-alliance.org/future-events](http://rd-alliance.org/future-events)

### eResearch Australasia 2013

**When:** 20–25 October

**Where:** Brisbane Convention and Exhibition Centre

**What:** eResearch Australasia brings together practitioners and researchers to share ideas and exemplars on new information-centric research capabilities. ANDS will see you there!

For more information visit: [conference.eresearch.edu.au](http://conference.eresearch.edu.au)

For more information and the full list of events visit:

[ands.org.au/events/index.html](http://ands.org.au/events/index.html)

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ANDS is supported by the Australian Government through the National Collaborative Research Infrastructure Strategy program and the Super Science Initiative.  
This newsletter is designed by GRIT Brand + Online ([gritcomms.com.au](http://gritcomms.com.au))

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