REPORT FROM THE FIRST INTERNATIONAL WORKSHOP
ON OPEN AND RESPONSIBLE RESEARCH AND INNOVATION IN BULGARIA

Milena Dobreva[1][0000-0002-2579-7541], **Teodora Gandova**[2]

[1] University of Strathclyde, Glasgow, Scotland   [2] NGO Links, Sofia, Bulgaria

ORBIT (Open Research Bulgarian Incubator) is a cascading initiative supported by the REINFORCING project funded by the European Commission. ORBIT addresses the needs and gaps in open research practices within the oldest and most reputable higher education institution in Bulgaria, Sofia University "St. Kliment Ohridski". While the policies and practices for implementing open research in Bulgaria have been developing in the past few years, they are still far from being mature. The perceptions and motivations of the stakeholders in the country related to open research show a substantial disconnect and very fragmented dialogue. ORBIT is working to make a difference by supporting a better understanding of the perceptions and needs related to open research of the key stakeholders in the country and providing a range of training events.

The first one of these events was a workshop for experienced researchers which took place on 4 February 2025 hosted by Sofia University "St. Kliment Ohridski". This event benefited from the strong institutional support of the host and the Science Directorate of the Ministry of Education and Science. In addition to the participating experienced researchers, it enjoyed the presence of high-profile representatives of key stakeholders from the National Evaluation and Accreditation Agency, the Bulgarian Open Science Portal, the Bulgarian Academy of Sciences, and the Agricultural Academy.

1 FOCUS AND SCOPE

Having in mind that open access in general is the most popular component of open science in Bulgaria and had been studied to some extent (Boock et al, 2020; Trencheva & Dimitrova, 2019), this event focused on open data, domain which is still underdeveloped. The national portal for open science (https://bpos.bg/en/about-portal) and most institutional repositories in the country are not still offering straightforward data deposit pathways. This is in contract with the European repositories where those for data deposit outnumber those for research publications (Emma Lazzeri in her report on the repositories stated that "45% of the repositories, equating to 109 repositories, accept literature, while 74% of the repositories, 179 in total, are data repositories. Software/Code is accepted by 24% of the repositories, representing 58 repositories. Additionally, 26% of the repositories, amounting to 63, accept other types of content." (Lazzeri 2024).

Hence, the aim of this international event was to offer a snapshot of the most recent European developments related to open data and discuss their place within the open science realm, provoking interest in both identifying and reusing datasets and depositing more Bulgarian datasets.

2 INSTITUTIONAL AND NATIONAL POSITIONING OF OPEN SCIENCE

The workshop was open by Acad. Prof. Tony Spassov, Vice Rector of Sofia University "St. Kliment Ohridski". He emphasized that good educators are also good researchers, and research needs to be both open and responsible. He also elaborated that „…research within Sofia University is not seen as a separate and distant activity from the education."

Figure 1. From left to right: Acad. Prof. Toni Spasov, Dr Milena Damyanova and Dr Milena Dobreva at the workshop opening.
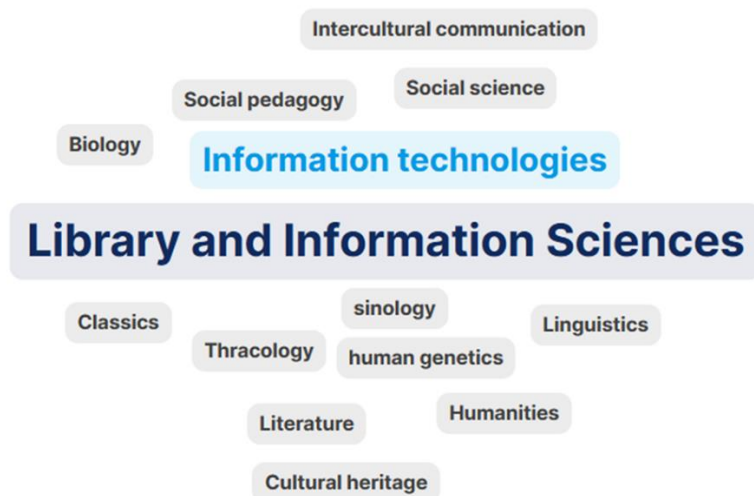

Figure 2. Research backgrounds of the attendees

A welcome address to the event was delivered as well by Dr. Milena Damyanova, Head of the Science Directorate of the Ministry of Education and Science of Republic of Bulgaria arguing that „we need to learn step by step how to share our knowledge with wider audiences". She also emphasized that science should

be both open and responsible. She also emphasized that a new strategic document on open science will set up a range of activities to support the national development in the domain of open and responsible research.

With 27 experienced researchers from various backgrounds participating, this event started with a snapshot of the attitudes and perceptions of the audience. Not surprisingly, the most represented participants came from the domains of library and information science (LIS) and information technologies (IT) – see Fig. 2. These communities are traditional champions of open science. However, if we add up the various Humanities disciplines, they were the most popular research background of the attendees. This was an excellent achievement as Humanities in general are lagging in the long tail of research domains in EOSC (the European Open Science Cloud).

Three quarters of the attendees who contributed to the small survey exploring the perceptions of the audience, had a good grasp of the open science movement goals (see Fig. 3).
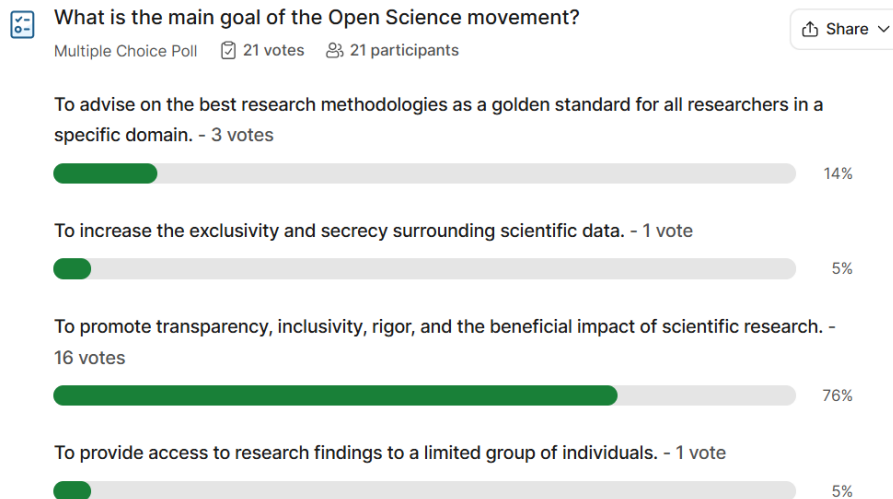
What is the main goal of the Open Science movement?

Multiple Choice Poll   21 votes   21 participants   ☐ Share ⌄

To advise on the best research methodologies as a golden standard for all researchers in a specific domain. - 3 votes

14%

To increase the exclusivity and secrecy surrounding scientific data. - 1 vote

5%

To promote transparency, inclusivity, rigor, and the beneficial impact of scientific research. - 16 votes

76%

To provide access to research findings to a limited group of individuals. - 1 vote

5%

Figure 3. Responses from the audience to a question on open science movement goals

What is Open Source in the context of Open Science?

Multiple Choice Poll   21 votes   21 participants   ☐ Share ⌄

A new way of charging for research software. - 1 vote

5%

A way of sharing research software within your department or research group. - 2 votes

10%

A way of keeping research methods secret. - 0 votes

0%

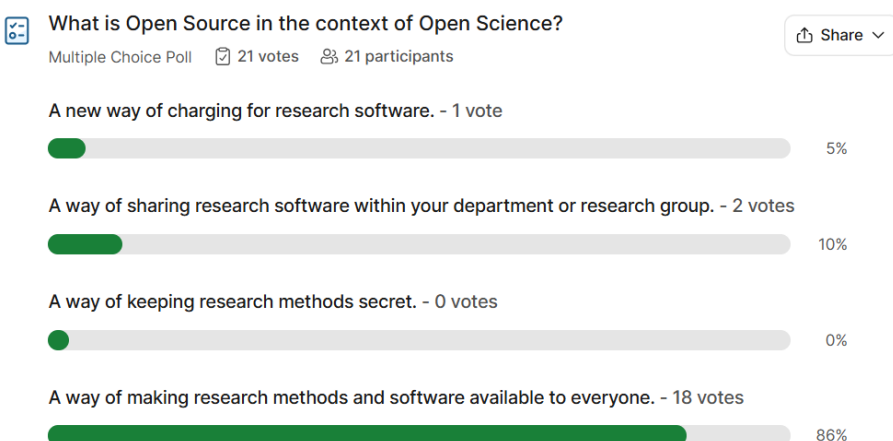A way of making research methods and software available to everyone. - 18 votes

86%

Figure 4. Responses on open source within open science

The audience also was competent on the place of open source within open science (see Fig. 4) – probably this could be related to the higher number of participants from library and information sciences and information technologies.

However, a question on citizen science returned some 43% of answers showing uncertainty. This probably could be explained with the continuing slow uptake of citizen science in Bulgaria. Although this domain had been introduced some 10 years ago in Bulgarian academic body of knowledge (Dobreva, Ivanova 2014), real-life citizen science projects are still scarce and recent European research on citizen science does not identify any Bulgarian examples (Hakley et al., 2022; Zourou and Ziku, 2022). Probably this can explain the uncertainty about the terminology from this particular domain.

In general, the open science-related terminology is generally still a challenge in terms of having commonly accepted translations in Bulgarian (Margova, Dobreva 2025) – this is one of the specific issues which need some effort to offer good translations as the inconsistent and variable use of terminology adds more confusion across different stakeholders.

Are 'crowdsourcing' and 'citizen science' synonyms?
Multiple Choice Poll   21 votes   21 participants   ⬆ Share ⌄

yes - 0 votes
0%

no - 12 votes
57%

I am not sure. - 9 votes
43%

Figure 5. Responses related to citizen science and crowdsourcing

How would you rank the experience of Bulgarian researchers with these ORRI domains?
Ranking Poll   19 votes   19 participants   ⬆ Share ⌄

1. science education
2.16

2. open access
2

3. governance
1.47

4. public engagement
1.21
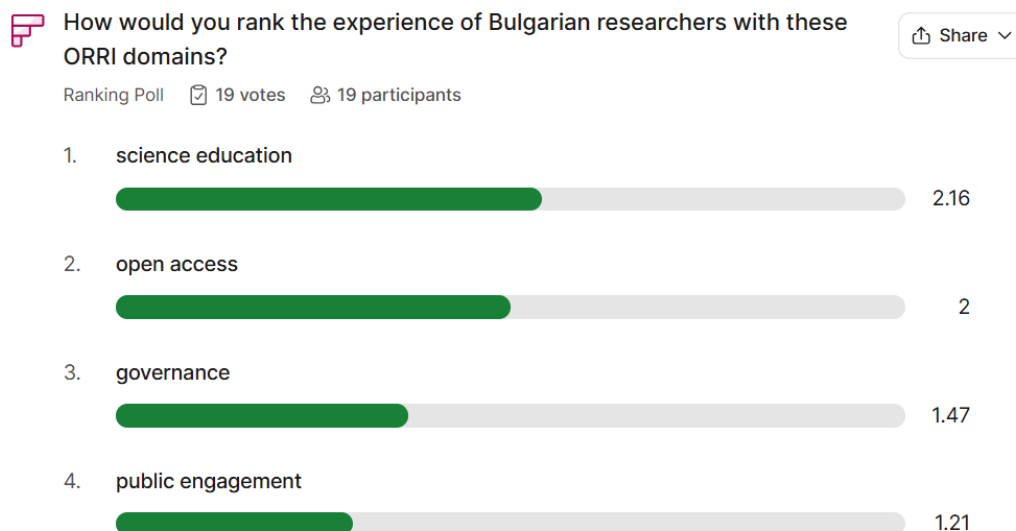
Figure 6. Ranking of popularity of some of the ORRI domains in Bulgaria

NGO Links

Funded by the European Union

Another set of questions delved into the Bulgarian needs and strengths. A question which asked the attendees to rank the popularity of four of the open and responsible research and innovation domains (ORRI) – open access, governance, science education and public engagement – showed surprisingly that science education is at the helm, while public engagement is at the bottom. This is seconded by the availability of plenty of publications in this domain in the last couple of decades: some 26,000 results on google scholar when searching for "science education" + Bulgaria.

What is the biggest barrier to open science from your experience?

Wordcloud Poll   ☑ 22 responses   👥 20 participants

The big fat publishers in the US

different   appropriate

researchers' reluctance to share data

Skills

scientific   tools   science   experts

PR

idea   **Lack of knowledge**

Lack of experience   lack

opinions

plagiarism   available

Traditions   open

community   Misunderstanding

Requirements for publishing in high impact jour...

Figure 7. Barriers to open science n Bulgaria based on personal perceptions of attendees

The attendees also shared their views on the biggest barrier to open science based on their personal experiences (see Fig. 7). Lack of knowledge and experience are the most prominent answers, but there are also other barriers mentioned – such as researchers' reluctance to share data, the requirement to publish in high impact journals, the journal business models. All these can indeed be addressed with further properly focused awareness and training opportunities. This is consistent with the stakeholders' study of ORBIT (Gandova et al., 2025) where lack of awareness is the most prominent barrier identified by stakeholders but probably it is worth noting that other barriers identified in this study such as infrastructure challenges and IPR issues have not been voiced by the participants in the workshop.

Finally, we asked what single skill, if improved, would lead to a positive change in Bulgaria (see Fig. 8). The responses were a mixture of skills and attitudes (e.g. openness was among the repetitive suggestions). Data skills and more generic digital skills were among the most popular skill-related response. This possibly confirms the perception that open science requires a sound digital literacy – another area which can be addressed by positive interventions in the future national strategic plans on open science.

17 responses

- Openness
- Sharing the fair data
- Increasing open data literacy
- IPR issues
- Data management
- Sharing
- being academically fair
- digital skills
- Trust
- Knowledge
- Responsible sharing and mentoring
- Only one?
- Experts working with researchers
- Digital skills
- Being data literate
- Openness
- To disseminate findings

Figure 8. Responses to the question What skill can make a positive difference in the open science domain?

After this snapshot of opinions, the event continued with a series of presentations which addressed different aspects of open data.

3   OPEN DATA – TOPICS DISCUSSED AT THE WORKSHOP

Sara di Giorgio (GARR, Gruppo per l'Armonizzazione delle Reti della Ricerca, Italy) introduced the ICDI (Italian Computing and Data Infrastructure) and outlined the areas of work of the European Open Science Cloud, EOSC. She also emphasized the ongoing efforts of the Skills4EOSC project to establish competence centres which would offer robust training programmes in open science skills. The presence in the audience of Prof. Todor Gurov from IICT-BAS, a partner in Skills4EOSC, added more local context to the discussion how Bulgaria can develop its own competence centres where the competences developed during the work on the ORBIT project at Sofia University "St. Kliment Ohridski" and NGO Links could be also very well received.

Dr Milena Dobreva (University of Strathclyde, Glasgow, Scotland, UK) provided a walk through the various pillars of open science as defined by UNESCO then focusing on the place of open data within the open science universe. She emphasized that open data are neatly linked with other pillars – e.g. citizen science can contribute to collecting datasets, and the practice of publishing academic articles supplemented by the data used in the study is already very popular.

Prof. Peter Stanchev (Kettering University, USA) provided an insightful talk on the diversity of research data and also on the components of data lifecycle. He also argued that the focus on open data will probably soon grow into another domain, of open intelligence – where the benefits of availability of data and modern intelligent tool will push for a shift in the perception of open research.

Funded by
the European Union

Finally, Prof. Eva Mendez from the University Carlos III in Madrid, Spain. She explored the dimensions of FAIR data and emphasized the need for a reform in the research assessment where activities contributing to open and responsible research and innovation need to be properly integrated.

OTHER ORBIT EVENTS

ORBIT already delivered a [Winter school for PhD students and early stage researchers](#) and will organise a second workshop for experienced researchers in April 2024 and a final conference in June 2025.

ACKNOWLEDGEMENTS

The recorded presentations from the event will be available on the website https://openresearch.bg/.

REFERENCES

Boock, M., Todorova, T. Y., Trencheva, T. S., & Todorova, R. (2020). Bulgarian authors' open access awareness and preferences. *Library Management*, *41*(2/3), 91-102.

Gandova, T., Margova, R., & Dobreva, M. (2025). Open and Responsible Research in Bulgaria: Barriers and Opportunities. Zenodo. https://doi.org/10.5281/zenodo.14825842

Haklay, M., Gold, M., Huyse, T., Paleco, C. et al. (2022) Mutual learning exercise on citizen science initiatives – Policy and practice. First topic report, Introduction and overview of citizen science, European Commission: Directorate-General for Research and Innovation, Publications Office of the European Union, https://data.europa.eu/doi/10.2777/29886

Lazzeri, E. (2024). Update of the Study on the readiness of research data and literature repositories to facilitate compliance with the Open Science Horizon Europe MGA requirements (1.0). Zenodo. https://doi.org/10.5281/zenodo.13919643

Margova, R., & Dobreva, M. (2025) The concept of open science: challenges in translation and understanding. (In Bulgarian, under review).

Trencheva, T., & Dimitrova, S. (2019). Comparative study of the Bulgarian open access journals in DOAJ for the period 2002-2018. In *EDULEARN19 Proceedings* (pp. 6035-6044). IATED.

Zourou, K. & Ziku, M. (2022). Citizen Enhanced Open Science in Cultural Heritage - Review and analysis of practices in Higher Education. 77 pp. Accessible at https://www.citizenheritage.eu/wp-content/uploads/2022/07/CitizenHeritage-O1-July-2022.pdf