Fourth National Information Day and Workshop: Open Access to Scientific Information and Data

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Abstract. The paper presents in brief the "2nd Generation Open Access Infrastructure for Research in Europe" project (http://www.openaire.eu/) and what is done in Bulgaria during the last year in the area of open access to scientific information and data.

Keywords: Open Access

A scientific research article consolidates the essence of a research project – often it is the pinnacle of many years of research. Yet the traditional way of gaining access to the research results often hides you from the basics of which the research is built on i.e. the primary data on which the results are based on, as well as the article's relationships to other resources through the funding project. This information is fragmented and sometimes not even available on the internet. Often scientists would like to access this information too, reuse the raw data and as yet a 'static' image of a graph in a traditional journal doesn't allow this. OpenAIREplus project aims exactly at bridging this missing link between the research articles, the data and the project funding. Building on the OpenAIRE portal and OpenAIRE compatible repositories, OpenAIREplus harvest multiple heterogeneous sources and by using machine power find the links between articles, data and projects. The term Enhanced Publication (EP) means a new type of publication whereby researchers link directly through to supplementary data.

Prototypes for EPs were created in the DRIVER project but OpenAIREplus project aims to build this into a service. Some of the challenges lie in trying to represent the actual relationship a dataset has with the publication, for example is this person the author, is this a chapter of a wider study, version, what project? And note OpenAIRE is not planning to store or manage any of the datasets, more links to their metadata in order to highlight links to publications. In order to link to these databases, we agree on a flexible but minimal metadata set. There are also legal challenges that the project it looking into, such as is it permissible to re-use and manipulate others' data. Work with several subject communities to explore the requirements, practices, incentives, workflows, data models and technologies for depositing, accessing and otherwise managing research data sets in their various forms.

The Bulgarian research community is well informed about the benefits of open access and uses open access research publications, but the promotion of open access is more of an individual effort than the result of institutional support or policy. The Bulgarian Academy of Sciences (BAS), which coordinates research in Bulgaria, in-tends to establish a network of scientific open access centres. The Institute of Mathematics and Informatics at the BAS (IMI-BAS) coordinates this network and provides support for academic institutions and researchers.

OpenAIRE National Open Access Desk – (NOAD) is established for Bulgaria at IMI-BAS to connect researchers and research institutions at a national to OpenAIRE project services. The most of asked questions, problems and issues are related mainly to: OpenAIRE requirements, digital repository compliance and validation, legal and content issues. The Seventh Framework Programme of the European Union (FP7) related articles are archived with all other articles in already existing repositories. The technical difficulties are to comply with very strict OpenAIRE requirements and pass all validation with repository that has mixed content FP7 and none FP7 articles. OpenAIRE requires repository modifications and also changing metadata scheme which affects entire software systems functionality, established workflow and policies. As a solution to avoid difficulties it's reasonable to use separate repository dedicated only for OpenAIRE by submitting to national BG-OpenAIRE repository and/or directly into OpenAIRE repository. In the finished FP7 projects that are started before OpenAIRE project the Grant Agreement (GA) number is not included in all related articles. This makes very hard to discover and filter. Also this GA data is necessary to be gathered and properly added in already archived articles. Another issue is FP7 articles that are already submitted in non-free journals.

Until August 2013 the total number of FP7 projects with Bulgarian participation is 460. Bulgaria is a prime contractor in 42 projects. The participations by programs is given in Fig. 1. Completed projects are 226, in execution 228 and accepted 6. To all Bulgarian project coordinators information about the Bulgarian OpenAIRE repository was spread through the National Open Access Desk.

In the moment there are six Bulgarian open access repositories registered in Open-DOAR: New Bulgarian University, IMI-BAS, Burgas Free University, Sofia University "St. Kl. Ohridski", and Medical University of Sofia. Currently in Directory of Open Access Journals (DOAJ) there are 51 Bulgarian open access journals. Annual growth is persistent of newly registered Bulgarian journals in DOAJ (Fig. 2).
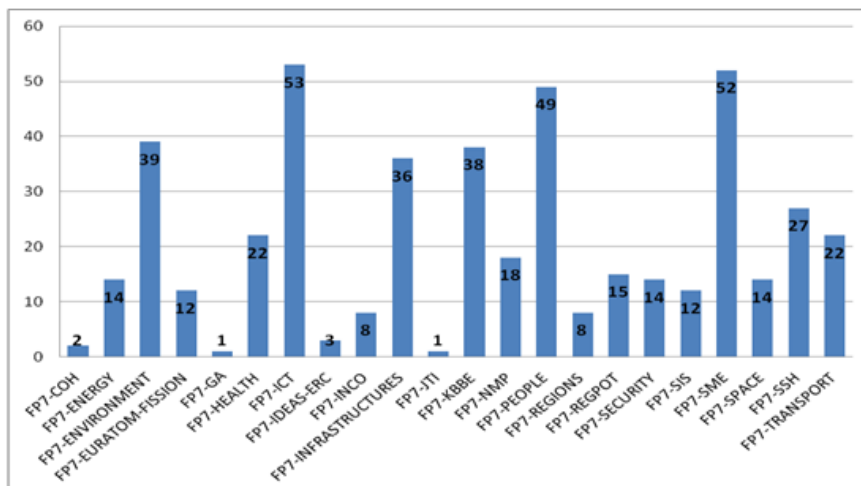
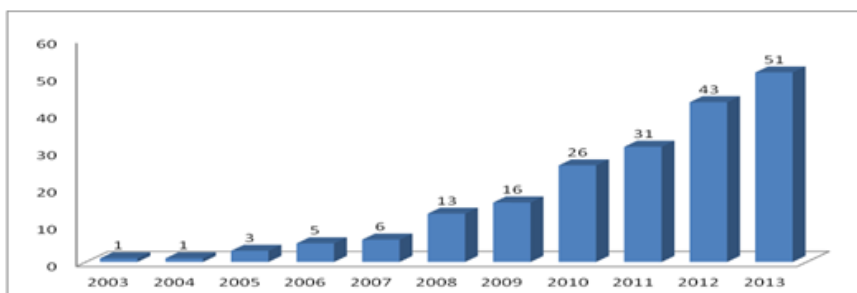**Fig. 1.** Bulgarian participation in FP7 projects by programs

Fig. 2. Total number of Bulgarian open access journals in DOAJ

There are 2 important and distinct types of licenses which are necessary for each journal: **Author agreements** - licensing agreement in which authors retain copyright in their article and **User licenses** - Users or readers of article also need to be clear on how they can use the article.

From all 51 DOAJ Bulgarian journals - 35 have clearly defined licenses, 16 are with unknown or missing (publishing and distribution) policies, and some of them are using their proprietary licensing model. The most used licenses of those 35 are Creative Commons: by Attribution (27), by Attribution Non-commercial, No Derivatives (7), by Attribution Non-commercial (1).

During the year, we present the national concept of the open access to scientific information on the following national and international events:

- The Third National Information Day "Open Access to Scientific Information", Veliko Tarnovo, 18 September, 2012
- OpenAIRE: NOAD workshop – Turning OpenAIRE into a Service, 20 November 2012, Gottingen
- UNESCO regional Consultation on "Open Access to Scientific Information and Research: Concept and Policies", Minsk (Belarus), 5-7 September 2012
- Open access week, October 21-27, 2012, Sofia
- European Coordination Workshop on access and preservation of scientific information, October 22 2012, Barcelona Spain
- EUDAT conference, 22-24 October, 2012, Barcelona, Spain
- First International Conference BiblioWorld: Technologies, Resources, Practices, 26-27. September 2013, Sofia.

We are working together with the Ministry of Education and Science, Ministry of Transport, Information technology and Communications, SPARC EUROPE (http://sparceurope.org/), Confederation of Open Access Repositories (COAR) (http://www.coar-repositories.org/), UNESCO (http://www.unesco.org/new/en/ communication-and-information/portals-and-platforms/goap/access-by-region/europe-and -north-america/bulgaria/), and work group "Open access" on Science Europe (SE) (http://www.scienceeurope.org/).

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