



Systems ain't just for wizards: wading into a Figshare-Elements integration

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Research Data Outreach Officer (Library)

La Trobe University

Figshare Fest NZ 2018
University of Auckland

A bit about me

- Medical/hospital library background – Western Health
- 2016 – started at La Trobe as Senior Research Advisor (Library)
- 2018 – seconded to Senior Analyst, Figshare (IT services)
- Currently – seconded to Research Data Outreach Officer (Library)
- Not much of a systems person...*but happy to give it a shot*

Hospital/medical library background



La Trobe University – Senior Research Advisor (Library)



Figshare secondment role (IT department)



Another secondment!

Round 2: Research Data Outreach Officer (Library)



Minimal experience in IT/systems/integration (*but willing to give it a go!!*)

Enterprise Research Data Management System

ResearchData.Latrobe

(powered by Figshare)

Online Research Notebook

(powered by LabArchives)

Research Data Management Planning Tool

(powered by ReDBox)

Figshare @ La Trobe

- Data repository for storing, sharing, and publishing research datasets
- Preceded by [130 interviews with researchers](#) on their data management behaviours
- Early 2017 – trial with researchers
- Late 2017 – implemented and launched as data repository (branded locally as ResearchData.Latrobe)

Figshare @ La Trobe

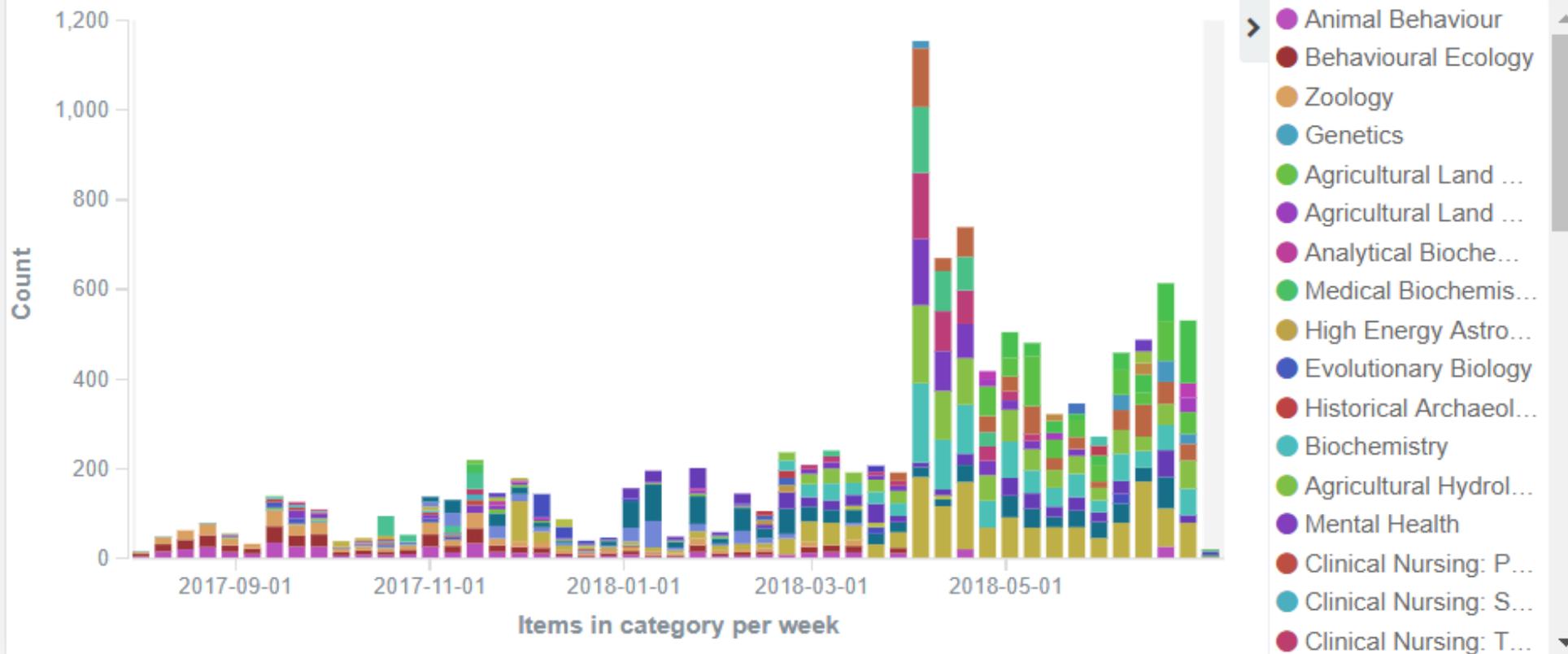
- Full-time Figshare Analyst coordinating implementation, launch, and promotion
- **Importance of dedicated staffing and project hours for Figshare implementation. Crucial!**

Figshare @ La Trobe

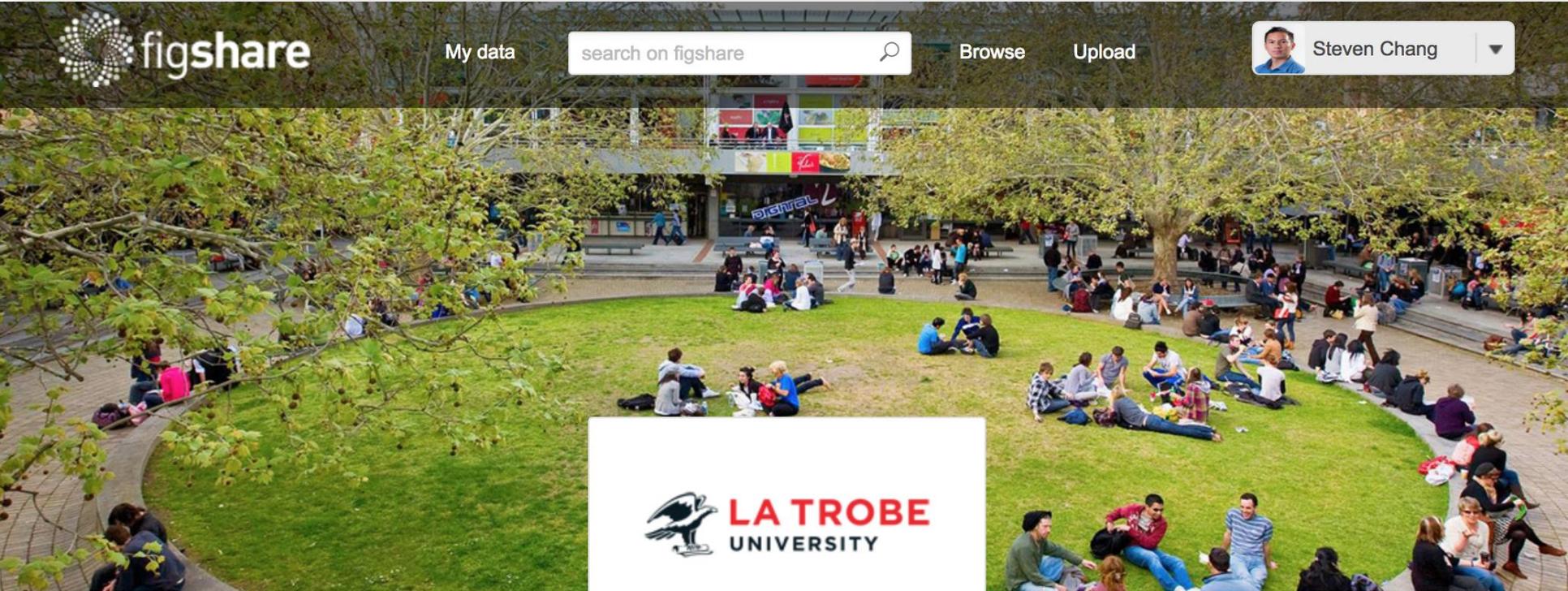
- Current state of play
 - 305 users
 - 171 depositors (users who have uploaded an item into storage)
 - 150 published records
 - 29 GB of data/collections stored
 - ~14,000 views, ~2500 downloads

Figshare @ La Trobe

Views per week (category breakdown)



Figshare @ La Trobe



Discover research from **La Trobe University**

Following

Figshare @ La Trobe



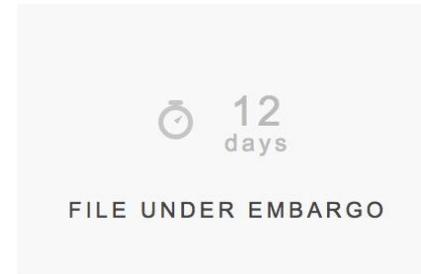
The ethics of recruiting, retaining and tracing research participants ...
Sharinne Crawford ▾ 11/10/2018



Stimuli_2018
Darren Hedley 10/10/2018



Behavioural activation for the treatment of unipolar depressive d...
Stav Amichai Hillel 10/10/2018



Mass segmented ToF-SIMS data matrices for polyamide materials
Paul Pigram 05/10/2018



Collection: Evidence Bulletin
Cochrane Consumers a... 03/10/2018



Carers' contributions to preventing medical errors in hospital
Bronwen Merner ▾ 01/10/2018



Co-production in action: Improving the relevance of a Cochrane Review...
Bronwen Merner ▾ 01/10/2018



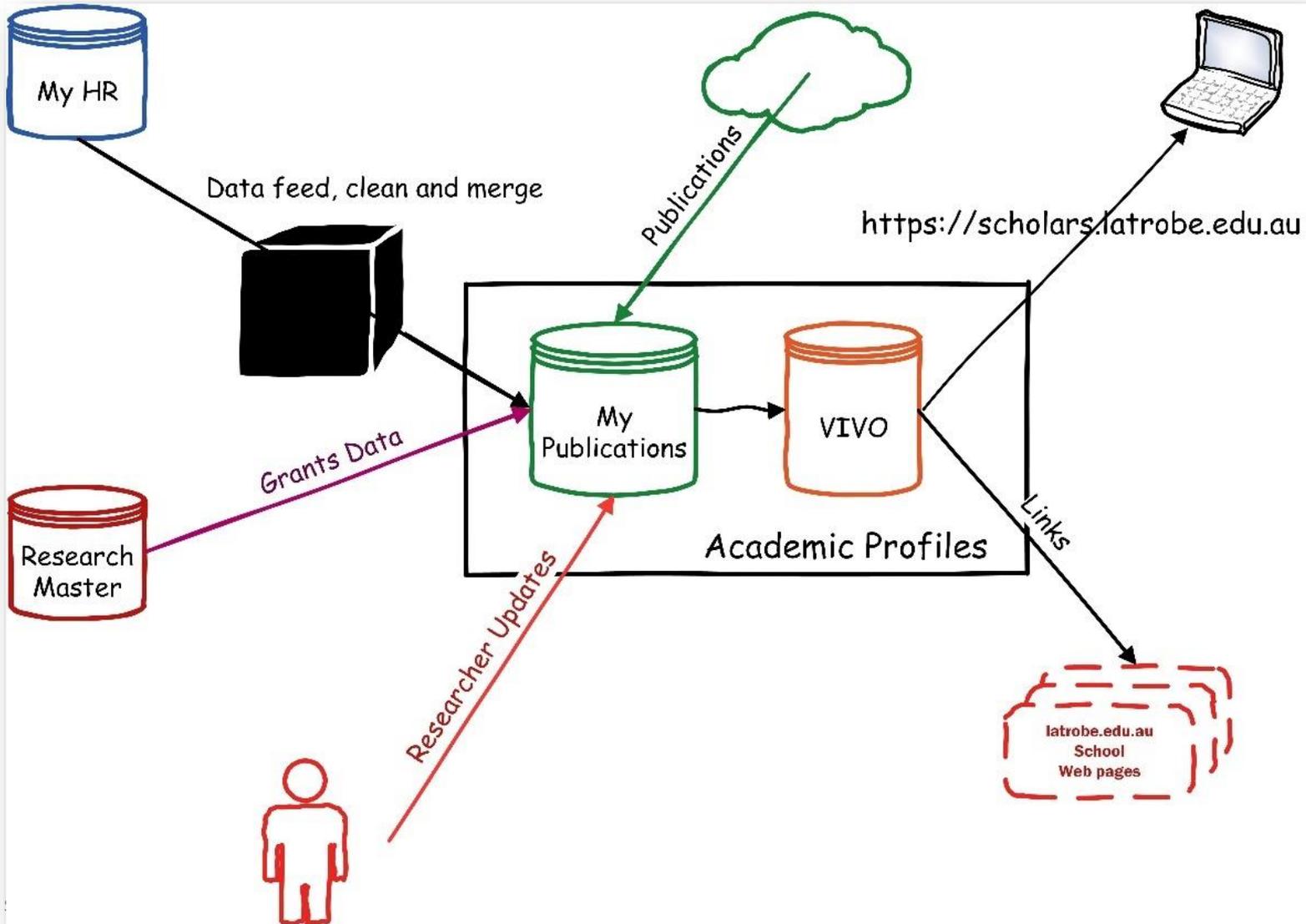
Evidence Bulletin: Patient decision aids for people facing health treat...
Cochrane Consumers a... 07/09/2018



Big picture

Data repository	Figshare
Institutional repository	Vital / Fedora
Public-facing academic profiles	VIVO
Publications data collection/reporting	Symplectic Elements
Integrated library system	Alma / PRIMO

Big picture



Big picture: profiles



Professor Andrew Hill

Director of LIMS, Office of Molecular Sci

 [La Trobe Co-author Network](#)

 [Map of Science](#)

Professor Andy Hill gained his BSc(Hons) in Biochemistry and Molecular Biology from Victoria University of Wellington in New Zealand and his PhD at Imperial College, London. In 2015, Andy moved his laboratory to the La Trobe Institute of Molecular Sciences (LIMS) at La Trobe University and he was appointed Director of LIMS in 2017.

Contact Info



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Websites

› <http://www.andyfhill.com/>

› [Hill research website](#)

› [Google Scholar](#)

› [Twitter](#)

POSITIONS

› [Office of Molecular Sci](#) , [School of Molecular Sciences/LIMS](#)

› Professor, [Biochemistry and Genetics](#) , [La Trobe University](#) 2015 -

RESEARCH AREAS



[Biochemistry](#) (Expertise) | [Cell biology](#) (Expertise) | [Molecular Biology](#) (Expertise) | [Neuroscience](#) (Expertise) | [Understanding Disease](#) (Research Areas)

Big picture: profiles

[Overview](#)[Affiliation](#)[Publications](#)[Research](#)[Background](#)[Contact](#)[View All](#)

Selected Publications

Academic Article

Yap T, Koo K, [Cheng L](#), Vella LJ, Hill AF et al. [Predicting the Presence of Oral Squamous Cell Carcinoma Using Commonly Dysregulated MicroRNA in Oral Swirls](#). *Cancer Prevention Research*. 11:491-502. 2018

McKenzie-Nickson S, Chan J, Perez K, Hung LW, [Cheng L](#) et al. [Modulating Protein Phosphatase 2A Rescues Disease Phenotype in Neurodegenerative Tauopathies](#). *ACS Chemical Neuroscience*. A-J. 2018

Turner L, [Bitto NJ](#), Steer DL, Lo C, D'Costa K et al. [Helicobacter pylori Outer Membrane Vesicle Size Determines Their Mechanisms of Host Cell Entry and Protein Content](#). *Frontiers in Immunology*. 9. 2018

Big picture

- **PRIME** – Project for Research Information Management Enablement
 - Academic profiles
 - Integration of graduate researchers into HR system. Staff-like accounts/access.
 - Research Equipment Management System (REMS)
- **IRS** – Integrated Research Systems
 - Designing an end-to-end, one-stop shop research information interface
- **ERDMS** – Enterprise Research Data Management System

Why test this integration?

- Opportunity presented by the upgrade of Elements from 5.8 to 5.10
 - New Repository Tools 2 (RT2) framework in Elements
 - Explore prospect of auto-harvesting Figshare records into Elements
- To better understand the nature of interaction between Elements-Figshare
- Inform key discussions on the future of our institutional repository (IR)
 - Develop confidence about features and evidence re: potential IR options
- **At the end of the day...make life easier for researchers!**

Elements-Figshare relationship

- Bi-directional flow of data and metadata – via Repository Tools 2 in Elements

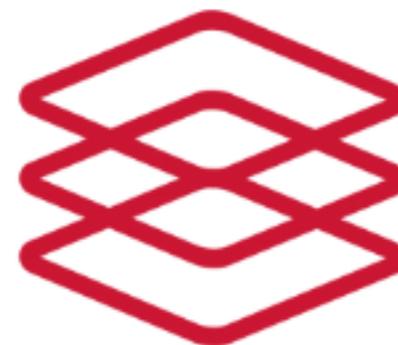
figshare



Harvest & Data Match



Deposit



Elements



Monitoring OA Compliance & Engagement

Elements-Figshare relationship

- Positions repository as a data source for Elements

Integration Functionality Overview

Functionality	RT1	RT2			
		DSpace	Figshare For Institutions	Digital Commons	EPrints
KEY ✓ = Yes X = No • = Pending Feasibility Assessment					
Integration					
Does not request the installation of a proprietary plugin to the repository	X	✓	✓	✓	✓
Integrates with repository platform via available repository APIs	X	✓	✓	✓	✓
Configuration					
Connect a single repository to Elements	✓	✓	✓	✓	✓
Connect multiple repositories to Elements	X	✓	✓	✓	✓
Define which users can deposit to a connected repository	✓	✓	•	X	✓
Custom crosswalk of information from the repository to Elements	X	✓	✓	•	✓
Custom crosswalk of information from Elements to the repository	✓	✓	•	X	✓
Repository as data source					
Harvest metadata records and links to files from the repository into Elements	X	✓	✓	✓	✓
Match records from the repository to records already in Elements	X	✓	✓	✓	✓
Elements detects items deposited directly into the repository	X	✓	✓	✓	✓
Feedback to Elements the status of the items in the repository	✓	✓	✓	✓	✓
Receive metadata updates from the repository into Elements	X	✓	✓	✓	✓
Create reports on repository records via Elements	X	✓	✓	✓	✓
Reuse repository records in systems connected to Elements eg. public profiles	X	✓	✓	✓	✓
Deposit via Elements					
Select which repository to deposit to	X	✓	✓	X	✓

Objectives of integration testing

Aimed to explore the following (on QA staging servers) using a systematic testing plan:

1. Establish **Figshare** as data source for **Elements**
2. Customise/test crosswalks (both inbound harvest, and outbound deposit)
3. Harvest records from **Figshare** → **Elements**
4. Check metadata is correct in Elements
5. Deposit records from **Elements** → **Figshare**
6. Check metadata is correct in Figshare
7. Test OA Monitor feature to assess compliance with Open Access imperatives

Story so far

- Obtained API keys to authorise integration
- Matched user IDs between Elements and Figshare
- Developed step-by-step testing plan
- Began testing on QA staging servers
- Figshare → Elements harvest partially successful
 - But metadata comes in as “other” publication type in Elements
 - More work to be done on mapping tables. Metadata expertise needed!
- Elements → Figshare deposit successful

Traps for new players

- Start on a testing server before you even touch production!
- Make sure you have enough servers available for testing
 - More so, the more systems you have linked up...

Challenges

- Needs well described existing use cases to model on
 - [Loughborough University](#)
 - [Carnegie Mellon University](#)

Challenges

- Prerequisite for integration: matching unique user IDs between systems
 - Match proprietary IDs (in our case, staff IDs) with user IDs in Figshare
- Your mileage may vary! Not a problem for some...

Challenges

Figshare/Elements [documentation](#) for integration – room for improvement

- More akin to notes/guidance than step-by-step procedures
- Current documentation makes assumptions about internal knowledge & expertise.
- Primarily written for established repository managers with metadata/systems expertise
- Future instructions need to be geared towards people with non-technical backgrounds
- Watch this space – Figshare/Elements very responsive

Challenges

- Skills needs and gaps
 - IT and systems
 - Metadata mapping and wrangling
 - Software/systems testing at enterprise level
 - Navigating and wrangling APIs
 - Specialist Figshare expertise
- Illustrates importance of linking technical support from Figshare, Elements, Library, and internal IT services

Data repository vs institutional repository

- What type of data is currently sitting in your Figshare instance?
 - Is this data appropriate for harvesting into Elements?
- In the coming data deluge, what does it mean to throw research datasets into the flow of publication reporting?
- Still in early maturation stage of datasets as first-class research output
- Curation and metadata quality for published datasets varies wildly
- Consider a review screening phase
- When integrating research data systems, are we inadvertently multiplying metadata mediocrity?

Would you want this on your research track record?

Section	Item	Value	Notes
Personal details	Name	[Redacted]	
Personal details	Address	[Redacted]	
Personal details	Phone	[Redacted]	
Personal details	Email	[Redacted]	
Personal details	Other contact info	[Redacted]	
Professional details	Current position	[Redacted]	
Professional details	Previous positions	[Redacted]	
Professional details	Education	[Redacted]	
Professional details	Research interests	[Redacted]	
Professional details	Other relevant info	[Redacted]	

FemaleHIP_vDec14.pdf (376.93 kB)

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Personal details	Name	[Redacted]	
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Professional details	Previous positions	[Redacted]	
Professional details	Education	[Redacted]	
Professional details	Research interests	[Redacted]	
Professional details	Other relevant info	[Redacted]	

MaleHIP_vDec14.pdf (467.29 kB)

Cite

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Untitled Item

Figure posted on 13.11.2017, 17:43 by [Redacted]

Copies of the Male and Female Health Improvement Profile

Lessons learnt

- Get the right people, lined up at the right time, in the right place, on the same page!
- Lean on both Figshare / Elements support. Earlier (at inception!) rather than later.
- Strong relationship with IT is absolutely essential – assign an IT project manager.
- Consider recurring integration working group meetings until completed
- More investment into your Figshare implementation = more value. Particularly dedicated staff or project time.
- Things take longer than you expect! Aim high, but prepare for complications

Looking forward

- Community of practice?
 - Critical mass needed though, and each institution/system setup is different
 - For Elements-Figshare...
 - 17 institutions using Elements who also have Figshare
 - Of these 17, five have live integrations active
 - Loughborough University
 - Carnegie Mellon University



Thank
you

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