Introduction

The contemporary scientific communication occurs in a digital environment and in professional virtual communities the concept of science is gradually transforming into the concept of e-science [1]. All participants of the scientific communication have already accepted the existence of Digital Object Identifier (DOI) number, as a digital content identifier of some object on the internet which is connected with e.g. a book or a journal article, regardless of the fact that their place on the internet may be changed [2]. The DOI is assigned to a scientific paper via the Crossref service, in order to find, cite, link and access scientific articles more easily. Likewise, steps have been taken to establish the identifier of an author's unique identity. Back in 2006, Scopus presented its identification scheme Scopus Author IDENTIFIER (ID), and in 2008, Web of Science (WoS) created its own service called ResearcherID, as a system of unique identification of authors [3, 4]. In October 2012, the service Open Researcher and Contributor ID (ORCID) was presented. The concept of this service has been introduced back in 2009, with the aim to include all of the previous schemes and create a central registry of unique identifiers of all participants in research, education, science, innovation, i.e. a registry of authors/contributors [5]. ORCID is supposed to provide a long-term international digital identity of researchers [6].

The problem of identifying the author

One of the most important reasons for establishing researcher identifiers is to determine the author's name. The international scientific community faced the problem of the author's name with the expansion of scientific papers of Chinese authors. Also, in Serbia, it is not uncommon that several individuals/authors share the same name and surname [6]. The inconsistencies in author names can also be caused by omitting diacritical marks, omitting a hyphen in double-barrelled surnames, permutation of letters, omission of the middle letter, changing the surname, or by adding a surname (Tables 1 and 2) [7–9].

Unique author name identification is important for establishing the connection between the author and their scientific papers, affiliations, participation in projects, and financiers [6]. The published scientific papers in journals which are on the International Scientific Index (ISI) list, and their citedness, are a precondition for the evaluation of the scientific paper, and for the progress of the researcher's academic career. Therefore, establishing the author's unique identity is necessary. The Consortium of Serbian Libraries for Coordinated Acquisition (KoBSON) and its service WoS, significantly contribute to correction and unification of names and surnames. This service includes papers of authors referred to in the WoS index database, who cited an institution from Serbia as their affiliation [10]. In connection with the author's affiliation, a problem may occur, for example, if affiliations are not cited consistently, if authors have two affiliations, or if they have one affiliation, but their country has changed its name, etc. The creators of index databases, such as WoS and Scopus, are aware of the problems the authors face, and accordingly they provide the authors the opportunity to directly participate in correcting the errors by sending suggestions about what should be added and corrected [7].
ORCID identifier - concept and significance

Another way to overcome the problems mentioned above is to create an ORCID profile. ORCID is a unique and permanent alphanumeric code, a 16-digit number preceded by a web address, which identifies a certain author and is compatible with the International Standard Organization (ISO) standard [6, 11, 12].

Features and advantages of the ORCID profile are the following: a) it is international, available online, and free; b) it protects the author’s identity, i.e. the researcher is the owner of the profile, and determines what will be visible or not on his profile; c) ORCID profile which is orderly and continually updated represents a bibliography of researcher’s papers which is always ready to be used in applying for projects of the European Commission; d) it is connected with numerous information systems (WoS, Scopus, Crossref, etc.) with which it is interoperable, i.e. it enables importing and exporting metadata [13], saving time needed for filling out data; e) ORCID is on the way of becoming the standard of international scientific information trade [6, 14].

In Croatia, according to data from April 2017, as many as 5,900 authors have created an ORCID profile, and 13,800 scientific papers have been connected with the authors [14]. According to data from October 2017, in Serbia, about 3,000 researchers have created an ORCID profile (of about 12,500 recorded researchers) [13]. Most of these researchers are from the University of Belgrade, and then from the Universities of Novi Sad, Niš, and Krugujevac. The electronic sources which are available and browsed in Serbia, with an ORCID number or its recognizable green ORCID logo are the following index databases: WoS and Scopus, Serbian Citation Index (SCIndeks), National Repository of Dissertations in Serbia – NaRDuS, Repository of the Institute for Biological Research “Siniša Stanković” – RADaR, Digital Archive of Serbian Academy of Sciences and Art; as well as the websites of the University of Belgrade, and the Faculty of Chemistry in Belgrade [15–20].

Certain international scientific journals require mandatory submission of the ORCID identifier, when accepting papers for publication. Such practice has only just started in Serbia, e.g. in the Military Technical Courier, a domestic scientific journal, which requires all authors to have their personal ORCID identifier, as well as reviewers and all members of the Editorial Board [21]. With the submission of the ORCID number when publishing scientific papers, the ORCID profile will be automatically updated after the paper is published [4], so in time more and more information about the author’s production will be gathered in one place. This way, time is saved, errors are eliminated, and a reliable connection between authors and their published articles is created [22].

Today, researchers in Serbia face more and more challenges. In addition to professional, scientific, and often education engagement, in accordance with the requirements of the relevant Ministry, they need to submit data on their scientific production with the aim to create a comprehensive database of researchers in Serbia [13]. For this purpose, several databases have been created. For example, in Vojvodina, a database on production results of researchers was created on the initiative of the Provincial Secretariat for Higher Education and Scientific Research in order to unify scientific production of researchers in Vojvodina [23], and also, there are activities to fill out the Researchers’ Registry of Serbia (RIS) on the request of the Ministry of Education, Science and Technological Development [24]. In this situation, researchers need to fill out multiple forms. Taking into account the complexity of the activities connected with unifying scientific production of every individual, as well as of the scientific community, librarians point out to the existence of the ORCID profile, and to its advantages [25].

The librarians of the Faculty of Medicine in Novi Sad have learnt that some researchers have encountered the concept of the ORCID profile, and created it for the purpose of submitting their papers

| Result Number/Broj pogodaka | Author | Documents Dokumenti | Subject area Naučna oblast | Affiliation Afilijacija | City Grad | Country/Territory Zemlja/Teritorija |
|-----------------------------|--------|---------------------|----------------------------|------------------------|----------|-------------------------------|
| 1                           | Srdić, Biljana Srdić, Biljana Srdić, B. Srdić, B. | 26 | Medicine; Biochemistry, Genetics and Molecular Biology; Computer Science ... | University of Novi Sad Novi Sad | Serbia |
| 2                           | Srdić Galić, Biljana Srdić Galić, Biljana Srdić-Galić, Biljana Srdić-Galic, Biljana | 8 | Medicine ; Biochemistry, Genetics and Molecular Biology; | University of Novi Sad Novi Sad | Serbia |
to certain international journals. At the Faculty of Medicine in Novi Sad, since the academic year 2017/18, the ORCID number is a part of the Personal Researcher’s Record in English; therefore, certain teachers were encouraged to register and get their own ORCID number. The instructions which follow are meant to encourage and help everyone with registration and filling out the ORCID profile.

**Instructions for registration and filling out the ORCID profile**

It is very simple to open an ORCID account. Open the page https://orcid.org using the Google Chrome or Mozilla Firefox browser, and check first in the search box if there was any previous registration. If your name is not on the list, the registration begins by clicking the **For Researchers** button, and then **Register for an ORCID**. The only required fields for registration are the name, surname and email address, as well as a password that must contain a minimum of 8 characters including at least one number, a capital letter or a symbol. Only the ORCID identifier is always publicly available, all other data do not have to be public and can be changed [26]. It is important to have control over personal information on the Internet, and there is a choice of three visibility options on the ORCID profile [27] - the profile is public, it is partly visible, or it is invisible (Figure 1) [28].

After completing the registration form, the first entry of personal data into the profile is accessed. ORCID sends an activation link via email, for accessing the page which contains the ORCID number and fields that need to be filled out and updated. If an email from ORCID is not visible, SPAM or Junk mail should be checked [11]. Every following access to the ORCID profile for adding and updating information is done by clicking **Sign in**, entering the email address and password in the adequate fields. For those who have previously registered but have forgotten the password, there is an option **Forgotten your password**, which can create a new password by using the email address. If there are duplicate ORCID accounts, they can be closed by using the **Account settings** option.

Once the profile is opened, data are edited by clicking on the **Pencil** icon, by clicking the **Add field** when new content is added, and the changes are...
confirmed using the **Save changes** button or **Add to list**. It is recommended to add all forms of names and surnames first, before entering data about the published papers. Since ORCID is an international service, it is best that primary names and surnames are entered in Latin letters, and the other forms of names are entered in the field **Also known as**, for example: Latin letters without diacritical characters, Cyrillic letters, maiden name, two surnames in inversion, with or without a hyphen, foreign names without transliteration, with the first letter of the father’s name in the middle, and so on [7]. Adding more options guarantees that papers stored in other databases will be easier to find. These other forms of names need not be publicly visible, and one of three visibility options can be selected for each of the forms separately, as well as the order in which they will be displayed [4]. Among other personal data, it is also desirable to add other email addresses that are in use, such as, for example, an email with the affiliation, if the ORCID account is opened via a private email. Other addresses are added to the primary email address which is used to log in, and to which the ID is connected, and the visibility of each email address can be selected separately.

**Education** and **Employment** are the fields that should be filled out in English, using the official names of institutions, because this practice significantly facilitates the search of the production of scientific papers within an institution. Many institutions already exist in the database, so their titles can be selected among the offered ones, while all others should be added manually in a consistent way. **Funding** can be completed by using + **Add manually**, or it can be imported using the **Search & Link** option, if the searched project is found.

After filling in the basic data, from the **Works** field, one switches to retrieving scientific production data from other systems by using one of the three options: **Search & Link**, **Bibtext**, or + **Add manually**. The first option enables you to select one database at a time: **Scopus to ORCID**, **Researcher ID** (articles from WoS) or **CrossRef Metadata Search** (articles with a DOI number, among which there are papers from some domestic journals, for example, from the SCIndeks). Other articles that were not found, but may be found in some other databases that have metadata, such as Cooperative Online Bibliographic System and Services (COBISS) or World Catalogue (WorldCat), are retrieved in ORCID by using the **Bibtext** option [29]. In that case, paper data should first be transferred to one of the standard forms of metadata using the bibliographic tools **Endnote**, **Zotero**, **Mendeley**, **Reference Manager**, and others, which are otherwise recommended when quoting in scientific papers. In the end, all other data can be entered manually with as much information as possible, even Universal Resource Locator (URL) links of papers or journals, and so on [11].

**Conclusion**

Open Researcher Contributor Identifier is a unique and permanent alphanumeric code, which enables the creation of a central registry of unique identifiers for researchers and contributors in the scientific-research and education process. This identifier is recommended in the international information trade, and it provides a data infrastructure for the scientific-research community – names, professional biographies, workplaces, published scientific papers and participation in projects. In this way the results of scientific papers become more available and visible. The Open Researcher Contributor ID profile is a kind of constantly updated digital biography and bibliography of researchers. Opening an Open Researcher Contributor ID profile is simple; the application is transparent and enables users to change and add data, as well as to manage the parameters which determine the degree of availability of data on the profile. Furthermore, there are a number of other options which have not been mentioned in this paper because they are not necessary for the registration and primary data input.

Since October 2012, when it was launched, to October 2017, Open Researcher Contributor Identification Initiative has gathered more that 4 million Open Researcher Contributor ID numbers on the international level, and thus demonstrated its readiness to become an integral part and a standard in information systems of the scientific-research process. Since it has so much potential, all researchers from Serbia are encouraged to join this initiative.

### References

1. Gasparyan AY, Akazhanov NA, Voronov AA, Kitas GD. Systematic and open identification of researchers and authors: focus on open researcher and contributor ID. J Korean Med Sci. 2014;29(11):1453-6.
2. Eksner A. Uvod u objavljivanje naučnih publikacija: prethodna iskustva, koncepti, strategije. Beograd: Centar za promociju nauke; 2016.
3. Ševkušić M. Jedinstvena identifikacija autora: ResearcherID, Scopus Author ID, ORCID [PowerPoint Presentation on the Internet]. Sunnyvale, CA, USA: LinkedIn Corporation; 2017 [cited 2017 Dec 2]. Available from: https://www.slideshare.net/bibsekcija/jedinstvena-identifikacija-autora?ref=http://www.itn.sanu.ac.rs/sekacija/index.php/jedinstvena-identifikacija-autora-researcherid-scopus-author-id-orcid.
4. Akers KG, Sarkozy A, Wu W, Slyman A. ORCID author identifiers: a primer for librarians. Med Ref Serv Q. 2016;35(2):135-44.
5. Macan B. Repozitoriji u otvorenom pristupu: interoperabilnost kao jedini put. In: Grašić Kvesić T, Hebrang Grigišč, editors. Slobodan pristup informacijama: zbornik radova 13. i 14. okruglog stola. Zagreb: Hrvatsko knjižničarsko društvo; 2014. p. 56-71.
6. RCUB [homepage on the Internet]. Beograd: Računarski centar Univerziteta u Beogradu; ©2014 [cited 2017 Dec 4]. Mala video škola za ORCID; [about 2 screens]. Available from: https://media.rcub.bg.ac.rs/?p=5973.
7. Mitrović I, Protić J, Kostić Kovačević I. Utvrđivanje identiteta osobe na osnovu ličnog imena sa primenama u akreditaciji i analizi afilijacija naučnih radova. In: Impact of Internet on Business activities in Serbia and Worldwide: Sinteza 2014 [conference proceedings on the Internet]; 2014 Apr 25-26; Beograd, Srbija. Beograd: Univerzitet Singidunum; 2014 [cited 2017 Dec 2]; p. 957-64. Available from: http://portal.sinteza.singidunum.ac.rs/paper/179.

8. Scopus [homepage on the Internet]. Amsterdam: Elsevier; [cited 2017 Dec 2]. Search for an author profile; [about 1 screen]. Available from: https://www.scopus.com/free lookahead/form/author.uri.

9. Mijačić T, Kylh K, Frestad D, Bark O, Drvis I, Secher NH, et al. Effect of pulmonary hyperinflation on central blood volume: an MRI study. Respir Physiol Neurobiol. 2017;243:92-6.

10. KoBSON [homepage on the Internet]. Beograd: Narodna biblioteka Srbije; [cited 2017 Dec 2]. Naši u WoS - o servisu; [about 3 screens]. Available from: http://kobson.nb.rs/nauka_u_srbiji.142.html.

11. Janković Z. ORCID - Jedinstveni identifikator istraživača [PowerPoint Presentation on the Internet]. Beograd: Univerzitet u Beogradu, Institut za biološka istraživanja „Siniša Stanković”; 2017 Apr [cited 2017 Dec 2]. Available from: https://www.slideshare.net/zoricajankovic/orcid-jedinstveni-identifikator-istraivaca.

12. KoBSON [homepage on the Internet]. Beograd: Narodna biblioteka Srbije; [cited 2017 Dec 2]. Vest - Sistemi za identifikaciju autora; [about 1 screen]. Available from: http://www.kobson.nb.rs.proxy.kobson.nb.rs:2048/kobson.746.html?newsId=150#.Wiv11WnG70.

13. Albahari B. Javno dostupne bibliografije istraživača Srbije – stanje i perspektive. Čitalište. 2017;30:80-94.

14. Celjak D. Tehnička unapređenja Hrčka u 2017: ORCID, DOAJ, XML,... . [PowerPoint Presentation on the Internet]. Zagreb: Sveučilište u Zagrebu, Sveučilišni računski centar (Srce); [cited 2017 Nov 28]. Available from: http://www.srce.unizg.hr/files/srce/docs/dogadjanja/DEI2017/prezentacije/repozitoriji/dei2017-hrcak-celjak-20170403.pdf.

15. Srpski citatni indeks [database on the Internet]. Beograd: CEON; c2001-2017 [cited 2017 Nov 28]. Available from: http://scindeks.ceon.rs/default.aspx

16. Univerzitet u Beogradu [homepage on the Internet]. Beograd: Univerzitet u Beogradu; [cited 2017 Dec 4]. Pretraga nastavnika; [about 1 screen]. Available from: http://bg.ac.bg/ss/univerzitet/pretraga-nastavnika.php.

Rad je priljmlen 16. I 2018.
Prihvaćen za štampu 17. I 2018.
BIBLID.0025-8105:(2018):LXXI:3-4:83-87.

17. NaRDuS [homepage on the Internet]. Beograd: Ministarstvo provestve, nauke i tehnološkog razvoja; [cited 2017 Dec 2]. Available from: http://nardus.mpn.gov.rs/.

18. RADaR [homepage on the Internet]. Beograd: Institut za biološka istraživanja „Siniša Stanković”; [cited 2017 Dec 2]. Available from: http://ibiss-rcub.bg.ac.rs/?locale-attribute=sr_RS.

19. Digitalni arhiv izdanja SANU [homepage on the Internet]. Beograd: SANU; [cited 2017 Dec 2]. Available from: http://dais.sanu.ac.rs/?locale-attribute=sr_RS.

20. Hemijski fakultet [homepage on the Internet]. Beograd: Hemijski fakultet; [cited 2017 Dec 2]. Svi nastavnici i saradnici Hemijskog fakulteta; [about 4 screens]. Available from: http://www.chem.bg.ac.rs/osoblje/index.html.

21. Vojnotehnički glasnik [serial on the Internet]. Beograd: Ministarstvo odbrane Republike Srbije; [cited 2017 Dec 2]. Obrazac za pisanje članka; [about 2 screens]. Available from: http://www.vtg.mod.gov.rs/obrazac-za-pisanje-clanka.html#.WizhDFWnG72.

22. Meadows A. Your lifelong digital name. ChemistryViews [serial on the Internet]. 2016 Nov [cited 2017 Dec 6]; [about 3 screens]. Available from: http://www.chemistryviews.org/details/ezine/9946971/Your_Lifelong_Digital_Name.html.

23. Karton naučnog radnika [homepage on the Internet]. Novi Sad: Pokrjajinski sekretariat za visoko obrazovanje i naučnoistraživačku delatnost; [cited 2017 Dec 4]. Available from: http://knr.uns.ac.rs/.

24. Registar istraživača Srbije [homepage on the Internet]. Beograd: Ministarstvo provestve, nauke i tehnološkog razvoja; [cited 2017 Dec 7]. Available from: https://ris.mpn.gov.rs/.

25. Ševkušić M. Profil istraživača. [PowerPoint Presentation on the Internet]. Beograd: Institut tehničkih nauka SANU; [cited 2017 Dec 2]. Available from: http://www.chem.bg.ac.rs/images/profil-istraivaca-0317.pdf.

26. Haak LL, Fenner M, Paglione L, Pentz E, Ratner H. ORCID: a system to uniquely identify researchers. Learn Publ. 2012;25(4):259-64.

27. Anstey A. How can we be certain who authors really are? Why ORCID is important to the British Journal of Dermatology. Br J Dermatol. 2014;171(4):679-80.

28. ORCID [homepage on the Internet]. Bethesda, MD: The Organization; [cited 2017 Dec 26]. Register for an ORCID iD; [about 2 screens]. Available from: https://orcid.org/register.

29. ORCID Uređivanje profila - napredne opcije [PowerPoint Presentation on the Internet]. Beograd: Ministarstvo provestve, nauke i tehnološkog razvoja; [cited 2017 Dec 4]. Available from: https://media.rcub.bg.ac.rs/wp-content/uploads/wp-uploads/2017/11/ORCID-napredne-opcije-istraivacii.pdf.