The Eight National Information Day: Open Science, Open Data, Open Access

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Abstract. The paper draws current state of Bulgarian Open access (OA) activities and discussion points for the Eight National Information Day: Open Science, Open Data, and Open Access

Keywords: Open Access, Access to Knowledge, Open Science

1   Introduction

The National Information Day is devoted to the presentation of successful initiatives and projects for open access (OA), open data sharing and open science; strategies for the OA promotion; copyright and licenses under OA; best practices and examples of policies for the development and promotion of open access at the national and institutional levels, etc. It will support academic staff, research project managers, policy-makers and staff working in research funding bodies. It will give main concepts for the implementation of OA principles and national OA roadmap, key terms, strategies, business models, work plans, copyright and licenses, best practices, examples and policies for open access, open data and open science. It will discuss: Open Access indicators; disseminate partners' best practices; discuss research problems in the field; discuss the possibilities of establishing a network of open-access repositories; contribute to the problems of the harmonization of national legislation and practices; managers of scientific digital repositories.

Some of the main activities in Bulgaria concerning Open Science, Open Data, and Open Access during the last year are:

- Maintain the National Open Access Desks, which connect researchers, research institutions, and policy makers at a national level on the one end, and the OpenAIRE 2020 project services on the other. The focus of the National Open Access Desks activities is on support for compliance with the EC Open Access policies;
- Maintain the Bulgarian repositories for Open Access;

- Develop a policy vision for the development of the Open Access and Open Data, presented to the EC.

Bulgarian is a part of EU OpenAIRE2020 project. Through the project we contact and outreach: awareness of policy makers and research funds; awareness of National contact points; awareness of research administrators; services for project coordinators; awareness of researchers. The main project dissemination results include: promote open availability of publications and data and participation in scientific conferences in Bulgaria. Bulgaria is also a part of the ERAC Standing Working Group (SWG) on Open Science and Innovation and the Ministry of Education of Science acknowledges and shares the challenges being discussed. The Working Group has been tasked by ERAC to develop initial recommendations by end of 2017 and subsequently updating them according to ERAC's needs.

The national information day "Open access to scientific information", organized last year invites: 1) representatives of national institutions (including the Ministry of Education and Science, Ministry of Transport, Information Technologies and Communication, Ministry of Culture) responsible for the development of open access policies, 2) representatives of Bulgarian institutions (research institutes and universities) active in the implementation of open access policy and programme. The national information day cover activities such as:

- Open Science
- Evaluation in an Open Science context
- Copyright retention
- Acknowledge, improve and value the existing European Open Science infrastructure
- Open Innovation
- Cross-cutting issues

The main results of the organized workshop are: The Workshop participants learned the main concepts for the implementation of OA principles and national OA roadmap, key terms, strategies, business models, work plans, copyright and licenses, best practices, examples and policies for open access, open data and open science. The academic staff (young and experienced researchers) and research project managers practiced OA and acquired knowledge and skills how to write, publish and deposit articles, scientific data and materials in OA repositories, OA repositories maintenance, etc. The policy makers and staff working in funding bodies acquired practical skills for writing OA policies, strategies and plans.

2 Bulgaria OA Repositories

In table 1 the current open access repositories in Bulgaria are given:

Table 1. The current open access repositories in Bulgaria

Reported repositories in OpenDOAR	Publi-cations	Software	Link
BulDML at IMI-BAS	2363	DSpace	http://sci-gems.math.bas.bg
BGOpenAIRE at IMI-BAS	119	DSpace	http://www.bg-openaire.eu/
Research BFU - Burgas Free University	606	DSpace	http://re-search.bfu.bg:8080/jspui/
Research SU - Sofia University	903	DSpace	https://research.uni-sofia.bg/
MU-Varna Medical University	256	EPrints	http://eprints.mu-varna.bg/
MU-Sofia Medical University	1008	DSpace	http://nt-cmb.me-dun.acad.bg:8080/jspui/
New Bulgarian University Repository	2274	EPrints	http://eprints.nbu.bg/
Unregistered repositories			
Plovdiv university "Paisii Hilendarski"	372	DSpace	http://dspace.uni-plovdiv.bg/
NALIS Foundation Repository (abstracts of PhD theses)	610	DSpace	http://digilib.nalis.bg/xmlui/handle/nls/96/browse?type=title
Trakia University - Digital Repository	48	DSpace	http://dspace.uni-sz.bg/

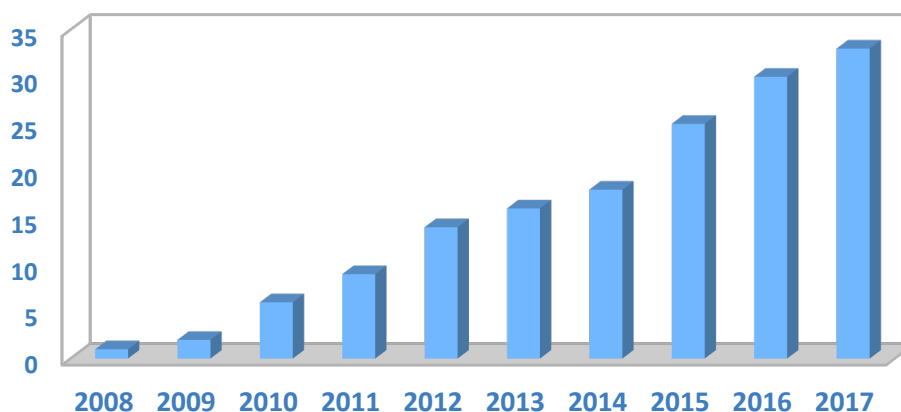In figure 1 the number of open access journals in Bulgaria are given.

Fig. 1. The number of open access journals in Bulgaria

In Figure 2 the used software for OA repositories in Bulgaria is outline.

Repository Software

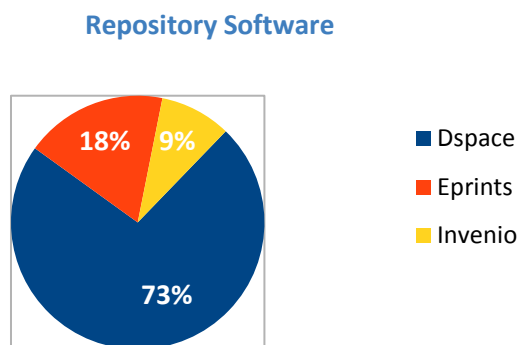**Fig. 2.** The used software for open access repositories in Bulgaria

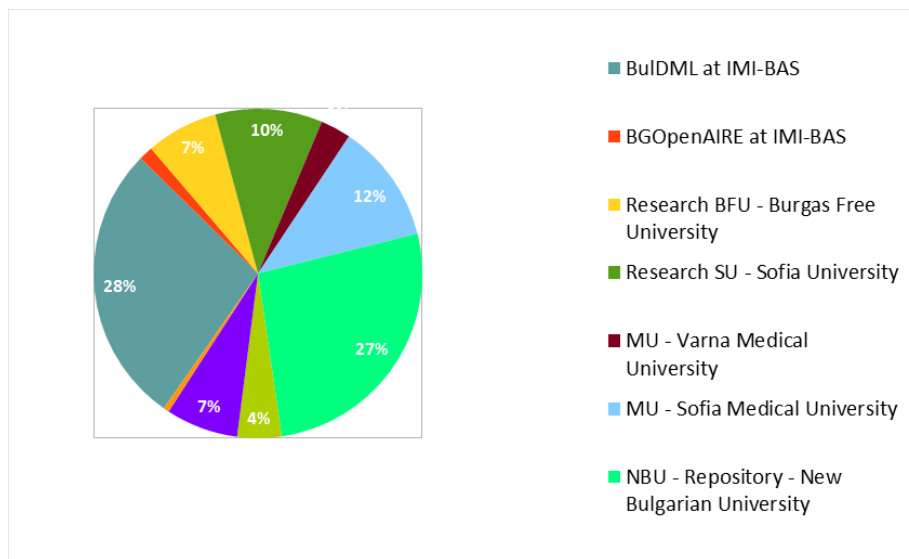In Figure 3 classification of the Bulgarian repositories by size is presented.

Fig. 3. Classification of the Bulgarian repositories by size

3   Bulgaria Open Science Policy

During the last year in the following official document the issue about Open Science, Open Data, and Open Access is treated:

a) In Bulgaria National Roadmap for Research Infrastructure 2017-2023, Ministry of Education and Science Republic of Bulgaria, June 16, 2017

- Development of "Bulgarian linked open data", through increased participation in Wikidata, DBpedia, GeoNames and others, which will increase access to information for consumers in the Web. Pages 55 and 71
- Providing an open access to the scientific results, to big data bases and genetic resources by creating e-platforms will reflect on the results of the infrastructure activity. Page 61
- The National Centre for high performance and distributed computing is an electronic infrastructure that integrates computing systems and data storage, software, middleware and services, and offers to the Bulgarian researchers a transparent and open access for the development and operation of computing-intensive scientific applications. Page 68

b) In Diagnostic Review Mapping of Research Infrastructures and Equipment in Bulgaria, *Ministry of Education and Science Republic of Bulgaria,* April 27, 2017

- The National Infrastructure for Research and Innovation in Agriculture and Food – (**RINA**, **R**esearch, **In**novation, and **A**griculture) is a new infrastructure, which will update the existing at that moment, scientific and servicing units and will put them together in 5 research complexas in the main thematic areas of agricultural science. Providing an open access to the scientific results, to large information data bases and genetic resources by creating e-platforms will reflect on the results of the infrastructure activity. Page 68

c) In National strategy for development of scientific research in the Republic of Bulgaria, 2017 – 2030

- The main factor for the development of science is the constant exchange of ideas and knowledge, which is performed by the mobility of scientists, participation in scientific conferences and scientific cooperation. The vision of the strategy in this aspect comprises: participation in the EU initiative "European cloud for open science." Page 28

4   Discussion Topics during This Year National Information Day "Open Science, Open Data, Open Access"

- Open Data;
- Open Sources;

- Open Methodology;
- Open Peer Review;
- Open Access;
- Open Access Data E-Infrastructures;
- European Open Science Cloud;
- Open Educational Resource;
- Access to Research Facilities;
- Access to Processing Capabilities;
- Communication at all Levels of Research Life Cruces;
- Open Access Indicators;
- Disseminate Partners' Best Practices;
- Discuss Research Problems in the Field;
- Discuss the Possibilities of Establishing a Network of Open-Access Repositories;
- Contribute to the Problems of the Harmonization of National Legislation and Practices.

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