Have you ever heard about Bielefeld conspiracy? / About Bielefeld University!

- founded in 1969
- “Transcending Boundaries - between disciplines and scientific cultures, between research and teaching, and between science and society”
- 13 faculties + med. faculty in preparation in 2018
- CITEC & BGHS funded by German Excellence Initiative
- 25K students (2017)
- 170M € total budget (2017)
- 60.4M € 3rd party funds income (2017)
Milestones of RDM at Bielefeld University

2009
- Start of Informium
  - start of pilot projects as collaborations between Library and research groups to determine functional requirements for realization of transdisciplinary research data infrastructure

2011
- Principles on Handling Research Data
  - goal: a research data contact point will be established
  - start of CRC 882 INF with Faculty of Sociology

  - set up of the Open Access Task Force

2013
- Resolution on Research Data Management
  - DataCite DOI registr.
  - DMP tool
  - integrated research data repository

2015/2016
- Research Data Contact Point
  - start of de.NBI coordination at CeBiTec / UNIBI

2017/2018
- Concept for a Competence Center for Research Data
  - start of CRC 1288 INF data infra + digital humanities

  - Open Science Working Group

  - Bielefeld Center for Data Science

www.uni-bielefeld.de
Established RDM Activities of the Contact Point for Research Data

- Guidance on RDM for project proposals
  - early identification of RDM issues
- Data Management Planning
  - considering funders recommendations and mandates
- counselling on legal issues in cooperation with legal serv.
- research data literacy and capacity building for students and researchers
- counselling on publishing research data
- contextualisation and interlinking of research data with other research artefacts in the institutional repository
Three Main Pillars - Strategy

- Technical Infrastructure
- Research Data
- Policy & Advocacy
- Support Structure
Policy and Advocacy

- Principles on handling research data (2011) include
  - to be considered across the entire data lifecycle
  - PIs to provide a DMP in line with given subject-specific guidelines for institutions and projects
  - making data widely available and retaining it for the long term in order to facilitate its reuse …
  - to promote high-quality research data management practices, paying sufficient attention to subject-specific training in methods and the principles of good academic practice
- followed by the resolution on RDM in 2013
- will be extended by following Open Science principles …
Technical Infrastructure

- project specific setup of virtual research environments
- DMP tool
- PUB as institutional catch all repository and archive
  - metadata curation
  - persistent identification with DOI
  - linking of research data / software with publications
- GitLab
  - collaborative distributed version control system
  - large file support
- Conquaire DFG-project
  - Continuous quality control for research data to ensure reproducibility
PUB Repository for Publications, Data and Software

- inst. repository for publication- and data-management
- based on LibreCat
- Open Source
- supporting certificates (DINI), guidelines (OpenAIRE) and the Data Seal of Approval
# Data Publication with link to supporting Software in GitLab repository

## Median Relational Generalized Learning Vector Quantization


<table>
<thead>
<tr>
<th>Software/ Ext. Data</th>
<th>Details</th>
<th>Files</th>
<th>Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software:</td>
<td>Download</td>
<td>DOI</td>
<td>Research Data</td>
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<td>URL</td>
<td>mrglvq-0.1.0.zip 90.95 KB</td>
<td>10.4119/unibi/2916990</td>
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</tr>
</tbody>
</table>

Publically accessible GitLab page including the source files for the implementation.

Export

- [Marked Publications]
- [Open Data PUB]

Search this title in

- [Google Scholar]
Analytical Reproducibility with ConQuaire

- Observation
  - Hypothesis
  - Experiment
    - Primary Data
      - Computer-based Analysis
        - Analyzed Data
          - Knowledge
            - Interpretation
              - Publication
                - ConQuaire

- Analytic Reproducibility
  - Full Replication
About the Conquaire Project

- DFG funded institutional infrastructure to manage, archive and publish (structured) research data
  - CITEC + University Library
  - pilot research with 9 partners from interdisciplinary labs
- ensuring of formal data quality and reproducible research
- optimized internal knowledge resources
- supporting researchers to make their research more visible
- optimize co-operations with partners
Towards Data FAIRness

- Design and development of RDM services to maximize use and visibility of research data for the benefit of data producers (researchers) and data infrastructure service providers
- Data Quality Framework defined in the Conquaire project and in support of the FAIR data principles
Support Structure - data website

- data.uni-bielefeld.de as entry point to inform about policies, services and events related to RDM
www.uni-bielefeld.de/open-science as entry point to inform about all Open Science activities and the Open Science Working Group at the university
Bielefeld Center for Data Science (since 2017)

Key Elements:

- Comprehensive understanding of data science (according to the data science life cycle)
- Broad interdisciplinarity in the development and use of data science methods
- Extension of the set of methods towards "mixed methods research"
- Extension of the set of topics towards "digital humanities"
- Master's Degree in Data Science (MSc)
- Professorships with a particular focus on data science
As a consequence: Competence Center for Research Data (in preparation)

- RDM as a cross cutting task of central facilities and faculties
- defined roles and responsibilities among library, computing centre, BiCDaS and university management in close collaboration with the research groups
Important Findings and Conclusions

- Visibility of the service portfolio on the web, at information sessions for research groups and doctoral students
- Networking with the researchers, university administration, rectorate, CIO board
- Active cooperation in regional (digital university NRW), national (DINI-WG research data), international initiatives (RDA, DDI, OpenAIRE)
- Ongoing discussions about the role and tasks of the Library regarding RDM (subject librarians, embedded data librarian, data management support team)
- Cooperation between computing center, library, research office, faculties
Links and References

- on Research Data Management
  - [https://data.uni-bielefeld.de/](https://data.uni-bielefeld.de/)
- on Open Science
  - [http://www.uni-bielefeld.de/open-science/](http://www.uni-bielefeld.de/open-science/)
- on Bielefeld Center for Data Science
  - [http://www.uni-bielefeld.de/datascience/](http://www.uni-bielefeld.de/datascience/)
- on Services and Tool
  - institutional repository: [https://pub.uni-bielefeld.de/](https://pub.uni-bielefeld.de/)
  - gitlab: [https://gitlab.ub.uni-bielefeld.de](https://gitlab.ub.uni-bielefeld.de)
- on Projects (selected)
  - Conquaire: [http://conquaire.uni-bielefeld.de/](http://conquaire.uni-bielefeld.de/)
  - SFB-822 INF: [http://www.uni-bielefeld.de/(en)/sfb1288/projekte/inf.html](http://www.uni-bielefeld.de/(en)/sfb1288/projekte/inf.html)
Thank You for Your Attention!

For any questions or comments feel free to contact the team: conquaire-contact@lists.uni-bielefeld.de