The University of Zurich was the first Swiss university to sign the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities and to publish an Open Access policy. In the Zurich Open Repository and Archive (ZORA), researchers of the University of Zurich deposit metadata and full text of their scientific publications. We describe our experience focussing on 2008, the first year in which all publications of the University were collected in ZORA.

The University of Zurich is the largest university in Switzerland and comprises seven Faculties ranging from Theology, Law, Economics, Medicine, Veterinary Medicine to Arts and Science.

To introduce Open Access (OA) at such a multidisciplinary, heterogeneous and by tradition federalistic institution is a big task. Publication cultures vary considerably between the Faculties. A bottom-up democratic procedure to anchor ZORA and OA would result in seven different directions requiring too many resources. Our strategy has been a mixture of top-down and bottom-up. University leaders show the way assisted by the Main Library and the IT services, and care for feedback of the Faculty members. ZORA is further anchored by a committee made up by representatives of each Faculty.

OA activities date back to 2002, when the University became a member of BioMed Central. A symposium on Open Access was held, and the Berlin Declaration was signed in 2004. In 2005, the University published an OA policy, which was revised in 2008.

Development of ZORA: technical hallmarks
ZORA\(^1\) is operated by the Main Library and the IT services and was outsourced for the first two years as an Open Repository Service by BioMed Central. This generated a jump start and allowed us to quickly gain practical experience. In October 2006, ZORA went public containing more than 1,100 publications. After evaluating several open source platforms, Eprints version 3 was installed and adapted. This software offered critical parameters such as metadata import from PubMed and DOI, embargoes and modulated visibilities of full text. In February 2008, metadata and full text migrated to the in-house ZORA.

Workflow, marketing and communication
It became clear that the best workflow for ZORA is one in which researchers or their assistants (submitters) deposit their publications and the ZORA team acts as editors. The benefit of this approach is obvious. Authors become aware of ZORA, OA and their author rights. Previously they indicated their publications in the Annual Reports; now they deposit them in ZORA, and metadata are automatically transferred to the Annual Reports.

Starting in March 2006, we visited selected OA promoters and interested institutes of the University and implicated them in the submission process. Articles in the newsletter of the University informed about the current status. We produced a film about Open Access and showed it, together with public lectures, at the 175 year anniversary of the University in March 2008\(^2\). In parallel, ZORA was presented to the Deans of each Faculty and at plenary Faculty meetings. These and other sessions informed the researchers directly, led to discussions and created valuable feed-

---

1 ZORA: http://www.zora.uzh.ch
2 Open Access Film of the University of Zurich: http://www.oai.uzh.ch/index.php?option=content&task=view&id=406&Itemid=282
Embedding ZORA in the researchers' environment

The vast majority of researchers do not know about their author rights and copyright law. Therefore the ZORA team controls the copyright situation for each deposited publication. As well as controlling and extending metadata, checking for duplicates and publication types, we verify whether a publication is refereed or not. We maintain a database to collect our insights, the Copyright Database & White List of the University of Zurich. The goal is to supply data on copyright transfer agreements to SHERPA/RoMEO.

Embedding of ZORA leads to further added value: simplified import with PubMed ID, DOI and XML; transfer to the Annual Reports; export possibilities to the Evaluation Office of the University; interface with websites of University of Zurich institutes (UniCMS); link of ZORA publications and search strings to other websites; search, display and export in various formats; statistics module; and harvesters such as OAister and Google that result in increased visibility. The goal is that researchers enter a publication in ZORA once and can use it in many ways.

However, linking ZORA with other administrative tools of our University meant that the specific requirements of these tools had to be considered already when entering a publication in ZORA — and this led into unexpected side avenues. For example, the ZORA publications have to be marked as refereed or not refereed for inclusion in the Annual Reports, and some Faculties are less used to this principle than others.

Depositing publications of 2008: challenges and differences between disciplines

2008 was a success in many ways — most importantly, virtually all scientific publications were entered by the researchers and their institutes in ZORA, at least on metadata level. Thus all researchers took notice of ZORA and some learnt how to make the most of the added value. ZORA now contains 12,704 publications in total, 7,534 of which date from 2008.

A key motivator is the transfer to the Annual Reports. Researchers deem them important and many of them entered their publications as used from the Annual Reports, i.e. at the end of 2008 and beginning of 2009.

This led to a peak, and a temporary ZORA Task Force enlarged and was trained by the editorial team and helped examining the entries of 2008. The challenge for the future is to encourage researchers to deposit their works in ZORA as soon as they are published, in order to avoid delays at the turn of the year (Figures 1 and 2).

About 30% of all ZORA publications contain a freely accessible full text, and this is also the case for the publications of 2008 and the refereed journal articles of 2008. Most of these publications are accepted manuscripts (final author version). ZORA contains many links that lead to a freely available full text hosted at publishers. Thus the percentage of ZORA publications with Open Access — available as direct download or link to publishers — is higher than 30%.

Life science, medicine and economics range higher in the percentage of free full text (e.g. 49% for publications 2008 in veterinary medicine, or 61% for refereed journal articles 2008 in economics), while social science, humanities, theology and law have lower percentages. These differences may originate from differences in the use of electronic resources as such and from

References:

3 Open Access Website of the University of Zurich: http://www.oai.uzh.ch
6 Copyright Database & White List: http://www.oai.uzh.ch/copyright_db.php
7 SHERPA/RoMEO: http://www.sherpa.ac.uk/romeo/
8 Numbers of publications in ZORA are as of June 23, 2009
the copyright situation. For example, economists are used to reading and disseminating working papers – and the final version of these can be used as the accepted manuscript in ZORA. The Institute of Zoology has 61% OA in 2007, because the ZORA team contacted the authors each time they had deposited a publication for which the accepted manuscript would have been allowed but was missing. In 2008 we did not have the manpower to do this – and OA dropped to 37%.

Reception of Open Access and ZORA by the researchers
All researches want others to read their works and to quote them. Accessibility is a key parameter and therefore, in principle, researchers support the idea of OA. However, the University of Zurich is still in a good position with licensed journals. Therefore it is difficult for researchers to understand that Open Access should be implemented now.

A main concern of researchers about the Gold Road to OA is that they feel obliged to stay with their favourite journals and books even if they do not want to. Simply, many OA journals are not yet established and have no impact factor, whereas the impact factor is a very critical aspect in evaluations. Paying author fees for single articles in established hybrid journals, on the other hand, is considered too expensive unless a policy shift at publishers’ side can be integrated in a combination of pricing/licensing.

Concerns about depositing publications in ZORA arise because researchers are uncertain about copyright. And because most journals only allow the accepted manuscripts (final author version) to be freely accessible, not the publisher’s official PDF. Accepted manuscripts are not what most researchers want to read and show. Instead they search the Internet and often find publishers’ PDFs on the websites of their colleagues who did not care about their contracts with publishers. Furthermore, even if it only took a single minute to archive a publication — for most researchers this is too much. In reality it takes longer, and accepted manuscripts first have to be created. Finally, solidarity of researchers with publishers, typically small ones, is seen in disciplines in which massive price increases have not (or not yet) occurred.

Impact of the Open Access policy
The policy of the University of Zurich allows bringing ZORA and OA to the attention of all researchers of the University. However, the policy does not force researchers into providing OA, and the free choice of publication remains intact. Exclusive contracts with publishers count as legal objections, and there are no sanctions. So, to have a policy is better than having none, but to get researchers to comply with it is another big task.

Acceptance could be increased by making ZORA a tool that researchers want to use. Added value could provide help, such as import tools that make deposition easier, statistics at the item level, or calculations about the connection between free full text in ZORA and increased citation frequency. However, particularly with statistics and rankings, an institutional repository is at a disadvantage when compared to subject repositories that cover entire scientific fields — at least until individual institutional repositories are interoperating in very intelligent ways, which will take time to accomplish.
The University of Zurich is a federalistic university, built on individual research chairs, in a federalistic country. This is an entirely different cultural background compared to for example the circumstances of the National Institutes of Health in the United States. Biomedical researchers in the U.S. would do anything to get a grant from the NIH – even pay attention to their author rights and deposit their accepted manuscripts in PubMed Central, as required by the new NIH policy.

**What's next?**

One of our goals is to increase the anchoring of OA and ZORA at the institutes by having local publication managers acting as editors. We also intend to provide more added value as described throughout this article. A final challenge is to increase the percentage of free full text in ZORA. We will remind researchers again and again about ZORA and OA using all communication channels possible. High potential is expected from systematically sending notes to authors when an accepted manuscript could be shown freely but has not been provided. This procedure anchors concepts of copyright and OA in a practical manner linked to real publications. This seems to be key: practical measures to anchor OA with researchers.

**Acknowledgments**

I am very grateful to Ingeborg Zimmermann, Roberto Mazzoni and Heinz Dickenmann for critical reading of the manuscript.

Contact: christian.fuhrer@hbz.uzh.ch