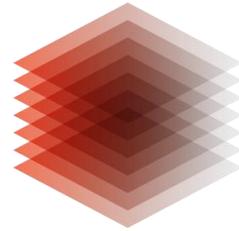


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# **Supporting a VIVO Regional Community**

Christian Hauschke  
Technische Informationsbibliothek (TIB)  
Webinar, 2018-06-11

## Facts about TIB

- German National Library of Science and Technology
- Leibniz Information Centre for Science and Technology
- University library of Leibniz Universität Hannover
- Public-law foundation of the Federal State of Lower Saxony (since January 2016)
- World's largest specialised library with unique resources
- Joint funding of federal government (30 %) and federal states (70 %)
- Member of Leibniz Association
- Staff: 536

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## Agenda

1. **Goal: VIVO for German institutions & researchers**
2. **Fields of action**
  - **Laws, regulations, guidelines**
  - **Translation**
  - **Ontology**
3. **Community – tools and communication**
4. **The need for investigations**

## Goal: a German VIVO

### Adaption to specific needs in Germany ...

- language
- (academic) culture
- laws and regulations
- features

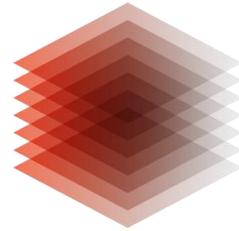
### ... means work on

- true multiple language support
- ontology
- community
- documentation
- code



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**Laws,  
regulations,  
and guidelines**

## Making VIVO more secure



Bundesamt  
für Sicherheit in der  
Informationstechnik

- German Federal Office for Information Security
- IT Baseline Protection Manual[1]
- Creating IT security concepts
- IT security management

[1] [https://www.bsi.bund.de/DE/Themen/ITGrundschutz/itgrundschutz\\_node.html](https://www.bsi.bund.de/DE/Themen/ITGrundschutz/itgrundschutz_node.html)

# New mechanism for password hashing

- Substitution of insecure mechanisms in VIVO

Checklist	MD5	Argon2i
Salted	✗	✓
Configurable (memory, time, parallelism)	✗	✓
Vulnerable (brute force, GPU attack, hash collision)	✓	✗
Time (hash generation)	Fast	Slow
Hash Length	128 bit	Configurable 192 bit

### MD5 Hash

4BBA69E66998C59F03530EE02C406CB0

### Argon2i Hash

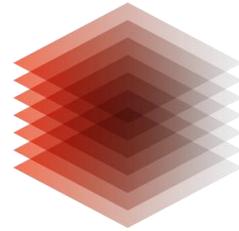
version memory time parallelism

\$argon2i\$v=19\$m=1024,t=1000,p=1\$YGRB2tUxW  
2POXdL/nd85TA\$auNkQocp9gFlhypooG/OQLREy  
JQ7PmpmrpU8T5yE6K0

encoded random salt and hash

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# Translation

Translating VIVO

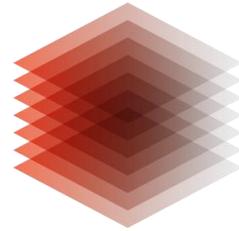
## Basic translation

- **Basic translation of most language related files for since VIVO 1.6:**
  - **ontology**
  - **templates**
- **Now available for VIVO 1.10.X**
- **Collaborative effort of the German Community**

<https://github.com/VIVO-DE/VIVO-languages>  
<https://github.com/VIVO-DE/Vitro-languages>

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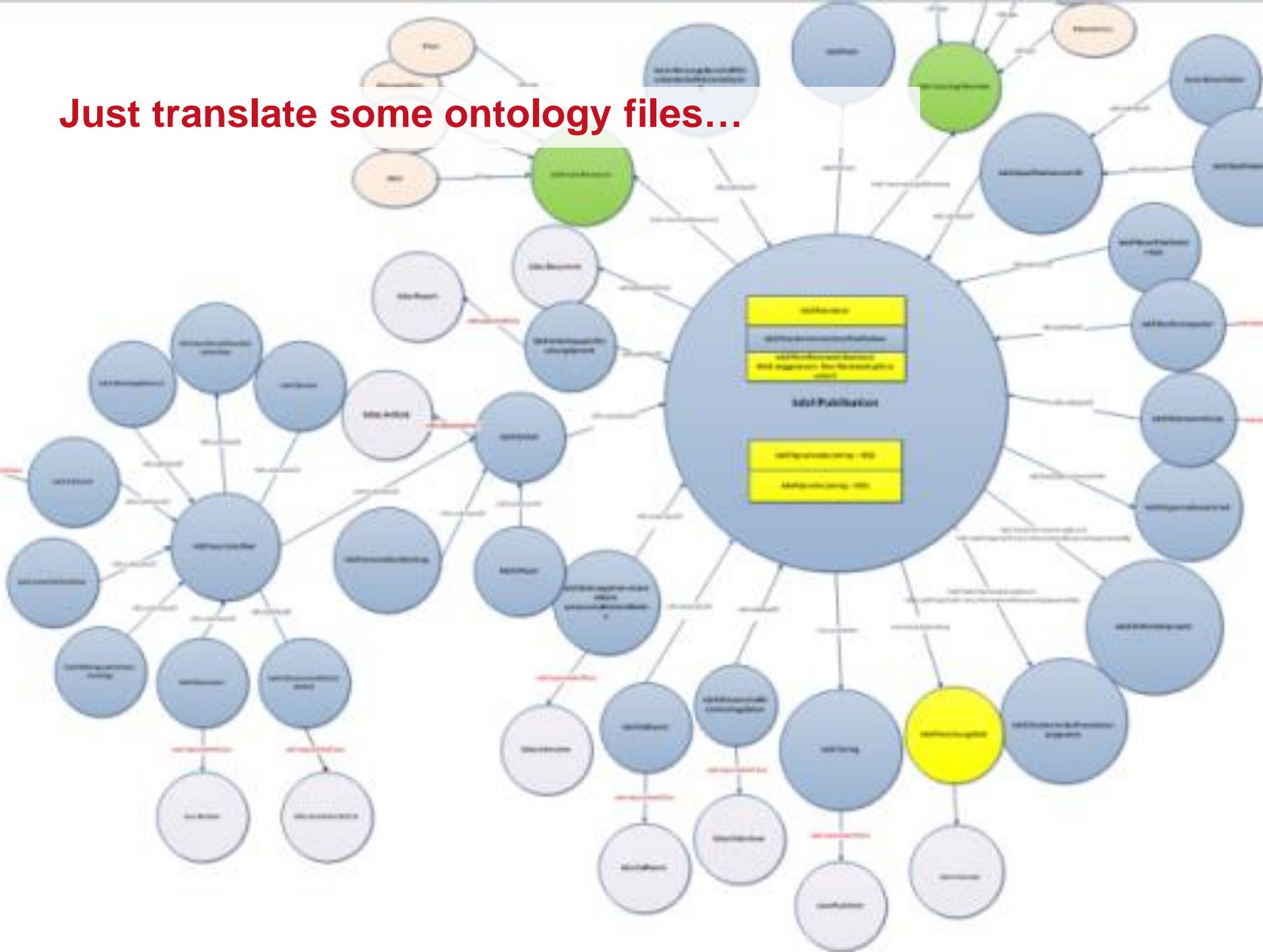


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# **Ontologies**

VIVO-ISF, VIVO-DE, KDSF

Just translate some ontology files...



## Why an extension for German institutions?

- **Localization requires local ontologies**
- **Specifics of research infrastructure in Germany**
  - **Example: grants vs. Projekt**
  - **Classes for organizations: Lehrstuhl, Fakultät**

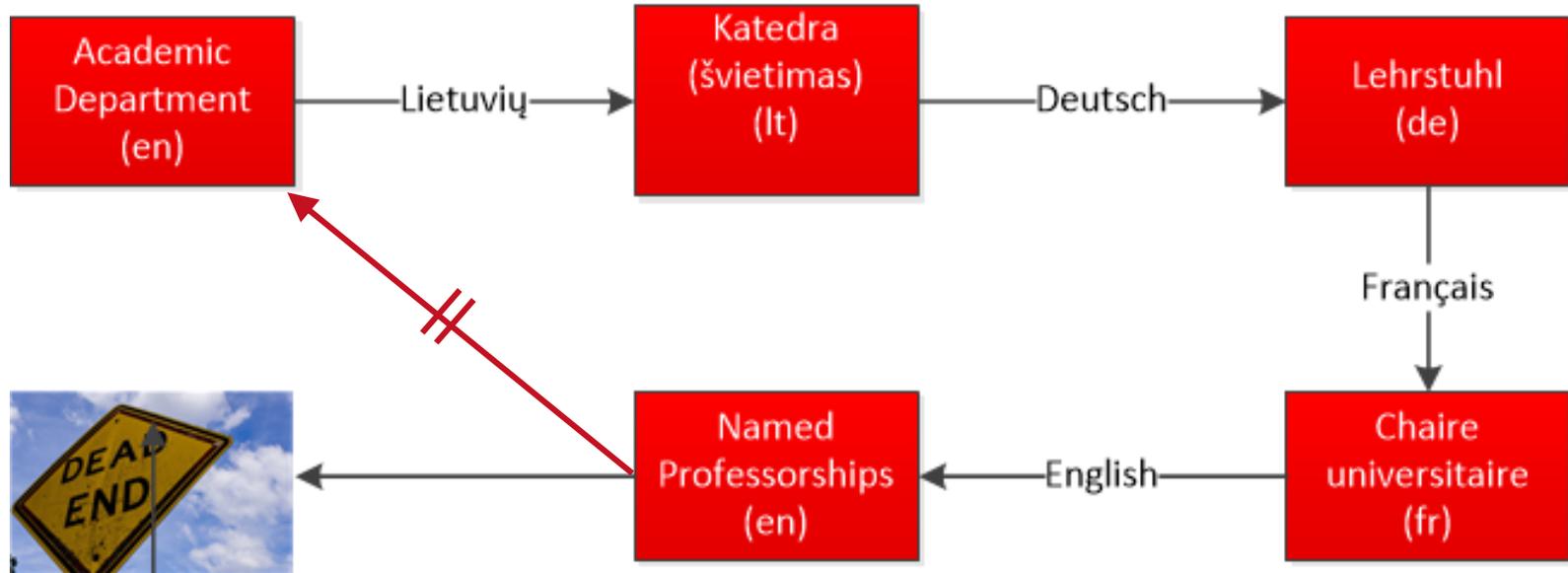
**To achieve interoperability of German VIVOs:**

**Collaborative approach for an ontology extension**



WIKIPEDIA

# How Wikipedia translates „Academic Department“



## VIVO-DE ontology extension

- adding properties and classes
- avoiding „false friends“

### Rules for the extension:

- German class name, if there's no English equivalent
- Translated class name, if there is an equivalent in English, but not in the VIVO-ISF ontology
- Labels consequently for English and German
- If the class seems to be very general, but is meant for a very narrow case, it comes with an explaining abbreviation
- All classes are merged with one of the VIVO ontologies
- All classes come with annotation properties

**<https://github.com/VIVO-DE/vivo-de-ontology-extension>**

# VIVO-DE in numbers

- **Classes: 18**
- **Object properties: 0**
- **Data properties: 1**

Annotations 

[rdfs:label](#) [language: en-us]  
URN

[rdfs:label](#) [language: de-de]  
URN

[hiddenFromDisplayBelowRoleLevelAnnot](#)  
<http://vitro.mannlib.cornell.edu/ns/vitro/role#public>

[hiddenFromPublishBelowRoleLevelAnnot](#)  
<http://vitro.mannlib.cornell.edu/ns/vitro/role#public>

[inPropertyGroupAnnot](#)  
<http://vivoweb.org/ontology#vitroPropertyGroupidentifiers>

[prohibitedFromUpdateBelowRoleLevelAnnot](#)  
<http://vitro.mannlib.cornell.edu/ns/vitro/role#public>



## Research Core Dataset (KDSF)

*“will provide the foundations for a quality-assured data exchange between universities or research institutions and recipients of the information in the German research system.” [1]*

### The KDSF ...

- aims to be a widely used standard for research reporting
- delivers definitions for core indicators in research
- is essential to most research institutions in Germany

[1] <http://www.forschungsinform.de/kerndatensatz/en/index.php?home>

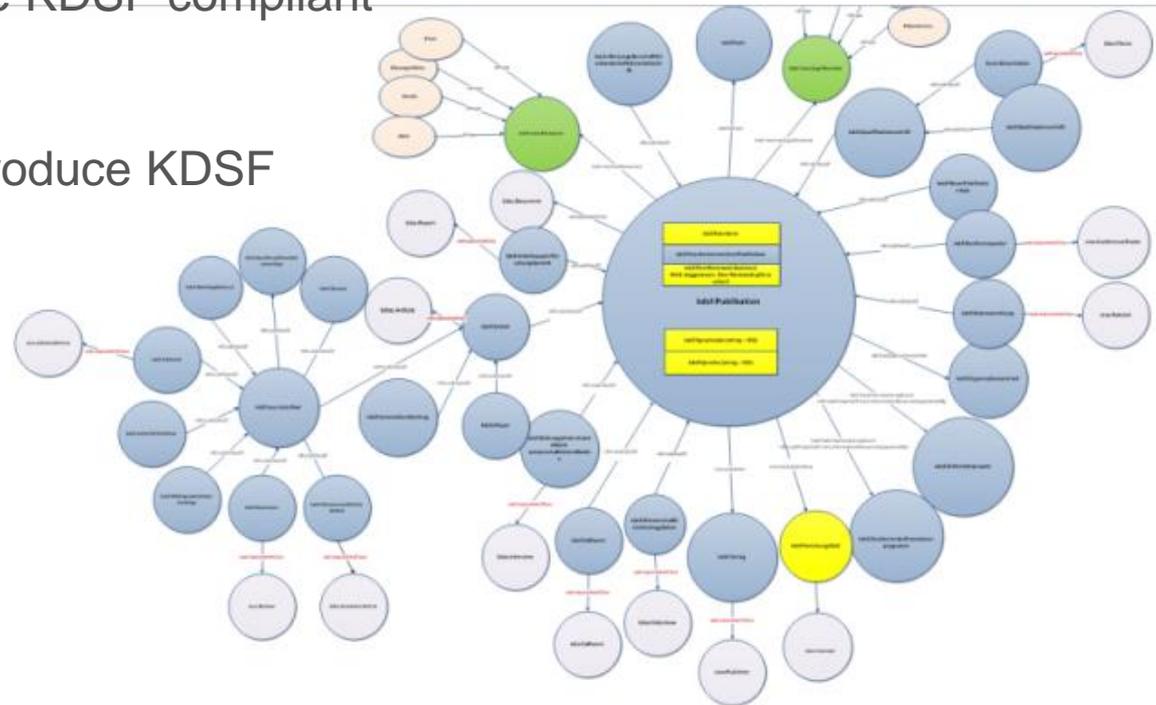
# VIVO-DE: Research Core Dataset (KDSF)

## To Do

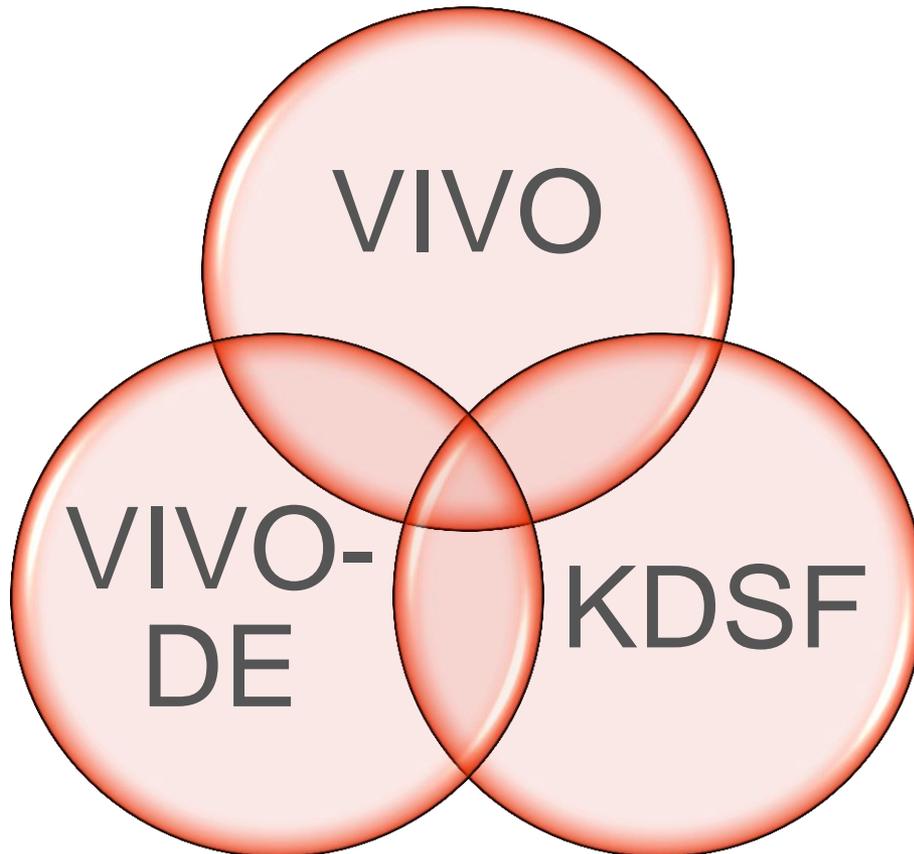
- transformation of the KDSF data model
- matching and merging with the VIVO ontology

## Goals:

1. Being able to aggregate KDSF compliant data in VIVO
2. Using data in VIVO to produce KDSF compliant reports

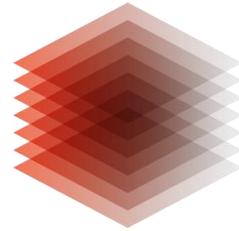


# VIVO, VIVO-DE, KDSF... ontologies à la carte



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# **The VIVO-DE Community**

Workflows, tools, communication

# VIVO-DE – the community

## VIVO Registry

Check out who's using [VIVO](#) on the site registry below. To register your VIVO [click here](#).

Search the Registry

Apply

Institution/Company	Country	Type of Institution	Site	VIVO Version
<a href="#">Rheinische Friedrich-Wilhelms-Universität Bonn</a>	Germany	academic	<input type="checkbox"/>	1.6
<a href="#">Hochschule Hannover</a>	Germany	academic		
<a href="#">TU Dresden</a>	Germany	academic		1.8
<a href="#">University of Freiburg, Osteologic Database</a>	Germany	academic		1.8
<a href="#">Zentrum für Europäische Wirtschaftsforschung</a>	Germany	research center		
<a href="#">Universität Osnabrück</a>	Germany	academic		Other
<a href="#">Technische Informationsbibliothek (TIB) – German National Library of Science and Technology</a>	Germany	academic	<input type="checkbox"/>	1.9
<a href="#">University of Münster</a>	Germany	academic		1.9
<a href="#">Deutsches Institut für Erwachsenenbildung - Leibniz-Zentrum für Lebenslanges Lernen e.V.</a>	Germany	academic		1.9

## Communication

- **Mailing list**  
<https://lists.tib.eu/mailman/listinfo/vivo-de>
- **Slack channel**  
<https://bit.ly/vivo-slack> - #vivo-de
- **German VIVO Workshops**
  - 2015, 2017, 2018<https://events.tib.eu/vivoworkshop2018/>

## Status quo of collaborating on VIVO-DE

- Github based workflow
  - Github repo with ontology files
  - issues
  - wiki for documentation

<https://github.com/VIVO-DE>

*Github is not user-friendly...*

*... if the user is not a computer scientist.*

[European Knowledge Acquisition Workshop](#)

... EKAW 2016: [Knowledge Engineering and Knowledge Management](#) pp 303-319 | [Cite as](#)

## VoCol: An Integrated Environment to Support Version-Controlled Vocabulary Development

Authors

[Authors and affiliations](#)

Lavdim Halilaj , Niklas Petersen, Irlán Grangel-González, Christoph Lange, Sören Auer, Gökhan Coskun, Steffen Lohmann

- **Collaborative ontology development**
- **Heterogenous and distributed environments**
- **Developed at Fraunhofer-Institut für Intelligente Analyse- und Informationssysteme (IAIS)**

## Editing Turtle on GitHub

Load, view, edit, check, and save a turtle file on GitHub.

Username (for login):

Password or Token:

Owner of Repository:

Repository:

Branch:

Content editor: kdsf-vivo-alignment.ttl

```

60
61
62 ### http://vitro.mannlib.cornell.edu/ns/vitro/0.7#offerCreateNewOpt
63 vitro:offerCreateNewOptionAnnot rdf:type owl:AnnotationProperty .
64
65
66 ### http://vitro.mannlib.cornell.edu/ns/vitro/0.7#prohibitedFromDps
67 vitro:prohibitedFromUpdateBelowRoleLevelAnnot rdf:type owl:Annotati
68
69
70 ### http://vitro.mannlib.cornell.edu/ns/vitro/0.7#publicDescription
71 vitro:publicDescriptionAnnot rdf:type owl:AnnotationProperty .
72
73
74 ### http://vitro.mannlib.cornell.edu/ns/vitro/0.7#selectFromExistin
75 vitro:selectFromExistingAnnot rdf:type owl:AnnotationProperty .
76
77 #####
78 # Object Properties
79 #####
80 ### http://kerndatensatz-forschung.de/owl/Basis#hatArt
81
82
83
84
85
    
```

Type a concept to search...

Ignore Case

Type:  All  Class  Object Property  Datatype Property  Individuals

View:  RDF(S)  SKOS

Show others:  Show Type  Show File

prerequisiteFor

preferredNamespaceUri

prefixName

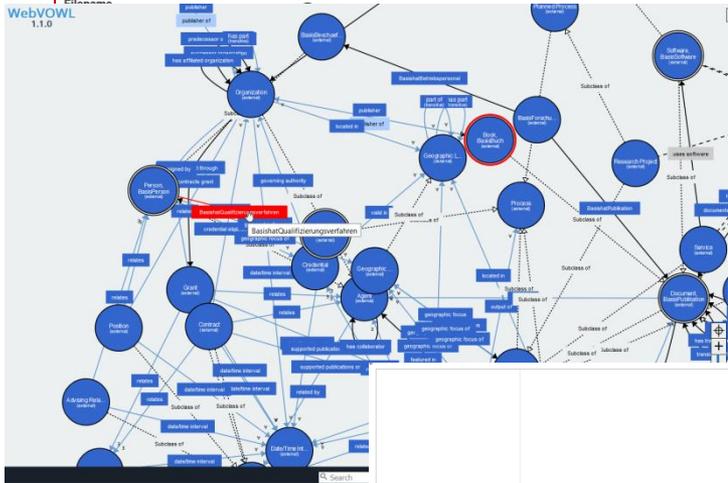
prerequisiteFor

presentedAt

Documentation Source Graphical Depiction

Details: publisher

Predicate	Object
owl:inverseOf	publisherOf
rdf:type	owl:ObjectProperty
IAO_0000112	Public Definition source ( <a href="http://www.answers.com/topic/publisher">http://www.answers.com/topic/publisher</a> ).
rdfs:label	publisher@en



No title available

<http://vivoweb.org/ontology/core/proposals>

Version: --

Author: --

Language: en

Description

Vivo Home Editing Documentation Visualization Querying Evolution Analytics Validation

## Validation

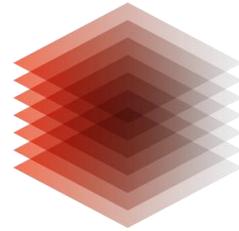
- Error Number: 1  
 Found in file: ./vivo-de-0.3.ttl **Error: Expected dot to follow quad at line 83.**
- Error Number: 2  
 Found in file: ./kdsf-vivo-alignment.ttl **Error: Syntax error: unexpected "rdf:type" on line 71.**

Please fix the error(s) in the turtle file(s).



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## **The need for investigations**

What's needed? Who are our users?

What do they want & need, and how can we find out?

## German VIVO Workshops



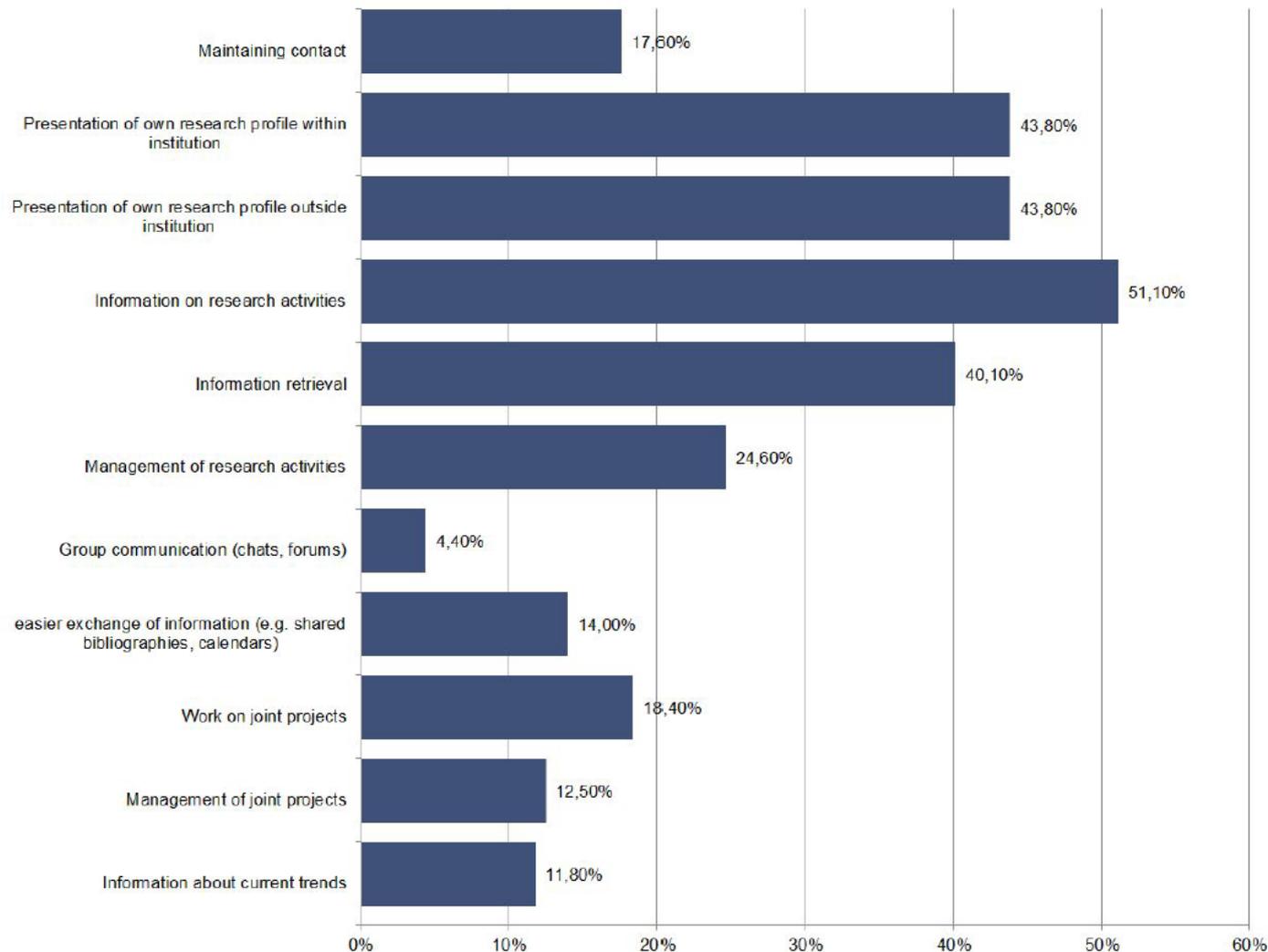
- Reporting, reporting, reporting
- Advanced role management
- Networking, training & exchange
- Improved data integration
- Workflows in VIVO
- ...

## Use of research information systems in research institutions

- 30 semi-structured interviews with researchers
- 20 semi-structured interviews with research administration
- Both from universities and non-university research institutions

# Survey on information & publication behaviour of researchers in science & tech (n = 1,460)

What do you intend to / do you use the research information system for?

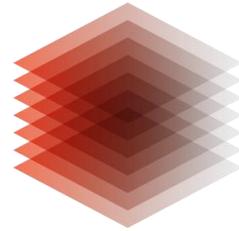


## **To be done...?**

- **More research on the needs of researchers and research administrations with regards to VIVO**
- **Starting in-depth research on the information needs and behaviour of the public**
- **Exchange of knowledge about users on a national and international level**
- **More communication about and between VIVO projects and related projects**
- **Intensify work with international communities**

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**Thanks a lot for your  
attention!**

**Questions?**

**Contact**

Christian Hauschke: [christian.hauschke@tib.eu](mailto:christian.hauschke@tib.eu)

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