Researcher and Author Profiles: Opportunities, Advantages, and Limitations

Armen Yuri Gasparyan,¹ Bekaidar Nurmashev,² Marlen Yessirkepov,³ Dmitry A. Endovitskiy,⁴ Alexander A. Voronov,⁵ and George D. Kitas³,⁶

¹Departments of Rheumatology and Research and Development, Dudley Group NHS Foundation Trust (Teaching Trust of the University of Birmingham, UK); Russell Hall Hospital, Dudley, West Midlands, UK; ²South Kazakhstan State Pharmaceutical Academy, Shymkent, Kazakhstan; ³Department of Biochemistry, Biology and Microbiology, South Kazakhstan State Pharmaceutical Academy, Shymkent, Kazakhstan; ⁴Voronezh State University, Voronezh, Russian Federation; ⁵Department of Marketing and Trade Deals, Kuban State University, Krasnodar, Russian Federation; ⁶Arthritis Research UK Epidemiology Unit, University of Manchester, Manchester, UK

INTRODUCTION

Comprehensive evaluation of research performance is an increasingly important task for the research and publishing enterprise in the era of digitization, open access, and diversification of social networking (1). A wide variety of individual and institutional websites is now available to keep the global scientific community abreast of ongoing research projects, published articles, conferences, and opportunities for collaboration. The digitization of the individual curriculum vitae has advanced the archiving of scholarly articles, books, presentations, and audio and video materials in specifically designed websites, which were not available even a decade ago (2). The accuracy, transparency, and completeness of information on such platforms mark the professionalism and scientific prestige of the creators and moderators.

Online profiles are increasingly employed for evaluating prospective academic mentors, authors, reviewers and journal editors, for sharing and commenting on scholarly articles, and establishing scholarly networks. For the global scientific community, one of the most important components of such profiles is the article in English (3,4). Subsequently, simultaneous searches through the global databases and platforms, such as MEDLINE, Scopus, Web of Science, and Google Scholar, increase chances of retrieving relevant items and navigating through the authors’ profiles for their comprehensive evaluation (5). The journal editors often refer to profiles of their contributors in their editorial management systems, linked to bibliographic databases and search platforms, for improving their quality checks and promoting the best contributors. Publishers and editors are strongly encouraged to evaluate academic profiles and online identifiers of their contributors to avoid ‘fake’ reviewer commenting and other forms of misconduct (6). Several search platforms, scholarly networking websites, and bibliographic databases have adjusted their online tools to offer regularly updated information on researchers and authors for ad-
Table 1. Examples of websites for creating scholarly profile

| Website       | Uniform resource locator | Year launched | Main functionality                                                                 | Users                  |
|---------------|--------------------------|---------------|-------------------------------------------------------------------------------------|------------------------|
| ResearcherID  | http://www.researcherid.com | 2008          | Issuing unique identifiers for authors                                               | Any specialists        |
| Google Scholar Citations | https://scholar.google.com/citations | 2012          | Aggregating links to publications visible on Google, tracking citations, navigating to co-authors’ profiles | Any specialists        |
| ORCID         | https://orcid.org         | 2012          | Issuing unique identifiers for author and contributor name disambiguation             | Any specialists        |
| Kudos         | https://www.growkudos.com | 2013          | Sharing publications, explaining their importance, measuring their citation-based and alternative impact, and managing scholarly reputation | Any specialists        |
| ScienceOpen   | https://www.scienceopen.com | 2013          | Scholarly social networking, gold open-access publishing, and post-publication peer review | Any specialists        |
| Pubsions      | https://publons.com       | 2012          | Crediting peer review and editorial contributions                                    | Any specialists        |
| arXiv         | https://arxiv.org         | 1991          | Repository of electronic preprints                                                  | Physicists, mathematicians, computer scientists |
| Ideas         | https://ideas.repec.org   | 2013          | A service of the RePEc database for creating profiles and sharing links to articles   | Economists             |
| ResearchGate  | https://www.researchgate.net | 2008          | Scholarly social networking, discussing and sharing publications                    | Any specialists        |
| Academia.edu  | http://www.academia.edu   | 2008          | Scholarly social networking, discussing and sharing publications                    | Any specialists        |
| Mendeley      | http://www.mendeley.com   | 2008          | Reference management                                                                 | Any specialists        |
| Zotero        | http://www.zotero.com     | 2006          | Reference management                                                                 | Any specialists        |
| CiteULike     | http://www.citeulike.org  | 2004          | Reference management                                                                 | Any specialists        |
| Wikipedia     | https://en.wikipedia.org  | 2001          | Showcasing achievements and awards of eminent scholars                              | Anyone                 |

ORCID = Open Researcher and Contributor Identification, RePEc = Research Paper in Economics.

...advanced profiling and aggregating scholarly information...

This article provides an overview of some of the established and emerging profiling platforms (Table 1).

**PROFILING PLATFORMS**

**Scopus author identifiers**

Scopus author identifiers are unique digital links to research performance of individual scholars in any academic discipline. Such identifiers are automatically generated when the authors get at least one Scopus-indexed item, allowing them to track and analyse their citation data, and particularly the h-index values, display professional keywords, affiliations, and links to their co-authors’ profiles. Advanced tools are now available to navigate through authors’ list of publications, analyse their annual publication activity, highly-cited items, target journals, names of co-authors, article types, and subject areas. Scopus profiles may also include the Open Researcher and Contributor Identification (ORCID), which are now searchable through a separate browsing window at the Scopus interface. Such information is available for free previews and can be processed for ranking authors in certain fields and evaluating their impact over time (7).

The recent integration of PlumX Metrics with Scopus has added a new direction to the online profiling by aggregating information on article-level metrics, such as usage (downloads, HTML views), captures (bookmarks), mentions (blog posts, e-comments, Wikipedia references), social media attention, and citation counts beyond Scopus (8). Comparisons with other altmetrics tools, such as ImpactStory, proved that PlumX has the most comprehensive coverage of social resonance of scholarly information (9). Subscribing institutions can now open individual accounts on the PlumX dashboard to comprehensively track their researchers’ impact (10).

Although Scopus author identifiers are linked to records of the largest abstract and citation database, limited timeline of the contents coverage (mostly back to 1996) may distort profiles of scholars with longer academic career and higher citations of their initial works, which are not yet covered by this database. Scopus profiles may also contain technical mistakes due to the automatic processing of data and generating more than one identifier for the same author. Such a limitation can be overcome by regularly monitoring updates and merging two or more profiles at the request of the users.

**ResearcherID**

In contrast to Scopus, Web of Science does not automatically generate author identifiers, which is viewed by some as a limitation in terms of comprehensive evaluation of an individual’s publication activity and related metrics (11). In 2008, Thomson Reuters launched ResearcherID as a multidisciplinary service, which was integrated with the Web of Science platform. The website was specifically designed to disambiguate authors by creating unique profiling web pages and showcasing individual scholars’ publications and citations from Web of Science.

The authors with access to Web of Science can create the ResearcherID profile, present and regularly update their biographic notes and indexed articles, track citations and h-index values, provide links to their ORCID IDs, and find collaborators. Although this profiling system does not provide comprehensive coverage of all authors with Web of Science-indexed items, it is of-
ten employed for distinguishing the most prolific and influential researchers globally (12).

Despite the fact that there are more than 270,000 registered IDs on Web of Science (13), their distribution is disproportionate across academic disciplines and countries, and quantitative comparisons with other profiling systems are not in favor of ResearcherID. In fact, an analysis of 4,307 Norwegian researchers’ profiles revealed that ResearcherID was the least popular platform, with only 130 ID holders (3%) (14). The same study reported that there were 1,307 scholars with ResearchGate (30%) and 333 with Google Scholar (8%) profiles.

In contrast to the Scopus identification system, ResearcherID relies exclusively on the authors’ self-identification (15), which may create inaccuracies and errors in their publication lists by aggregating non-indexed and other authors’ Web of Science-indexed items. Finally, concerns have been raised that the ResearcherID platform, which was initially designed for individuals, is now abused and filled with numerous ‘predatory’ journal profiles. Such profiles are created to mislead the readership and claim that these journals are visible on Web of Science (16).

**PubMed**

PubMed does not issue unique author identifiers, but biomedical and allied specialists often rely on this free and rapidly updated platform for literature searches and evaluations of individual profiles linked to MEDLINE-indexed and PubMed Central-archived articles (17). It is rightly credited as the primary research tool for biomedical specialists (18).

The accuracy of profiling on PubMed depends on the use of correct author names and their affiliations. Manual corrections of the retrieved records are sometimes required (19).

The main advantage of the PubMed/MEDLINE profile is its integration with the Medical Subject Headings (MeSH) specialist keywords vocabulary and scientific prestige of the indexed items (17).

Importantly, a web server called Peer2ref is designed to pick expert reviewers and editors by evaluating profiles of authors with MEDLINE-indexed articles (20). More than 3,800 MEDLINE-indexed journals in the last ten years are searched through for the profiling. The programme automatically evaluates and disambiguates profiles by analysing authors’ bibliographies, co-authors, and keywords in their MEDLINE abstracts.

An important recent development for name disambiguation in PubMed was its integration with ORCID, enabling the transfer of bibliographic records from PubMed Central to ORCID IDs (21).

Researchers who apply for or receive grants from the US National Institutes of Health can now create their Science Experts Network Curriculum Vitae (SciENcv) profile, which is a service of The National Center for Biotechnology Information (NCBI) (22). This service is available to all researchers who hold personal accounts at NCBI. The SciENcv service is also compliant with ORCID (23). It allows them to showcase their research and academic accomplishments, previous grants, awards, and bibliographies.

**Google Scholar Citations**

Google Scholar Citations was launched in 2012 as a free online platform, and was viewed by some as an alternative to other global citation-tracking services (24). It now functions as a basic tool for promoting authors from any scholarly discipline with at least one published item in an indexed journal, book, conference proceedings, and non-reviewed sources, which are tracked by Google. The authors with a few or no indexed articles, poorly visible on Scopus and Web of Science, and particularly those from the Social Sciences and Humanities, can benefit from managing their Google Scholar Citations profile. Such a profile is also useful for promoting early career researchers and preserving information about eminent and deceased scholars.

The author profiles can be filled with photographs, links to similar profiles of co-authors, manually added or retrieved from Google articles, books, dissertations, presentations, and any other published items. Citations to these items, which are processed for calculating the individuals’ h-index, are also collected from a wide variety of automatically identifiable sources. Evidence from the field of information science suggests that article downloads and captures (bookmarkings) increase Google Scholar Citations (25).

The lack of filtering poor quality and irrelevant items and the absence of an organized thesaurus for systematizing searches are the main limitations of Google Scholar. The platform is not protected from manipulations and citation boosting by uploading apparently fake citing sources on the Internet (26). It is also filled with articles from numerous ‘predatory’ journals, polluting science and damaging reputation of Google Scholar as a reliable source for evaluating research performance (27). At the same time, attempts have been made to introduce validation tools for improving the reliability of the Google Scholar Citations profiles (28).

**ResearchGate**

ResearchGate is one of the largest social networking sites for researchers with more than 4.5 million registered users (29). It was launched in 2008 as a multidisciplinary hub of researchers, a platform for sharing articles and interacting with potential collaborators, and a scholarly discussion forum.

To create the profile page, a researcher should have at least one publication, which is identifiable by the system, or an email account from a recognized institution. Other tools have also been introduced to create verifiable profiles. The ResearchGate profiles incorporate photographs, keywords of professional interests, links to published articles, and other scholarly items. The
users can follow publication activity of other registered researchers, send online messages, discuss research issues, and get notifications when their articles are viewed, downloaded, or cited.

The website’s functionality is similar to that of other profiling and social networking services, such as Academia.edu, Google Scholar, Facebook, and LinkedIn. However, ResearchGate is primarily designed for scholarly communication and data sharing between researchers, authors, and journal editors (30). It also stands out of numerous networking sites by archiving full-texts of pre-published and published items in line with the copyrights (31).

A study revealed that ResearchGate and Google Scholar cover almost the same scholarly items. However, early archiving of pre-published articles on ResearchGate increases their visibility and chances of getting cited (32). There is also evidence suggesting that readers who view articles on ResearchGate tend to cite them in their Scopus-indexed articles (33).

The platform tracks citations along with alternative metrics to calculate the ResearchGate Score, which is proved a reliable measure of individual research performance comparable to that of Scopus-based metrics (34).

Along with the advantages, ResearchGate has also limitations due to the lack of validation tools for preventing archiving of non-reviewed and ‘predatory’ items (32,35). Copyright violations are also common due to users’ lack of awareness of the publishers’ open archiving regulations. An analysis of randomly selected full-texts of 500 articles, which were posted on ResearchGate, demonstrated that only 108 (21.6%) of these items were from open access journals (36). The same study demonstrated that 201 (51.3%) of 392 non-open-access items were not eligible for posting on ResearchGate, and in most cases it was possible to avoid the copyright violations by repositing pre-published manuscripts instead of published PDF versions of articles. Finally, concerns have also been raised over the abuses of ResearchGate, leading to cyber-bulling and breaches of privacy (37).

Academia.edu
About 11 million users have accounts on Academia.edu (29). This website shares some features with ResearchGate (38). However, Academia.edu is more tailored to the academic needs. It generates personalized lists of recommended references for its users, saving time for related literature searches (39). Although Academia.edu is a multidisciplinary hub, one study found that linguists and sociologists keen to preferentially use this website for profiling in their field of professional interests (40). Based on an analysis of a sample of 31,216 articles, it was found that an article posted on Academia.edu attracts 69% more citations after 5 years than a comparable article not available online (41). Widely known limitations of this website are related to inappropriate use of its domain name (edu) and scarce tools for the quality scholarly communication.

ORCID
Researchers who wish to interact and cooperate with their colleagues worldwide, and especially those at early stages of their career, should correctly and consistently list their names in all publications. Creating a unique digital identifier is critically important for them and for authors with common, identical, and variably recorded names (42). Getting an ORCID identifier allows recording variably listed or common names under a unique digital link and overcoming the author name ambiguity.

Launched in 2012, the ORCID initiative is now the main multidisciplinary hub of researchers, authors, reviewers, mentors, and other academic contributors with permanent identifiers (43). The number of registered ORCID account holders has grown rapidly over the past 5 years and reached 3,742,608 (as of August 21, 2017). Many leading publishing houses, grant funding agencies, and libraries have endorsed this initiative and provided funding for its development (44).

The ORCID profiles can be filled with manually added or transferred from CrossRef, Scopus, ResearcherID (Web of Science), Europe PubMed Central, KoreaMed, and other online platforms records of published journal articles, book chapters, and dissertations. Unpublished scholarly works can also be presented on the users’ profiles to share preliminary research data. Additionally, the account holders can populate their ORCID profiles with links to their presentations, datasets, images, video files on Figshare, and automatically feed their integrated profiles on ScienceOpen for promoting research and attracting post-publication comments (45-47). Finally, scholars with Publons accounts acquire a peer review section on their ORCID profiles to fill it with exported information about verified reviewer assignments (48).

The list of keywords and biographical sketches at the ORCID interface can be edited by the account holders to highlight their scope of professional interests and main achievements, which are required for grant applications, academic promotions, and research collaborations. The ORCID platform has also tools to secure privacy of the users.

Despite its advantages in terms of openness, increased visibility for early career researchers and experts from developing countries, improved management of grant applications and journal submissions, there are some limitations of the system. Approximately 20% of the registered ORCID accounts are now inactive (49). Some of the scholarly works listed on the users’ profiles are poorly validated and apparently incorrect (44). Although enormous efforts have been made to cover a large number of researchers and contributors, roughly only 10% of the world’s researchers are currently represented on the ORCID platform, their distribution across countries is not proportional, and not all research funding agencies and academic institutions mandate opening and maintaining ORCID IDs (50). Concerns have also been raised over the eventual monopolization of the scholarly communication through the digital identifiers (49).
Publons

A more specialized approach to evaluating academic activities is offered by Publons, which is an increasingly reputable platform for peer reviewers. It was recently acquired by Clarivate Analytics, recognizing this platform as an essential tool for evaluating research performance (51). Publons also partners with the ScholarOne editorial management system to aid editors in evaluating potential reviewers (52).

This initiative was launched in 2013 to freely register and credit reviewer and editorial contributions, and rapidly became the only online platform for crediting reviewers and allowing them to claim publication activity by getting digital identifiers from CrossRef for the best reviewer comments (53).

Unique Publons identifiers are issued to all registered users, who may fill their profiles with photographs and biographic notes, list journals assigning them reviewer and editorial duties, integrate with their ORCID IDs and other academic profiles, and transfer their reviewer comments for open access with the publishers’ permission (54). Publons supports all models of peer review, ranging from double-blind to post-publication review, and is compliant with their users’ privacy requirements in terms of listing any reviewer and editorial assignments (55).

A recent study comparing research performance on Google Scholar and Publons demonstrated that the latter serves a unique purpose, allowing journal editors to pick the best reviewers for future services regardless of their author activities tracked by Google (56).

Publishers endorsing the initiative and allowing their reviewers to record related information on Publons increase not only the reviewers’ but also their own visibility. This is why some non-Anglophone publishers have also joined the initiative and encouraged their contributors to showcase their reviewer and editorial accomplishments on Publons (57).

DIFFERENCES IN THE USE OF SCHOLARLY PROFILES

For comprehensive evaluation of any individual research profile, no single bibliographic database or scholarly networking platform is currently sufficient. In fact, empiric analyses of information scientists’ profiles on Scopus, Web of Science, Google Scholar, ResearchGate, specialist databases, and social networking websites revealed that each of these services covered less than 50% of the authors’ publication activity (58).

An analysis of 6,132 profiles on Google Scholar, Academia.edu, ResearchGate, and Mendeley demonstrated that specialists in the Social Sciences and Humanities mostly rely on Academia.edu while biologists prefer ResearchGate for scholarly networking (59). A survey of 296 faculty members of one of the major New York research and academic institutions pointed to a surprisingly low awareness of the author identifiers among them (n = 95, 32%), with physicists, biologists, and health scientists being relatively better informed than other specialists and mathematicians, who were least informed (60). The surveyed faculty members mostly used ORCID IDs (n = 49, 15%), followed by Scopus author ID (n = 29, 9%), ResearcherID (n = 25, 7%), and arXiv ID (n = 20, 6%).

The use of online profiles differs substantially across countries. Scholars from Brazil and India are well represented on ResearchGate while their Chinese, Russian, and Korean colleagues rarely use this platform for showcasing their publication activity and interacting with potential collaborators (37,61).

Functionality and content coverage of scholarly networking and profiling websites also differ substantially. ResearchGate predominantly archives recent articles of the profile holders while historic papers remain poorly visible on this platform, and particularly in the Social Sciences, Arts and Humanities (62). A recent analysis of search, navigation, analytics, privacy, filtering, and other features of ResearchGate, Academia.edu, Mendeley, and Zotero proved that none of these services has advanced operational functions (63). The same study scored ‘above average’ and ranked first ResearchGate based on an analysis of its information retrieval and management functions.

PERSPECTIVES OF PROFILING INDIVIDUAL SCHOLARS

Online researcher and author profile is a recognized tool for self-promotion, scholarly networking, sharing publications, and making an impact (64,65). Global visibility of research output and availability of complementary platforms for aggregating massive volumes of scholarly items and tracking citations and alternative metrics add to the research management and ranking of scholars. Advanced searches through ResearchGate and Academia.edu are increasingly employed for systematic analyses of literature, and particularly in non-mainstream science countries (66-68).

Authors are now able to monitor daily interest of the global scientific community toward publications posted on their Google Scholar and ResearchGate profiles (69). Many other networking platforms are upgraded to accommodate digital profiles (resumes) for academic, research, or business purposes (70). All these developments suggest that profiling is there to stay.

Additionally, there are some national platforms, which are prioritized for profiling scholars in non-Anglophone countries (e.g., the Index Copernicus Scientists panel, the Science Index platform of the Russian Science Citation Index database). Although these websites promote publications of the account holders locally, their coverage and global visibility are still limited due to the language barrier and skewed impact metrics. The latter is a particularly big issue for the Index Copernicus database, which has been criticized for indexing numerous ‘preda-
New dimensions for profiling emerge to increase visibility and scholarly reputation of researchers at any stage of their career. The ScienceOpen platform with its unique model of profiling, open-access publishing, and post-publication commenting is a good example of the close relationship between online profiling and publishing (46). Kudos, a powerful toolkit for authors, is yet another innovative option for strengthening scholarly reputation and comprehensively measuring the impact of publications. This service is integrated with the Web of Science citation tracking and ScholarOne and Aries editorial management systems. Kudos allows sharing links to articles of the profile holders through social media and scholarly networks, thus increasing chances of their use (72). A recent study showed that authors discussing and sharing their articles via Kudos increase downloads of these items by 23% (73).

But advances in the digitization and social networking have also created challenges, which will prevail and grow in the coming years. Paradoxically, one of the pressing issues is the wide variety of online platforms offering diverse services for setting individual accounts. Not all researchers embrace the advantages of the available platforms and some of them question the quality and credibility of information provided on social networking channels (39). On the other hand, it is difficult for the individual researcher to discern the advantages and disadvantages of each platform, and continuing proliferation of such platforms is likely to make this problem even worse. There is a real risk that early career researchers aiming to enhance their profile and optimize their visibility may spend more time updating their profile in multiple networking platforms than continuing to be academically productive. Research and academic institutions, in turn, fail to incorporate relevant topics in the process of education and make online profiling mandatory. In the wake of proliferation of profiling platforms, ORCID is perhaps the only universal option which can become mandatory for early career researchers and senior scholars alike.

Research managers, journal editors, and publishers are in their position to make the use of reliable profiling platforms mandatory for ranking scholars. Given the preferential use of some websites for profiling authors in certain disciplines (e.g., PubMed for medicine, Academia.edu for social sciences and humanities), a combined approach can be viewed as an optimal solution (Table 2).

With the increasing use of various online tools for research, it is likely that new complementary profiling platforms will be offered and established ones will be upgraded to meet the growing needs of interdisciplinary research and scholarly publishing. It is much desirable to strengthen the complementarity ("cross-talk") of profiling platforms so that one could easily update, secure, validate, and populate each of them with information from a single source.

**DISCLOSURE**

The authors have no potential conflicts of interest to disclose. The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any institution.

**AUTHOR CONTRIBUTION**

Conceptualization: Gasparyan AY, Yessirkepov M, Endovitskiy DA, Kitas GD. Methodology: Gasparyan AY, Nurashev B, Yessirkepov M, Voronov AA. Writing - original draft: Gasparyan AY, Yessirkepov M, Kitas GD. Writing - review & editing: Gasparyan AY, Nurashev B, Yessirkepov M, Endovitskiy DA, Voronov AA, Kitas GD.

**ORCID**

Armen Yurik Gasparyan  https://orcid.org/0000-0001-8749-6018
Bekaidar Nurmashev  https://orcid.org/0000-0003-3949-2543
Marlen Yessirkepov  https://orcid.org/0000-0003-2511-6918
Dmitry A. Endovitskiy  https://orcid.org/0000-0002-0030-0252
Alexander A. Voronov  https://orcid.org/0000-0001-8505-7345
George D. Kitas  https://orcid.org/0000-0002-0828-6176

**Table 2. Features of an optimal researcher and author profile**

| Feature                                                                 |
|-------------------------------------------------------------------------|
| • Free, non-proprietary services compatible with the Open Access initiative |
| • Unique author identifiers                                              |
| • User photographs and video materials                                   |
| • Biographic notes, keywords, records of published items, peer reviewer activities, contributions at professional meetings, and other academic accomplishments |
| • Integration with multidisciplinary and specialist bibliographic databases |
| • Integration with social networking sites (Facebook, Twitter, LinkedIn) |
| • Archive of scholarly articles for Open Access                         |
| • Updates on citation-based and alternative metrics                     |
| • Validation tools for profiling, uploading quality articles, verifying copyrights, and filtering potentially damaging information |
| • Privacy tools for securing online profiling, commenting, and sharing messages |

*The authors have no potential conflicts of interest to disclose.*

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any institution.

**AUTHOR CONTRIBUTION**

Conceptualization: Gasparyan AY, Yessirkepov M, Endovitskiy DA, Kitas GD. Methodology: Gasparyan AY, Nurashev B, Yessirkepov M, Voronov AA. Writing - original draft: Gasparyan AY, Yessirkepov M, Kitas GD. Writing - review & editing: Gasparyan AY, Nurashev B, Yessirkepov M, Endovitskiy DA, Voronov AA, Kitas GD.

**ORCID**

Armen Yurik Gasparyan  https://orcid.org/0000-0001-8749-6018
Bekaidar Nurmashev  https://orcid.org/0000-0003-3949-2543
Marlen Yessirkepov  https://orcid.org/0000-0003-2511-6918
Dmitry A. Endovitskiy  https://orcid.org/0000-0002-0030-0252
Alexander A. Voronov  https://orcid.org/0000-0001-8505-7345
George D. Kitas  https://orcid.org/0000-0002-0828-6176
REFERENCES

1. Bornmann L. Measuring impact in research evaluations: a thorough discussion of methods for effects of and problems with impact measurements. *High Educ* 2017; 73: 775-87.

2. Galdino GM, Gotway M. The digital curriculum vitae. *J Am Coll Radiol* 2005; 2: 183-8.

3. Danesh F, Fattahi R, Dayani MH. Stratification of Iranian LIS academics in terms of visibility, effectiveness and scientific and professional performance: research report part 1. *J Librariansh Inf Sci* 2017; 49: 191-8.

4. Paiva CE, Araujo RL, Paiva BS, de Pádua Souza C, Cárcano FM, Costa MM, Serrano SV, Lima JP. What are the personal and professional characteristics that distinguish the researchers who publish in high- and low-impact journals? A multi-national web-based survey. *Ecanermedicalscience* 2017; 11: 718.

5. Pylarinou S, Kapidakis S. Tracking scholarly publishing of hospitals using MEDLINE, Scopus, WoS and Google Scholar. *J Hosp Librariansh* 2017; 17: 209-16.

6. Gao J, Zhou T. Retractions: stamp out fake peer review. *Nature* 2017; 546: 33.

7. Traill CL, Januszewski AS, Larkins RG, Keech AC, Jenkins AJ. Time to research Australian female physician-researchers. *Intern Med J* 2016; 46: 412-9.

8. Scopus.com. PluMx metrics [Internet]. Available at https://blog.scopus.com/topics/plumx-metrics [accessed on 31 August 2017].

9. Peters I, Kraker P, Lex E, Gumpenberger C, Gorraiz J. Research data explored: an extended analysis of citations and altmetrics. *Scientometrics* 2016; 107: 723-44.

10. Champieux R, PluMx. *J Med Libr Assoc* 2015; 103: 63-4.

11. Kotsemir M, Shashnov S. Measuring, analysis and visualization of research capacity of university at the level of departments and staff members. *Scientometrics* 2017; 112: 1659-89.

12. Glänzel W, Hedecker S, Tsibs B. A triangular model for publication and citation statistics of individual authors. *Scientometrics* 2016; 107: 857-72.

13. Clarivate Analytics. ResearcherID [Internet]. Available at http://wokinfo.com/researcherid/ [accessed on 31 August 2017].

14. Mikki S, Zygmuntowska M, Gjesdal OL, Al Ravheby HA. Digital presence of norwegian scholars on academic network sites—where and who are they? *PLoS One* 2015; 10: e0142709.

15. Wagner AB. Tips from the experts: author identification systems. *Issue Sci Technol Librariansh* 2009; 59: F40K26HX.

16. Beall J. Is it time to retire researcherID? [Internet]. Available at http://www.emeraldcityjournal.com/2016/12/is-it-time-to-retire-researcherid/ [accessed on 31 August 2017].

17. Gasparian AY, Ayazyan L, Kitas GD. Multidisciplinary bibliographic databases. *J Korean Med Sci* 2013; 28: 1270-5.

18. Lu Z. PubMed and beyond: a survey of web tools for searching biomedical literature. *Database (Oxford)* 2011; 2011: 1: baq036.

19. Johnson SB, Bales ME, Dine D, Bakken S, Albert PJ, Weng C. Automatic generation of investigator bibliographies for institutional research networking systems. *J Biomed Inform* 2014; 51: 8-14.

20. Andrade-Navarro MA, Pulidhv G, Perez-Irattxeta C. Peer2ref: a peer-reviewer finding web tool that uses author disambiguation. *BioData Min* 2012; 5: 14.

21. ORCID. Link works to your ORCID record from another system [Internet]. Available at https://support.orcid.org/knowledgebase/articles/188278-link-works-to-your-orcid-record-from-another-syste [accessed on 31 August 2017].

22. National Center for Biotechnology Information (US). SciE exig: science experts network curriculum vitae [Internet]. Available at https://www.ncbi.nlm.nih.gov/scinev [accessed on 31 August 2017].

23. Vrablé M. Online registries for researchers: using ORCID and SciE exig. *Clin J Oncol Nurs* 2016; 20: 667-8.

24. Davis P. Gaming Google Scholar citations, made simple and easy [Internet]. Available at https://scholarlykitchen.sspnet.org/2012/12/12/gam-ing-google-scholar-citations-made-simple-and-easy/ [accessed on 31 August 2017].

25. Naudé F. Comparing downloads, mendeleys readership and Google Scholar citations as indicators of article performance. *Electron J Inf Syst Dev Ctries* 2017; 78: 1-25.

26. López-Cózar ED, Robinson-García N, Torres-Salinas D. The Google Scholar experiment: how to index false papers and manipulate bibliometric indicators. *J Assoc Inf Sci Technol* 2014; 65: 446-54.

27. Beall J. Google Scholar is filled with junk science [Internet]. Available at http://www.emeraldcityjournal.com/2014/11/google-scholar-is-filled-with-junk-science/ [accessed on 31 August 2017].

28. Mingers J, Meyer M. Normalizing Google Scholar data for use in research evaluation. *Scientometrics* 2017;112: 1111-21.

29. Van Noorden R. Online collaboration: scientists and the social network. *Nature* 2014; 512: 126-9.

30. Citrome L. My two favourite professional social networking sites: LinkedIn and ResearchGate - how they can help you, or hurt you. *Int J Clin Pract* 2015; 69: 623-4.

31. Jamalí HR, Nabavi M. Open access and sources of full-text articles in Google Scholar in different subject fields. *Scientometrics* 2015; 105: 1635-51.

32. Thelwall M, Kousha K. ResearchGate versus Google Scholar: which finds more early citations? *Scientometrics* 2017; 112: 1125-31.

33. Batooli Z Ruvandi SN, Bidgoli MS. Evaluation of scientific outputs of Kashmir University of Medical Sciences in Scopus Citation Database based on Scopus, ResearchGate, and Mendeley Scientometric Measures. *Electron Physician* 2016; 8: 2048-56.

34. Yu MC, Wu YC, Alhalabi W, Kao HY, Wu WH. ResearchGate: an effective altmetric indicator for active researchers? *Comput Human Behav* 2016; 55: 1001-6.

35. Memon AR. ResearchGate is no longer reliable: leniency towards ghost journals may decrease its impact on the scientific community. *J Pak Med Assoc* 2016; 66: 1643-7.

36. Jamalí HR. Copyright compliance and infringement in ResearchGate full-text journal articles. *Scientometrics* 2017; 112: 241-54.

37. Madhusudhan M. Use of social networking sites by research scholars of the University of Delhi: a study. *Int Inf Libr Rev* 2012; 44: 100-13.

38. Ovadia S. ResearchGate and Academia.edu: academic social networks. *Behav Soc Sci Librar* 2014; 33: 165-9.

39. Williams AE, Woodacre MA. The possibilities and perils of academic social networking sites. *Adv Librariansh Inf Sci Technol* 2014; 39: 185-214.

40. Megwalu A. Academic social networking: a case study on users' information behavior. *Adv Librariansh Inf Sci Technol* 2013; 39: 185-214.

41. Niyazov Y, Vogel C, Price R, Lund B, Judd D, Akel A, Mortonson M, Schwartzman J, Shron M. Open access meets discoverability: citations to articles posted to Academia.edu. *PLoS One* 2016; 11: e0148257.
42. Gasparyan AY, Yessirkepov M, Gerasimov AN, Kostyukova EI, Kitas GD. Scientific author names: errors, corrections, and identity profiles. *Biochem Med (Zagreb)* 2016; 26: 169-73.

43. 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: 1453-6.

44. Schiermeier Q. Research profiles: a tag of one's own. *Nature* 2015; 526: 281-3.

45. 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: 679-80.

46. Allen L, Dawson S. Scholarly publishing for the network generation. *Insights* 2015; 28: 57-61.

47. ScienceOpen, Inc (US). What is public post-publication peer review? [Internet]. Available at http://about.scienceopen.com/what-is-post-publication-peer-review/ [accessed on 31 August 2017].

48. Johnston D. Publons partners with ORCID to give more credit for peer review [Internet]. Available at https://orcid.org/blog/2015/10/12/publons-partners-orcid-give-more-credit-peer-review [accessed on 31 August 2017].

49. Arunachalam S, Madhan M. Adopting ORCID as a unique identifier will benefit all involved in scholarly communication. *Nat Med J India* 2016; 29: 227-34.

50. Behannon J, Doran K. Introducing ORCID. *Science* 2017; 356: 691-2.

51. Preston A. Publons joins Clarivate Analytics: the future of peer review [Internet]. Available at https://publons.com/blog/publons-joins-clarivate-analytics/ [accessed on 31 August 2017].

52. Culley T. Publons and ScholarOne to streamline reviewer recognition [Internet]. Available at https://publons.com/blog/scholarone/ [accessed on 31 August 2017].

53. Gasparyan AY, Gerasimov AN, Voronov AA, Kitas GD. Rewarding peer reviewers: maintaining the integrity of science communication. *J Korean Med Sci* 2015; 30: 360-4.

54. Rajpert-De Meyts E, Losito S, Carrell DT. Rewarding peer-review work: the Publons initiative. *Andrology* 2016; 4: 985-6.

55. Schnidtiz D, Slaughter MS. Announcing Publons to enhance reviewer experience. *ASAIO J* 2017; 63: 233.

56. Ortega JL. Are peer-review activities related to reviewer bibliometric performance? A scientometric analysis of Publons. *Scientometrics* 2017; 112: 947-62.

57. Culley T. Media Sphera to recognise reviewers [Internet]. Available at: //publons.com/blog/mediasphera-partner/ [accessed on 31 August 2017].