

**swissuniversities**

**Swiss Open Research Data Grants (CHORD): Track A 2nd Call  
List of Approved Projects**

Call Deadline: 31.12.2022

Decision by the Delegation Open Science: 09.06.2023

## Overview Approved Projects Track A 2<sup>nd</sup> Call

Submissions: 12

Approved projects: 8, of which 1 with conditions

Funding rate: 67%

Short title	Full title	Leading institution	Partner institution(s)	Project Manager	Total costs (CHF)	Funds Requested (CHF)
<a href="#">FIWI-On</a>	The FIWI Video Library Ontology	University of Zurich (UZH)		<a href="#">Simon Spiegel</a>	148'700	74'350
<a href="#">ORAAD</a>	A Databank for animal allergic dermatitis Open research	University of Zurich (UZH)		<a href="#">Claude Favrot</a>	150'000	75'000
<a href="#">OMRC</a>	Open Metaverse Research Community	University of Zurich (UZH)		<a href="#">Jochen Menges</a>	147'686	73'821
<a href="#">Proto4DigEd</a>	Prototyping Workflows for Digital Editions	University of Zurich (UZH)	DaSCH	<a href="#">Ursula Bähler</a>	150'000	75'000
<a href="#">VORD</a>	New Methods for Accessing Visual Open Research Data in the Digital Humanities	University of Zurich (UZH)		<a href="#">Tristan Weddigen</a>	150'000	74'999
<a href="#">Exploring CollaDa</a>	Exploring ORD practices in the context of collections as data	ETH Zurich		<a href="#">Elliott Ash</a>	150'000	75'000
<a href="#">OSIReS</a>	Open Services for Interoperable and Reproducible research based on Spatiotemporal data	Scuola universitaria professionale della Svizzera italiana (SUPSI)	HES-SO	<a href="#">Massimiliano Cannata</a>	150'000	75'000
<a href="#">E-Specimens</a>	Managing and publishing organismal research data: investigating needs and solutions	University of Zurich (UZH)	UniBS	<a href="#">Reto Nyffeler</a>	150'000	75'000

## Short Summaries of the Projects

*Abstracts by the applicants:*

FIWI-ON

### ***The FIWI Video Library Ontology***

With an inventory of more than 55'000 films, the collection of the Department of Film Studies at UZH is one of the biggest of its kind in Europe. At the moment, the catalogue of the video library is managed with a proprietary database software. This database has been diligently curated for the last 30 years and contains a plethora of valuable metadata. However, the current solution is undeniably outdated. All information is stored in a "flat" database, and the individual records are barely linked to each other. Also, in its current form, the database adheres to none of the FAIR Data Principles. To improve access to this wealth of data for the research community, FIWI-On aims at laying the foundation for a new solution built on the existing data but following established Linked Open Data principles. The envisioned solution will be built on the Functional Requirements for Bibliographic Records (FRBR), which clearly distinguishes between four different levels of a work following the WEMI (Work Expression Manifestation Item) model. In addition, well-established identifiers for films and filmmakers will be added to the existing data.

Film and media studies have only slowly adopted Open Linked practices. One important reason for this is that established bibliographic exchange formats support audio-visual works only to a very limited degree. This deficit is generally acknowledged, but so far there has not been any serious attempt to resolve it. FIWI-On aims at proposing a common exchange format suitable for modern exchange practices.

ORAAD

### ***A Databank for animal allergic dermatitis Open research***

The aim of this project is to build an Open Research databank of cases of allergy in animals, especially in dogs. To achieve this goal, we will have first to create a community of research units convinced with the approach and agreeing to provide clinical cases. Three units already agree. We would like to use a FAIR principle-based platform (openBIS) and we have secured the collaboration of the ETHZ Scientific IT service. We have defined three main work packages: one for data collection, one for openBIS implementation, and one for a proof-of-concept study. In fact, we would like to conduct a first study using these data, communicate the approach and expand the veterinary community of interested research units. The whole project will be conducted by specialists of allergic dermatitis in animals (Dermatology Unit, Claude Favrot) and specialists of biostatistics, epidemiology and data digitalization (Section of Veterinary Epidemiology, Sonja Hartnack). This project will also be the opportunity to study the legal and ethical issues associated with data collection, digitalization and use and to promote the FAIR-principles in veterinary medicine.

OMRC

### ***Open Metaverse Research Community***

The metaverse—a collective term for immersive virtual worlds that can be experienced by multiple users simultaneously—has gained ample interest the last two years from both researchers and practitioners. Research into the metaverse is severely confined by the lack of interoperability and knowledge sharing however, limiting our ability to explore how the metaverse could be used to improve employees' working lives. Through this project, we intent to first of all establish standardized data sharing protocols within and on the metaverse. Second, in line with these ORD protocols, virtual assets and (meta)data can be collected and made publicly available to researchers on our platform. Third, we aim to build an international community of organizational researchers and practitioners with whom to share data pertaining to human functioning within virtual organizations, and allowing members to co-create experiences within the metaverse using our collection of interoperable tools. Through our efforts, we address the issue of reusability of virtual environments and data obtained within, as well as the replicability of studies in the metaverse. Moreover, by establishing open communication lines and data sharing protocols, we intent to steer the narrative for the metaverse—facilitating human-centered research projects—such that the metaverse will benefit our daily working lives. While the metaverse—or our virtual environments used for organizational research—will never be a finished product, we detail how our foundational infrastructure can be used to develop a sustainable metaverse that will continue to grow organically as more users opt into this open science initiative.

Proto4DigEd

### ***Prototyping Workflows for Digital Editions***

As developments in Switzerland have shown in recent years, digital editions open up extremely exciting possibilities for the findability, accessibility, interoperability, and searchability of research data. However, in the promotion of large-scale digital projects, the risks also became apparent: While many resources were invested in the development of elaborate frontends, the implementation of ORD principles fell short of expectations, especially regarding the reusability of the data and the durability of the technically demanding frontends. This project takes these challenges as a starting point to further develop existing approaches to cross-project ORD practices. A particularly critical moment from an ORD perspective concerns the conception phase and respective workflows of projects, as it is here decided whether or not the foundations for later reusability and permanence are laid. The project therefore considers the development of prototypical workflows with the involvement of important stakeholders to be a particularly effective approach. The project develops important knowledge about viable processes aligned with community standards and promotes a common understanding for the implementation of ORD principles.

VORD

### ***New Methods for Accessing Visual Open Research Data in the Digital Humanities***

The project addresses urgent open-accessibility issues concerning Visual Open Research Data (VORD). The action is field-specific to visual-art-related disciplines in the HEI (Higher-Education Institutions) and GLAM sectors (Galleries, Libraries, Archives, Museums). It is proposed by the interdisciplinary research group Digital Visual Studies (DVS), a Center based at the University of Zurich (UZH) funded by the Max Planck Society (MPG) that explores cross-disciplinary problems with visual data. There are two established practices to VORD. One (a) consists in manual database cataloguing which, however, cannot deal with large digitized collections within reasonable time. Moreover, it faces the issue of lacking interoperability across languages, ontologies, and database systems. The other (b), conversely, consists in automated methods developed to order, search, and display large image collections missing textual metadata. Such Machine-Learning (ML) engines are based on visual similarity whose parameters are highly debatable. Moreover, they struggle to offer useful information for research and reliable metadata for annotating collections. Instead of building databases manually with human knowledge (a) or relying on ML-generated visual similarity (b), the project explores ways to introduce quantitative information about cultural heritage to enrich datasets with visual information derived from machine perception, thus bridging the two approaches. The expected results comprise documented data analysis pipelines to automate metadata generation based on quantitative visual descriptors. The project relies on a community of institutions and specialists from the HEI and GLAM sectors that share the challenges. By this, the iterative project management assures that the pipelines are community-led. Outreach is achieved through workshops, webinars, online publications, and teaching.

Exploring CollaDa

### ***Exploring ORD practices in the context of collections as data***

We propose to transform an analogue scientific practice, namely the idea of scholarly collections, into the digital age. Collections have always been places where researchers, experts and stakeholders from different backgrounds and disciplines meet to exchange and share their research and knowledge. Since its beginnings, the peculiarity of these collections is that they gather very different forms of knowledge around certain scholarly material (texts, images, structured data, objects). It can be studied again and again with the most innovative methods from different perspectives. It can be used for both research and teaching, and finally it is often open to an interested public, that can thus not only see the research of the institution, but also participate in the generation of knowledge, a process we call citizen science today. Looking at collections from this perspective, it becomes clear that they have been open research data “avant la lettre”. Thus, it is highly important to transform this analogue tradition into an innovative digital and ORD oriented practice, and to adapt access to and (re-)use of highly valuable digitized collections for the demands of modern, innovative digital research in the 21st century. To this end, the proposed project focuses on the general topic of collections as data and will i) strengthening interdisciplinary ORD communities around collections as FAIR data, ii) prototyping relevant tools to improve data literacy and iii) discussing potential legal and ethical challenges.

OSIReS

***Open Services for Interoperable and Reproducible research based on Spatiotemporal data***

In the era of cloud computing, big data and Internet of things, research is very often data-driven: based on the analysis of data, increasingly available in large quantities and collected by experiments, observations or simulations. These data are very often characterized as being dynamic in space and time and as continuously expanding (monitoring) or change (data quality management or survey). Modern Spatial Data Infrastructures (e.g. swisstopo or INSPIRE), are based on interoperable Web services which expose and serve large quantities of data on the Internet using widely accepted and used open standards defined by the Open Geospatial Consortium (OGC) and the International Organization for Standardization (ISO). These standards mostly comply with FAIR principles but do not offer any capability to retrieve a dataset how it was in a defined instant, to refer to its status in that specific instant and to guarantee its immutability. These three aspects hinder the replicability of research based on such a kind of services. To fill this gap this project proposes to co-create a solution by engaging with open geospatial technology communities, open standards definition communities and researcher communities from different themes in three living labs (LL). The outcoming conceptual solution, that will propose standards extension and/or best practices, will be implemented, following an agile approach, in a prototype infrastructure that will be tested within the LLs to verify its adherence with end-user requirements. As a result around the created open community the solution will be openly released and promoted.

E-Specimens

***Managing and publishing organismal research data: investigating needs and solutions***

A key challenge for biologists today is to determine how species are responding to the major drivers of global change and biodiversity loss: habitat conversion and degradation, climate change, invasive species, pollution, and overexploitation (Millennium Ecosystem Assessment 2005). Herbarium specimens document the past presence of the preserved individuals with information about when and where they occurred, and organismic samples comprise the genetic and structural characteristics, and often yield a broad range of ecological and biological “by-catch” information. Hence, herbaria serve as hubs for global change research. This project is aimed to support researchers engaging in and developing ORD practices with and for the research community using natural history collections and to assist these researchers in becoming Open Science leaders in their field(s). E-specimens is devoted to developing ORD practices and prototyping ORD digital tools (i.e., workbench for integrating digital specimen data types) for research. We aim to address two major aspects

- (1) How Open Research Data (ORD) approaches build on the data, workflows, and existing infrastructure.
- (2) How digital-only workflows facilitate digitization, curation, and data links, thus returning value to physical specimens by creating new layers of annotation, and, hence, developing approaches to advance biodiversity discovery and conservation.

These efforts in ORD practices will transform large scale biodiversity assessments to a greater community to address fundamental questions including those pertaining to critical issues of global change. Such ORD practices shall encompass the entire Swiss research landscape and have the potential for widespread application in Europe.