



# The Griffith Scholars Hub

## VIVO Extensions

VIVO14 | Austin, Texas


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# Agenda

- Background
- The Griffith Scholars Hub Project
- Data Ingest
- External Data Linking
- Visualisations
- Edit Interface Changes
- Dynamic Micro Portal / Lenses
- Challenges
- The road ahead

<http://research-hub.griffith.edu.au/>

The logo for Griffith University, featuring a stylized red and white emblem to the left of the text "Griffith UNIVERSITY" in a bold, sans-serif font.

Change text size: | A- | A+

Griffith Portal | Phonebook

Log In ?

Search Research Hub

Search

Home Researchers Groups Projects Publications Collections Services About Help Contact Us

## Connect with Griffith Researchers

**Know more. Do more.**

**Higher education accolades for Griffith science**

The Griffith Science Education Alliance and Science on the GO! outreach program are under the ... read more


### Find a

Researcher Keyword


Name

Researcher Search

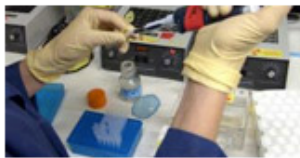
Welcome to Griffith University's Research Hub, a rich and informative guide to the University's expertise in a comprehensive array of academic fields.




Find An Expert



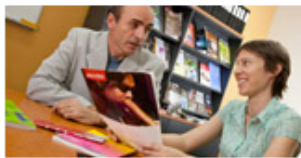
Research Groups




Current Projects



Research Degrees



Find A Supervisor



Apply Now

The Excellence in Research for Australia (ERA) 2012 results (based on the 2005-2010 period) profile Griffith as a comprehensive, research-active university with approximately 88% of eligible researchers associated with broad (two-digit) fields of research assessed at world standard or better.

# The Research Hub

- Griffith University's VIVO instance
- Currently contains landing pages for:
  - 1200+ profiled researchers
  - 64000+ publications
  - 6400+ projects/grants
  - groups, data collections and services

# The Scholars Hub

- The Research Hub has been live since February 2012, and is currently running VIVO 1.5.1
- A project is underway to transform the current Research Hub into the Griffith Scholars Hub, which will generate profile pages for all scholars at Griffith University.
- This change will generate extra data volume and load on applications servers, so a range of optimisations and improvements are being implemented.

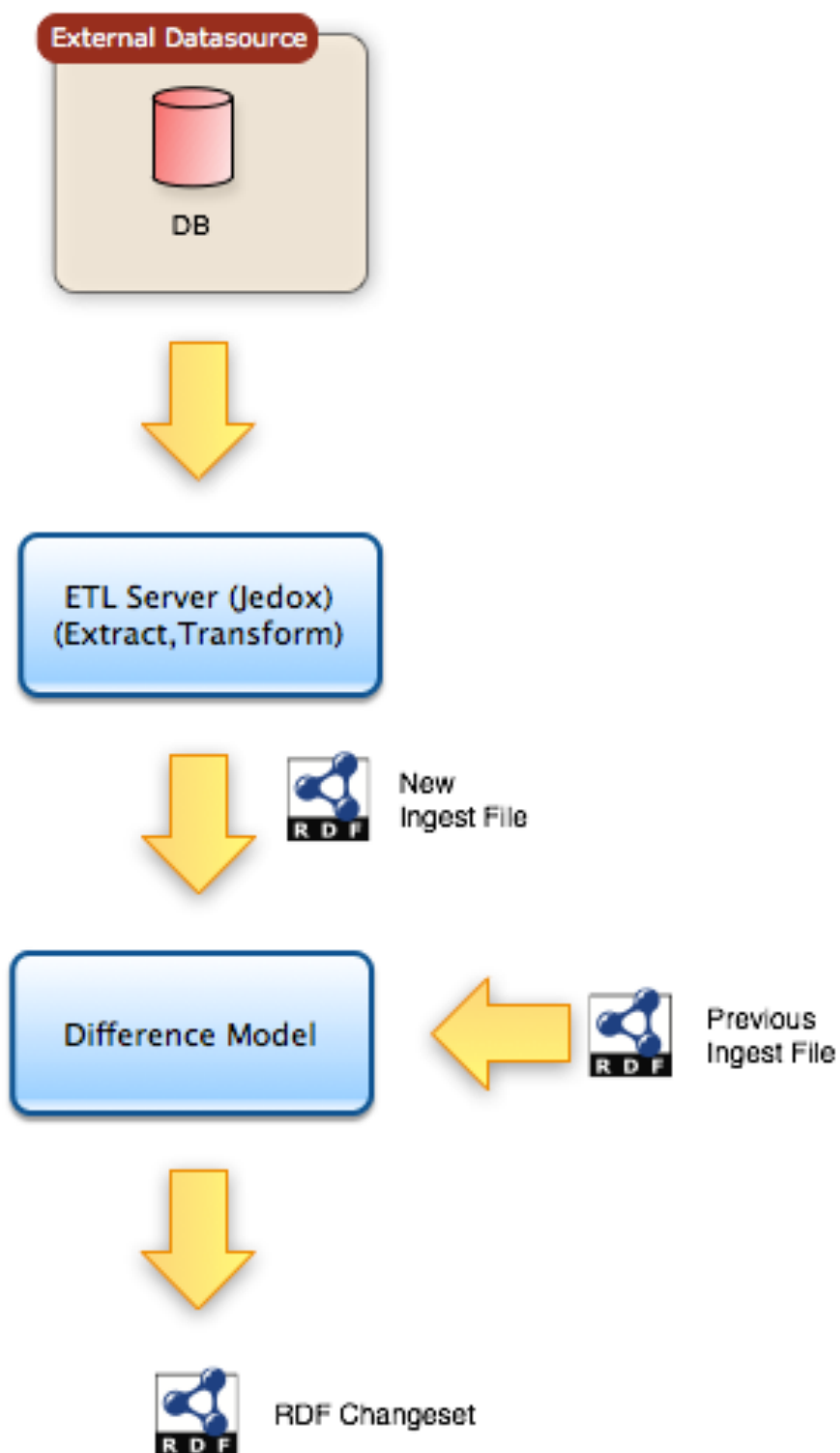
# Data Ingest

- The hub currently has nightly feeds from University source systems:
  - Research Data Repository (Equella)
  - Griffith Research Online research publications repository (DSpace)
  - Metadirectory (incl Human resources (people and groups) database)
  - Research Administration Database (Office for Research)

# Difference Model

- Nightly data ingest currently produces a end product of approx. 5.7 million triples, which are loaded into separate graphs in VIVO, based on their source system and data type.
- To prevent high load on the application and database server during ingest, we created a python script that generates a difference model for each datasource.
- The python script compares two RDF files (current and yesterday's ingest files) and generates a set of changes.
- Only the changes from current ingest (normally 24 hours ago) is actually loaded into the triple store.
- Files with the generated RDF change sets are stored for traceability.

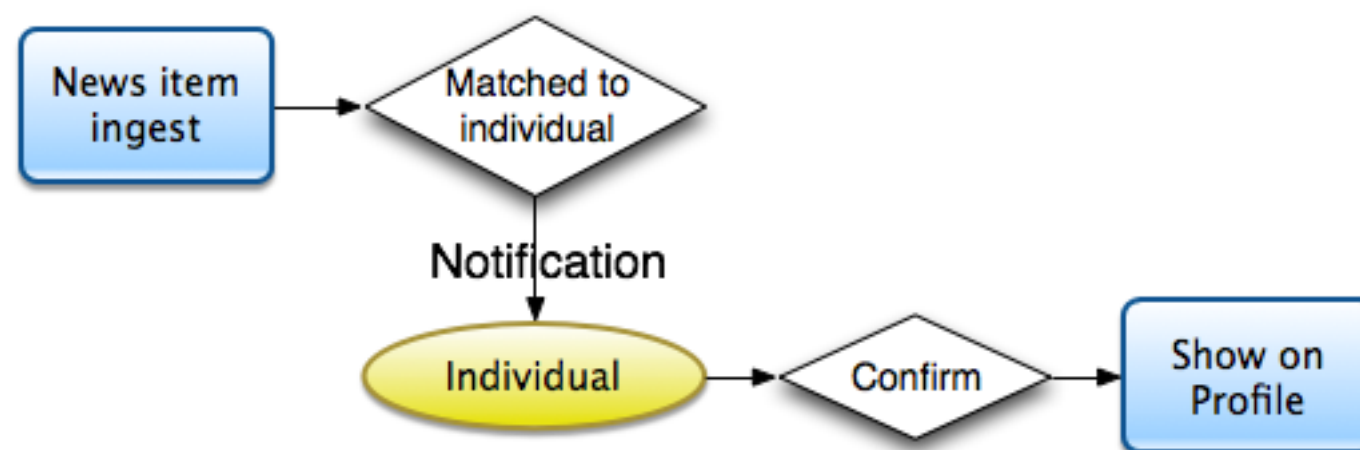
# Difference Model Flow





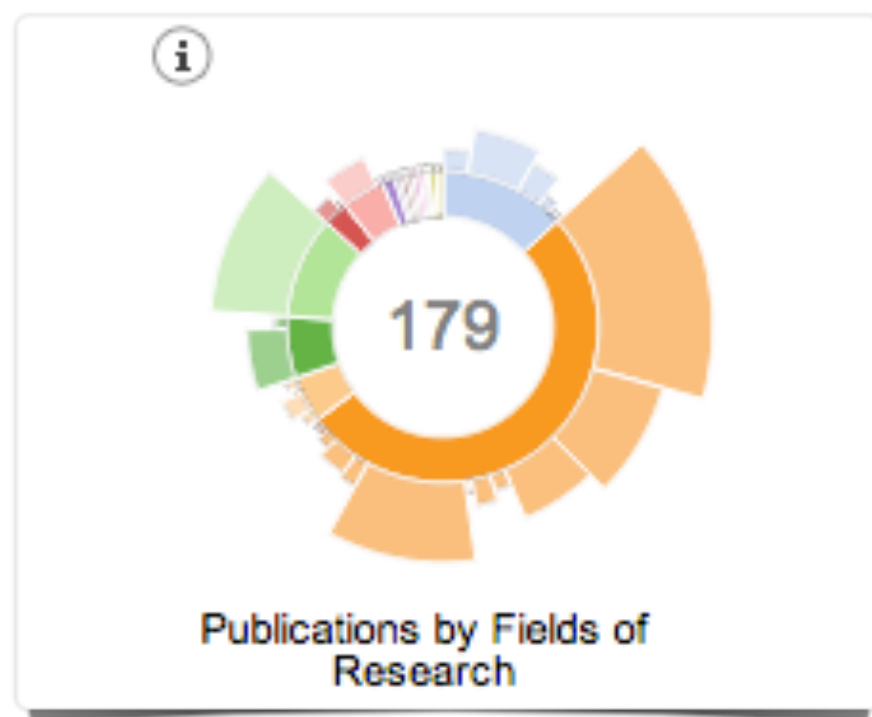
# External data linking

- As we have developed a news ingest module which can scrape news feeds and create possible relations to individuals in the hub, we need a way for the individuals to confirm that the relation is correct before we can show the news item on their profile.
- A linked data notification workflow will be implemented, where the user will receive an email when new items are found, and also show alerts when the user is logging in, asking them to confirm whether the links are correct.

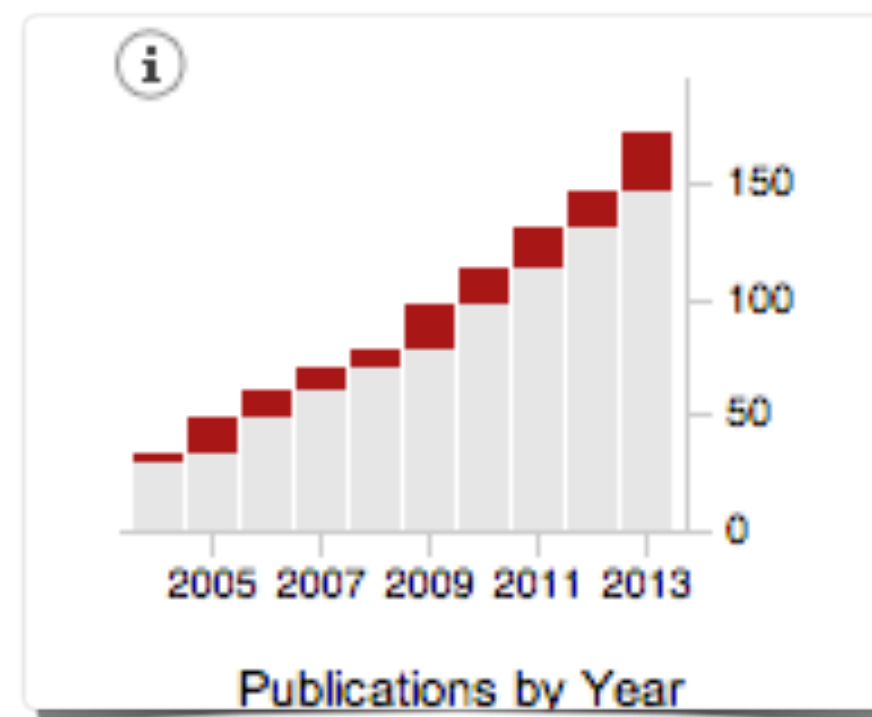


# Visualisations

- Some interactive visualisations created for a person, using the d3.js ( <http://d3js.org/> ) javascript library.



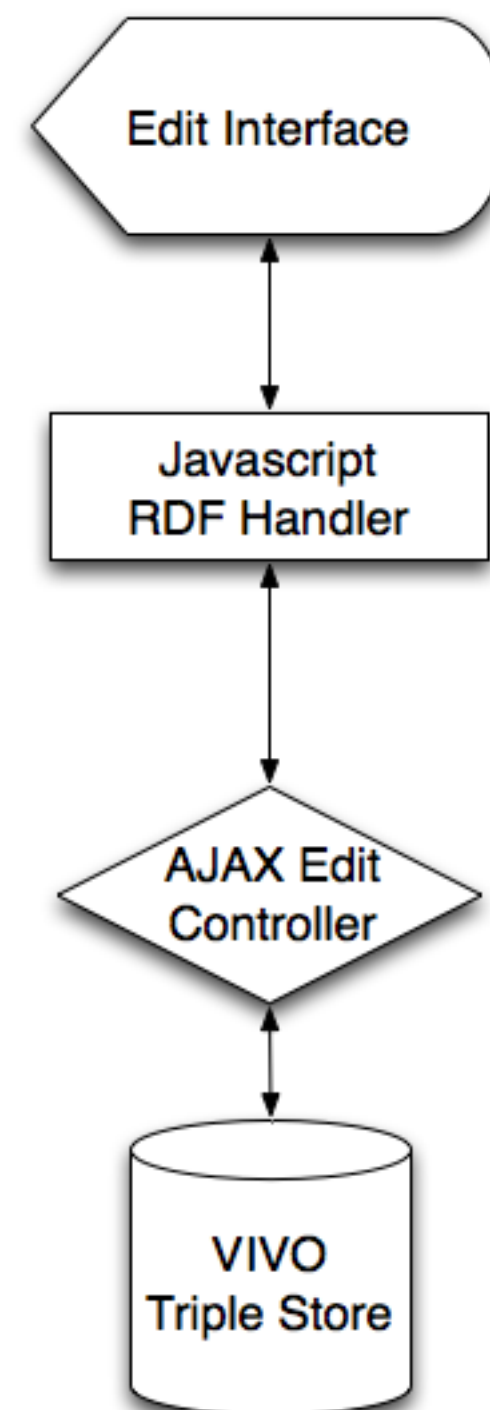
Publications by field of research



Publication By Year

# Edit Interface Changes

- As the standard edit interface for certain properties were taking a very long time to load (20sec+), we have changed how the edit interfaces load and save data.
- Now, the edit interfaces only loads the bare minimum of through the Java form generator. The rest of the data needed is 'lazy loaded' through one or more ajax calls after the initial page load.
- This ensures that the user gets a responding edit interface almost immediately.
- RDF structure of data sent and received to the edit interface is handled by a javascript middle layer.
- Data save requests are also handled by one or more ajax calls.




# Dynamic Micro Portals / Lenses

- Since we first implemented VIVO, we saw the potential for pages showing data from dynamic/aggregated queries.
- Now we have had direct business requirements to create pages within the hub which can display a select set of the data with particular interface functionality.
- We have call these dynamic pages a Micro Portal or a Lens.
- A lens within the Hub will be able to show dynamic results of a query, in a specified interface.
- The first lens developed for the hub was: “Griffith In Asia”. This lens displays individuals in the hub that have some involvement in the Asia-Pacific region.

<http://research-hub.griffith.edu.au/griffith-in-asia>


[Home](#) > [Griffith in Asia](#) > [Griffith in Asia Research](#)

## Griffith in Asia Research




Select a region on the map to discover Griffith's impact in the Asian region.


### Experts




Assoc Prof Mohamad Abdalla  
School of Humanities



Assoc Prof Faruk Ahmed  
School of Public Health




Dr Alexandr Akimov  
Department of Accounting, Finance and Economics




Assoc Prof Katherine Andrews

### Groups




Dept of International Business and Asian Studies




Griffith Asia Institute


### News




An exhibition everyone must see  
Published 24/4/2014



Ben Quilty: after Afghanistan – opening night  
Published 24/4/2014



International students named Brisbane ambassadors  
Published 14/4/2014



War through the eyes of Ben

### Publications

供需成本節制對健保醫療費用影響之時間序列分析


Objective: The purpose of this study was to use time series analysis methods to examine the impact on cases

### Projects

A Comparative Study of the Chinese Legal Language in Mainland China, Taiwan and

A comparison of the role and effectiveness

### HDR Supervisors



Prof Richard Bagnall  
Coping Strategies, Foreign Students, Chinese Students, Singapore, Postgraduate Students,

Griffith In Asia Lens interface

# Dynamic Micro Portals / Lenses

The Griffith In Asia lens has the following features:

- Interactive map that allows user to select a country to see related individuals.
- Page shows all individuals related to the lens, grouped by type (Experts, Groups, Projects, Publications etc)
- Search functionality allows user to perform keyword search within lens items.

## Admin functionality

- Individuals can be 'tagged' to a lens either via automated queries, via direct edit of an individual, or through a bulk edit interface developed especially for the lens functionality.



Research Hub > Admin > Lens Tagging

## Manage Lens Tagging

Provides an interface for managing lens and country affiliation tagging in bulk.

1. Select a Lens >

2. Select display mode >

3. Select a type >

4. Tag lenses >

### 1. Select a Lens

Choose which lens you would like to tag with.

✓ Please select an option...  
Griffith In Asia

Research Hub > Admin > Lens Tagging

## Manage Lens Tagging

Provides an interface for managing lens and country affiliation tagging in bulk.

1. Select a Lens >

2. Select display mode >

3. Select a type >

4. Tag lenses >

### 2. Select display mode.

Would you like to just see results currently tagged with or just those not tagged or both.

- ✓ Please select an option...
- Tagged
- Not Tagged
- Both



Research Hub > Admin > Lens Tagging

## Manage Lens Tagging

Provides an interface for managing lens and country affiliation tagging in bulk.

1. Select a Lens >

2. Select display mode >

3. Select a type >

4. Tag lenses >

### 3. Select a type.

Which type of result would you like to tag.

✓ Please select an option...

Publications

Projects

Activities

Events

Researchers

People

Groups

Organizations

Collections

Services

Research Hub > Admin > Lens Tagging




## Manage Lens Tagging

Provides an interface for managing lens and country affiliation tagging in bulk.

- 1. Select a Lens >
- 2. Select display mode >
- 3. Select a type >
- 4. Tag lenses >**

### 4. Tag lenses.

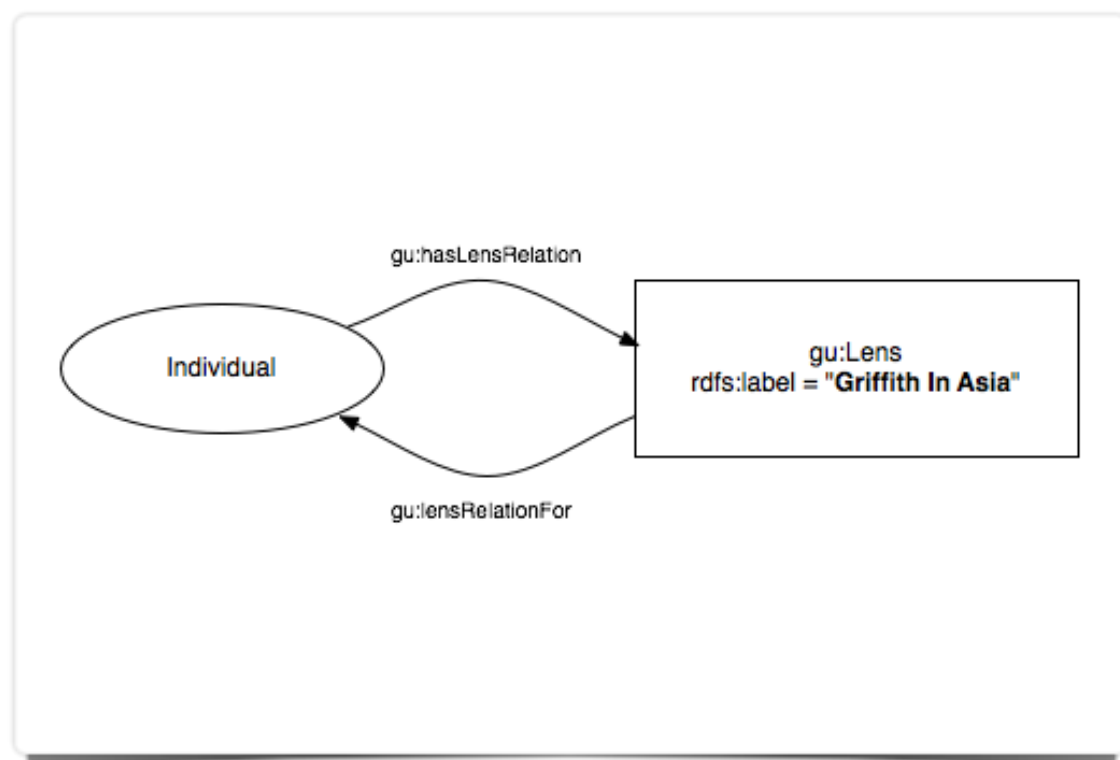
Select yes or no to add or remove Researchers from Griffith In Asia. To see more details about the Researchers, click on their name.

| Search by keyword or name.  |                                  | Search                             | Tag Researchers with Griffith In Asia? |
|---|----------------------------------|------------------------------------|--|
|  | Researcher <b>Ken Butcher</b>    | <input type="button" value="Yes"/> | <input type="button" value="No"/>      |
| Country Affiliations   Add Country + Thailand x China x                             |                                  |                                    |  |
|  | Researcher <b>Lukman Thalib</b>  | <input type="button" value="Yes"/> | <input type="button" value="No"/>      |
| Country Affiliations   Add Country + Taiwan x Indonesia x Singapore x Sri Lanka x   |                                  |                                    |  |
|  | Researcher <b>Paul Mazerolle</b> | <input type="button" value="Yes"/> | <input type="button" value="No"/>      |
| Country Affiliations   Add Country + China x  |                                  |                                    |  |

# Dynamic Micro Portals / Lenses

- We initially wanted to use the built in functionality in VIVO to create dynamic pages displaying the results of SPARQL queries.
- But when queries got complex, or query results got more than 1000 results, we ran in to performance issues. We just could not get a quick enough results back from the SPARQL queries when loading items on the page.
- By querying solr directly using filter queries, instead of using SPARQL queries, we ensure a near instant response and can render the items on the page much faster.
- The SPARQL queries that we needed could easily be replaced by one or more solr queries for much better performance, and also causing less load on the application server.

# Dynamic Micro Portals / Lenses



RDF Structure for lens relations



The image shows a user interface for a search facet titled "Lens" in red text. Below the title is a dropdown arrow. There are two selectable options, each with a checkbox and a label: "Any" (which is selected, indicated by a blue checkmark) and "Griffith In Asia (234)" (which is not selected, indicated by an empty checkbox).

New Search facet for lenses

# Challenges

- VIVO 1.6 (VIVO-ISF) Upgrade
- SSO/https institution compliance
- Jena Mysql performance issues



# The Road Ahead

- VIVO 1.6 upgrade (VIVO-ISF)
- Redesign and restructuring of display template to create a fully responsive design.
- Improve SEO for all pages.
- Integrate linked data notification model.
- New and changed data sources.
- Further development of lenses/micro portals.
- Evaluate change of storage backend to a triple store such as 4store/Virtuoso.



# Questions ?

A vertical advertisement for Griffith University. At the top left is the Griffith University logo. The background is a lush green forest scene with sunlight filtering through the trees. In the lower right, two men are sitting on a red sofa. The text "Know more. Do more." is prominently displayed in the upper left of the ad. Below this, there is a paragraph of text about research and knowledge. At the bottom, it says "Apply Now" and "A Top 10 Australian Research University" with a list of campuses: Gold Coast, Logan, Mt Gravatt, Nathan, and South Bank.

**Know more.  
Do more.**

It's amazing what you can achieve when you know more. That's why at Griffith we're always looking for deeper knowledge that allows us to develop better understanding. This means that our students and researchers can do more. Just like Griffith Malaria Researcher Micheal Good has. He used what he learned about the tiny malaria parasite in the jungles of the world to develop a vaccine that could soon save millions of lives. No matter what you're looking to study: Business, Law, Arts or Education; study it at Griffith where you'll gain the knowledge that allows you to do more.

**Apply Now**

**A Top 10 Australian Research University\***  
Gold Coast - Logan - Mt Gravatt - Nathan - South Bank

Thank you