

# Enhanced discovery and reuse of open access contents through author identifiers: A case study in Japan

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## Purpose of the project

The purpose of this project is to introduce the **author identification function** of open access contents into Japan's repository network.

## Abstract of the project

**Researcher Numbers of Grants-in-Aid for Scientific Research** is added to **KURA** (Kanazawa University Repository for Academic Resources) as author identifiers. **The numbers** is recorded in **KAKEN** (the database of Grants-in-Aid for Scientific Research) operated by **NII** (National Institute of Informatics) and is harvested in the National Harvester **JAIRO** (Japanese Institutional Repositories Online) operated by **NII**. Reference and identification function for authors and contents are introduced between **RNR** (Researcher Name Resolver) and **JAIRO** with **the numbers** as keys. We plan to develop it to the community of **DRF** (Digital Repository Federation) using it as a model.

## Performance of the project

### Phase 1

2010-2011

#### Implementation experiment for an author identification model

- (1) Authority function (default function of DSpace 1.6 and after) is customized. **The numbers** is added to whole contents of **KURA** from **KAKEN** and harvested in **JAIRO** from **KURA**.
- (2) Data of researchers (including **the numbers**) is uploaded to **RNR** in the xml format from performance database in Kanazawa University.
- (3) **JAIRO** and **RNR** link each other by **the numbers**. Author pages are generated on **JAIRO**.

### Phase 2

2011-2012

#### Development of author identification model to multiple universities

Hokkaido University, Shizuoka University, Nara Women's University, Osaka City University, Kwansei Gakuin University and Nagasaki University introduce the same model in cooperation with Kanazawa University. This phase will be a demonstrating experiment on a community-scale. University of Tokyo will share information with us for further implementation.

### Phase 3

2012-2014?

#### Organization of the community

- (1) Adoption of author identifier except **Researcher Numbers of Grants-in-Aid for Scientific Research**. Not all researchers are assigned **the numbers**. In order to develop the community, local numbers other than **the numbers** should be available in IRs as the author identifiers.
- (2) Development to IR platforms except DSpace. Some unique IR platforms such as XooNips, e-Repository and WEKO are available in Japan. In NII, WEKO is adopted for cloud type repository. Author identifier should be able to be input as one of metadata in these platforms as well.
- (3) Through the practice of (1) and (2), IR Community to adopt author identifier is expected to be developed.

Fortunately, the DRF community exists in Japan and the information is smoothly exchanged among the IR managers. So the problems of this project will be solved by this community.

### KURA (Kanazawa University Repository for Academic Resources)

<http://dspace.lib.kanazawa-u.ac.jp/dspace/?locale=en>

**KURA** is an institutional repository in Kanazawa University. Currently, **KURA** includes 25 thousand of contents. **KURA** cooperates with an achievement database in Kanazawa University. When updating the achievement database, the researchers can send (self-archive) full text to **KURA** with SWORD protocol.

Reference function of authority data was implemented by DSpace 1.6. Therefore, the reference function downloads **the numbers** in **KAKEN** and harvests them in **JAIRO**.

### Cooperation with RNR and JAIRO

If **the numbers** is harvested from **KURA**, **the numbers** enable cross-reference between **JAIRO** and **RNR**.

**JAIRO** is able to refer researchers' profiles on **RNR** and identify the authors. **RNR** is able to identify and refer contents of particular researchers on **JAIRO**. Both **JAIRO** and **RNR** show authors' page.

### RNR (Researcher Name Resolver)

<http://rns.nii.ac.jp/> (Japanese only)

**RNR** is the database to identify researchers and is operated by **NII**. Currently, **RNR** includes 190,000 researchers based on the data of **KAKEN**.

### KAKEN

(Database of Grants-in-Aid for Scientific Research)

<http://kaken.nii.ac.jp/en/>

**KAKEN** is the database of grant money for science and research and is operated by **NII**. It records abstracts of researches performed with scientific research fund issued by **JSPS**. 190,000 researchers' achievements are recorded in the database. **The Numbers** is assigned to the researchers as lifetime IDs.

### Digital Repository Federation (IR Community)



### Harvest by OAI-PMH (Junii2)

Junii2 is the metadata standard for institutional repositories in Japan. All Japanese IRs adopt Junii2 along with oai\_dc. Interoperability of contents in Japanese IRs are being possible through Junii2 and national harvester **JAIRO**.

### Stakeholder (User)

- Researcher**
  - Usage for tracking of other researchers' achievements,
  - CV and evaluation performance.
- People in charge of IR**
  - Streamlining author identification and operation which do not depend on change of family names and institutional transfers
- General public**
  - Tracking of achievements by tax statement

### Stakeholder (Funder)

University	JSPS
JST	Ministry of Health, Labour and Welfare

Tracking of funded and employed researchers' achievements is available.  
Evaluating the cost performance of the fund.

### Grant-in-Aid for Scientific Research Researcher Numbers



### JAIRO

(Japanese Institutional Repositories Online)  
<http://jairo.nii.ac.jp/>  
**JAIRO** is the service provider managed by **NII**. It adopted the "junii2" as a protocol.

for Reviewing

## Research Community in Japan

### Community abstract of Japanese researchers

The number of universities --- National **86** / Total **778**

The number of universities with doctoral course

--- National **76** / Total **431**

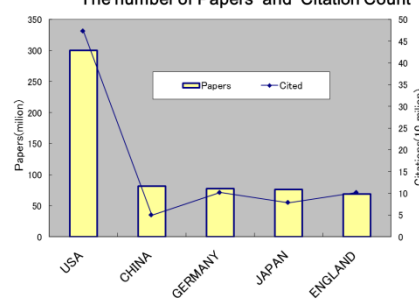
\*The number of teachers --- National **61,689** / Total **174,403**

\*The number of Nobel winners

**17** (Except one American researcher. All are from National Univ.)

\*The number of institutional repositories --- National **73** / Total **187**

The number of Papers and Citation Count



## Funders in Japan

### Ministry of Health, Labour and Welfare

<http://www.mhlw.go.jp/english/>

Ministry of Health, Labour and Welfare provides research fund to proceed with government policy in a science-based manner. More than 1500 researchers are funded with 538 million dollars of research funding. Forty percent of the total amount is for national universities. (1\$=90yen).

Funding

The number of Japanese papers for the past ten years is **761,172**. It ranks **4th** in the world. The number of cited is **7,844,127**. It ranks **4th** in the world too.

(Thomson Reuter, Web of Knowledge "Essential Science Indicators" 2001.1-2011.6)

### JSPS (Japan Society for the Promotion of the Science)

<http://www.jsps.go.jp/english/>

**JSPS** is an incorporated administrative agency which is established by MEXT (Ministry of Education, Culture, Sports, Science and Technology) to provide academic research fund. **JSPS** and **MEXT** are funding for researcher training, international exchange promotion for academic issues and other academic promotion.

**KAKEN** is a database for the accomplishment reports of research fund by **JSPS**. The database releases approximately 190,000 researchers with **Researcher Numbers of Grants-in-Aid for Scientific Research**. This is the nation's largest research abstract database.

-Fund abstract in 2011

Number of adoptions **63,310** Number of applications **127,403**

Total amount of adoptions **\$1.7Billion** (1\$=90yen)

### JST (Japan Science and Technology Agency)

<http://www.jst.go.jp/EN/>

**JST** is an incorporated administrative agency which supports R&D for science technology aiming at promoting Japan's science technology. **JST** strategically funds researches by top-down method, which is intended for realizing objectives of national policy. The total amount of fund in 2010 is \$562 million (1\$=90yen).