

Research on Linked Data and Co-reference Resolution

Dublin Core & Metadata Applications 2009
Seoul, Korea

Hugh Glaser, Ian Millard:
University of Southampton, UK

성원경, 이승우, 김평, 류범종

Won-Kyung Sung, Seungwoo Lee, Pyung Kim, Beom-Jong You:
KISTI, Korean Institute of Science and Technology Information

<http://eprints.ecs.soton.ac.uk/17761/>

Background

- Southampton & KISTI
 - Semantic Web research and development
 - Datasets
- Project
 - Match KISTI datasets with Southampton activities

Objectives

- Publish KISTI dataset as Linked Data
- Investigate multiple ontology interoperation
- Co-reference identification
- Integration of KISTI data into RKBExplorer

Context: KISTI

- RDF
 - Metadata for publications including texts
 - Sources include
 - Korean conferences
 - Citeseer
- Semantic Web applications

Context: RKB and RKBExplorer

- RKB (ReSIST Knowledge Base) and RKBExplorer
- Knowledge-enabled infrastructure for cooperation in research into resilient systems
- Came out of CS AKTiveSpace
 - (Semantic Web Challenge winner 2003)
- Reasonably mature system and ongoing development

RKBExplorer.com


UNIVERSITY OF
Southampton

School of Electronics
and Computer Science

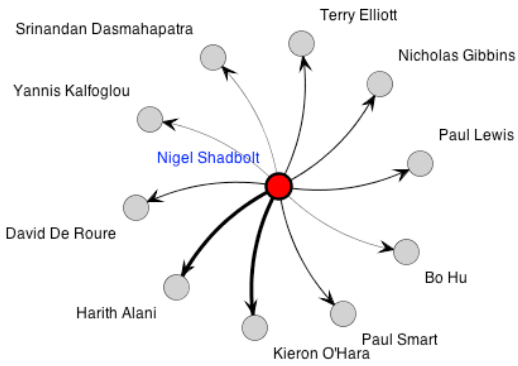
RKBExplorer » People » Nigel Shadbolt

Search... Search

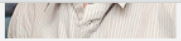
- about
- help
- contact
- system requirements
- data sources
- acknowledgements



Related people



Details



Full Name:
[Nigel Shadbolt](#)

Works For:
[University of Southampton](#)

Telephone:
+44 (0)23 8059 7682

Fax:
+44-602-590339

Email Address:
nrs@ecs.soton.ac.uk

Web Address:
<http://www.ecs.soton.ac.uk/people/nrs>

Web Address:
http://en.wikipedia.org/wiki/Nigel_Shadbolt

Description:
Nigel Richard Shadbolt is Professor of Computer Science University of Southampton in southern

People	Organisations	Publications	Research Areas
Kieron O'Hara	University of Southampton	Facilitating Knowledge Management in Pervasive Health Care Systems	I.2.6. Learning
Harith Alani	Intelligence, Agents and Multimedia	A Controlled Natural Language Interface for Semantic Media Wiki Using the Rabbit Language	I.2.1. Applications and Expert Systems
Nicholas Gibbins	Intelligence, Agents, Multimedia Group	A Controlled Natural Language Interface for Semantic Media Wiki Using the Rabbit Language	I.2.4. Knowledge Representation Formalisms and Methods
David De Roure	School of Electronics and Computer Science	Contextualising Tags in Collaborative Tagging Systems	Computer Science
Paul Lewis	UNIVERSITY OF NOTTINGHAM	Lifelogging: Privacy and Empowerment with Memories for Life	I.2.11. Distributed Artificial Intelligence
Paul Smart		Lifelogging: Privacy and Empowerment with Memories for Life	H.3.4. Systems and Software
Terry Elliott		On Measuring Expertise in Collaborative Tagging Systems	H.3.5. Online Information Services
Bo Hu		On Measuring Expertise in Collaborative Tagging Systems	I.2.0. General
Srinandan Dasmahapatra			I.2.7. Natural Language Processing
Yannis Kalfoglou			
Nick Jennings			

Applet eu.resist.rkb.RKBExplorer2 started

Or a Paper

RKBExplorer » Publications » A Web-Based Resource Model for eScience: Object Reuse & Exchange

http://www.rkbexplorer.com/explorer/#display=publication-%7Bhttp%3A//dblp.rkbexplorer.com/id/journals/corr/abs-0811-05: Google

RKBExplorer » Publications » A Web-Based Resource Model for eScience: Object Reuse & Exchange

Search... Search

- about
- help
- contact
- system requirements
- data sources
- acknowledgements

Related publications

Co-authorship networks...
An Architecture for th...
Automatic Metadata Gen...
E-prints and Journal A...
Core Services in the A...
Pathways: augmenting i...
An information network...
Object Re-Use & Exchan...
Access Interfaces for ...
A Practical Ontology f...

Details

Title:
A Web-Based Resource Model for eScience: Object Reuse & Exchange

Author:
[Herbert Van de Sompel](#)
[Simeon Warner](#)
[Michael Nelson](#)
[Pete Johnston](#)
[Robert Sanderson](#)
[Carl Lagoze](#)

Web Address:
<http://arxiv.org/abs/0811.0573>

Journal:

Volume:
abs/0811.0573

<http://www.ektos.org/ontology/dataset/>

People

- [Carl Lagoze](#)
- [Herbert Van de Sompel](#)
- [Michael Nelson](#)
- [Pete Johnston](#)
- [Robert Sanderson](#)
- [Simeon Warner](#)

Organisations

- [Cornell University](#)

Publications

- [Object Re-Use & Exchange: A Resource-Centric Approach](#)
- [Pathways: augmenting interoperability across scholarly repositories.](#)
- [A Practical Ontology for the Large-Scale Modeling of Scholarly Artifacts and their Usage](#)
- [Access Interfaces for Open Archival Information Systems based on the OAI-PMH and the OpenURL Framework for Context-Sensitive Services](#)
- [An Architecture for the Aggregation and Analysis of Scholarly Usage Data](#)

Research Areas

No results found

Or a Couple of People

The screenshot displays the RKBExplorer web application interface. At the top, the browser address bar shows the URL: <http://www.rkbexplorer.com/explorer/#display=person-%7Bhttp%3A//southampton.rkbexplorer.com/id/person-4d564daec70t>. The page title is "RKBExplorer » People » Carl Lagoze".

The main content area is divided into several sections:

- Related people:** A network graph showing connections between Carl Lagoze (the central node) and other individuals. The nodes include Dean Eckstrom, David Millman, Christopher Ingram, William Arms, Dean Krafft, Tim Cornwell, Richard Marisa, Diane Hillmann, Carol Terrizzi, John Saylor, Simeon Warner, Donna Bergmark, and Jane Hunter. Carl Lagoze is highlighted with a red dot.
- Details:** A sidebar containing personal information for Carl Lagoze:
 - Full Name:** [Carl Lagoze](#)
 - Email Address:** lagoze@cs.cornell.edu
 - Raw Linked Data:** [Resolvable URI](#), [All Known Co-reference Data](#)
 - View in external viewer:** [Zitgist Data Viewer](#), [OpenLink Data Explorer](#), [Tabulator \(Firefox only\)](#)
- People:** A list of other individuals in the network, including Herbert Van de Sompel, Dean Krafft, Donna Bergmark, James R. Davis, John Saylor, Pavel Dmitriev, Simeon Warner, Carol Terrizzi, Diane Hillmann, and Jane Hunter.
- Research Areas:** A list of research topics such as H.3.7. Digital Libraries, H.3.5. Online Information Services, H.3.3. Information Search and Retrieval, H.3.4. Systems and Software, H.3.6. Library Automation, H.5.3. Group and Organization Interfaces, I.7. DOCUMENT AND TEXT PROCESSING, and C.2.1. Network Architecture and Design.
- Publications:** A list of research papers, including "The oreChem Project: Integrating Chemistry Scholarship with the Semantic Web", "A Web-Based Resource Model for eScience: Object Reuse & Exchange", "Object Re-Use & Exchange: A Resource-Centric Approach", "Detecting research topics via the correlation between graphs and texts.", "The OAI-ORE effort: progress, challenges, synergies.", and "Augmenting interoperability across scholarly repositories".
- Projects:** A list of research projects, including "DLI-2: Security and Reliability in Component-based Digital Libraries", "DLI-International: Integrating and Navigating Eprint Archives through Citation-Linking", "DLI-International: Metadata for Resource Discovery of Multimedia Digital Objects", "SGER: Advancing the State of eChemistry: Workshop and Pilot Study", "Collaborative Project: Core Integration - Leading NSDL Toward Long-Term Success", and "NSDL Technical Network Services: A Cyberinfrastructure Platform for STEM".


And how
they are
linked

And Why they are Linked?

http://www.rkbexplorer.com/cop/

http://www.rkbexplorer.com/cop/explain.php?type=person-person&source=http%3A%2F%2Fsouthampton.rkbexplorer.com%2Fid/ Google

iGoogle IPK iPhone RKB Freqs iPhone Single (46) And Benny Uni DH ECS UoS ReSIST MacOS X Football Air P SWC GPS eprints3



www.rkbexplorer.com

Carl Lagoze is connected to **Dean Krafft**

They are linked by 9 relations.

Publications

They have co-authored 6 papers:

- [Core services in the architecture of the national science digital library \(NSDL\)](#)
- [An information network overlay architecture for the NSDL](#)
- [Metadata aggregation and \"automated digital libraries\": A retrospective on the NSDL experience](#)

(3 more)

Affiliations

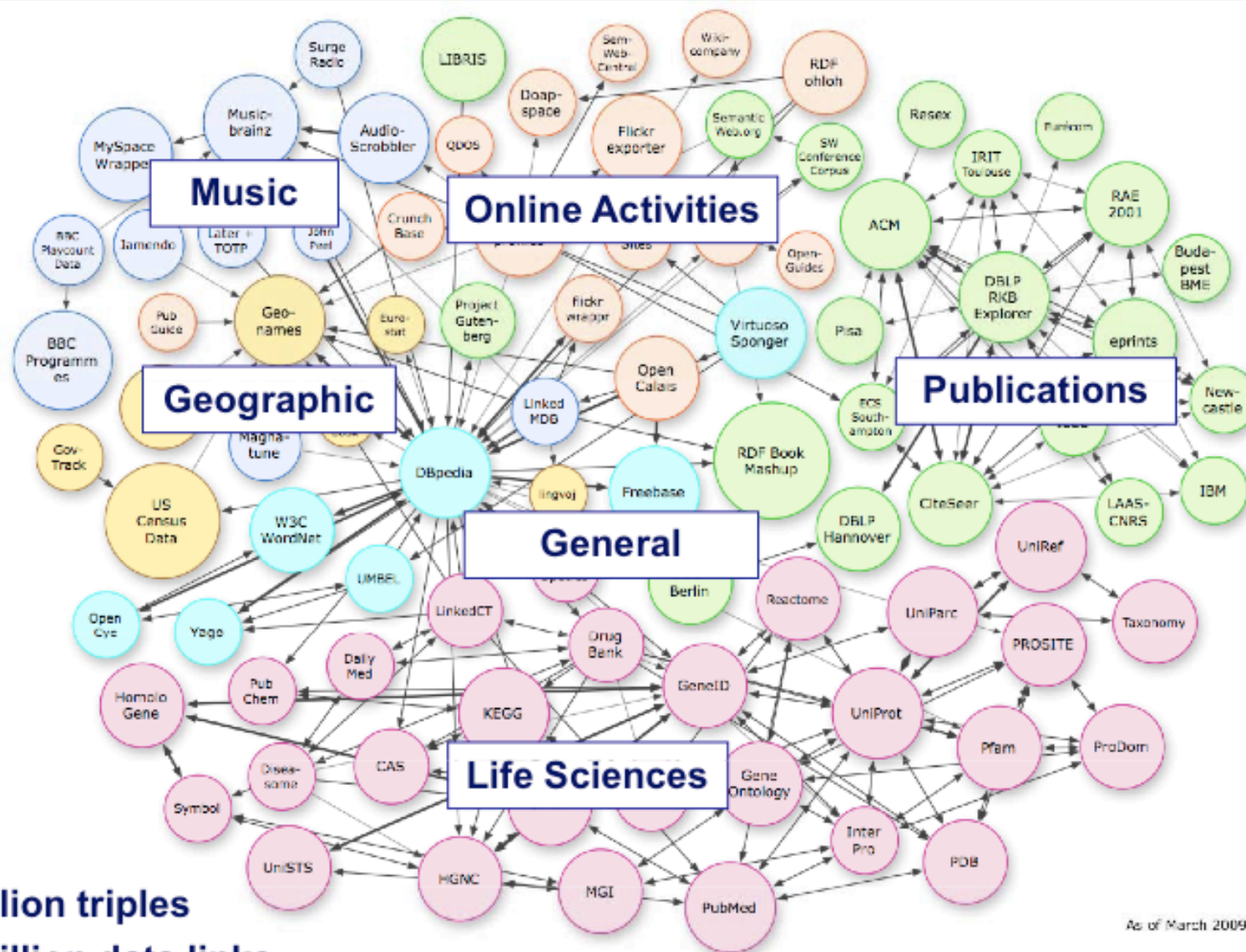
They are both affiliated to [Cornell University](#).

Projects

They are both members of 2 projects:

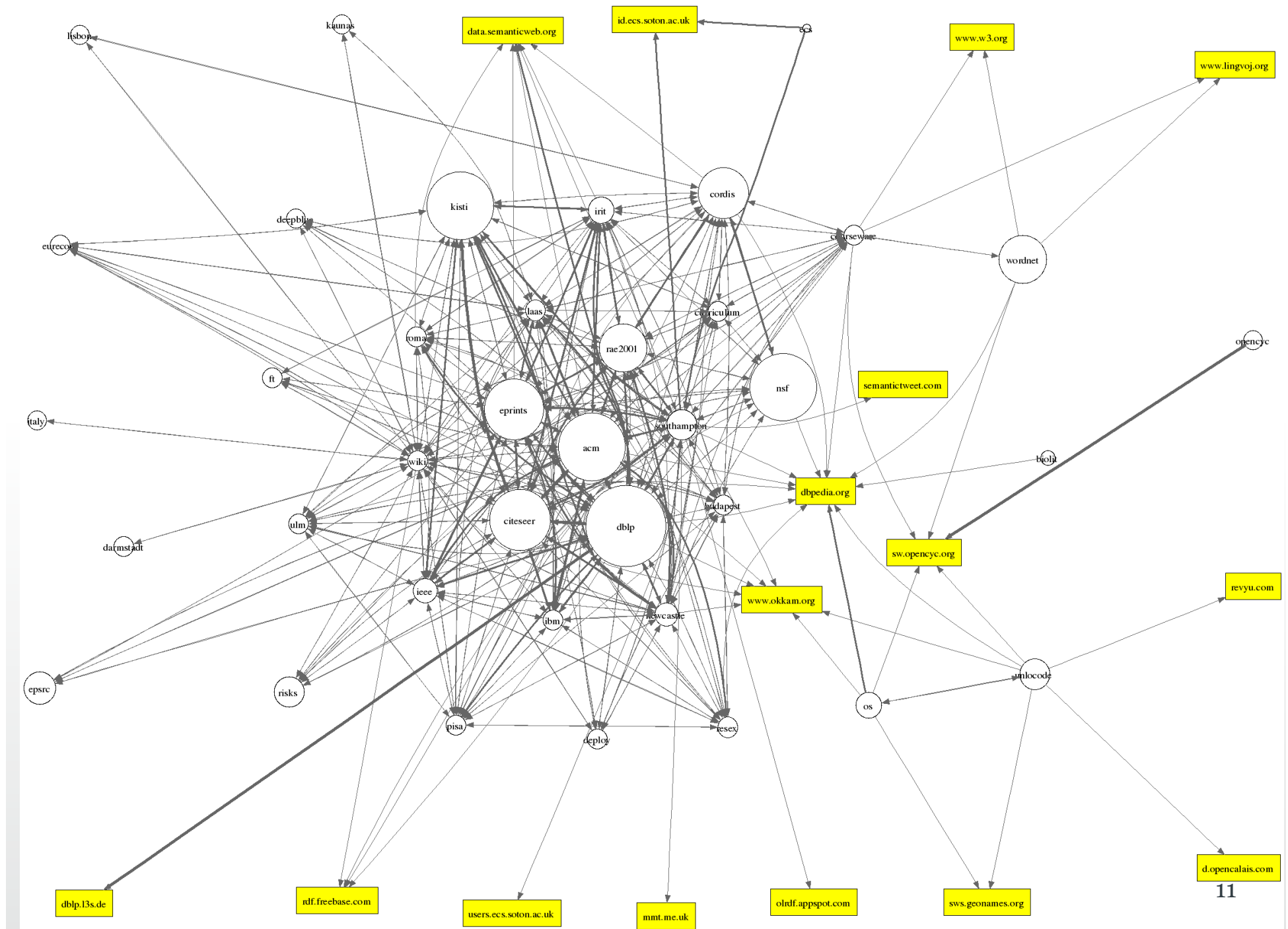
- [NSDL Technical Network Services: A Cyberinfrastructure Platform for STEM Education](#)
- [Collaborative Project: Core Integration - Leading NSDL toward Long-Term Success](#)

LOD Datasets on the Web: March 2009



4.5 billion triples
180 million data links

As of March 2009



Linked Data Publishing

The screenshot shows a web browser window with the URL <http://kisti.rkbexplorer.com/>. The page features the KISTI logo and navigation links for search, query, CRS, and contact. A search bar is present with a dropdown menu set to 'Literal/text search' and a 'Submit' button. The main content area includes a description of the repository as a semantic repository for RDF and co-reference data, provided by the Korean Institute of Science Technology and Information. A list of services offered includes URI resolution, browsing, SPARQL queries, coreference resolution, and semantic sitemaps. Current statistics for the RDF repository and CRS are also displayed.

Just search: Literal/text search

This is one of several semantic repositories that contains and publishes RDF and co-reference data, forming the underlying distributed storage model behind the [RKB Explorer](#) initiative.

This dataset is provided by the [Korean Institute of Science Technology and Information \[English\]](#) and details academic researchers and publications from Springer.

Services offered —

- All URIs on this domain are resolvable, and deliver html or RDF, depending on content negotiation
- [Browse](#) interface for viewing and navigating RDF triples
- [Query](#) interface providing access via the [SPARQL](#) query language for RDF
- [Coreference Resolution Service](#), which identifies and manages duplicate URIs
- The URL of the RDF file in which each URI can be found is also available, under the "Source" column when browsing.
- The [semantic sitemap](#) is available.
- A [voiD description](#) is available.

A typical URI you can try resolving is http://kisti.rkbexplorer.com/id/PER_0000000000000131417.

The RDF is presented in accordance with the [KISTI Research Reference Ontology](#).

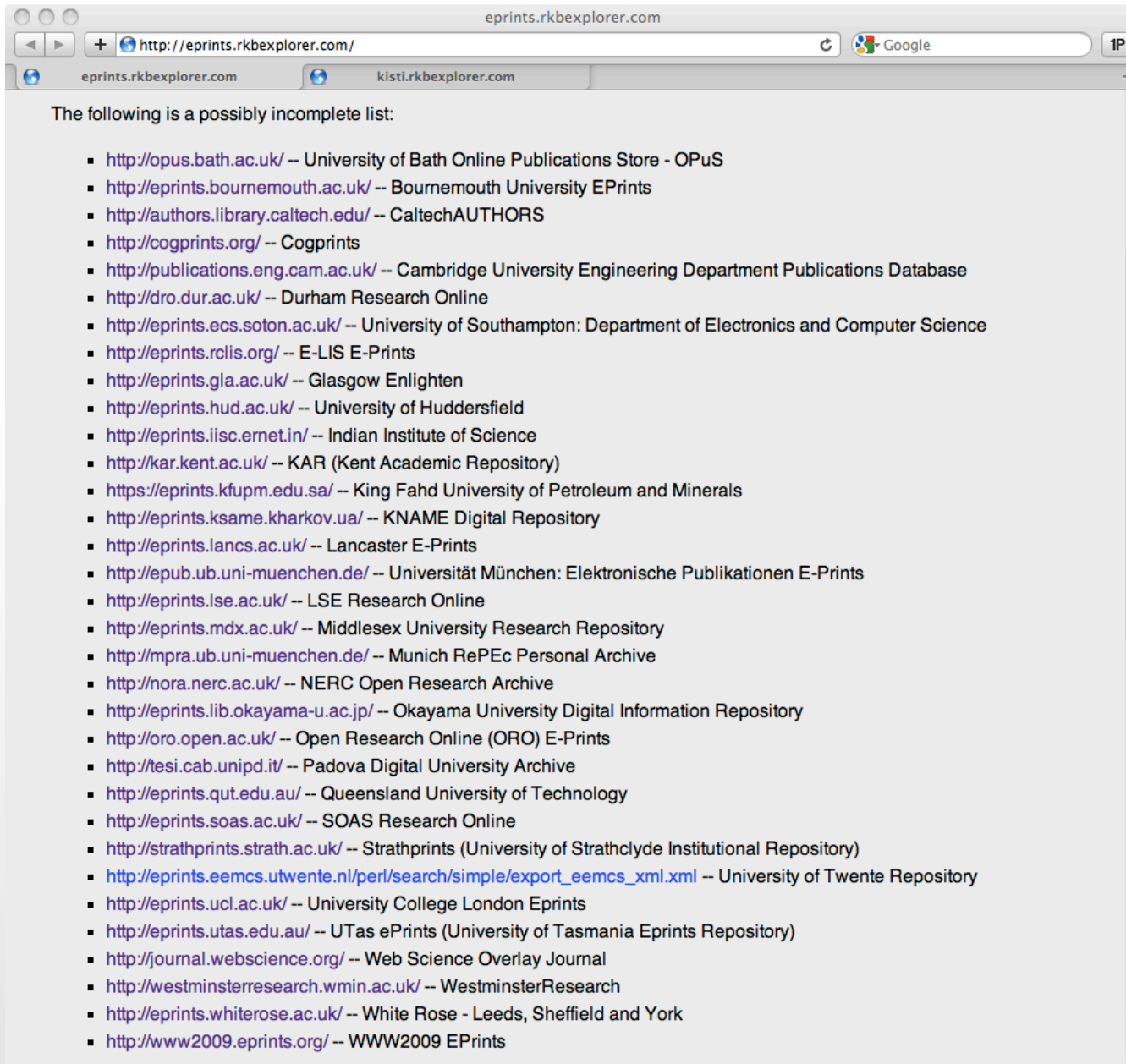
Current statistics for this RDF repository (<http://kisti.rkbexplorer.com/sparql/>) —

Last data assertion	2009-10-02 01:04:00
Number of triples	12815726
Number of symbols	3239374
Size of RDF dataset	672M

Current statistics for this CRS (<http://kisti.rkbexplorer.com/crs/>) —

Last data assertion	2009-10-12 00:04:09
Number of URIs	502446
Number of bundles	834388
of which active	170866

ePrints repositories



The following is a possibly incomplete list:

- <http://opus.bath.ac.uk/> -- University of Bath Online Publications Store - OPuS
- <http://eprints.bournemouth.ac.uk/> -- Bournemouth University EPrints
- <http://authors.library.caltech.edu/> -- CaltechAUTHORS
- <http://cogprints.org/> -- Cogprints
- <http://publications.eng.cam.ac.uk/> -- Cambridge University Engineering Department Publications Database
- <http://dro.dur.ac.uk/> -- Durham Research Online
- <http://eprints.ecs.soton.ac.uk/> -- University of Southampton: Department of Electronics and Computer Science
- <http://eprints.rclis.org/> -- E-LIS E-Prints
- <http://eprints.gla.ac.uk/> -- Glasgow Enlighten
- <http://eprints.hud.ac.uk/> -- University of Huddersfield
- <http://eprints.iisc.ernet.in/> -- Indian Institute of Science
- <http://kar.kent.ac.uk/> -- KAR (Kent Academic Repository)
- <https://eprints.kfupm.edu.sa/> -- King Fahd University of Petroleum and Minerals
- <http://eprints.ksame.kharkov.ua/> -- KNAME Digital Repository
- <http://eprints.lancs.ac.uk/> -- Lancaster E-Prints
- <http://epub.ub.uni-muenchen.de/> -- Universität München: Elektronische Publikationen E-Prints
- <http://eprints.lse.ac.uk/> -- LSE Research Online
- <http://eprints.mdx.ac.uk/> -- Middlesex University Research Repository
- <http://mpira.ub.uni-muenchen.de/> -- Munich RePEc Personal Archive
- <http://hora.nerc.ac.uk/> -- NERC Open Research Archive
- <http://eprints.lib.okayama-u.ac.jp/> -- Okayama University Digital Information Repository
- <http://oro.open.ac.uk/> -- Open Research Online (ORO) E-Prints
- <http://tesi.cab.unipd.it/> -- Padova Digital University Archive
- <http://eprints.qut.edu.au/> -- Queensland University of Technology
- <http://eprints.soas.ac.uk/> -- SOAS Research Online
- <http://strathprints.strath.ac.uk/> -- Strathprints (University of Strathclyde Institutional Repository)
- http://eprints.eemcs.utwente.nl/perl/search/simple/export_eemcs_xml.xml -- University of Twente Repository
- <http://eprints.ucl.ac.uk/> -- University College London Eprints
- <http://eprints.utas.edu.au/> -- UTas ePrints (University of Tasmania Eprints Repository)
- <http://journal.webscience.org/> -- Web Science Overlay Journal
- <http://westminsterresearch.wmin.ac.uk/> -- WestminsterResearch
- <http://eprints.whiterose.ac.uk/> -- White Rose - Leeds, Sheffield and York
- <http://www2009.eprints.org/> -- WWW2009 EPrints

One of Many KBs, including other ePrints

acm.rkbexplorer.com
budapest.rkbexplorer.com
citeseer.rkbexplorer.com
cordis.rkbexplorer.com
courseware.rkbexplorer.com
darmstadt.rkbexplorer.com
dblp.rkbexplorer.com
dbpedia.org
deepblue.rkbexplorer.com
deploy.rkbexplorer.com
epsrc.rkbexplorer.com
eurecom.rkbexplorer.com
ft.rkbexplorer.com
ibm.rkbexplorer.com
ieee.rkbexplorer.com
irit.rkbexplorer.com

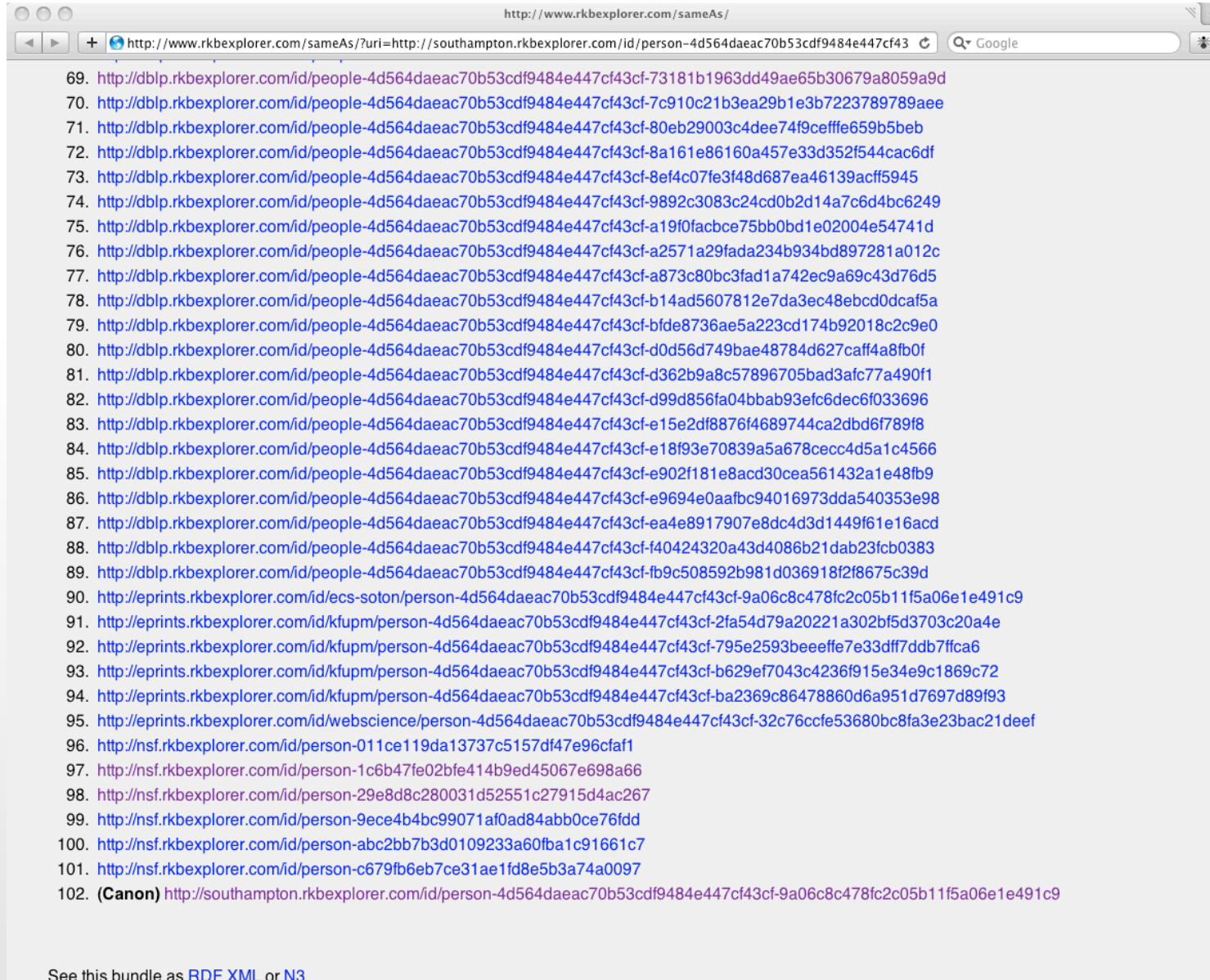
italy.rkbexplorer.com
kaunas.rkbexplorer.com
kisti.rkbexplorer.com
laas.rkbexplorer.com
lisbon.rkbexplorer.com
newcastle.rkbexplorer.com
nsf.rkbexplorer.com
pisa.rkbexplorer.com
rae2001.rkbexplorer.com
resex.rkbexplorer.com
roma.rkbexplorer.com
southampton.rkbexplorer.com
ulm.rkbexplorer.com
unlocode.rkbexplorer.com
wiki.rkbexplorer.com
xxx.yyy.zzz

Range from a few 100 to more than 10,000,000 “facts”

Co-Reference

- Repositories have people, publications, etc. from other institutions who also have records there and elsewhere
- And vice versa
- Co-Reference is a Big Problem
 - Everything is a URI (not title, name, number...)
 - Identifying multiple URIs for one resource
 - Rejecting incorrectly conflated resources
 - Publishing
 - Using
- Coldstart
 - A serious problem
 - Nothing is linked to anything
 - Not even (reliably) within most repositories

Who is Carl Lagoze?



Co-Reference Service (CRS)

- CRS Subsystem
 - Find co-references
 - Store them
 - Publish them
 - Essentially:
 - $URI_i \rightarrow \{ URI_1, \dots, URI_i, \dots, URI_n \}$
 - Recommend a “Canon”
- Published by the Data Publisher
 - And possibly others
- Middleware aggregates co-references from recognised CRSes

The screenshot shows a web browser window with the URL `http://kisti.rkbexplorer.com/browse/`. The page header includes the **esist** logo and the text `kisti.rkbexplorer.com` with navigation links for `search`, `query`, `crs`, and `rdf/xml`.

The main content area displays the name **Seungwoo Lee** and states: "Showing combined information from the following coreferenced URIs ...". A link is provided: `http://kisti.rkbexplorer.com/id/PER_0000000000000131417` [View this URI only].

Below this, a message reads: "The CRS managing coreference data for kisti.rkbexplorer.com knows of 3 additional equivalent URIs in other repositories. You can also view the global equivalence closure across all repositories."

The section **Results in repository kisti.rkbexplorer.com...** contains two tables of RDF triples.

Subject	Property	Object/Value	Source
Seungwoo Lee	kisti:engNameOfPerson	Seungwoo Lee [Explore]	datatypeproperties.ttl >>
Seungwoo Lee	rdf:type	<code>PER_char(20)^^</code>	datatypeproperties.ttl >>
Seungwoo Lee	rdf:type	<code>PER_char(20)^^</code>	objectproperties.ttl >>
Seungwoo Lee	rdf:type	<code>PER_char(20)^^</code>	resources.ttl >>


Subject	Property	Object	Source
kisti.rkbexplorer.com Linked Data Repository	http://rdfs.org/ns/void#exampleResource	Seungwoo Lee	dataset.ttl >>
kisti.rkbexplorer.com Linked Data Repository	http://rdfs.org/ns/void#exampleResource	Seungwoo Lee	void.ttl >>
http://kisti.rkbexplorer.com/id/CR1_0000000000000108203	kisti:hasCreator	Seungwoo Lee	objectproperties.ttl >>
http://kisti.rkbexplorer.com/id/CR1_0000000000000122916	kisti:hasCreator	Seungwoo Lee	objectproperties.ttl >>

At the bottom of the page, it says: "8 result(s) and 15 label(s) found in 2.2 seconds"

KISTI CRS

http://kisti.rkbexplorer.com/crs/

http://kisti.rkbexplorer.com/crs/export/?uri=http%3A%2F%2Fkisti.rkbexplorer.com%2Fid%2FPER_0000000000000131417



kisti.rkbexplorer.com

search query crs contact

Canon
http://kisti.rkbexplorer.com/id/PER_0000000000000131417

Duplicate URIs
<http://acm.rkbexplorer.com/id/person-407157-2daefb51219e2eb08ffdd40070a4acc5>
<http://citeseer.rkbexplorer.com/id/resource-CSP179673-c23d3b44f74d68cce281e3ff7795bf4c>
<http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214f05-3aac82bb29cfbecfc2e83d8b23349445>
http://kisti.rkbexplorer.com/id/PER_0000000000000131417

Bundle instantiated at
2009-08-07 09:12:21

Alternative representations
[RDF/XML](#)
[sameAs list in N3](#)
[image/png](#)

Co-Reference Closure

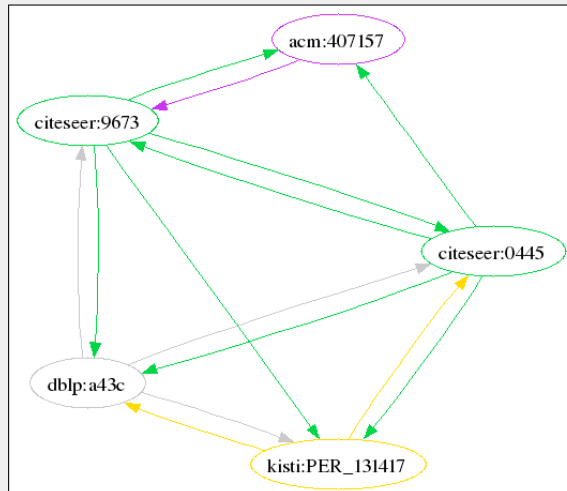
Complete Co-Reference Information

This service computes the equivalence class within the known URIs for a specified URI, by consulting all relevant CRS knowledge bases.

Equivalent URIs...

1. **(Canon)** <http://acm.rkbexplorer.com/id/person-407157>
2. <http://citeseer.rkbexplorer.com/id/resource-CSP179673>
3. <http://citeseer.rkbexplorer.com/id/resource-CSP180445>
4. <http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214f05-90d423eb148125a6e5c573dc5a15a43c>
5. http://kisti.rkbexplorer.com/id/PER_000000000000131417

The following diagram shows the interconnectivity between the CRS knowledge bases which maintain the context-dependent representation of coreference for each of the RKBExplorer domains.



Seungwoo Lee

Showing information queried from all repositories ...

Showing information queried from all repositories ...

Subject	Property	Object/Value	Source
Seungwoo Lee	akt:full-name	Seungwoo Lee [Explore]	acm-periodicals.rdf >>
Seungwoo Lee	akt:full-name	Seungwoo Lee [Explore]	acm-proceedings.rdf >>
Seungwoo Lee	akt:full-name	Seungwoo Lee [Explore]	dblp-publications-2001.rdf >>
Seungwoo Lee	akt:has-affiliation	Electrical and Computer Engineering Division, Pohang University of Science & Technology (POSTECH), Pohang, South Korea.gblee@postech.ac.kr	acm-periodicals.rdf >>
Seungwoo Lee	akt:has-affiliation	POSTECH, Pohang, Korea	acm-proceedings.rdf >>
Seungwoo Lee	kisti:engNameOfPerson	Seungwoo Lee [Explore]	datatypeproperties.ttl >>
Seungwoo Lee	rdf:type	akt:Affiliated-Person	acm-periodicals.rdf >>
Seungwoo Lee	rdf:type	akt:Affiliated-Person	acm-proceedings.rdf >>
Seungwoo Lee	rdf:type	Generic Agent	acm-periodicals.rdf >>
Seungwoo Lee	rdf:type	Generic Agent	acm-proceedings.rdf >>
Seungwoo Lee	rdf:type	Generic Agent	dblp-publications-2001.rdf >>
Seungwoo Lee	rdf:type	akt:Person	acm-periodicals.rdf >>
Seungwoo Lee	rdf:type	akt:Person	acm-proceedings.rdf >>
Seungwoo Lee	rdf:type	akt:Person	dblp-publications-2001.rdf >>
Seungwoo Lee	rdf:type	PER_char(20)**	datatypeproperties.ttl >>
Seungwoo Lee	rdf:type	PER_char(20)**	objectproperties.ttl >>
Seungwoo Lee	rdf:type	PER_char(20)**	resources.ttl >>

Subject	Property	Object	Source
Automatic acquisition of named entity tagged corpus from world wide web	akt:has-author	Seungwoo Lee	acm-proceedings.rdf >>
A Corpus-Based Learning Method of Compound Noun Indexing Rules for Korean	akt:has-author	Seungwoo Lee	acm-periodicals.rdf >>
SiteQ: Engineering High Performance QA System Using Lexico-Semantic Pattern Matching and Shallow NLP.	akt:has-author	Seungwoo Lee	dblp-publications-2001.rdf >>
A Corous-Based Learning Method of Compound Noun			dblp-publications-

Global Co-reference

The screenshot shows a web browser window with the URL `http://kisti.rkbexplorer.com/id/PER_0...0000131417`. The page title is `<sameAs>` and the subtitle is `interlinking the Web of Data`. The main content area contains a search bar with the input `http://kisti.rkbexplorer.com/id/PER_0` and a search button. Below the search bar, there is a list of 23 equivalent URIs for the input URI. The list is numbered 1 through 23 and includes various URIs from different domains like `southampton.rkbexplorer.com`, `acm.rkbexplorer.com`, `dblp.rkbexplorer.com`, and `citeseer.rkbexplorer.com`. A bracket on the left side of the list indicates that all these URIs are equivalent to the input URI. At the bottom of the page, there are links for `rdf+xml`, `n3`, `json`, `text`, and `show fewer items`.

The Web of Data has many equivalent URIs.
This service helps you to find co-references
between different data sets.
Enter a known URI, or use Sindice to search first.

`<sameAs>` `http://kisti.rkbexplorer.com/id/PER_0`

`Sindice` Enter a literal (text) search...

Equivalent URIs for `http://kisti.rkbexplorer.com/id/PER_0000000000000131417` –

- 1. `http://southampton.rkbexplorer.com/id/person-4ebad00fdc9f5585b5cac3...853dc1d2c5`
- 2. `http://acm.rkbexplorer.com/id/person-407157-2daefb51219e2eb08ffdd40070a4acc5`
- 3. `http://acm.rkbexplorer.com/id/person-407157-c23d3b44f74d68cce281e3ff7795bf4c`
- 4. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...456759eaae`
- 5. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...75ae03f406`
- 6. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...9e9e44635e`
- 7. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...8b23349445`
- 8. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...012d201fdc`
- 9. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...f767060d92`
- 10. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...0f9144bb03`
- 11. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...d3188b52cb`
- 12. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...dc5a15a43c`
- 13. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...e5b8bf01eb`
- 14. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...c13805f25a`
- 15. `http://dblp.rkbexplorer.com/id/people-1ec5a600299222dd6374695ef5214...31fbd22c7c`
- 16. `http://dblp.rkbexplorer.com/id/people-74c9b4bc601253864bbb6e2f83244...c45fe3b325`
- 17. `http://citeseer.rkbexplorer.com/id/resource-CSP179673-c23d3b44f74d6...ff7795bf4c`
- 18. `http://citeseer.rkbexplorer.com/id/resource-CSP180445-49218db33a902...17690520f3`
- 19. `http://citeseer.rkbexplorer.com/id/resource-CSP180445-4e6f59a7e2af5...e27748b7ac`
- 20. `http://citeseer.rkbexplorer.com/id/resource-CSP180445-e8a3df831f61d...5eec100b65`
- 21. `http://eprints.rkbexplorer.com/id/kfupm/person-1ec5a600299222dd6374...469e60db41`
- 22. `http://eprints.rkbexplorer.com/id/ecs-soton/person-4ebad00fdc9f5585...853dc1d2c5`
- 23. `http://kisti.rkbexplorer.com/id/PER_0000000000000131417`

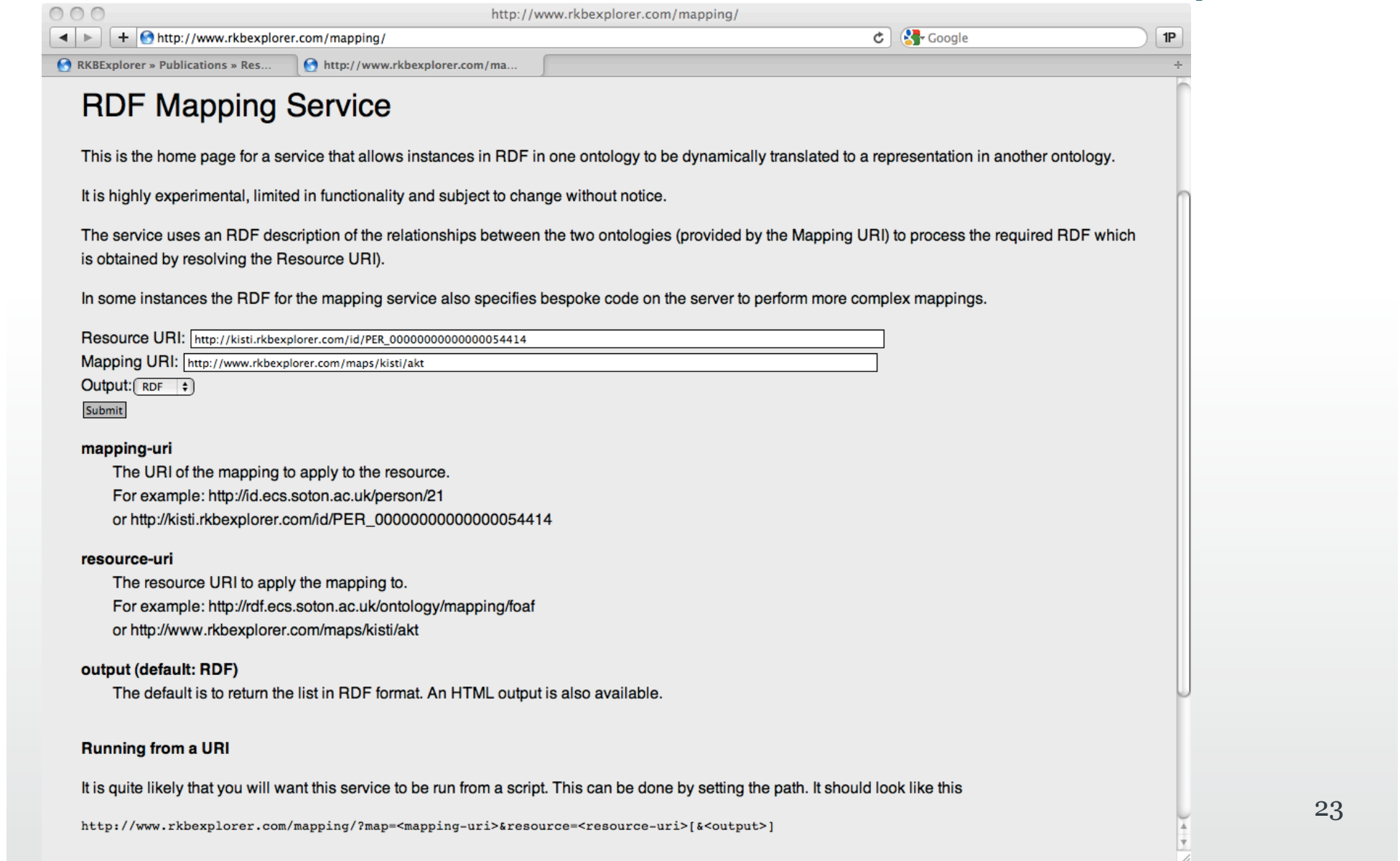
`<sameAs>`

`rdf+xml` · `n3` · `json` · `text` · `show fewer items`

Dealing With Different Ontologies

- The RKBExplorer application uses particular ontologies
 - Mostly AKT Reference Ontology
 - Some KBs will use different ontologies
 - Eg kisti.rkbexplorer.com
 - Uses KISTI Research Ontology
- One solution
 - Represent the ontology mapping in RDF (as far as possible)
 - Resolve the URI through a mapping service to get RDF in the required ontology

On-The-Fly Translation



http://www.rkbexplorer.com/mapping/

RKBExplorer » Publications » Res... http://www.rkbexplorer.com/ma...

RDF Mapping Service

This is the home page for a service that allows instances in RDF in one ontology to be dynamically translated to a representation in another ontology.

It is highly experimental, limited in functionality and subject to change without notice.

The service uses an RDF description of the relationships between the two ontologies (provided by the Mapping URI) to process the required RDF which is obtained by resolving the Resource URI).

In some instances the RDF for the mapping service also specifies bespoke code on the server to perform more complex mappings.

Resource URI:

Mapping URI:

Output:

mapping-uri
The URI of the mapping to apply to the resource.
For example: <http://id.ecs.soton.ac.uk/person/21>
or http://kisti.rkbexplorer.com/id/PER_0000000000000054414

resource-uri
The resource URI to apply the mapping to.
For example: <http://rdf.ecs.soton.ac.uk/ontology/mapping/foaf>
or <http://www.rkbexplorer.com/maps/kisti/akt>

output (default: RDF)
The default is to return the list in RDF format. An HTML output is also available.

Running from a URI

It is quite likely that you will want this service to be run from a script. This can be done by setting the path. It should look like this

```
http://www.rkbexplorer.com/mapping/?map=<mapping-uri>&resource=<resource-uri> [&<output>]
```

Open System

- RKBExplorer is only one interface
 - And not a required part
- Other Interfaces (using the services)
 - Either as RDF, or JSON, csv, etc.
- Services
 - <http://www.rkbexplorer.com/demos/>

Open System

- RKBExplorer is only one interface
 - And not a required part
- Services:
 - Details for a paper (the right hand pane in RKBExplorer):
 - <http://www.rkbexplorer.com/detail/?uri=http://southampton.rkbexplorer.com/id/eprints-12614>
 - Network of people for a publication (lower pane):
 - <http://www.rkbexplorer.com/network/?uri=http://southampton.rkbexplorer.com/id/eprints-12614&type=publication-person>
 - ...
- Other Interfaces (using the services)
 - Personal Web pages
 - iPhone
 - iGoogle Gadget

Concluding Remarks

- Successful data integration
- Much added value
- Linked Data standards made it possible
- Worry about your co-reference

http://eprints.ecs.soton.ac.uk/17761/

Related people

Network diagram showing Nigel Shadbolt (red node) connected to:

- Srinandan Dasmahapatra
- Terry Elliott
- Nicholas Gibbins
- Yannis Kalfoglou
- Paul Lewis
- David De Roure
- Bo Hu
- Harith Alani
- Kieron O'Hara
- Paul Smart

Details

Full Name: [Nigel Shadbolt](#)

Works For: [University of Southampton](#)

Telephone: +44 (0)23 8059 7682

Fax: +44-602-590339

Email Address: nrs@ecs.soton.ac.uk

Web Address: <http://www.ecs.soton.ac.uk/people/nrs>

Web Address: http://en.wikipedia.org/wiki/Nigel_Shadbolt

Description: Nigel Richard Shadbolt is Professor of Computer Science University of Southampton in southern

People

- [Kieron O'Hara](#)
- [Harith Alani](#)
- [Nicholas Gibbins](#)
- [David De Roure](#)
- [Paul Lewis](#)
- [Paul Smart](#)
- [Terry Elliott](#)
- [Bo Hu](#)
- [Srinandan Dasmahapatra](#)
- [Yannis Kalfoglou](#)
- [Nick Jennings](#)

Organisations

- [University of Southampton](#)
- [Intelligence, Agents and Multimedia](#)
- [Intelligence, Agents, Multimedia Group](#)
- [School of Electronics and Computer Science](#)
- [UNIVERSITY OF NOTTINGHAM](#)

Publications

- [Facilitating Knowledge Management in Pervasive Health Care Systems](#)
- [A Controlled Natural Language Interface for Semantic Media Wiki Using the Rabbit Language](#)
- [A Controlled Natural Language Interface for Semantic Media Wiki Using the Rabbit Language](#)
- [Contextualising Tags in Collaborative Tagging Systems](#)
- [Lifelogging: Privacy and Empowerment with Memories for Life](#)
- [Lifelogging: Privacy and Empowerment with Memories for Life](#)
- [On Measuring Expertise in Collaborative Tagging Systems](#)
- [On Measuring Expertise in Collaborative](#)

Research Areas

- [I.2.6. Learning](#)
- [I.2.1. Applications and Expert Systems](#)
- [I.2.4. Knowledge Representation Formalisms and Methods](#)
- [Computer Science](#)
- [I.2.11. Distributed Artificial Intelligence](#)
- [H.3.4. Systems and Software](#)
- [H.3.5. Online Information Services](#)
- [I.2.0. General](#)
- [I.2.7. Natural Language Processing](#)

RKBExplorer.com

Try it!

Update in Action

The image displays two side-by-side screenshots of the RKBExplorer website, illustrating a change in the network graph of related people for Hugh Glaser.

Left Screenshot (Before): The network graph shows Hugh Glaser at the center, connected to several other individuals: Ian Millard, J M Wild, David De Roure, Nicholas Gibbins, Harith Alani, Pieter Hartel, Afraz Jaffri, Stephen Harris, and Benedicto Rodriguez. The 'People' sidebar lists names like D Till, Mike Reeve, Tom Anderson, A Salhi, S Cox, Algirdas Avizienis, Chidung Lac, Les Carr, and Srinandan Dasmahapatra. The 'Organisations' sidebar lists University of Southampton, Declarative Systems and Software Engineering, Dependable Systems and Software Engineering Research Group, and School of Electronics and Computer Science. The 'Publications' sidebar lists RKBExplorer, RKBExplorer.com: A Semantic Web Appli, RKBExplorer.com: A Driven Infrastructure Providers, URI Disambiguation i of Linked Data, Untangling Domain C Ontology Design Pat, and Whose "Fault" Is Thi Domain Concepts in Patterns.

Right Screenshot (After): The network graph is updated, showing Hugh Glaser at the center, connected to: J M Wild, Nicholas Gibbins, Benedicto Rodriguez, Ian Millard, Nigel Shadbot, Afraz Jaffri, David De Roure, Pieter Hartel, Harith Alani, and Stephen Harris. The 'Les Carr' node is now visible in the 'People' sidebar. The 'Research Areas' sidebar is also visible, listing categories like Static Analysis, Computer Science, D.3.2. Language Classifications, D.0. GENERAL, D.1.1. Applicative Programming, E.1. DATA STRUCTURES, K.3.2. Computer and Information Science Education, C.1.3. Other Architecture Styles, and D.1.0. General.

Before and after inserting this paper in the Southampton ePrints repository and RKB has noticed
Note the position of Les Carr in Hugh's related People

Gadget – find out about people



The image shows three overlapping screenshots of the RKBExplorer application. The top-left window shows a search for 'Carl Lagoze' with one result. The middle window shows a search for 'Les Carr' with a list of names. The right window shows a detailed profile for 'Les Carr'.

Window 1: RKBExplorer » Networks (Communities of Practice)

Search: Carl Lagoze
 Found 1 result for "Carl Lagoze"
[Carl Lagoze](#)
[Display Metadata](#)

Window 2: RKBExplorer » Networks (Communities of Practice)

Search: Les Carr
[Les Carr](#)
[Display Metadata](#)

Christopher Bailey [David Barron](#) [Sean Bechhofer](#) [Donna Bergmark](#) [Tim Brody](#) [Grainne Conole](#) [Hugh Davis](#) [David De Roure](#) [Samhaa El-Beltagy](#) [Quintin Gee](#) [Nicholas Gibbins](#) [Lester Gilbert](#) [Yves Gingras](#) [Hugh Glaser](#) [Carole Goble](#) [Simon Grange](#) [Christopher Gutteridge](#) [Wendy Hall](#) [Stevan Harnad](#) [Stephen Harris](#) [Jessie Hey](#) [G Hill](#) [Steve Hitchcock](#) [Neil Jefferies](#) [Zhuoan](#) [Timothy](#)

Window 3: RKBExplorer » Networks (Communities of Practice)

Search: Les Carr
[Les Carr](#)
 Full Name: [Les Carr](#)
 Telephone: +44 (0)23 8059 4479
 Email Address: lac@ecs.soton.ac.uk
 Web Address: <http://www.ecs.soton.ac.uk/~lac/>
 Raw Linked Data: [Resolvable URI](#) [All Known Co-reference Data](#)

Mark Borkum did this