

Repository and CRIS interoperability issues within a 'connector lite' environment

OR2019: Repository/CRIS Workshop (I):
Realising Technical Interoperability and/or Integration

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@g3om4c

Monday 09/06/2019

Institutional history

- [University of Strathclyde](#) – Established 1796 as "place of useful learning" by John Anderson
 - Now 21,470 FTE students & 3,200 staff
- Among 20 top research-intensive universities in the UK
- Research income 2016: £60 million



Assessed by UK Research Excellence Framework (REF) to have #1 research in physics

- 3rd in Electrical & Electronic Engineering (1st in Scotland)
- 4th in Engineering (Aerospace, Mechanical, Marine, etc)

Strong outside science & engineering...

Repository platform

Running [EPrints](#) 3.3.13: [Strathprints](#)

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1. Kitaev, Sergey and Enright, Jessica (2019) *Polygon-circle and word-representable graphs*. In: TCDM 2018 – 2nd IMA Conference on Theoretical and Computational Discrete Mathematics, University of Derby. Electronic Notes in Discrete Mathematics, 71. UNSPECIFIED, pp. 3-8. Item not available from this repository.

2. Turnbull, A. and Carroll, J. and Koukoura, S. and McDonald, A., ed. (2018) *Prediction of wind turbine generator bearing failure through analysis of high frequency vibration data and the application of support vector machine algorithms*. In: The 7th International Conference on Renewable Power Generation, 2018-08-26 - 2018-09-27, DTU, Lyngby.

3. Tsioumpra, Eleni and Stephen, Bruce and Dunn-Birch, Neil and McArthur, Stephen D.J., ed. (2018) *Data analytics to support operational distribution network monitoring*. In: IEEE PES Innovative Smart Grid Technologies Conference Europe 2018, 2018-10-21 - 2018-10-25, Sarajevo.

4. Rana, Shuvendu and Sur, Arijit (2018) *View invariant DIBR-3D image watermarking using DT-CWT*. Multimedia Tools and Applications, pp. 1-29. ISSN 1380-7501

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Making modelling count - increasing the contribution of shelf-seas community and ecosystem models to policy development and management

Hyder, Kieran and Rossberg, Axel G. and Allen, J. Icarus and Austen, Melanie C. and Barciela, Rosa M. and Bannister, Hayley J. and Blackwell, Paul G. and Blanchard, Julia L. and Burrows, Michael T. and Defriez, Emma and Dorrington, Tarquin and Edwards, Karen P. and Garcia-Carreras, Bernardo and Heath, Michael R. and Hembury, Deborah J. and Heymans, Johanna J. and Holt, Jason and Houle, Jennifer E. and Jennings, Simon and Mackinson, Steve and Malcolm, Stephen J. and McPike, Ruairidh and Mee, Laurence and Mills, David K. and Montgomery, Caron and Pearson, Dean and Pinnegar, John K. and Pollicino, Marilena and Popova, Ekaterina E. and Rae, Louise and Rogers, Stuart I. and Speirs, Douglas and Spence, Michael A. and Thorpe, Robert and Turner, R. Kerry and van der Molen, Johan and Yool, Andrew and Paterson, David M. (2015) *Making modelling count - increasing the contribution of shelf-seas community and ecosystem models to policy development and management*. *Marine Policy*, 61. pp. 291-302. ISSN 0308-597X



Text (Hyder-etal-MP-2015-Making-modelling-count-increasing-the-contribution-of-shelf-seas-community)

Hyder_etal_MP_2015_Making_modelling_count_increasing_the_contribution_of_shelf_seas_community.pdf

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Official URL: <https://doi.org/10.1016/j.marpol.2015.07.015>

Abstract

Marine legislation is becoming more complex and marine ecosystem-based management is specified in national and regional legislative frameworks. Shelf-seas community and ecosystem models (hereafter termed ecosystem models) are central to the delivery of ecosystem-based management, but there is limited uptake and use of model products by decision makers in Europe and the UK in comparison with other countries. In this study, the challenges to the uptake and use of ecosystem models in support of marine environmental management are assessed using the UK capability as an example. The UK has a broad capability in marine ecosystem modelling, with at least 14 different models that support management, but few examples exist of ecosystem modelling that underpin policy or management decisions. To improve understanding of policy, and management issues that can be addressed using ecosystem models, a workshop was convened that brought together advisors, assessors, biologists, social scientists, economists, modellers, statisticians, policy makers, and funders. Some policy requirements that can be addressed without further model development were identified including: attribution of environmental change to underlying drivers, integration of models and observations to develop more efficient monitoring programmes, assessment of indicator performance for different management goals, and the costs and benefit of legislation. Multi-model ensembles are being developed in cases where many models exist, but model structures are very diverse making a standardised approach of combining outputs a significant challenge, and there is need for new methodologies for describing, analysing, and visualising uncertainties. A stronger link to social and economic systems is needed to increase the range of policy-related questions that can be addressed. It is also important to improve communication between policy and modelling communities so that there is a shared understanding of strengths and limitations of ecosystem models.



36
25
8.06
n/a

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0 readers on CiteULike

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ID code: 54075

ecosystem models, marine policy and management, UK environmental assessment, management, and monitoring. Probabilities. Mathematical statistics, Aquaculture. Fisheries. Angling, Aquatic



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CRIS platform

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Pure University of Strathclyde (v5.13.1-1)

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95 results

An empirical explanation of the natural-resource-based view of the firm
McDougall, N., Wagner, B. & MacBryde, J., 28 May 2019, In : Production Planning and Control. 18 p., <https://doi.org/10.1080/09537287.2019.1620361>.
Research output: Contribution to journal > Article
[PUBLISHED] [FOR VALIDATION]

Multi-path interferometry using single photons
Cameron, R. & Cotter, J. P., 23 Apr 2019, In : Journal of Physics Communications. 3, 7 p., 045012.
Research output: Contribution to journal > Article
[PUBLISHED] [FOR VALIDATION]

Review of: Naoko Saito & Naomi Hodgson (eds.) (2019). Philosophy as Translation and the Understanding of Other Cultures. Oxford & New York: Routledge
Kenkies, K., Mar 2019, In : Educational Studies in Japan: International Yearbook. 13, p. 187-189 3 p.
Research output: Contribution to journal > Book/Film/Article review
[PUBLISHED] [FOR VALIDATION]

Notch effect of components at elevated temperature under creep, fatigue and creep-fatigue loading conditions: phenomenon, mechanism and evaluations
Gong, J.-G., Xuan, F. & Chen, H., 30 May 2019, (Accepted/In press) In : Journal of Pressure Vessel Technology, Transactions of the ASME.
Research output: Contribution to journal > Article
[ACCEPTED/IN PRESS] [FOR VALIDATION]

Advanced Gas-Cooled Reactor Fuel Channel Bore Estimation Model
Young, A. & West, G., 10 May 2019.
Research output: Contribution to conference > Poster
[PUBLISHED] [FOR VALIDATION]

BARRA v1.0: the Bureau of Meteorology Atmospheric high-resolution Geoscientific Model Development. 12, 5, p. 2049-2068
Su, C.-H., Eizenberg, N., Steine, P., Jakob, D., Fox-Hughes, P., White, C., Ren
Research output: Contribution to journal > Article
[PUBLISHED] [FOR VALIDATION]

Proceedings of the 2nd International Conference on Modelling and
Theotokatos, G. (ed.) & Coraddu, A. (ed.), 8 May 2019, p. 1. 282 p.
Research output: Contribution to conference > Proceeding
[PUBLISHED] [FOR VALIDATION]

A novel approach towards more realistic energy efficiency regulation
Ančić, I., Perčić, M., Theotokatos, G. & Vladimir, N., 8 May 2019, *Proceeding Ship Energy Systems (MOSES2019)*. Theotokatos, G. & Coraddu, A. (eds.). p.
Research output: Chapter in Book/Report/Conference proceeding > Conference contr

Pure Report University of Strathclyde (v5.13.1-1)

Research output - Dataset report

Save Save as Share Export Value Filter Split

Research outputs

	A	+	...	B	+	...	C	+	...	D	+	...	
	Title			Pure ID			Full date			Total number of authors			DOIs (Digital Obj)
1	"(Re)covering" the spectacular domestic			6414208			1/01/11			2			10.1353/asr.2011.0
2	"A little local difficulty"			32367624			1/01/14			1			
3	"A nation's pride is a tangible thing". Canadian ...			492313			1/01/04			1			
4	"A self-contained British Empire in metals": me...			13509411			1/01/12			1			
5	"A very poetical town"			61473046			30/03/14			1			10.1353/vp.2014.0
6	"After all these years they still ask me where I'm...			31736072			11/09/13			2			
7	"An Irish Boy he may well be but he spak braid ...			81118964			5/01/09			1			10.3986/Traditio20
8	"Baby it's cold outside"			67992172			5/05/12			4			10.1145/2207676.2
9	"Bindings" precedent and disappointed benef...			2735102			1/01/90			1			
10	"British Jobs for British workers"			43471731			1/01/10			1			
11	"Broken Men" and "Thatcher's Children"			21720784			1/01/13			1			
12	"Building Market Capability for New Product D...			45840554			1/01/16			2			
13	"But I thought we were friends?" Life cycles an...			380661			20/08/09			4			
14	"Capturing" carbon emissions in Scotland			28439087			1/01/08			1			
15	"Comrade Musicians To The Barricades"			45792256			23/04/15			1			
16	"Curdling" of soymilk in coffee			85760594			20/04/19			7			10.1016/j.foodhyd.
17	"Dancing on Eggs"			52259796			1/01/10			1			10.1353/bhm.0.03
18	"Decifra-me ou te devoro"			54531997			1/01/13			3			10.1590/S1413-99
19	"Don't just sit there - do something!" The meas...			44367536			19/08/15			2			10.1080/1091367
20	"Embedded" youth work. Ethical questions for ...			522670			1/10/09			2			

Column (I-J)

Research outputs (A-H)

Related > Projects (I-J)

Add filter Active fil... Saved fil...

Search for filters

- Classifications
- Nature of activity type
- Project type
- Information
- Participants
- Organisations
- Life cycle
- Collaborative partners
- Project managed by
- Visibility
- Advanced

Repository-CRIS configuration

- Connected Repository-CRIS ecosystem at Strathclyde: CRIS content writing to Strathprints
- ‘Connectors’ developed for main repository platforms
 - Maintenance overhead variable across platforms....?
- Data exchange between CRIS & IR handled by proprietary ‘connector’
- Complex two-way exchange of data with IRs
 - [WebDAV](#) and XSLT for object translation
 - Submit operations, update and delete operations handled by the ‘connector’
 - EPrints CRUD interface via plugin
 - Principal metadata elements accommodated, embargoes, etc.
- Validated content written to EPrints via cron job running every minute

Metadata schema

- Research output metadata from Pure
- Serialized as [MODS/XML](#) for exchange and 'long-term' storage
 - ICYDK, Metadata Object Description Schema (MODS)
 - Maintained by the Network Development & MARC Standards Office of the Library of Congress
- MODS/XML used as basis for transformation by XSLT to EPrints schema writing metadata to IR (Strathprints)
 - MODS used for EPrints but also other connected repository platforms, e.g. DSpace

MODS/XML metadata serialization (Pure)

```

1  <?xml version="1.0" encoding="UTF-8"?>
2
3  <mods:mods xmlns:mods="http://www.loc.gov/mods/v3" xmlns:riox="http://docs.riox.net/schema/v1.0/rioxterms/"
4  " xmlns:xlink="http://www.w3.org/1999/xlink">
5    <mods:recordInfo>
6      <mods:recordContentSource>local</mods:recordContentSource>
7    </mods:recordInfo>
8    <mods:identifier type="local">PURE: 70512102</mods:identifier>
9    <mods:identifier type="local">PURE UUID: bb099b18-ab17-4a0c-a2c7-762a122ec8bc</mods:identifier>
10   <mods:relatedItem type="host" xlink:role="">
11     <mods:part>
12       <mods:text>Haines , M & Taylor , I 2018 , ' Numerical investigation of the flow field around low
13         rise buildings due to a downburst event using Large Eddy Simulation ' Journal of Wind Engineering and
14         Industrial Aerodynamics , vol 172 , pp. 12-30 . DOI: 10.1016/j.jweia.2017.10.028</mods:text>
15     </mods:part>
16   </mods:relatedItem>
17   <mods:physicalDescription>
18     <mods:extent>19</mods:extent>
19   </mods:physicalDescription>
20   <mods:titleInfo lang="eng">
21     <mods:title>Numerical investigation of the flow field around low rise buildi
22     event using Large Eddy Simulation</mods:title>
23   </mods:titleInfo>
24   <mods:name type="personal">
25     <mods:role>
26       <mods:roleTerm type="text" authority="pure/role">author</mods:roleTerm>
27     </mods:role>
28     <mods:namePart type="given">Matthew</mods:namePart>
29     <mods:namePart type="family">Haines</mods:namePart>
30     <mods:affiliation>University of Strathclyde</mods:affiliation>
31   </mods:name>
32   <mods:name type="personal" authority="local" ID="614fa3b8-1368-4a96-a84a-2dbd7
33     <mods:role>
34       <mods:roleTerm type="text" authority="pure/role">author</mods:roleTerm>
35     </mods:role>
36     <mods:role>
37       <mods:roleTerm type="text" authority="pure/employeeId">217728</mods:roleTe
38     </mods:role>
39     <mods:role>
40       <mods:roleTerm type="text" authority="pure/personName">Taylor, Ian</mods:r
41     </mods:role>
42     <mods:namePart type="given">Ian</mods:namePart>
43     <mods:namePart type="family">Taylor</mods:namePart>
44     <mods:affiliation>Mechanical And Aerospace Engineering</mods:affiliation>
45   </mods:name>
46   <mods:name ID="3405" type="Corporate" lang="Eng" authority="local">

```

```

57   <mods:genre authority="dot" type="publicationType">
58     /dk/atira/pure/researchoutput/researchoutputtypes/contributiontojournal/article</mods:genre>
59   <mods:note type="version identification" displayLabel=
60     "Haines Taylor WEIA 2017 flow field around low rise buildings due to a downburst event using large eddy sin
61     ulation.pdf" ID="file_70586137">authorsversion</mods:note>
62   <mods:note type="document visibility" displayLabel=
63     "Haines Taylor WEIA 2017 flow field around low rise buildings due to a downburst event using large eddy sin
64     ulation.pdf" ID="file_70586137">PRE</mods:note>
65   <mods:note type="document embargo date" displayLabel=
66     "Haines Taylor WEIA 2017 flow field around low rise buildings due to a downburst event using large eddy sin
67     ulation.pdf" ID="file_70586137">2018-11-15</mods:note>
68   <mods:note type="peer review status">Peer reviewed</mods:note>
69   <mods:note type="publication category">Research</mods:note>
70   <mods:note type="publication workflow state">approved</mods:note>
71   <mods:originInfo>
72     <mods:dateIssued encoding="iso8601">2018-01-30</mods:dateIssued>
73     <mods:dateValid encoding="iso8601">2018-11-15</mods:dateValid>
74   </mods:originInfo>
75   <mods:subject>
76     <mods:topic>turbulent inlet</mods:topic>
77     <mods:topic>impinging jets</mods:topic>
78     <mods:topic>LES</mods:topic>
79     <mods:topic>downbursts</mods:topic>
80     <mods:topic>non-stationary analysis</mods:topic>
81     <mods:topic>Large Eddy Simulation</mods:topic>
82     <mods:topic>Mechanical engineering and machinery</mods:topic>
83     <mods:topic>Mechanical Engineering</mods:topic>
84   </mods:subject>
85   <mods:classification displayLabel="Mechanical engineering and machinery" authority=
86     "pure/librariankeywordContainers">/dk/atira/pure/core/keywords/subjects/t/tj</mods:classification>
87   <mods:classification displayLabel="Mechanical Engineering" authority="pure/ASJCSUBjectAreas">
88     /dk/atira/pure/subjectarea/asjc/2200/2210</mods:classification>
89   <mods:identifier type="doi">http://dx.doi.org/10.1016/j.jweia.2017.10.028</mods:identifier>
90   <mods:language>
91     <mods:languageTerm type="code" authority="iso639-2b">eng</mods:languageTerm>
92   </mods:language>
93   <mods:abstract lang="eng" type="content">The transient lift and drag coefficients around a low rise cube
94     of dimension 60mm and a portal building of dimensions 240x130x53mm with eaves height of 42mm, which arise
95     from the numerical simulation of an impinging jet or downburst are investigated. The numerical results
96     were validated against a experimental results from a laboratory impinging jet simulator operating at the
97     same scale. Having found the CFD simulation to match well with the laboratory scale the CFD was then used
98     to visualise and interpret the flow field around the buildings. Common transient atmospheric boundary

```

<mods:extension>

```

Experiments in fluids, 54:1511, 1-21 </mods:note>
<mods:extension>
  <riox:funder>EPSRC (Engineering and Physical Sciences Research Council)</riox:funder>
  <riox:projectid>EP/J008370/1</riox:projectid>
</mods:extension>
</mods:mods>

```

```

1 <?xml version="1.0" encoding="UTF-8"?>
2
3 <xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform" xmlns:v3="http://www.loc.gov/mod
  xmlns:date="http://exslt.org/dates-and-times" xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:riox
  http://docs.riox.net/schema/v1.0/riox/terms/" xmlns:xi="http://www.w3.org/1999/xlink" xmlns:map
  http://www.w3.org/2005/xpath-functions/math" xmlns:map="http://www.w3.org/2005/xpath-functions/m
  xmlns:array="http://www.w3.org/2005/xpath-functions/array" version="1.0" exclude-result-prefixes=
  <xsl:output indent="yes" method="xml"/>
  <xsl:template match="text()" />
  <xsl:template match="v3:mods">
    <eprints>
      <eprint>
        <!-- Document visibility -->
        <xsl:choose>
          <xsl:when test="v3:note[@type='publication workflow state' and text()='approved']">
            <eprint_status>archive</eprint_status>
          </xsl:when>
          <xsl:otherwise>
            <eprint_status>buffer</eprint_status>
          </xsl:otherwise>
        </xsl:choose>
        <!-- publishing status UKPURE-403 -->
        <xsl:choose>
          <xsl:when test="v3:note[@type='publicationStatus']='published'">
            <ispublished>pub</ispublished>
          </xsl:when>
          <xsl:when test="v3:note[@type='publicationStatus']='inpress'">
            <ispublished>inpress</ispublished>
          </xsl:when>
          <xsl:when test="v3:note[@type='publicationStatus']='unpublished'">
            <ispublished>unpub</ispublished>
          </xsl:when>
          <xsl:when test="v3:note[@type='publicationStatus']='inprep'">
            <ispublished>submitted</ispublished>
          </xsl:when>
          <xsl:otherwise>
            <ispublished>pub</ispublished>
          </xsl:otherwise>
        </xsl:choose>
        <date_type>published</date_type>
        <source>pure</source>
        <!-- Succeeds/replaced by -->
        <xsl:for-each select="v3:relatedItem[@type='succeeding']/v3:identifier[starts-with(text(),
          'eprints:')] ">
          <succeeds>
            <xsl:value-of select="normalize-space(substring-after(text(), 'eprints:'))"/>
          </succeeds>
        </xsl:for-each>
        <xsl:for-each select="v3:relatedItem[@type='preceding']/v3:identifier[starts-with(text(),
          'eprints:')] ">

```

```

49 <!-- Title -->
50 <title>
51 <xsl:value-of select="v3:titleInfo/v3:title"/>
52 <xsl:if test="v3:titleInfo/v3:subTitle">
53 <xsl:text> : </xsl:text>
54 <xsl:value-of select="v3:titleInfo/v3:subTitle"/>
55 </xsl:if>
56 </title>
57 <date>
58 <xsl:value-of select="v3:originInfo/v3:dateIssued"/>
59 </date>
60
61 <xsl:if test="v3:name[@type='personal']/v3:role/v3:roleTerm[@authority='pure/email']">
62 <contact_email>
63 <xsl:value-of select="v3:name[@type='personal']/v3:role/v3:roleTerm[@authority='pure/email']"/>
64 </contact_email>
65 </xsl:if>
66 <!-- Authors -->
67 <xsl:if test="v3:name[@type='personal' and count(v3:role/v3:roleTerm[@authority='pure/role'
  and text()='editor']=0 and count(v3:role/v3:roleTerm[@authority='pure/role' and
  text()='groupauthor']=0)]">
68 <creators>
69 <xsl:for-each select="v3:name[@type='personal' and
  count(v3:role/v3:roleTerm[@authority='pure/role' and text()='editor']=0 and
  count(v3:role/v3:roleTerm[@authority='pure/role' and text()='groupauthor']=0)]">
70 <item>
71 <name>
72 <family>
73 <xsl:value-of select="v3:namePart[@type='family']"/>
74 </family>
75 <given>
76 <xsl:value-of select="v3:namePart[@type='given']"/>
77 </given>
78 </name>
79 <xsl:if test="v3:role/v3:roleTerm[@authority='pure/email']">
80 <email>
81 <xsl:value-of select="v3:role/v3:roleTerm[@authority='pure/email']"/>
82 </email>
83 </xsl:if>
84 <xsl:if test="v3:role/v3:roleTerm[@authority='pure/employeeId']">
85 <personid>
86 <xsl:value-of select="v3:role/v3:roleTerm[@authority='pure/employeeId']"/>
87 </personid>
88 </xsl:if>
89 <xsl:if test="v3:role/v3:roleTerm[@authority='pure/personName']">
90 <pure_preferred_name>
91 <xsl:value-of select="v3:role/v3:roleTerm[@authority='pure/personName']"/>
92 </pure_preferred_name>
93 </xsl:if>
94 </item>

```

```

693 <!-- Modification by @g3om4c to accommodate RIOXX elements for OpenAIRE compliance via CORE -->
694 <xsl:key name="openaire" match="v3:extension/*[not(self::riox:funder)]" use=
  "generate-id(preceding-sibling::riox:funder[1])"/>
  <xsl:template match="v3:extension">
    <riox2_project_input>
      <xsl:for-each select="riox:funder">
        <item>
          <project>
            <xsl:value-of select="key('openaire', generate-id())[self::riox:projectid]"/>
          </project>
          <funder_name>
            <xsl:value-of select="."/>
          </funder_name>
        </item>
      </xsl:for-each>
    </riox2_project_input>
  </xsl:template>
699
700
701
702
703
704
705
706
707
708
709
710 </xsl:stylesheet>

```

MODS/XML metadata – XSLT transformation to EPrints XML metadata schema

Possible to modify XSLT to accommodate *some* IR requirements

Restrictions on data available from Pure – must be in MODS/XML serialization to be available to IR

'Connector lite'

- Connection between Pure & connected IR
 - 'Connector heavy'
 - No control over content sent to external repository
 - *Conflict*: the CRIS & IR dichotomy
 - CRIS ≠ repository
- Long standing requirement for partial connection between CRIS & IR
 - So-called 'connector lite'
 - Possible late 2016
 - Configuration

3.4 IR scenario #4: "connector lite"

IR scenario #4, or the "connector lite" scenario, refers to an IR configuration that would seek to incorporate the best aspects of both scenarios #1 and #3 by demonstrating only a partial connection between Strathprints and PURE, thus enabling the selective pushing of research content from PURE to Strathprints. The principal benefit of this approach is the relative separation of Strathprints and the KnowledgeBase, enabling the development of "institutional content" within Strathprints while allowing a stronger CRIS focus on contemporaneous research content. It would also obviate some of the technical issues surrounding the population of Strathprints associated with scenario #3 but would require bespoke development of PURE and resources this entails.

Table 4: IR scenario #4 ("connector lite") SWOT matrix.

		Internal environment	Strengths	Weaknesses
			- High visibility of Strathprints research content via use of Strathprints technical protocols in harvesting services, social reference services, academic search engines (e.g. GS) and SUPRIMO search, thus improving potential of research impact. - Collection of "institutional content" better fulfilling "traditional" IR remit of institutional memory for Strathprints.	- Technical overhead of maintaining two systems with "part-time" connection remains similar to scenario #1; overhead for GM, systems team, infrastructure, RKES. - Connector configuration prone to failure and requires maintenance.
External environment				
opportunities		- Opportunity to engage in a detailed programme of digital preservation work within an IR exemplifying true "institutional content". - Potential opportunity to deploy digital preservation toolkits/plugins within Strathprints. - Improvements to KnowledgeBase possible to maximise visibility of research content and promote research impact, e.g. OAI-PMH, HighWire data, sitemap support. - PURE refocus on contemporaneous content. - Scope for development of Strathprints as a standalone	"Part time" parallel operation of Strathprints and KnowledgeBase provides multiple discovery paths to most Strathprints research content. - Good surface web search agent indexing penetration of both KnowledgeBase and Strathprints. - Strathprints compliance with OAI-PMH will enable participation in – and extra visibility from – Open	- Bespoke development of PURE required to support "connector lite" workflow and associated costs. - Difficult to understand true impact and use of research content spread across multiple IRs. - Data used to populate T4 publication pages would need to be sourced from PURE, requiring development work from Web

https://pure.strath.ac.uk/admin/editor/dk/atira/pure/api/shared/model/researchoutput/editor/contributiontobookanthologyeditor.xhtml?id=36469998

Id: 36469998

DDSM-IDEA: a versatile dual-mode distributed demand side management integrat

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution bc

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Transfer to repository

Transfer publication to repository

Transfer Do not transfer

Assessment

Submitted to REF 2014

Off

Pure Portal usage @ Strathclyde

2017-04-04

Feeding the beast: workloads in a hybrid IR / CRIS environment

George Macgregor, Institutional Repository Coordinator, University of Strathclyde

This blog post is about the tension between serving the needs of an [institutional repository](#) (IR) and a [Current Research Information System](#) (CRIS). A [recent blog post](#) discussed improvements in the discoverability and usage of [Strathprints](#). In this blog I mentioned “connector lite”. Here is what I said:

Incidentally, you might be asking, ‘What is “connector-lite”? Prior to “connector-lite” Strathprints was receiving huge volumes of (mostly) unnecessary (and unwanted) metadata, all of it being supplied automatically (and uncontrollably) by our connected CRIS for the purposes of research management. All of this metadata were arriving in such volumes that the growth in full-text remained proportionally low, impeding our ability to grow Strathprints as a full-text destination. Implementing a solution of only a partial connection with the CRIS was therefore a long held ambition – and it was something I identified as essential as soon as I was appointed; but, for technical reasons at the CRIS side, it was an ambition that only became technically possible in early 2016. But when it became possible its implementation was seized upon as a way of restricting the flow of metadata. Repositories are, after all, supposed to facilitate access to full-text.

This scenario would not be an issue for institutions using a stand-alone IR, or indeed a stand-alone CRIS – but for institutions using both there is an inherent tension between the IR and the CRIS. So the following questions arise: *Why does this tension exist? Why use both systems?*

Back to basics: CRIS and IR systems

The principal reason why many institutions have elected to run an IR and CRIS in parallel is because they are essentially

Macgregor, George. *Feeding the Beast: Workloads in a Hybrid IR / CRIS Environment*, 2017. <https://perma.cc/DL7U-9VCE>.

Promoting content discovery of open repositories : reviewing the impact of optimization techniques (2016-2019)

Macgregor, George (2019) *Promoting content discovery of open repositories : reviewing the impact of optimization techniques (2016-2019)*. In: 14th International Conference on Open Repositories (OR2019), 2019-06-10 - 2019-06-13, Universität Hamburg.



Text (Macgregor-OR-2019-Promoting-content-discovery-of-open-repositories-reviewing-the-impact-of-optimization)

Macgregor_OR_2019_Promoting_content_discovery_of_open_repositories_reviewing_the_impact_of_optimization.pdf

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Official URL: <https://doi.org/10.17868/67963>

Abstract

Ensuring open repositories fulfill the discovery needs of both human and machine users is of growing importance and essential to validate the continued relevance of open repositories to users, and as nodes within open scholarly communication infrastructure. Following positive preliminary results reported elsewhere, this submission reviews the longer term impact of a series of discovery optimization approaches deployed on an open institutional repository. These

Macgregor, George. “Promoting Content Discovery of Open Repositories : Reviewing the Impact of Optimization Techniques (2016-2019).” In *14th International Conference on Open Repositories (OR2019)*, 1–10. Universität Hamburg, 2019. <https://doi.org/10.17868/67963>.

Interoperability challenges



Connector openness: protocols

- Proprietary CRIS = Proprietary standards
 - Restrictions on data which can be pulled via Pure connector
 - Limits repository functionality scope
 - Limits compliance scope
 - Catch 22 & the ‘compliance conundrum’
 - Maintaining the connector more onerous depending on your repository (?)
 - Connector over-writes pre-existing repository content with every CRIS-to-repository interaction
- But proprietary CRIS ≠ proprietary standards
 - Greater support for open standards
 - [SWORD V2](#) support preferable; simplification of base interoperability but resisted by vendor (see Symplectic Elements)
- Elsevier: Apathy & not knowing the business
 - Lack of domain experience by developers leads to inappropriate ‘solutions’
 - Reaching for convenient solutions rather than appropriate ones

Connector openness: metadata

- MODS/XML as foundation metadata v. good!
 - Good specificity for core descriptive metadata
- But:
 - Incorrect data modelling in areas
 - Native MODS/XML does not support all data types necessary for IRs
 - Does Pure include these data types anyway? No.
 - Project data
 - Publication states
 - Relations: associative links to related content / data unsupported, e.g. data
 - **<mods:extension>** - what should be used within this bucket?!
 - Agreement necessary about which schema to be used

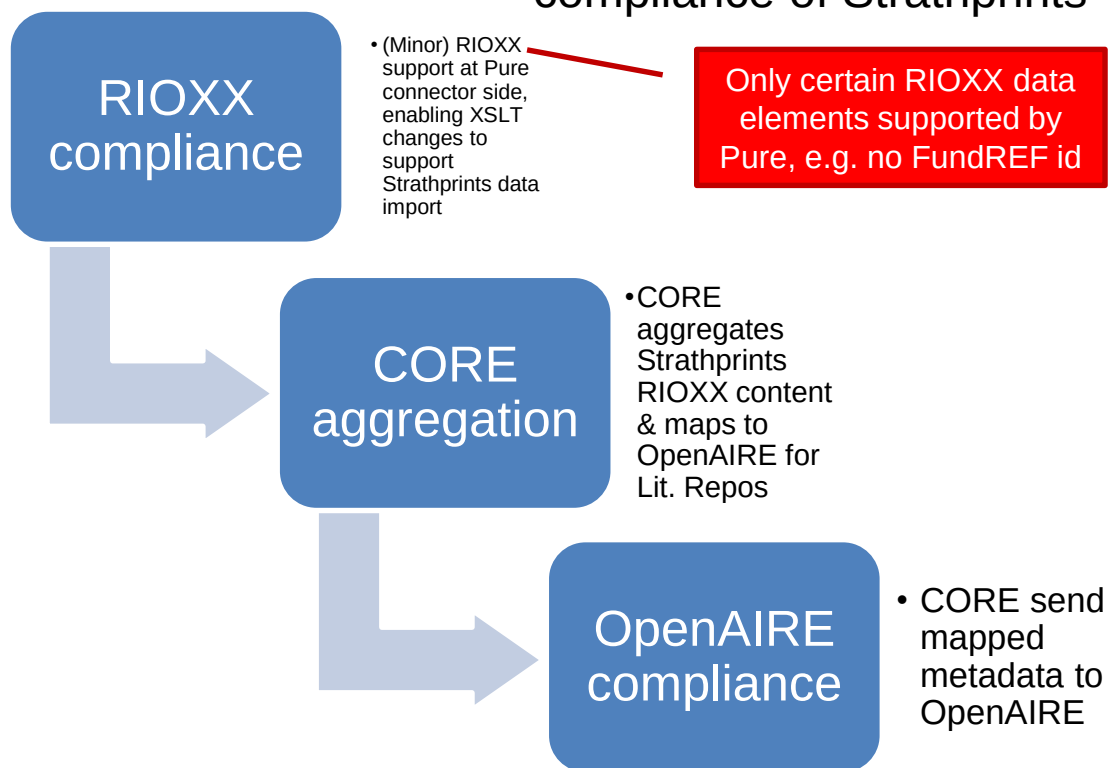
```
Experiments in fluids, 54:1511, 1-21 </mods:note>
<mods:extension>
  <riox:funder>EPSRC (Engineering and Physical Sciences Research Council)</riox:funder>
  <riox:projectid>EP/J008370/1</riox:projectid>
</mods:extension>
</mods:mods>
```

<mods:extension>

Metadata application profiles

- Adopting metadata application profiles problematic in connected CRIS/IR configuration
 1. Pure = limited native support
 2. EPrints = excellent native support
 3. But bridging the gap requires hacking
- Unsatisfactory & linked to vendor apathy / lack of openness
- [Spectre of semantic interoperability & data quality problems
 - Quality of CRIS administrative data an additional interoperability impediment]

Case study: OpenAIRE compliance of Strathprints



Concluding thoughts

- Interoperability could be better!
- Improved support by Pure for open standards & protocols needed
 - Reaching for domain standards first rather than what is convenient for local developers
 - Opening up more data for repository integration
 - Minimising overhead for institutions & avoiding disenfranchisement
- Agreement on exposure of metadata to repository systems
 - Likely disparate practice across CRIS systems & repositories
- Getting one's own house in order: semantic interoperability and data quality issues in campus-wide CRIS systems