



DINI Institutional Repository Certification and Beyond - Open Access Activities in Germany

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Outline

- DINI and DINI Electronic Publishing Working Group
- DINI Certificate for Document- and Publication Repositories
- Certification in Practice
- Other Repository Certification Activities
- Certification and Open Access
- Visibility and Impact
- Conclusion



DINI

Deutsche Initiative für Netzwerk Information
(German Initiative for Networked Information)

Coalition of German Higher Education Infrastructure- or
Service-Institutions:

- Libraries
- Computing Centres
- Media Centres
- Scientific and Learned Societies

8 Working Groups



DINI Primary Objectives

What?

- Creating recommendations for standardized and interoperable information services and communication networks in and between universities
- Structuring and construction of networked digital publication possibilities
- Development of archiving services

How?

- Transfer ideas, technologies and implement recent developments in Germany, e.g. OAI-PMH
- Initiation and intensification of regional, nationwide and international collaboration
- Advice and recommendations for funding bodies, e.g. DFG

➔ Develop and support infrastructure



DINI Electronic Publishing WG

Active since start of DINI (2000)

Members from German Universities and Higher Education Institutions

Workshops

2003: OAI Tutorials in Germany (Stuttgart, Frankfurt, Berlin)

2004: Implementation of digital repositories (Frankfurt)

2005: Open Access Symposium (Göttingen)

2006: International Workshop on Institutional Repositories and Enhanced and Alternative Metrics of Publication Impact (Berlin)

2006 (planned): OA experiences of certified repositories (Berlin)



Motivation for a Certificate

Since 1997 development of digital repositories in Germany

2003: Survey of German University Repositories

Very dissapointing use of standards

Key Issues:

- Locally developed software packages
- Document formats
- Metadata: DC, ETD-MS, qualified DC (DL Meta)
- Interfaces: promote OAI PMH, web services
- Cataloguing, subject cataloguing: MAB2, DDC
- Poor visibility of repositories within universities



DINI Certificate for Document- and Publication Repositories

- Certificate launched in 2003 by Electronic Publishing working group
- Introduced quality control for Document- and Publication Repositories for the first time
- Defines a set of **minimum standards (requirements)** for a repository and its operator(s) mandatory for modern scholarly communication
- **Recommends** foreseeable developments that might turn into future requirements
- DINI Certificate 2007 released September 2006



DINI Certificate Content

- Visibility of the Service
- Policy, Guidelines
- Author Support
- Legal Aspects
- Security, Authenticity and Data Integrity
- Indexing
 - Subject indexing
 - Metadata Export
 - Interfaces
- Logs and Statistics
- Long-term Availability



DINI Certificate Visibility of the Service

Minimum standards

- The entire range of services must be available on the internet
- Service must be referenced from the institution's homepage

Recommendations

- Registration of the Document and Publication Services at the Directory of Open Access Repositories - OpenDOAR or the Registry of Open Access Repositories (ROAR)
- Registration of the Document and Publication Services at the Open Archives Initiative as Data-Provider



DINI Certificate Policy / Guidelines

Minimum standards

- A policy regarding content and operation of the repository. This policy must state terms and conditions (rights and obligations) of the provider and of authors and/or editors.
- The policy must contain:
 - Which documents will be included
 - Functional and technical qualities of the documents
 - A guarantee to archive published documents for a defined time
 - Procedures for the operation of the document repository



DINI Certificate Policy / Guidelines (2)

Minimum standards

- Definition of the services offered to the authors and/or editors
- Specification of terms and conditions (rights and obligations) of authors and/or editors
- Statement on Open Access

Recommendations

- If there is an Open Access Statement, the term OA has to be defined
- Action guideline for authors (green or gold strategy)
- Tools and services have to be offered in accordance to action guidelines (upload, versioning, authentication ...)



DINI Certificate Author support

Minimum standards

- Offer consultancy services and support via web pages and/or e-mail and/or telephone as well as person-to-person support
- Support of the entire publication process (including technical and legal areas)
- Action guideline for authors
- Self-Upload tool
- Link to SHERPA/ROMEAO list on publisher's policies



DINI Certificate

Author support (2)

Recommendations

- Courses on electronic publishing at least once per semester
- Courses on structured writing
- Helpdesk system
- Provide style sheets or templates
- “how-to manuals” for download (e.g. on PDF creation)
- Advice on usage and citation of documents
- Advice on copyrights
- Interfaces and help in German and English



DINI Certificate

Legal aspects

Minimum standards

Author's Copy

- The work is published elsewhere or is in the process of being published elsewhere. Copyrights were or will be transferred to a third party
- The author publishes the document under a license (Creative Commons, DPPL Digital Peer Publishing Licence) that permits hosting the publication on the institutional repository and does not contradict the transfer of copyrights
- The author's contract allows to publish a digital author's copy
- An addendum to the author's contract allows to publish an authors copy
- Publication of digital author's copies is covered in the respective publishing houses' policies



DINI Certificate

Legal aspects (2)

Minimum standards

Primary Publications

- No copyrights or no exclusive rights were transferred to a third party
- An agreement (author contract) has to be signed by the author allowing the end users free electronic distribution of the document and stating the conditions for this (rights to store electronically, especially in databases, and make available to the public for individual retrieval to view on a monitor and print (online use) in part and/or as a whole)
- Should an additional publication in e.g. a journal be intended, the author should make certain that the publishing house supports the primary publication on an institutional repository



DINI Certificate

Security, Authenticity and Data Integrity - Server

Minimum standards

- The operational concept guarantees adequate availability of the system
- Documentation of the technical system
 - version and on the technical parameters of all components
 - access regulations (location, system, personnel)
 - Regulations on system maintenance
- Back-up system to secure repository software, metadata and documents on a daily basis
- Reliable installation of the system and the software components
- Regular system maintenance (security updates, software updates and response to malfunctions)
- Technically controlled and traceable upload of documents



DINI Certificate

Security, Authenticity and Data Integrity - Server (2)

Recommendations

- SSL certification with trusted certificate for encoded communication
- Separation of the technical system documentation in a public and an internal section
- Autonomous controlling and alerting functions in case of a malfunction of the server or one of its components
- Damage-control procedures in place



DINI Certificate

Security, Authenticity and Data Integrity - Documents

Minimum standards

- Use of Persistent Identifiers (systems providing a resolving service, e.g. urn:nbn or DOI)
- A document with altered content must be treated as a new document (new persistent identifier)
- Archiving of uploaded original files in their original formats
- Minimum standards must be documented in the policy or the guidelines of the Document and Publication Services



DINI Certificate

Security, Authenticity and Data Integrity - Documents (2)

Recommendations

- Application of a procedure to verify the integrity of documents (e.g. a hash number) as well as the publication of the procedure and hash value
- Application of advanced digital signature (according to German Digital Signature Act § 2)
- Rendering of archival file-formats for the export of documents into long-term archiving facilities or institutions (e.g. PDF/A, ODF, TXT)
- Presentation of the documents in an established presentation fileformat
- Should this not be possible, applicable software should be offered for download, or an internet reference be given



DINI Certificate Subject Indexing

Minimum standards

- An indexing policy must exist and be known to the authors
- Verbal indexing with free keywords or classification terms
- Dewey Decimal Classification (DDC) according to DINI OAI-Recommendations

Recommendations

- At least one additional standardized system of verbal or classificatory indexing (general or subject specific, e.g. German Schlagwortnormdatei, LoC Subject Headings, CCS, MSC, PACS etc.)
- Keywords in English
- Abstracts in German and English



DINI Certificate Metadata Export

Minimum standards

- Metadata are available for free
- Metadata are structured as Dublin Core (ISO 15836:2003)

Recommendations

- Metadata are structured as Dublin Core Qualified
- Metadata are structured as ONIX
- Technical and/or archival metadata including Print-on-demand data (e.g. PREMIS, LMER)
- Import and export of metadata in bibliographical databases (e.g. reference-management software, Union catalog, OPAC etc.)
- Offer link lists for search engines' indexing robots (e.g. Google, Fast, Scirus, etc.)



DINI Certificate Interfaces

Minimum standards

- Web interface for users
- OAI-PMH 2.0 in accordance with DINI-OAI Recommendations

Recommendations

- OAI-PMH 2.0 to exchange complex metadata schemas
- Web-service interface (e.g. SOAP)
- Z39.50 and/or SRU/SRV



DINI Certificate Logs and Statistics

Minimum standards

- Every document repository must keep consistent access statistics (web server log files)
- Web server log files must be anonymized for long-term archiving purposes
- Criteria used to collect or filter the data must be documented

Recommendations

- Access to documents by automated agents, robots or similar is filtered out
- Web server log files are edited according to the Counter Code of Practice
- Access statistic is attached to the document as dynamic metadata and visible to the end-user



DINI Certificate

Long term availability

Minimum standards

- Persistent linking of metadata and documents (e.g. via a persistent identifier or through storage of metadata and document in one single container)
- Minimum availability of at least five years
- Archival copies free of Digital Rights Management (DRM) constraints



DINI Certificate

Long term availability (2)

Recommendations

- Secure long-term availability, where necessary through cooperation with an archiving institution
- Use of open file formats suited for long-term archiving (e.g. PDF/A, ODF, TXT, HTML, TEX) and free of protective DRM measures
- Creation of technical metadata for long-term archiving (e.g. using the tool JHOVE).
- Unambiguous identification of the file format in the metadata with a link to publicly available file format registries
- Policy on the deletion of documents
- Support import and export of object containers that – besides the actual document – contain bibliographical and technical metadata (e.g. in the Universal Object Format)

DINI -Certificate Awarding and Evaluation



- Proposal by Web-questionnaire
- Evaluation of minimum standards by two experts
- Legitimacy to use the DINI-certificate-logo
- A fee is charged

	Nonprofit	Profit-Organisation
DINI-Member	50,00 €	150,00 €
Non-Member	100,00 €	250,00 €

http://www.dini.de/zertifikat/dini_certificate.pdf



Certification in practice

- 19 Services certified / 4 in progress
- Common issues during the certification process
 - policy
 - persistent identifiers
 - documentation
- Results of certification
 - Certification as development of the service
 - ➔ common experience
 - Certification as marketing action
 - ➔ experiences range from very good results (e.g. Chemnitz) to no effect at all

Other Repository Certification Activities in Germany



DINI

Institutional document and publication services

Quality of Service

Visibility

Interoperability

Usage of Standards

DINI: German Initiative for Networked Information

Nestor

Digital repositories in libraries, museums, archives, data centres

Long term preservation

Trustworthiness of digital repositories

Detailed criteria catalogue

Nestor: Network of Expertise in Long-Term Storage of Digital Resources



Other Repository Certification Activities in Germany

DINI

Soft certification
Aim: coaching
Marketing idea
Support open access

<http://www.dini.de>

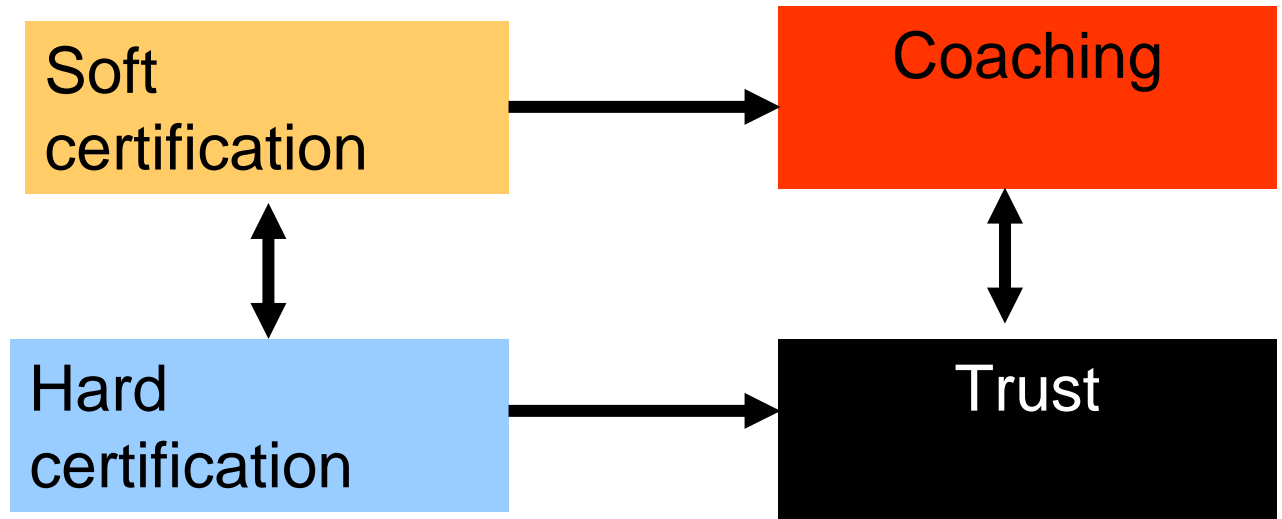
Nestor

Hard certification
Establish trust
Guidelines for product
specification & software
development

<http://www.longtermpreservation.de>

Certification Activities - the complementary perspective

Number of services





Certification and Open Access

- Universities need guidance for implementing Institutional Repositories
- Certificate can enhance visibility of the service „Institutional repository“ within the University
- Quality and add-on functionalities/services of certified Repositories are essential
 - Authenticity and integrity
 - Visibility / Impact

Visibility - an example

Uploaded to OPUS 23.1.2006



 English

[Hinweis zum Urheberrecht](#)

Aufsatz zugänglich unter

URN: [urn:nbn:de:bsz:93-opus-25204](https://nbn-resolving.org/urn:nbn:de:bsz:93-opus-25204)

URL: <http://elib.uni-stuttgart.de/opus/volltexte/2006/2520/>

A disposable acetylcholinesterase-based electrode biosensor to detect anatoxin-a(s) in water

Villatte, Francois ; Schulze, Holger ; Schmid, R. D. ; Bachmann, T. T.

Originalveröffentlichung: (2002) *Anal Bioanal Chem.* 2002 Jan;372(2):322-6. The original article is available at <http://springerlink.metapress.com/openurl.asp?genre=article&id=doi:10.1007/s00216-001-1127-4>

pdf-Format: [Dokument 1.pdf \(158 KB\)](#)

Dokument empfehlen:



SWD-Schlagwörter:

Biosensor , Acetylcholinesterase , Anatoxin a , Amperometrie

**Freie Schlagwörter
(Englisch):**

Biosensor ; Acetylcholinesterase ; Anatoxin-a(s) ; Amperometric detection

Institut:

Institut für Technische Biochemie

DDC-Sachgruppe:

Chemie

Dokumentart:

Aufsatz

Sprache:

Englisch

Erstellungsjahr:

2002

Publikationsdatum:

23.01.2006

Kurzfassung in Englisch:

Anatoxin-a(s) is a hazardous toxin released by cyanobacteria during bacterial blooms. A simple and fast method to detect this hazardous compound using a biosensor based on the electrochemical detection of the activity of acetylcholinesterase was developed. Among several acetylcholinesterases, electric eel enzyme was found to be the most sensitive to anatoxin-a(s) and was thus used to build disposable amperometric sensors. The system displayed a detection limit of 1 µg/L anatoxin-a(s). No unspecific effect was noticed with real water samples but spiked toxin was accurately detected. Oxime reactivation was used to discriminate between the toxin and potential insecticides present in the sample.



SCIRUS - Search result 16.2.2006

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disposable acetylcholinesterase-based electrode biosens

Search

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Searched for: All of the words **disposable** AND **acetylcholinesterase-based** AND **electrode** AND **biosensor**

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1. [OPUS - A disposable acetylcholinesterase-based electrode biosensor to detect anatoxin-a\(s\) in water \[81K\]](#)

Feb 2006

...Bachmann, Till T. A **disposable acetylcholinesterase-based electrode biosensor** to detect anatoxin-a...compound using a **biosensor based** on the electrochemical...the activity of **acetylcholinesterase** was developed...used to build **disposable** amperometric...

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2. [A disposable acetylcholinesterase-based electrode biosensor to detect anatoxin-a\(s\) in water.](#)

F Villatte / H Schulze / R D Schmid / T T Bachmann, *Anal Bioanal Chem*, Jan 2002

...hazardous compound using a **biosensor based** on the electrochemical...of the activity of **acetylcholinesterase** was developed. Among several **acetylcholinesterases**, electric eel enzyme...thus used to build **disposable** amperometric sensors...

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Web Ergebnisse 1 - 10 von ungefähr 224 für **disposable acetylcholinesterase-based electrode biosensor**.

Tipp: Suchen nur nach Ergebnissen auf **Deutsch**. Sie können Ihre bevorzugten Spracheinstellungen in [Einstellungen](#) angeben.

Wissenschaftliche Artikel zu [disposable acetylcholinesterase-based electrode biosensor](#)

- [A disposable acetylcholinesterase-based electrode ...](#) - by Villatte - 5 citations
- [Sensitive Detection of Organophosphorus Pesticides Using ...](#) - by Turdean - 6 citations
- [Biosensors for the detection of bacteria](#) - by Deisingh - 3 citations

OPUS - A [disposable acetylcholinesterase-based electrode biosensor ...](#)

A **disposable acetylcholinesterase-based electrode biosensor** to detect ...
SWD-Schlagwörter: **Biosensor**, Acetylcholinesterase, Anatoxin a, Amperometrie ...
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A **disposable acetylcholinesterase-based electrode biosensor** to detect anatoxin-a(s) in water. F. Villatte, H. Schulze, RD Schmid and TT Bachmann, ...
[elib.uni-stuttgart.de/opus/volltexte/2006/2520/pdf/villatte2002.pdf](#) - [Ähnliche Seiten](#)
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Anatoxin-a(s) is a hazardous toxin released by cyanobacteria during bacterial blooms. A simple and f...

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Dateiformat: PDF/Adobe Acrobat

A **disposable acetylcholinesterase-based electrode biosensor**. to detect anatoxin-a(s) in water. Anal Bioanal Chem (2002) 372:322-326 ...



Google Scholar - Citation analysis



disposable acetylcholinesterase-based electrode

Suche

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Web-Suche Suche Seiten auf Deutsch

Scholar

Ergebnisse 1 - 10 von ungefähr 11 für **disposable acetylcholinesterase-based electrode biosensor**. (0.06 Sekunden)

[Alle Artikel](#) [Neueste Artikel](#)

[A disposable acetylcholinesterase-based electrode biosensor to detect anatoxin-a \(s\) in water - alle 6 Versionen »](#)

F Villatte, H Schulze, RD Schmid, TT Bachmann - *Analytical and Bioanalytical Chemistry*, 2002 - Springer

... F. Villatte · H. Schulze · RD Schmid · TT Bachmann A **disposable acetylcholinesterase-based electrode biosensor** to detect anatoxin-a(s) in water ...

Zitiert durch: 5 - [Websuche](#)

[... a Needle Type Amperometric Acetylcholinesterase-based Bioelectrode. Thiocholine Electrochemistry ... - alle 5 Versionen »](#)

GLS Turdean, ICS Popescu, LS Oniciu, DRS Thevenot - *Journal of Enzyme Inhibition and Medicinal Chemistry*, 2002 - Taylor & Francis

... of the needle type **acetylcholinesterase based** bioelectrode (AChE ... at Pt rotating disk **electrode**: 0.250 V vs ... necessary to compensate the **biosensor** deactivation due ...

Zitiert durch: 6 - [Websuche](#)

[Performance of the Amperometric Biosensor with Immobilized Butyrylcholinesterase in Organic Solvents - alle 3 Versionen »](#)

P Skladal, J Krejčí - *Collection of Czechoslovak Chemical Communications*, 1996 - cccc.uochb.cas.cz

... also for the **acetylcholinesterase-based** sensor 15 ... the previously developed **disposable biosensor** based on ... indicated against the internal reference **electrode**. ...

Zitiert durch: 2 - [Websuche](#)



Collecting and processing quantitative data of scientific visibility

Services (ranking, recommender, trend analysis, collection management, ...)

Metrics (frequentist, structural)

Data mining

Compare, aggregate

Usage data based on link-resolver logs

(collect, aggregate)

Usage data based on access logs

(collect, aggregate)

Citation data

(parse, extract, aggregate, index)

Basic set(s) of documents

(Journals, Institutional Repositories, Disciplinary Repositories etc.)



Services - examples

- Searching / Browsing
 - Most services listed below, SCIRUS, BASE, other OAI service providers
<http://www.openarchives.org/service/listproviders.html>
- Usage Statistics
 - COUNTER, Project IRS (**NN***), DINI-DFG Projects (**DINI certified repositories**), SUSHI
 - bX Project (**LANL, CalState**)
- Citation Analysis
 - Google Scholar (?), Web Citation Index (**openDOAR and internal selection**), Web of Science (**Selected journal set**), SCOPUS, CiteSeer (**AMS, DBLP, Computer science literature**)

*Basic set(s) of documents



Conclusion

- Certification enhances the quality of service of Repositories
- Is thus an important step to increase the visibility of standardisation and interoperability
- Standardisation and interoperability are still badly needed to built service layers on top of Repositories
- Services (esp. usage and citation analysis) promote Repositories in Universities
- Certification can promote the acceptance of Institutional repositories
- Can thus be a vital part of OA advocacy



Thank You!

<http://www.dini.de>

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