Mitglied der Helmholtz-Gemeinschaft

JÜLICH FORSCHUNGSZENTRUM

Authority Control in Invenio

[sic!] Jülich – 2nd Invenio User Group Workshop

Jülich, 19. November 2013 | Alexander Wagner, for the Collaboration

Overview

- Why Authority Control?
- Requirements and HowTo
- Authority Records
- Websubmit implementation
- Lacking features

Why Authority Control?

JuSER and friends are the basis for

- Scientific reporting
- Evaluations / Bibliometrics (link up with WoS/Scopus/Inspire)
- Publication lists (e. g. on the WWW: institutes, people, projects)

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Example: History of an institutes name at Jülich

- till 07/31/2002: ICG-4 (Erdöl und Geochemie)
- till 12/31/2006: ICG-IV (Agrosphäre)
- till 10/31/2010: ICG-4 (Agrosphäre)
- since: IBG-3 (Agrosphäre)

Agrosphäre (ICG-4)

ID I:(DE-Juel1)VDB793

→ ⇦ Agrosphäre → ⇧ ICG ⇧ → Agrosphäre ⇨

Recent Publications

→ All known publications

Book
→ Obersörster, C.
→ **Hydrological characterization of a forest soil using Electrical Resistivity Tomography**
Schriften des Forschungszentrums Jülich. Reihe Energie und Umwelt / Energy und Environment **76,** XXI, 151 S. (2010)

Conference Presentation
→ Rings, J. ; → Scherler, M. ; → Hauck, C.
→ **Coupled thermal and geophysical modelling for monitoring of permafrost**
EGU General Assembly 2010
Vienna, 2010-05-02 (2010)

Conference Presentation

Why not knowledge bases?

- Amount of data (e. g. >30.000 journals, cf. Inspire: 3400)

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Thus, routine work (e. g. typos, linkage. . .) can be handled by librarians and does not require a technician/programmer.

"Dirty" sets from migration need human intervention. . .

Our users – oh, there was something. . .

Example: What happens if you select a journal?

Say, starting out with a DOI, e. g. 10.1103/PhysRevB.87.081302

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From our authorities you get for free:

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0247_ $2ISSN$a0556-2805
0247_ $2ISSN$a1098-0121
082__ $a530
260__ $aCollege Park, Md.$bAPS
773__ $0PERI:(DE-600)1473011-x$a10.1103/PhysRevB.87.081302...
915__ $0StatID:(DE-HGF)0100$2StatID$aJCR
915__ $0StatID:(DE-HGF)0200$2StatID$aDBCoverage$bSCOPUS
915__ $0StatID:(DE-HGF)0300$2StatID$aDBCoverage$bMedline
915__ $0StatID:(DE-HGF)0420$2StatID$aNationallizenz
915__ $0StatID:(DE-HGF)0110$2StatID$aWoS$bScience Citation Index
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Did you/your secretary know. . .

. . . e. g. that Phys. Rev. B is in Medline and has DDC 530?

For our queries

Authorities allows us to:

- find all publications in a given journal
- find all publications in journals listed in a given database
- find all publications in a given field
- do the reporting:
  - "What articles are in WoS or Scopus?" — "And Pubmed?"
  - "Which of our OpenAccess articles have an Impact Factor?"
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But basically. . .

we get better, more consistent data without our users need to enter them manually each time.

Authority Records: Requirements

1. n:m relations (e. g. splitting of institutes, grants with several top levels)
2. Tracking history (predecessors and successors)
3. Tracking hierarchy (dad/son relations; we could have several parents!)
4. Several identifiers (e. g. DOI + Handle + URN or ORCiD + other IDs)
5. Multiple types of authorities (e. g. people, grants, institutes, journals. . .)

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4. `0247_` with $2 = source and/vs. `035__` (we do not repeat 035)
5. ignorant of the type but specify source (usually: $0 or $a and $2 subfields)

Where to use?

- Author disambiguation (ready for ORCiD)
- Institutes (history and hierarchy)
- Grants (history and hierarchy, also: several sources)
- Journals (though bibliographic by their nature)
- Statistic Keys (e. g. "has impact factor", "is listed in pubmed", "is OpenAccess")
- Vocabulary (e. g. level within a hierarchy)
- Licence information (e. g. CC-BY)
- . . . (Due to its flexibility we can adopt easily for new use cases)

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Define:

- MARC datasets (automatize creation, or manually)
- output formats (HD, HB, JS = JSON)

Authority Records HowTo

Looks (almost) like MARC bibliographic:

```
001__ 98676
1101_ $aAgrosphäre$y-31.10.2010
4101_ $wd$aICG-4
500__ $aRecord converted from VDB: 14.11.2012
909CO $ooai:juser.fz-juelich.de:98676$pauthority
970__ $aI:(DE-Juel1)VDB793
980__ $aI
980__ $aAUTHORITY
```

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- Add identifier(s): (Note: *(DE-Juel1)* allows for interchage)

```
0247_ $aI:(DE-Juel1)VDB793$2I:(DE-Juel1)
0247_ $a2128/25$2Handle
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```

- Add horizontal and vertical links:

```
5101_ $wa$0I:(DE-Juel1)VDB50$2I:(DE-Juel1)$aAgrosphäre
5101_ $wb$0I:(DE-Juel1)IBG-3-20101118$2I:(DE-Juel1)$aAgrosphäre
5101_ $wt$0I:(DE-Juel1)VDB1109$2I:(DE-Juel1)$aICG
```

(see also Library of Congress)

And Websubmit?

JSON output formats for Ajax/JavaScript

Note: we use MARC tags – ambiguous “human readable names” are not helpful. . .

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- Institutes


```
{ ''I9201_0'' : ''I:(DE-Juel1)VDB793'',
''I9201_l'' : ''Agrosphäre'',
''I9201_k'' : ''ICG-4'',
''I980__a'' : ''I:(DE-Juel1)VDB793'',
''label'' : ''ICG-4: Agrosphäre'' }
```

And Websubmit?

JSON output formats for Ajax/JavaScript

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- Institutes

```
{ ”I9201_0” : ”I:(DE-Juel1)VDB793”,
”I9201_l” : ”Agrosphäre”,
”I9201_k” : ”ICG-4”,
”I980__a” : ”I:(DE-Juel1)VDB793”,
”label” : ”ICG-4: Agrosphäre” }
```

- Journals

```
{ ”I773__t” : ”Physical review / D”,
”I773__0” : ”PERI:(DE-600)1461167-3”,
”I773__x” : ”1089-4918”,
”I082__a” : ”530”,
”I260__a” : ”New York, NY”,
”I260__b” : ”Soc.”,
”I915__” : ”[{<stat keys dict 1>}, {<stat keys dict 2>}...]”

”label” : ”Physical review / D (1089-4918)” }
```

Sidenote: OpenAire is just the same...

OpenAire = EU Funding:

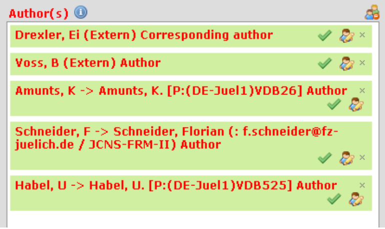
{ ''I536__0'': ''G:(EU-Grant)269921'',
''I536__a'': ''BRAINSCALES - Brain-inspired multiscale computation in neuromorphic hybrid systems (269921)'',
''I536__c'': ''269921'',
''I536__f'': ''FP7-ICT-2009-6'',
''I9131_0'': ''G:(EU-Grant)269921'',
''I9131_a'': ''DE-HGF'',
''I9131_v'': ''Brain-inspired multiscale computation in neuromorphic hybrid systems'',
''label'': ''BRAINSCALES - Brain-inspired multiscale computation in neuromorphic hybrid systems (2010-12-31 - 2014-12-31)'' },

Local funding scheme (POF):

{ ''I536__0'': ''G:(DE-HGF)POF2-111'',
''I536__a'': ''111 - Thin Film Photovoltaics (POF2-111)'',
''I536__c'': ''POF2-111'',
''I536__f'': ''POF II'',
''I9131_0'': ''G:(DE-HGF)POF2-111'',
''I9131_1'': ''G:(DE-HGF)POF2-110'',
''I9131_2'': ''G:(DE-HGF)POF2-100'',
''I9131_a'': ''DE-HGF'',
''I9131_b'': ''Energie'',
''I9131_l'': ''Erneuerbare Energien'',
''I9131_v'': ''Thin Film Photovoltaics'',

''label'': ''111 - Thin Film Photovoltaics (POF II: 2010 - 2014)'' },

How does it look like?



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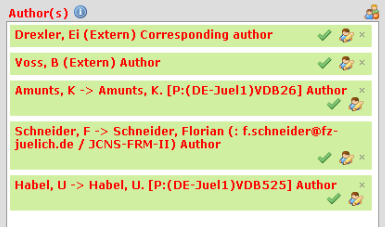

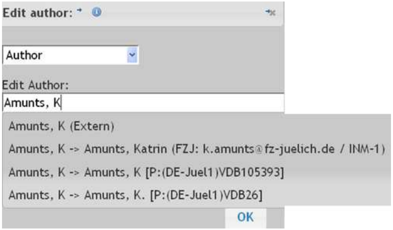

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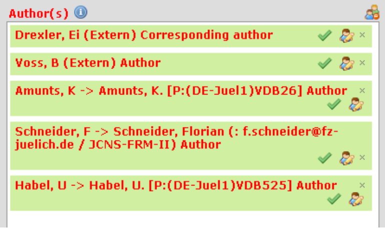

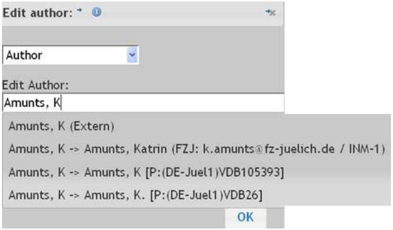

Backend:

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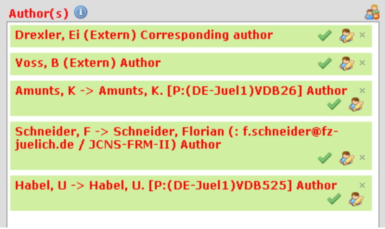

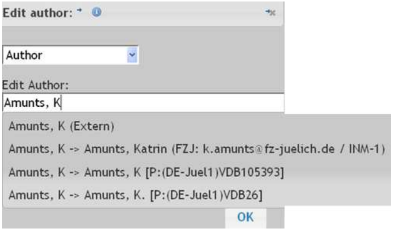

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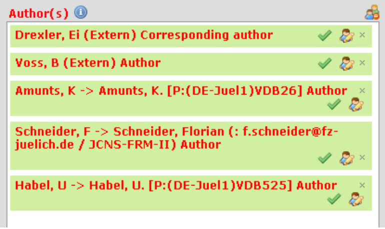

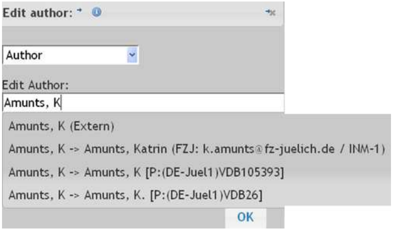

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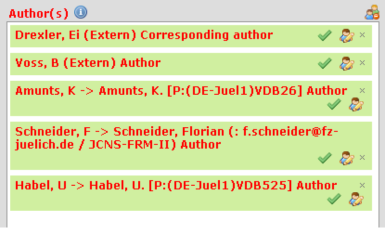

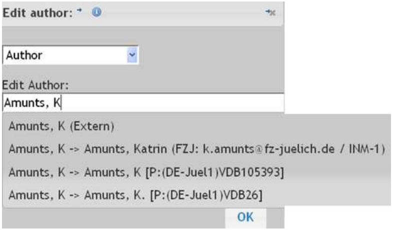

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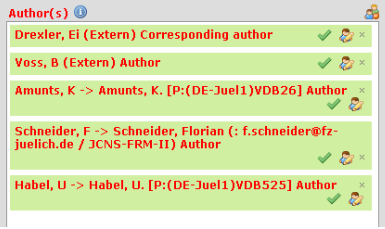

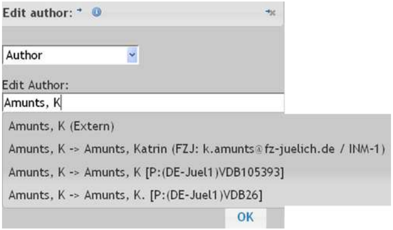

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- sometimes pythonic helpers (if it gets complex: author guessing, recursions. . .)

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```
001__ 95749
0247_ $aP:(DE-Juel1)133832$2P:(DE-Juel1)
0247_ $a0000-0001-9846-5516$2ORCID
0247_ $aI-3159-2013$2ResearcherID
035__ $aP:(DE-Juel1)133832
1001_ $aWagner, Alexander$gmale
...
750_7 $0V:(DE-HGF)8$2HGFVOC$aAuthorized$d2013-11-09
980__ $aP
980__ $aAUTHORITY
```

Lacking features

- Autority-based searches
  - with children/tops
  - with predecessors/successors
  - `noexp` parameter to search without explosion
- Handle multiple IDs

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- Lookup IDs for searches (e. g. insert “IBG-3”, get ID search for cid:”<ID>”)

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Basically, search functionality is lacking to get the most out of it

Current work arrounds

- Predecessors:
  Add all previous IDs to a certain MARC-field (e. g. `920` + `981`) and search in an index (e. g. `cid`) that collects these fields.
- Statistics:
  Use keys for search and in case loop. Works, but might be time consuming.
- Introduction of ORCiD:
  Probably need to write several Ids for one author, as personal publication lists are based on current Ids.

Hopefully, all this is solved by upcoming authority search.

Thanks!

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This document is available as FZJ-2013-05411

Typeset by pdfLaTeX