

## Nacionalna strategija odprtega dostopa do znanstvenih objav in raziskovalnih podatkov v Sloveniji 2015–2020

V začetku 21. stoletja je posodobitev znanstvenega komuniciranja postajala vedno bolj nujna. Dosedanji sistem znanstvenega komuniciranja je omogočal le omejen dostop do raziskovalnih podatkov, zato je Evropska komisija že leta 2004 začela z uvajanjem sprememb na področju znanstvenega komuniciranja in je v program Obzorje 2020 vključila obvezen dostop do vseh recenziranih objav znotraj vseh držav članic Evropske unije, ki se sofinancirajo iz javnih sredstev (projekti MedOANet, RECODE, PASTEUR 4OA) (1–4).

Vlada Republike Slovenije je septembra 2015 (št. 60300-5/2015/5) sprejela nacionalno strategijo odprtega dostopa do znanstvenih informacij in tako pristopila k uresničevanju določil v skladu s priporočili Evropske unije (5).

Znanstvene informacije so vsi recenzirani znanstveno-raziskovalni članki, objavljeni v znanstvenih revijah, recenzirane znanstvene monografije in vsi raziskovalni podatki, financirani z javnimi sredstvi. Odprti dostop do znanstvenih informacij pomeni brezplačen neomejen spletni dostop. Berlinska deklaracija, podpisana leta 2003, je imela tri glavne cilje: širitev znanja, odprto in redno dajanje znanja na razpolago in podporo odprtemu dostopu do znanja s pomočjo interneta (6). K Berlinski deklaraciji je pristopila tudi Univerza v Mariboru.

V Sloveniji mora biti v obdobju od 2015 do 2020 zagotovljen odprti dostop do vseh recenziranih člankov in znanstvenih monografij, ki so sofinancirane z javnimi sredstvi. Tako bodo odpravljene naročniške in avtor-

## National strategy for open access to scientific publications and research data in Slovenia 2015–2020

At the beginning of the 21<sup>st</sup> century, modernization of scientific communication has increasingly become a necessity. So far, there is only limited access to research data. The European Commission therefore started to introduce changes in the field of scientific communication in 2004. The program, Horizon 2020, provides open access to all peer-reviewed and publicly funded publications within European Union (EU) countries (MedOANet, RECODE, PASTEUR 4OA projects) (1–4).

The Government of the Republic of Slovenia adopted the national strategy on open access to scientific information in September 2015 (No. 60300-5/2015/5) and acceded to the implementation of the provisions in accordance with the EU recommendations (5).

Scientific information refers to all peer-reviewed scientific research articles published in scientific journals, peer-reviewed scientific monographs and publicly funded research data. Open access to scientific information can be defined as unlimited online access that is free of charge. The Berlin Declaration signed in 2003 focused on three main goals: distribution of knowledge, dissemination of knowledge, and supporting the open access to knowledge via the Internet (6). The University of Maribor has also adhered to the Berlin Declaration.

In the period from 2015 to 2020, all publicly funded peer-reviewed articles and scientific monographs should be made openly accessible in Slovenia. Hence, subscription and copyright limitations to scientific information resourced by national public funding

skoppravne omejitve do uporabe znanstvenih informacij, ki so podprte z nacionalno javnimi sredstvi. Budimpeška pobuda o odprtem dostopu in priporočila Haške deklaracije o odkrivanju znanja v digitalni dobi imata za cilj odprt dostop do podatkov vsem raziskovalcem, ekonomske, akademske in znanstvene prednosti, možnost vključitve v že obstoječi sistem itd. (7).

Odprt dostop pomeni brezplačen spletni dostop do znanstvenih informacij. Ločimo dve obliki odprtega dostopa do znanstvenih informacij, in sicer odprti dostop do znanstvenih objav in odprti dostop do raziskovalnih objektov (8).

Odprti dostop do znanstvenih objav je možen kot

1. zeleni odprti dostop,
  - to je shranjevanje v repozitorij, kjer avtor ali njegov zastopnik arhivirata recenzirani članek;
2. zlati odprti dostop
  - objava v odprto dostopni reviji, članek je dostopen pred, ob ali po objavi in shranjen v repozitoriju. Eventualne stroške objave odprtega članka plača avtor. Stroške za objavo krije avtor sam, matična raziskovalna organizacija ali druga organizacija (5).

Posledica plačevanja stroškov odprtih objav (Article Processing Charges, APC) v odprtih revijah pa je lahko zaradi možnosti hitrega zaslužka pojav »plenilskih« založnikov in »ugrabljenih« revij (9).

Vizija strategije odprtega dostopa do znanstvenih informacij iz javno financiranih raziskav v Sloveniji je brezplačen spletni dostop do vseh znanstvenih informacij in možnost ponovne uporabe za vse slovenske državljane, raziskovalce in gospodarstvo. Cilj strategije je odprti dostop do vseh znanstvenih objav iz nacionalno financiranih raziskav do leta 2021.

Z odprtim dostopom do znanstvenih informacij bo v slovenskem prostoru omogočen dostop do slovenskega znanja in inovacij, vpogled v celotno slovensko znanstveno dejavnost in dana možnost za intenzivnejši razvoj. Odprto dostopne znanstvene informacije, financirane z nacionalnimi ali evropskimi sredstvi, so

will be eliminated. Both the Budapest Open Access Initiative and the Hague Declaration on Knowledge Discovery in the digital era aim toward open access to economic, academic, and scientific data, as well as inclusion in the existing system, etc. for all researchers (7).

Open access is defined as free-of-charge access to scientific information. There are two forms of open access to scientific information: open access to scientific publications and open access to research data.

Open access to scientific publications can be further divided into:

1. Green open access
  - Repository archiving – the peer-reviewed manuscript is archived by the author/researcher or a representative;
2. Gold open access
  - Open access publishing enables access to the article, archived in a repository, before, alongside or after publication of the article. Possible costs of publication are charged to the author, research organization or other entity (5).

Furthermore, charging publication fees for open-access articles (Article Processing Charges, APCs) in open journals results in “predatory” publishers and “hijacked” journals (9).

In Slovenia, the strategic vision of open access to publicly funded scientific information includes free-of-charge internet access and the reuse of all scientific information for all Slovenian citizens, researchers and economy. The strategy aims toward open access to all publicly funded scientific publications by the year 2021.

Open access to scientific information enables access to Slovene knowledge and innovation, provides insight into Slovene scientific activities, and offers more options for more intensive development. Openly accessible scientific information generated with national or European funds is available at the national portal Open Science Slovenia and OpenAIRE portal (10,11).

razvidne na Nacionalnem portalu odprte znanosti in na portalu Open AIRE (10, 11).

Vlada Republike Slovenije je za nacionalno znanstveno dediščino opredelila objave slovenskih znanstvenikov v slovenskih in mednarodnih znanstvenih revijah, vse znanstvene revije, ki jih izdajajo založniki s sedežem v Sloveniji, in znanstvene monografije slovenskih znanstvenikov, izdane pri mednarodnih založbah ali v Sloveniji (5). Odprto dostopne znanstvene informacije morajo biti trajno hranjene na način, ki je varen in preprečuje izgubo, poškodbo ali zlorabo.

Slovenska infrastruktura odprtega dostopa mora biti primerljiva z evropskimi in mednarodnimi infrastrukturaми v skladu z navodili OpenAIRE (5). V Evropski uniji je več osnovnih temeljnih dokumentov o odprtem dostopu (12–17). V Republiki Sloveniji pa je osnova odprtega dostopa resolucija o raziskovalni in inovacijski strategiji Slovenije 2011 Symbol 2020 in Načrt razvoja raziskovalnih infrastruktur 2011 Symbol 2020 (18–20).

Posebej važna so določila glede odprtega dostopa do recenziranih publikacij v Sloveniji, ki so nacionalno financirane. Večinoma so to recenzirani znanstveni članki, objavljeni v znanstveni reviji, katerih vsebina mora biti odprto dostopna. Postopek poteka v dveh fazah, prva je shranjevanje publikacije v repozitorij – v knjižnično podatkovno zbirko (bibliographic metadata). Druga je zagotovitev odprtega dostopa do celotne vsebine publikacije preko repozitorija. Repozitorij za znanstvene publikacije je spletni arhiv, ki mora biti kompatibilen z navodili OpenAIRE (5).

Repozitorij Univerze v Mariboru je digitalna knjižnica Univerze v Mariboru, ki podpira odprti dostop do znanstvenoraziskovalnih, strokovnih in drugih del in raziskovalnih podatkov, ki nastajajo na univerzi v procesih raziskovanja in izobraževanja. V digitalni knjižnici so dela vseh članic Univerze v Mariboru – diplomskih, magistrskih, doktorskih in drugih del študentov, recenzirane objave iz sofinanciranih projektov, elektronski visokošolski učbeniki in učna gradiva ter druga dela, katerih avtorji so sodelavci Univerze v Mariboru ali je Univerza v Mariboru njihov založnik.

Slovene scientists' publications published in Slovene and international scientific journals, all scientific journals published in Slovenia, and scientific monographs published in international publications or in Slovenia by Slovene scientists have been declared a national scientific heritage by the Government of the Republic of Slovenia (5). Openly accessible scientific information must be preserved and archived in a safe way to prevent loss, damage, or misuse.

The Slovene open access infrastructure must be interoperable with European and international infrastructures in accordance with OpenAIRE instructions (5). More basic documents on open access are available in the EU (12–17). The basis of the open access in Slovenia is formed by the Resolution on the research and innovation strategy in Slovenia 2011–2020 and the Research infrastructure Roadmap 2011–2030 (18–20).

Especially important are provisions on open access to peer-reviewed publications in Slovenia, which are nationally funded. These are mostly peer-reviewed scientific research articles published in scientific journals with open access to their content. This is a two-phase procedure, the first being the deposit of the publication in a repository – bibliographic metadata, and the second being the provision of open access to the entire content of the publication via the repository. The repository for scientific publications is an online archive, which has to be compatible with the OpenAIRE instructions (5).

The repository of the University of Maribor is a digital library of the university, supporting open access to scientific research publications, professional articles, other publications and research data produced at the university through research and education. The digital library includes publications from all members of the University of Maribor – graduate, postgraduate, doctoral and other dissertations of students, peer-reviewed publications from co-funded projects, electronic versions of higher education textbooks and study materials as well as other works by authors who are associates of the University of Maribor or for whom the university acts as their publisher.

V Sloveniji se bo na nacionalni ravni izvedel pilotni program Odprti dostop do raziskovalnih podatkov, ki bo namenjen usmerjanju razvoja slovenske politike odprte znanosti (5). Pilotni program bo zajemal tista znanstvena področja, kjer bo to najlažje izvedljivo, to so družboslovje, humanistika, medicina in biološke vede.

Pomembno je, da so vse revije izdajateljev s sedežem v Sloveniji, ki objavljajo recenzirane članke in so sofinancirane z nacionalnimi javnimi sredstvi, odprto dostopne – zlati odprti dostop – in vključene v Directory of open Access Journals (DOAJ) (21, 22). Programska oprema mora biti kompatibilna s priporočili OpenAIRE. Isto velja tudi za znanstvene monografije, ki morajo biti odprto dostopne in vključene v Directory of Open Access Books (DOAB) (23).

Sprejetje Nacionalne strategije odprtega dostopa do znanstvenih objav in raziskovalnih podatkov v Sloveniji 2015–2020 pomeni nov izziv na področju raziskovanja. Slovenski raziskovalci delujejo ne le v slovenskem, ampak tudi v širšem evropskem raziskovalnem prostoru, zato je izjemno pomembno, da je slovenska politika glede odprtega dostopa do znanstvenih informacij usklajena z evropsko. S tem je omogočena večja odmevnost slovenske raziskovalne dejavnosti v evropskem in širšem mednarodnem prostoru.

***Quod latet, ignotum est, ignoti nulla cupido.***  
(Ovidius)

*Kar je skrito, je neznano, neznano pa nas ne mika.* (Ovidius)

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odgovorna urednica

Slovenia will launch a national pilot programme for open access to research data aimed at concretisation of further development of the Slovenian open science policy (5). The pilot programme will include those scientific areas where the openness principle is the easiest to realize, i.e. social sciences, humanities, medicine, and biological sciences.

It is important that all journals by Slovenian-based publishers with peer-reviewed papers and co-funded by national public funds are openly accessible (gold open access) and included in the Directory of Open Access Journals (DOAJ) (21,22). The computer software must be compatible with the OpenAIRE guidelines. The same is required for scientific monographs, which have to be openly accessible and included in the Directory of Open Access Books (DOAB) (23).

The adoption of the National strategy for open access to scientific publications and research data in Slovenia 2015–2020 is a new challenge in the field of research. Slovenian researchers operate not only within the Slovene but also in the wider European research area. The Slovene policy must therefore be aligned with the European policy enabling greater visibility of the Slovenian research activities in the European and wider international area.

***Quod latet, ignotum est, ignoti nulla cupido.***  
(Ovidius)

*What is hid is unknown; for what is unknown there is no desire.* (Ovidius)

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**LITERATURA / REFERENCES**

1. Consultation on »Science 2.0«: science in transition, [https://ec.europa.eu/research/consultations/science-2.0/consultation\\_en.htm](https://ec.europa.eu/research/consultations/science-2.0/consultation_en.htm)
2. MedOANet guidelines for implementing open access policies: for research performing and research funding organizations, [http://medoanet.eu/sites/www.medoanet.eu/files/documents/MED2013\\_GUIDELINE\\_dp\\_EN\\_ws.pdf](http://medoanet.eu/sites/www.medoanet.eu/files/documents/MED2013_GUIDELINE_dp_EN_ws.pdf)
3. Policy Recommendations for Open Access to Research Data in Europe (RECODE), <http://recodeproject.eu/>
4. Open Access Policy Alignment Strategies for European Union Research (PASTEUR4OA), <http://www.pasteur4oa.eu/>
5. Nacionalna strategija odprtega dostopa do znanstvenih objav in raziskovalnih podatkov v Sloveniji 2015-2020, vlada Republike Slovenije, številka: 60300-5/2015/5 september 2015
6. <http://openaccess.mpg.de/286432/Berlin-Declaration>
7. Ten years on from the Budapest Open Access Initiative: setting the default to open <http://www.budapestopenaccessinitiative.org/boai-10-recommendations>, The Hague Declaration on Knowledge Discovery in the Digital Age, <http://thehaguedeclaration.com/the-hague-declaration-on-knowledge-discovery-in-the-digital-age/>
8. Open Access Slovenia: definicije in deklaracije, <http://www.openaccess.si/definicije-in-deklaracije/>
9. Beall's List: Potential, possible, or probable predatory scholarly open-access publishers, <http://scholarlyoa.com/publishers/>, Plenilski založniki, <http://vodici.fdv.uni-lj.si/subjects/guide.php?subject=OAR#tabs-5>
10. Nacionalni portal odprte znanosti: dostop do znanja slovenskih raziskovalnih organizacij, <http://www.openscience.si/>
11. Open Access Infrastructure for Research in Europe (OpenAIRE), <https://www.openaire.eu/>
12. A Digital Agenda for Europe, [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0245R\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0245R(01)&from=EN)
13. Research and innovation as sources of renewed growth, <http://ec.europa.eu/research/innovation-union/pdf/state-of-theunion/2013/research-and-innovation-as-sources-of-renewed-growth-com-2014-339-final.pdf>
14. A Reinforced European Research Area Partnership for Excellence and Growth, [http://ec.europa.eu/euraxess/pdf/research\\_policies/era-communication\\_en.pdf](http://ec.europa.eu/euraxess/pdf/research_policies/era-communication_en.pdf)
15. Towards better access to scientific information: Boosting the benefits of public investments in research, [https://ec.europa.eu/research/science-society/document\\_library/pdf\\_06/era-communication-towards-better-access-to-scientific-information\\_en.pdf](https://ec.europa.eu/research/science-society/document_library/pdf_06/era-communication-towards-better-access-to-scientific-information_en.pdf)
16. Commission Recommendation of 17. 7. 2012 on access to and preservation of scientific information, [https://ec.europa.eu/research/science-society/document\\_library/pdf\\_06/recommendation-access-and-preservation-scientific-information\\_en.pdf](https://ec.europa.eu/research/science-society/document_library/pdf_06/recommendation-access-and-preservation-scientific-information_en.pdf)
17. Dokumenti o odprtem dostopu v okvirnem programu EU za raziskave in inovacije Obzorje 2020: Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020, [http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/oa\\_pilot/h2020-hi-oa-pilot-guide\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf), Guidelines on Data Management in Horizon 2020 [http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/oa\\_pilot/h2020-hi-oa-data-mgt\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf) General Multibeneficiary Model Grant Agreement for Horizon 2020 Programme, September 2014: Article 29 – Dissemination of Results – Open Access – Visibility of EU Funding, [http://ec.europa.eu/research/participants/data/ref/h2020/mga/gga/h2020-mga-gga-multi\\_v2.0\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/mga/gga/h2020-mga-gga-multi_v2.0_en.pdf)
18. Resolucija o raziskovalni in inovacijski strategiji Slovenije 2011–2020, <http://www.uradnilist.si/1/objava.jsp?urlid=201143&stevilka=2045>
19. Načrt razvoja raziskovalnih infrastruktur 2011–2020, <http://www.arhiv.mvzt.gov.si/fileadmin/mvzt.gov.si/pageuploads/pdf/znanost/RISS/NRRI.pdf>

20. Prost in odprt dostop do objav ter raziskovalnih podatkov je vključen v poglavji Prednostni mednarodni projekti (sodelovanje v ESS, DARIAH in CESSDA) in Prednostna nacionalna področja (Digitalni nacionalni viri, Družboslovna in humanistična raziskovalna infrastruktura).
21. OpenAIRE Guidelines, [https://guidelines.openaire.eu/wiki/Main\\_Page](https://guidelines.openaire.eu/wiki/Main_Page); odprtokodna programska oprema za izdajanje revij Open Journal Systems (OJS) je kompatibilna z navodili OpenAIRE, <https://pkp.sfu.ca/ojs/>
22. Directory of Open Access Journals (DOAJ), <http://doaj.org/>
23. Directory of Open Access Books (DOAB), <http://www.doabooks.org/>