

Researcher Name Resolver : A Framework for researcher identification in Japan

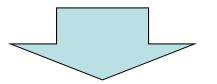
Kei Kurakawa⁽¹⁾, Hideaki Takeda⁽¹⁾, Masao Takaku⁽²⁾, and Akiko Aizawa⁽¹⁾ (1)National Institute of Informatics, Japan (2)National Institute for Materials Science, Japan

Overview

- Problems in search by names
- Objective of Researcher Name Resolver
 - Web-oriented Japanese researcher name authority
 - Researcher identification framework
 - Researcher information gathering and management
 - Author identification for NII services
 - Web resource linking hub
- Approach for Researcher Name Resolver
- Current implementation of Researcher Name Resolver (beta 1.0)
- Summary

Problems in search by names

- Same family name and personal name
- Maiden name usage
- Kanji character variants



Need to identify researchers

Objective of **Researcher Name Resolver**

- Web-oriented Japanese researcher name authority ٠
 - For web resources as archives
 - Ex.1) Institutional repository
 - Ex.2) Paper archives
 - In addition, Japanese research organization name authority
- Information management based on two types of entity, i.e., paper and researcher ٠

High

- Researcher information management according to information quality ٠
 - Quality levels of researcher information
 - Dealt by institutions
 - Dealt by researchers
 - By automatic machine processing ٠
- Web resource linking hub ۲
 - Linking directly to researchers database
 - Linking to querying URL mainly for scholarly information database
- inking directly to researchers database
 University staff directory, KAKEN, ReaD
 inking to querying URL mainly for cholarly information database
 Google (Scholar), CiNii, WebcatPlus, ReaD
 representation of Japanese archers and organizations for the URI representation of Japanese ٠ researchers and organizations for the linked data web
- Name resolving web services ۲
- Data integration tightly to NII scholarly services National Institute of Informatics

igh	∖ Researcher			processing
Information quality level	Registered by institutions	Researcher directory ReaD, IR KAKEN Researcher Name Resolve	Home page in institutions r	
	Registered by researchers		ResearcherID Researchmap	
	Automatic machine processing	CiNii author search		Google Google scholar
vice				4

Compiled by

institutions

\Paper

http://www.nii.ac.jp/cscenter/



Compiled by

researchers

Automatic

machine

Researcher identification framework

- To decide which researchers are the same Researcher identification
- A method for identifying and managing researchers/authors
 - ID based management
 - Researchers identified by 13 digit number
 - The number is called, Researcher Name Resolver ID

ID (13 digit number) Description

10000xxxxxxx	ID assignment for KAKEN registrants. xxxxxxxx is fulfilled with KAKEN ID (8 digits).
200xxxxxxxxxx	ID assignment for ReaD registrants, excluding KAKEN registrants. xxxxxxxxx is fulfilled with ReaD ID (10 digits).
3xxxxxxxxxxx	ID assignment for none KAKEN and ReaD registrants.

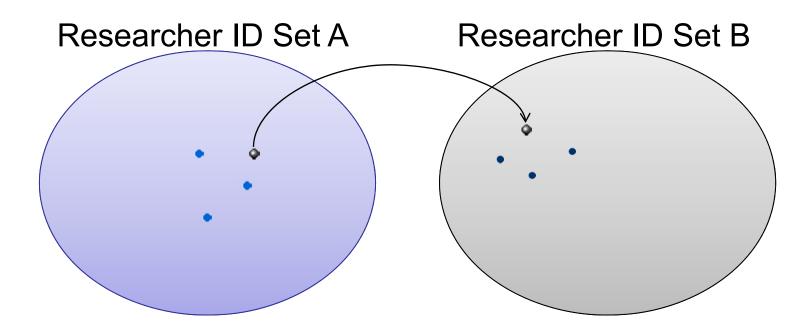
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Characters of IDs

- KAKEN ID (KAKENHI researcher number)
 - Researcher number in Grants-in-aid for Scientific Research
 - KAKENHI was established by MEXT's predecessor the Ministry of Education, Science and Culture, in 1939. it covers all research fields and all stages of research activities. It is the only nationwide grant in Japan and the biggest among Japanese research budget items.
 - About 180,000 researchers are registered
- ReaD ID (JST ReaD Researcher code)
 - Researcher code in ReaD (Directory Database of Research and Development Activities), a Japanese researcher directory service on the web provided by JST
 - About 220,000 researchers are registered
 - It includes researchers, staff, and graduate students

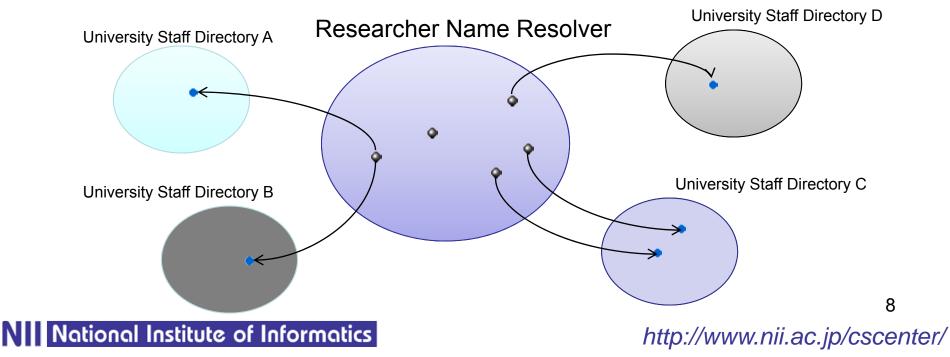
Researcher identification

Matching IDs in-between different researcher id sets



Web resource linking

- Researcher ID sets on the Web
 - University staff directory
 - J-Global (ReaD)
 - KAKEN
- Matching IDs in-between the sets



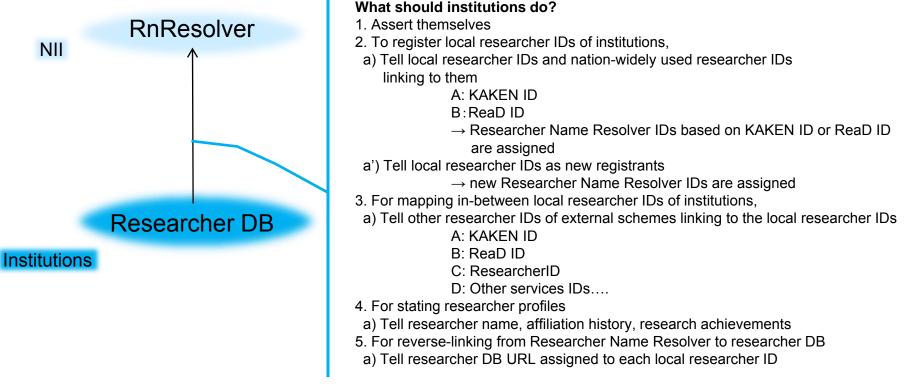
Approach for Researcher Name Resolver

- URI based ID scheme for Japanese researchers
 - Researcher Name Resolver ID
- Initial researcher registration from KAKEN database (180,000 in 2010.01)
- Uploading researcher profiles according to the IDs by institutions
 - Entirely permanent ID of the institutions and IDs list of other ID schemes
 - Entirely permanent ID of the institution (ex. Employee ID, identifying the same family name and personal name)
 - • • • •
 - KAKEN ID
 - ReaD ID
 - ResearcherID (Thomson Reuters)
 - Researcher Name Resolver ID
 - Names
 - Affiliation history
 - Publication list
- JAIRO author identification (Planned)
- CiNii author identification (Planned)
- Automatic university staff directory linking
 - crawling university staff directories
 - automatic researcher identification

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Institutions data uploading

Building a mapping table in-between Researcher Name Resolver ID and local researcher IDs of institutions to resolve researcher names



Uploading XML files in ResearcherID XML extended schema to apply Japanese name and data, and build an IDs map

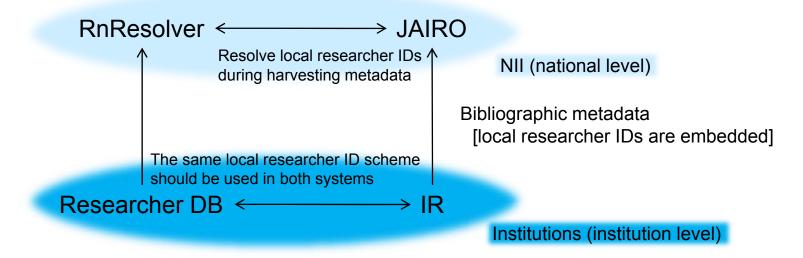
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JAIRO author identification (Planned)

A mapping table in-between Researcher Name Resolver ID and local researcher IDs of institutions

For identifying authors in bibliographic metadata JAIRO harvested from Japanese institutional repositories



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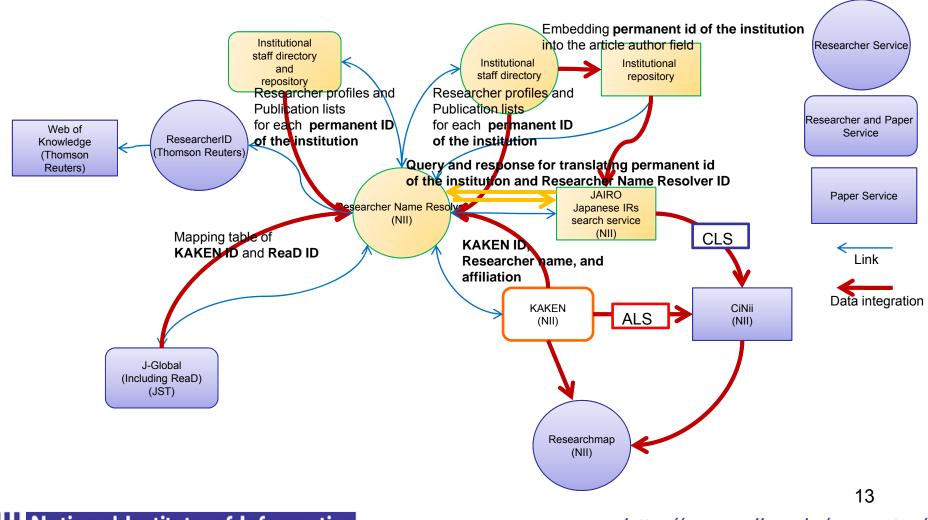
From institution's viewpoint

IR ٠ Bibliographic metadata OAlster embedded with local researcher IDs are harvested from a variety of OAI service providers **Researcher DB** IR JAIRO ٠ Institutions upload researcher profiles to researcher-oriented service providers NDI TD - Researcher profiles for (Networked Digital Library of Theses and Dissertations) Researcher Name Resolver should include Local researcher ID ResearcherID Names External service IDs such as – KAKEN ID ReaD ID **Researcher DB** RnResolver ResearcherID Researcher Name Resolver ID Researcher DB URL for each researcher page [⊾] ReaD Affiliation history Publication list

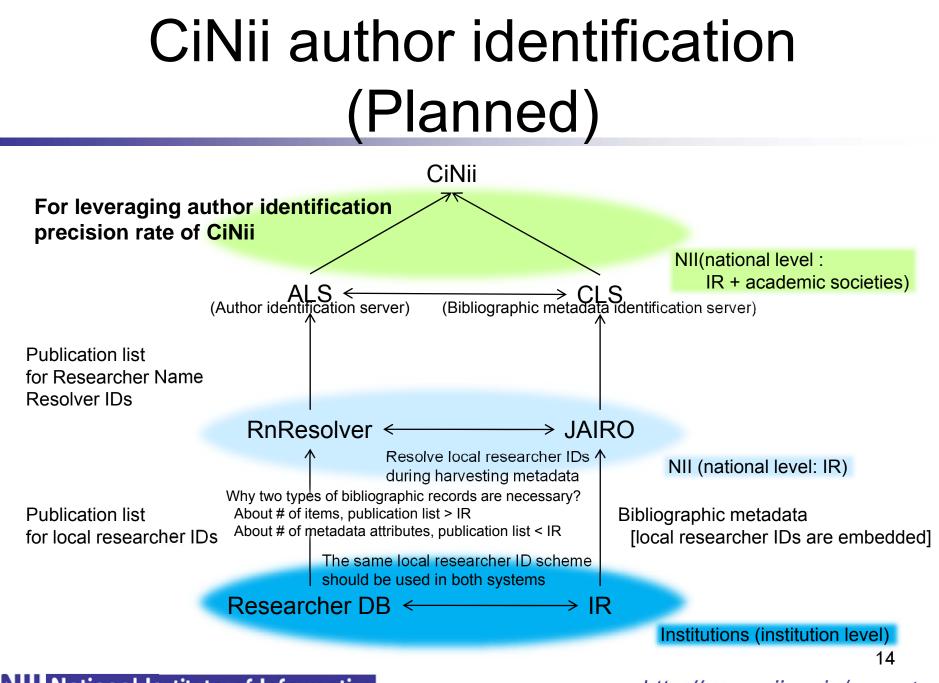
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System integration overview FY2010



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Links to university staff directories

- Crawling university staff directories on the web
 - Identify researcher page URLs
 - Identify researcher name for the above URLs
- Applying a method for identifying the same researchers in-between Researcher Name Resolver IDs set and an university staff local IDs set
- Making links to university staff URLs from Researcher Name Resolver page

A method for identifying the same researchers

- Identifying the same researcher, when each ids in the KAKEN and university staff directories
 - has the same Kanji name characters
 - belongs to the same affiliation
 - is a unique name in the affiliation
- The same researcher, when ids
 - has the same KAKEN ID
 - has the same ReaD ID

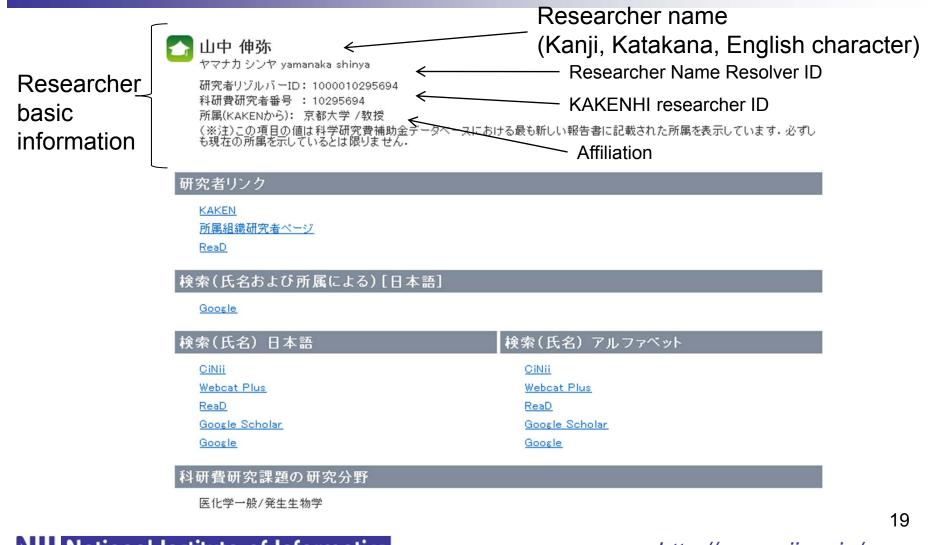
Researcher Name Resolver β1.0 Current implementation

- Researcher page
 - Currently, the pages are provided for KAKEN registrants
 - About 180,000 researchers
 - Resolved researchers with the same family name and personal name
- Linking to researcher resources on the Web
 - Direct link
 - KAKEN

• University staff directory (currently, 33 univ.) Web crawling and KAKEN ID matching

- J-Global (JST ReaD)
- Search query formatted URL link
 - Query with Japanese name /English name and affiliation for Google, Google Scholar, CiNii, Webcat Plus, ReaD
- Institutions upload researcher profiles and publication lists
- Search query and response for web services
 - OpenSearch
 - RDF/XML
- Researcher IDs redirect web service
- http://rns.nii.ac.jp/

山中 伸弥 ヤマナカシンヤ yamanaka shinya 研究者リゾルバーDE: 1000010295694 科研費研究者番号: 10295694 所属(KAKENから): 京都大学 / 教授 (※注)この項目の値は科学研究費補助金データペースにおける最も新しい報告書に記載された所属を表示しています.必 も現在の所属を示しているとは限りません。	Researcher name (Kanji, Katakana, English character) Researcher basic information
研究者リンク KAKEN 所属組織研究者ページ ReaD	Direct links to the services outside
一一 検索(氏名および所属による)[日本語] Google	
検索(氏名)日本語 検索(氏名)アルファベット CiNii Webcat Plus ReaD Google Scholar Google Cholar Google Cholar	Search query formatted URL links to the services outside
科研費研究課題の研究分野 医化学一般/発生生物学	KAKENHI project research fields
科研費研究課題のキーワード ES細胞/ノックアウトマウス/分化多能性/翻訳調節/発癌/初期化/レチノイン酸/転写因子/細胞周期/ホメオボックス/質量 分析/癌抑制遺伝子/RNA結合蛋白質/原腸形成/Ras/エビジェネティックス/遺伝子/ックアウト/G1アレスト/再生医学/ク 化全能性/解細胞/ブロテオミックス/蛋白質翻訳/ショクジョウバエ/RNAエディティング/マイクロアレー/IRES/DNAマイクロ アレー/細胞死/腫瘍幹細胞/スモール/感白質/ダクター因子/エンハンサー解析/転写調節/CDKインビター/シックア ト/ノーザンブロット/Cre/コンディショナルレックアウト/翻訳制御/Pエレメント/トランスポンン/遺伝子発現解析/不妊/TAP 法/発生/初期発生/p27/DNAアレー/PB子/アボトーシス/波数分裂/反思原基/核初期化/網羅的解析/変白賞合成/DN チップ/遺伝子ターケティング/p27kip1/Oct-3/多能性/Sox2/本分化性/Nanog/4/Kit4/Odx2/栄養外胚葉	KAKENHI project keywords
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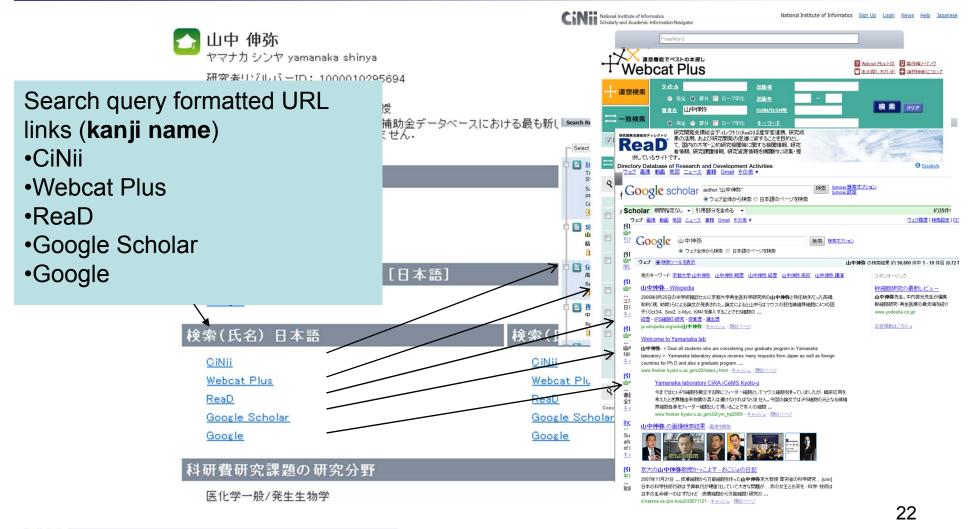


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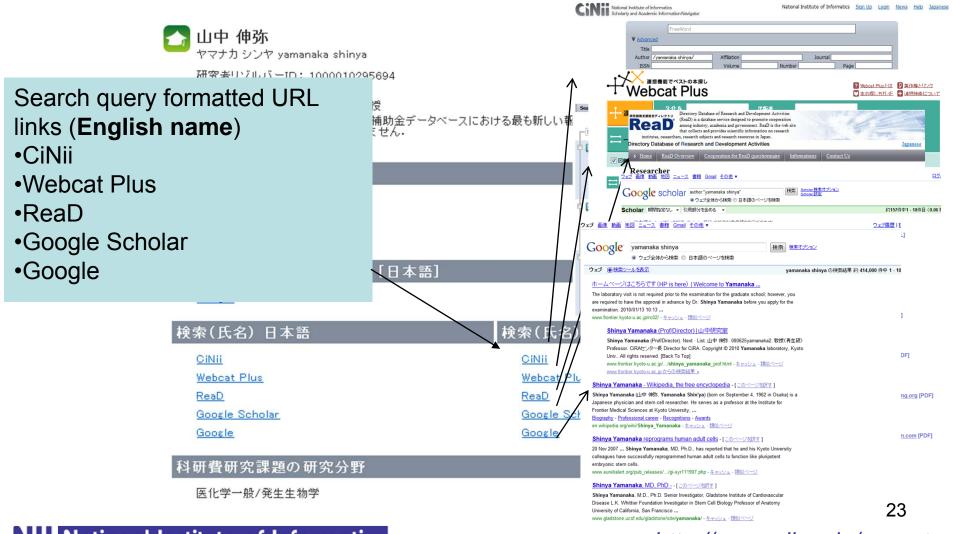


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Search and query API for the linked data web

OpenSearch1.1

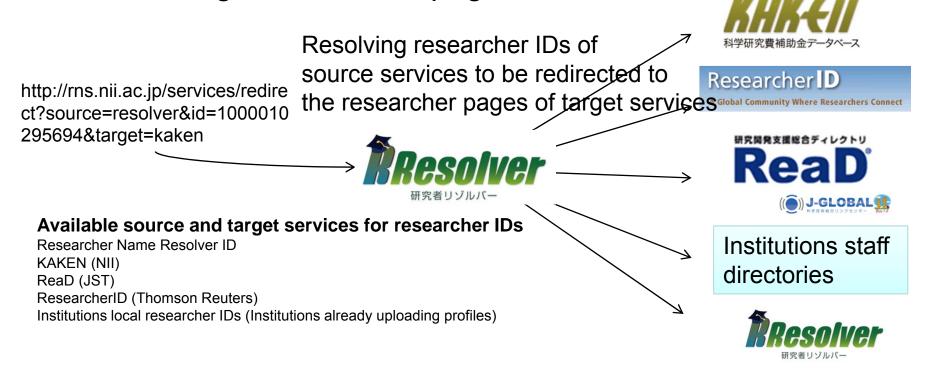
// http://rns.nii.ac.jp/nr/1000010295694.rdf 🚰 🔻 🖾 🝷 🚍 🗮 🔻 ページ(P) 👻 セーフティ(S) 👻 ツール(Q) 👻 🕢 🛡 RDF/XML <?xml version="1.0" encoding="UTF-8" ?> <rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"</pre> xmlns:dc="http://purl.org/dc/elements/1.1/" xmlns:foaf="http://xmlns.com/foaf/0.1/" xmlns:v="http://www.w3.org/2006/vcard/ns#" xmlns:con="http://www.w3.org/2000/10/swap/pim/contact#"> - <foaf:Person rdf:about="http://rns.nii.ac.jp/nr/1000010295694"> <foaf:isPrimaryTopicOf rdf:resource="http://rns.nii.ac.jp/nr/1000010295694.rdf" /> <foaf:name>山中 伸弥</foaf:name> <foaf:name xml:lang="en">yamanaka shinya</foaf:name> <rdfs:label rdf:parseType="Literal">ヤマナカシンヤ</rdfs:label> - <con:organization> <foaf:Organization foaf:name="京都大学" /> </con:organization> - <foaf:holdsAccount> - <foaf:OnlineAccount rdf:about="http://kaken.nii.ac.jp/ja/r/10295694"> <rdfs:label>科学研究費補助金データベース(新サービス版) </rdfs:label> <foaf:accountName>10295694</foaf:accountName> <foaf:accountServiceHomepage rdf:resource="http://kaken.nii.ac.jp/" /> </foaf:OnlineAccount> </foaf:holdsAccount> <foaf:holdsAccount> - <foaf:OnlineAccount rdf:about="http://read.jst.go.jp/public/cs_kkn_010EventAction.do?</p> lang_act1=J&ksh_code=1000261149&action1=event&judge_act1=2"> <rdfs:label>ReaD</rdfs:label> <foaf:accountName>1000261149</foaf:accountName> <foaf:accountServiceHomepage rdf:resource="http://read.jst.go.jp/" /> </foaf:OnlineAccount> </foaf:holdsAccount> <rdfs:seeAlso rdf:resource="http://www.google.com/search?g=%E5%B1%B1%E4%B8%AD%E4%BC%B8%E5%BC%</pre> A5+%E4%BA%AC%E9%83%BD%E5%A4%A7%E5%AD%A6" dc:title="Google 検索(氏名および所属による)[日本語]" /> <rdfs:seeAlso rdf:resource="http://ci.nii.ac.jp/opensearch/search?author=%2F%E5%B1%B1%E4%B8%AD%E4%BC% B8%E5%BC%A5%2F" dc:title="CiNii 検索(氏名)[日本語]" /> <rdfs:seeAlso rdf:resource="http://webcatplus-equal.nii.ac.jp/libportal/EqualFromForm?txt_author=%E5%B1%B1% E4%B8%AD%E4%BC%B8%E5%BC%A5" dc;title="Webcat Plus 検索(氏名)[日本語]" /> <rdfs:seeAlso rdf:resource="http://read.jst.go.jp/public/fs_ksh_001EventAction.do?ksh_name=%E5%B1%B1%E4% B8%AD%E4%BC%B8%E5%BC% A5&ksh_operator_1=AND&ksh_kkn_name=&ksh_operator_2=AND&ksh_shk_mi=&ksh_operator_3=AND&ksh_knky_bny=&ksh_ dc:title="ReaD 検索(氏名)[日本語]" /> <rdfs:seeAlso rdf:resource="http://scholar.google.com/scholar?g=author:%E5%B1%B1%E4%B8%AD%E4%BC%B8% E5%BC%A5" dc:title="Google Scholar 検索(氏名)[日本語]" /> <rdfs:seeAlso rdf:resource="http://www.google.com/search?q=%E5%B1%B1%E4%B8%AD%E4%BC%B8%E5%BC% A5" dc:title="Google 検索(氏名)[日本語]") <rdfs:seeAlso rdf:resource="http://ci.nii.ac.jp/opensearch/search?author=%2Fyamanaka+shinya%2F" dc:title="CiNii 検索 (氏名)[アルファベット]" /> <rdfs:seeAlso rdf:resource="http://webcatplus-equal.nii.ac.jp/libportal/EqualFromForm?txt_author=yamanaka+shinya" dc:title="Webcat Plus 検索(氏名)[アルファベット]" /: <rdfs:seeAlso rdf:resource="http://read.jst.go.jp/public/fs_ksh_001EventAction.do? ksh_name=yamanaka+shinya&ksh_operator_1=AND&ksh_kkn_name=&ksh_operator_2=AND&ksh_shk_mi=&ksh_operator_3=



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Researcher IDs redirect web service

 By means of setting a URL to state a researcher ID and a target service, Researcher Name Resolver redirects it to the target researcher page



Service integration examples

- Kyoto univeristy repository(KURENAI)
 - dc.contributor.author
- Shizuoka university repository(SURE)
 - dc.contributor.author
 - dc.contributor.alternative
 - dc.contributor.transcription



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World wide system integration

Internationally integration of researcher and author name authority • systems



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Future works

- Japanese research organization identity management
 - Organization identification framework
 - URI representation for the linked data web

Summary

- Researcher Name Resolver is the web-oriented
 name authority service for Japanese researchers
- Institutions upload researcher profiles and publication lists to it
- It holds mapping table in-between Researcher Name Resolver ID and permanent IDs of institutions
- NII service, i.e., JAIRO and CiNii will use it to identify authors of themselves
- It functions as a web resource linking hub for researcher pages, e.g., links to university staff directories
- It prepares for world wide system integration