

# What is the role of Open Access publications in research evaluation?

**Results from the project:**

**SYMPHONY Swiss system for monitoring bibliographic data and holistic publication behavior analysis: Requirement Analysis**

**Supported by swissuniversities program SUC P-2:**

**"Scientific information: access, processing and safeguarding"**

**Project team:**

Prof. Dr. Urs Dahinden

Prof. Dr. Albert Weichselbraun

Dr. Karsten Schuldt,

MSc Vincenzo Francolino,

BSc Fabian Odoni

BA Julia Rippstein

# Roadmap

## **SYMPHONY 1: Requirements Analysis (January-June 2015)**

- Research questions
- Research method
- Overview of the results
- Scenarios

## **SYMPHONY 2: Proof of Concept (submitted and planned for: 2016-2018)**

- Success story
- Approach

# **SYMPHONY 1: Requirements Analysis**

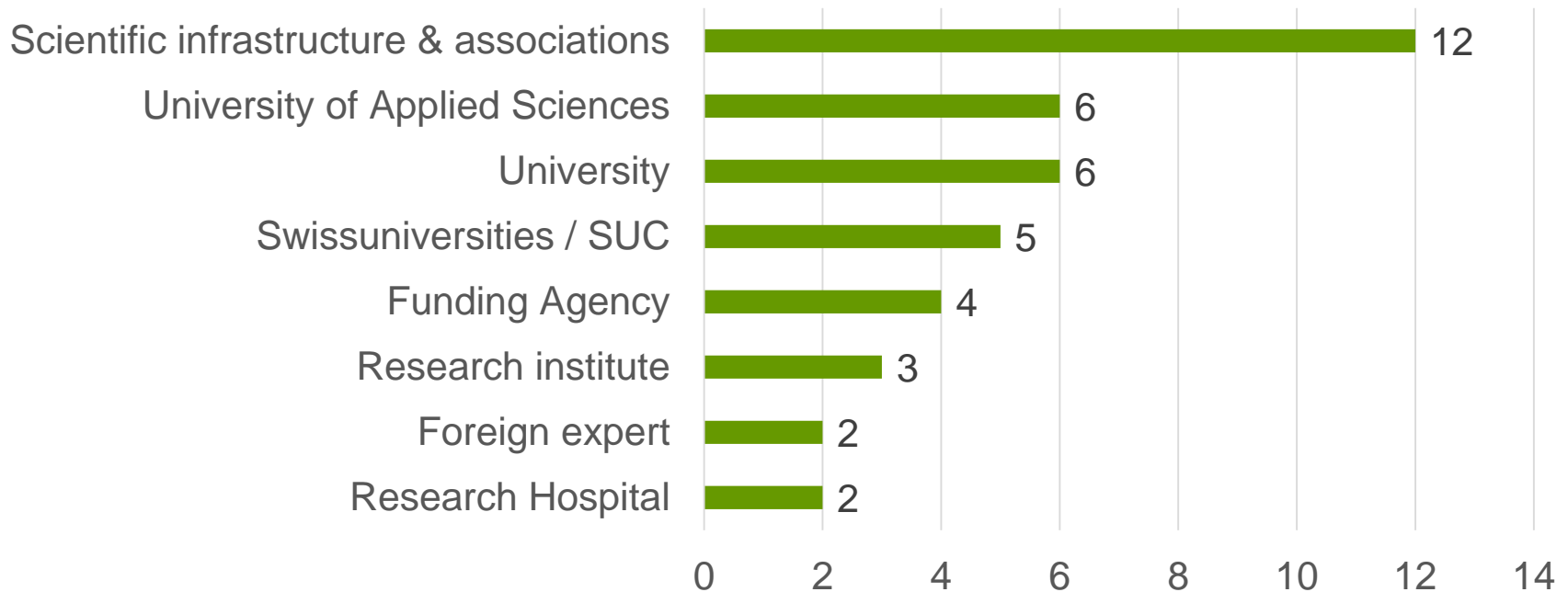
## **Research Questions**

- 1. Which indicators are used to evaluate research output of scientists in Switzerland?**
- 2. How important are Open Access Publications in research evaluation?**
- 3. What are the challenges and problems of using only traditional bibliometrics in research evaluation?**
- 4. What scenarios are able to change the current practice of research evaluation in order to convey a more comprehensive and fair picture of the research output?**

## Research Method

### Interviews with domain experts and stakeholders

- High interest & participation rate:
- 40 Interviews with 45 persons (5 interviews with 2 persons)
- All 3 major languages in Switzerland  
(German: 28 Int., French: 10 Int., Italian: 2 Int.)



# Overview of the questionnaire & results

- **Questionnaire**

- How do organizations measure scientific performance
- Open access publications
- Knowledge about bibliometrics and altmetrics
- Requirements for a Swiss publication monitoring system

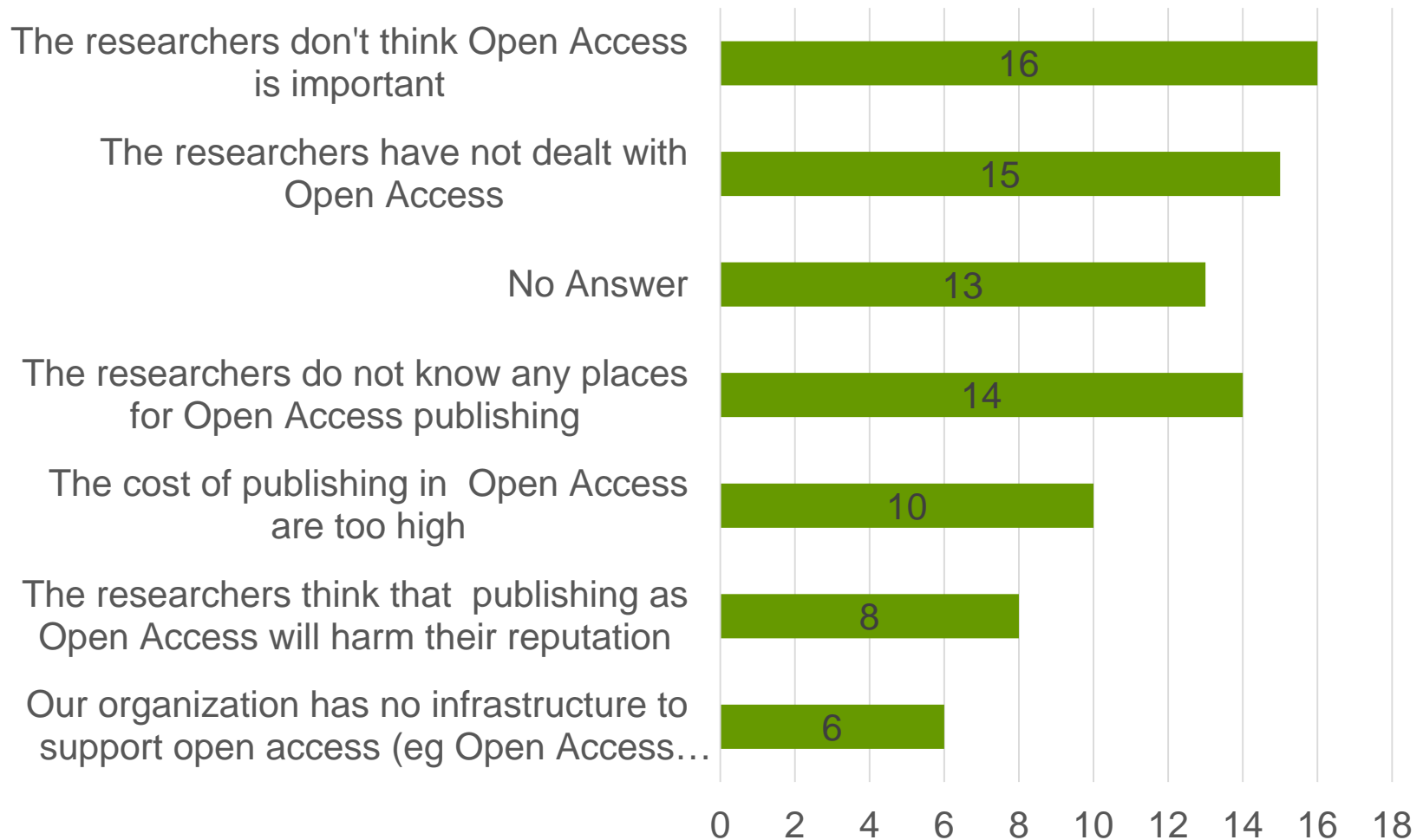
- **Results**

- Very heterogeneous results in terms of institutions, research fields, etc.
- Publication performance is relevant for a researcher's ability to acquire research funding (compare SNSF, Horizon 2020, etc.)
- Most institutions perceive (i) the current publication pressure as very high (+25/-5) and (ii) expect it to raise even further (+15/-2)
- Most institutions perceive bibliometrics as a way of measuring and comparing scientific achievements (+28/12) although the number of used indicators vary among institutions

# RQ 1, 2: Indicators used and importance of Open Access publications for the evaluation of research performance



## Barriers towards Open Access (absolute numbers; N=40 expert interviews)



## RQ 3: Challenges of traditional bibliometrics

- **Limited to certain fields**
  - Lack of differentiation between research fields
  - Very limited comparability → unfair comparisons (even within disciplines)
  - Incomplete data – important publication types are not considered
  - Language barriers
- **General limitations**
  - Interpretation problems (impact factor = quality, ...)
  - Promotes “Publish or Perish”, Quantity != quality
  - Does not measure social impacts (e.g. contributions to public debates in the mass media)
  - No weighting
- **Penalizes (ignores) new publication outlets**
  - Open access



# Some quotes from the interviews

Number of publications or impact factor do not measure the quality of the content.

Form is equal to content but quantity is not quality.

Different disciplines can not be measured the same way.

An advantage is, it measures quantitative data, a disadvantage is, it measures quantitative data.

## RQ 4: Scenarios – Overview

#	Scenario	Comments
1	Maintain status quo	Organizations perform their own studies; no information on OA; top-down approach
2	Targeted studies	Easy to adapt to scientific disciplines Obtaining data on publications is very cost intensive (unless the Web of Science is used); bottom-up approach
3	New infrastructure: Monitor publication behavior	Extends (2) and integrates publicly available data (repositories, academic social networks). Allows qualitative and aggregated quantitative studies. Should be combined with targeted studies
4	New infrastructure: Monitor research output and its public impact	Extends (3) with means to measure the public impact of publications.

## Fulfillment of requirements

Requirement (importance)	Scenario →	1	2	3	4
1. Provides comprehensive information on OA		~	~	✓	✓
2. User-oriented, consider differences between disciplines		~	✓	✓	✓
3. User-defined analysis (OA, temporal, trends, ...)		-	-	✓	✓
4. Consider other publication indicators (OA, Eigenfactor, ...)		~	~	✓	✓
5. Automatic data acquisition, minimize manual effort		-	-	✓	✓
6. User-defined groups (e.g. project, department, ...)		-	-	✓	✓
7. System needs to be transparent, well defined metrics		✓	✓	✓	✓
8. Provide read access and means to correct data & interop.		-	-	✓	✓
9. Include other indicators of research performance		-	~	✓	✓
A. Provide means for estimating social relevance		-	-	-	✓
B. Integrate other factors (teaching, administration, ...)		-	-	-	-

## **SYMPHONY 2: Proof of Concept**

- Follow-up project of SYMPHONY 1: Requirements Analysis
- Based on scenario 3: Building a new infrastructure for monitoring publication behavior
- Supported by the majority of the stakeholders participating in the project workshop

## Success story

### **Cristin (Current Research Information System In Norway)**

- Multidisciplinarity
- Benefits researchers
- Usefulness for research institutions
- Higher national and international visibility of the research
- Guarding principles
  - Completeness
  - Transparency
  - Multiple use of data

**Cristin**

# Approach

## Data acquisition

Obtain and integrate bibliographic data from publicly available resources

- Use institutional repositories (ZORA, BORIS, LORY, ... ) or help institutions in establishing such repositories
- Web: Scientific social media (Research Gate, Mendeley, Zotero, ...)
- Provides the data base for *user-driven* and *user-oriented* analyses of the publication behavior

## Data analysis & interpretation

Comprehensive use cases to adapt the system to the organization's need and define well founded and fair criteria to monitor publication behavior and present an institution's achievements

- Bottom-up
- Provide support for custom studies (Collaboration between people, outlets, temporal studies, open access, ...)

## Project partners & letters of support

1. ETH Zürich Swiss Federal Institute of Technology
2. UZH University of Zürich
3. UNI FR University of Fribourg
4. euresearch Swiss guide to european research and innovation
5. FHNW University of Applied Sciences and Arts Northwestern Switzerland
6. HES SO University of Applied Sciences and Arts Western Switzerland
7. SUPSI University of Applied Sciences Italian Switzerland
8. HTW Chur University of Applied Sciences

# Thank you for your attention!



Workshop Slides

<http://p.semanticlab.net/SYMPHONY-Workshop-Slides.pdf>



Final Report

<http://p.semanticlab.net/SYMPHONY-Requirement-Analysis-Final-Report.pdf>



Contact

[Albert.Weichselbraun@htwchur.ch](mailto:Albert.Weichselbraun@htwchur.ch)

[Urs.Dahinden@htwchur.ch](mailto:Urs.Dahinden@htwchur.ch)

## Contact

University of Applied Sciences Chur (HTW)  
Pulvermühlestrasse 57, 7000 Chur