KAZAN (VOLGA REGION) FEDERAL UNIVERSITY
Institute of Fundamental Medicine and Biology
Department of Genetics

I.G. STAROSTINA, K.V. KITAYEVA, I.R. NIGMETZYANOV,
I.I. ZADORINA, A.R. KAYUMOV

SCIENTIFIC SOCIAL NETWORKS RESEARCHGATE AND ACADEMIA

Educational-methodical manual on discipline
«Work with information resources
and information security»

KAZAN
2024

UDC 004.9
BBK 28.0
S76

Printed on the recommendation of the Educational and Methodological Commission of the Institute of Fundamental Medicine and Biology of KFU (Protocol № 1 Dated August 29th 2024).

Reviewers:
PhD, associate prof. **Trizna E.J.**
Department of genetics
IFMB KFU

Starostina I.G.
S76 **Scientific social networks ResearchGate and Academia**: teaching manual / I.G. Starostina, K.V. Kitaeva, I.R. Nigmetzyanov, I.I. Zadorina, A.R. Kayumov – Kazan Federal University, 2024. – 30 p.

The tutorial presents the basic properties and concept of working with scientific social networks ResearchGate and Academia, necessary for optimizing the search of biological and medical scientific sources, sharing professional experience and searching for collaborations worldwide. It is recommended for studying the discipline: B1.V.01 "Work with information resources and information security" of medical specialties, as well as in the preparation of course work on specialty, research work and graduate qualification work of medical and biological fields.

UDC 004.9
BBK 28.0

CONTENTS

INTRODUCTION

Modern academic research and publishing is defined by the large number of journals, the rapid pace of publication and the competitive nature of the funding process. These factors, combined with the ubiquity of communication through social media platforms in academia, have led to the need for new platforms for scientists and researchers to collaborate, publish, share, and quantify the impact of their published work. As medical libraries are an integral part of the research and scholarly communication process, the popularity of these new platforms requires a basic familiarity with their capabilities. ResearchGate and Academia.edu are two professional scientific social networks for academics and researchers.

ResearchGate was founded in 2008 by virologist Ijad Madisch, who remains CEO to this day, along with physician Søren Hofmeyer and computer scientist Horst Fickenscher. The company was founded in Boston, Massachusetts, and soon moved to Berlin, Germany. Academia.edu was founded by Richard Price, a PhD candidate at Oxford University, in 2008. Both platforms are platforms for the exchange of academic research that is uploaded and shared by researchers from around the world.

Along with academic platforms such as Mendeley, Elsevier, ResearchGate and Academia are two of the most popular academic social media platforms. At their core, both platforms are similar in that they are academic social sites designed to showcase the work of researchers and allow others to upload their work. Both networks are for-profit organizations, so they are similar in terms of the use of advertising jobs etc. However, a number of differences are also present. Academia.edu offers a paid premium option, while everything is free on the ResearchGate network. On Academia.edu, authors mostly have to upload their own publications/materials without prompting, while ResearchGate basically invites authors from its database to claim authorship and upload materials. The very registration of an account in ResearchGate should be done through the email address of the educational institution (e.g. email with KFU domain - @kpfu.ru). However, in case you are publishing or studying at an institution of higher education

but do not have an email address from the institution, your application to create an account will be manually reviewed by ResearchGate network staff. You will need to provide details of past and present affiliations of educational institutions, areas of research and publication, or a copy of your student ID card - preferably with supporting work contacts. All required information will need to be sent in your initial submission, or your request may be delayed or even rejected. In the Academia.edu network, users can register using either an institute email address or a personal email address. It should also be noted that the ResearchGate network includes specific elements such as job searching and creating conversations around projects (issues) of interest. The main indicators are present on both platforms: number of subscribers, number of views, number of reads/uploads (total number of views), number of co-authors, and percentage with other researchers.

CHAPTER 1. KEY FEATURES OF RESEARCHGATE

1.1 Creating an account on the ResearchGate platform

The main page of the scientific social network ResearchGate is presented in Figure 1. To start working with the resource, the user needs to register on the platform (upper right corner - "Join for free"), using his individual e-mail address issued to him by the educational institution. To complete the registration process, the user will need to confirm their account by clicking on the hyperlink sent by an automatic email to the specified e-mail. For each subsequent session of work with the resource it will be necessary to log in to your account (upper right corner - "Log in"). Only after the creation and activation of the account, the user will be able to get full access to all the options of working with this platform.

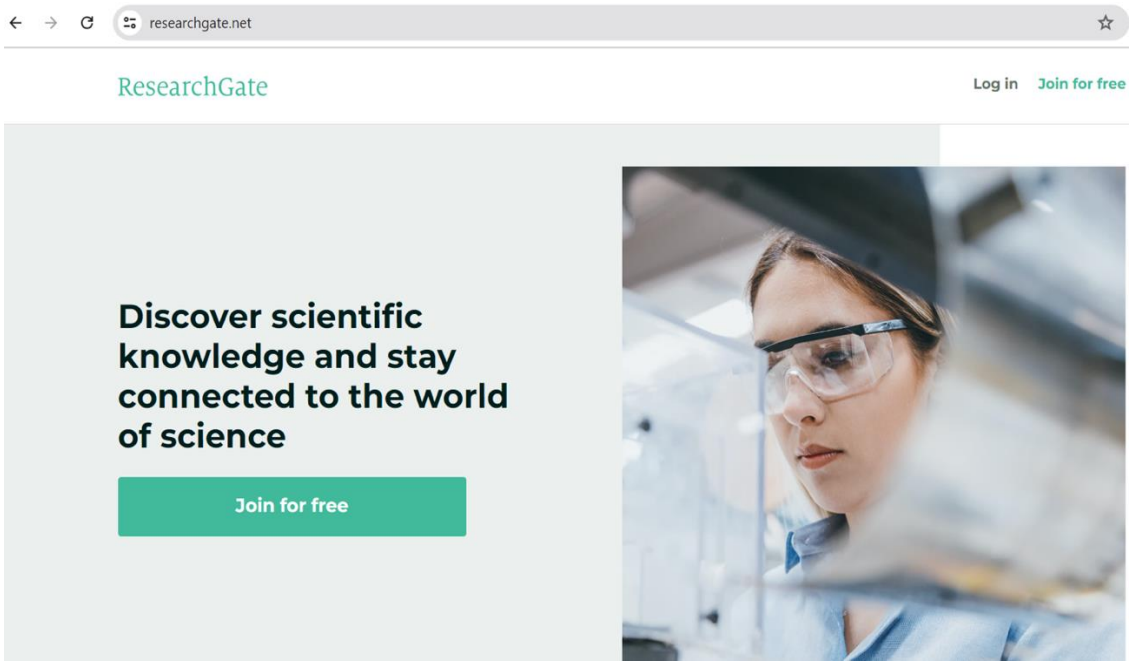

Fig. 1. ResearchGate main page

Let's take a closer look at the process of registering an account in the ResearchGate scientific social network. After clicking with the left mouse button on "Join for free" the user will have to select some parameters of his account and enter particular data about himself. Figure 2 demonstrates the main categories of users of the resource with deciphering of each of them, among which it is necessary to choose the most suitable category for oneself

(for students the category "Academic or student" is suitable). The next step is to fill in the data about your institution, which will be needed to quickly find the accounts of your colleagues with up-to-date information about their research and publications (Figure 3). Then the main registration fields are filled in: name, region, e-mail address issued by the institution, and a user-friendly password (Figure 4).

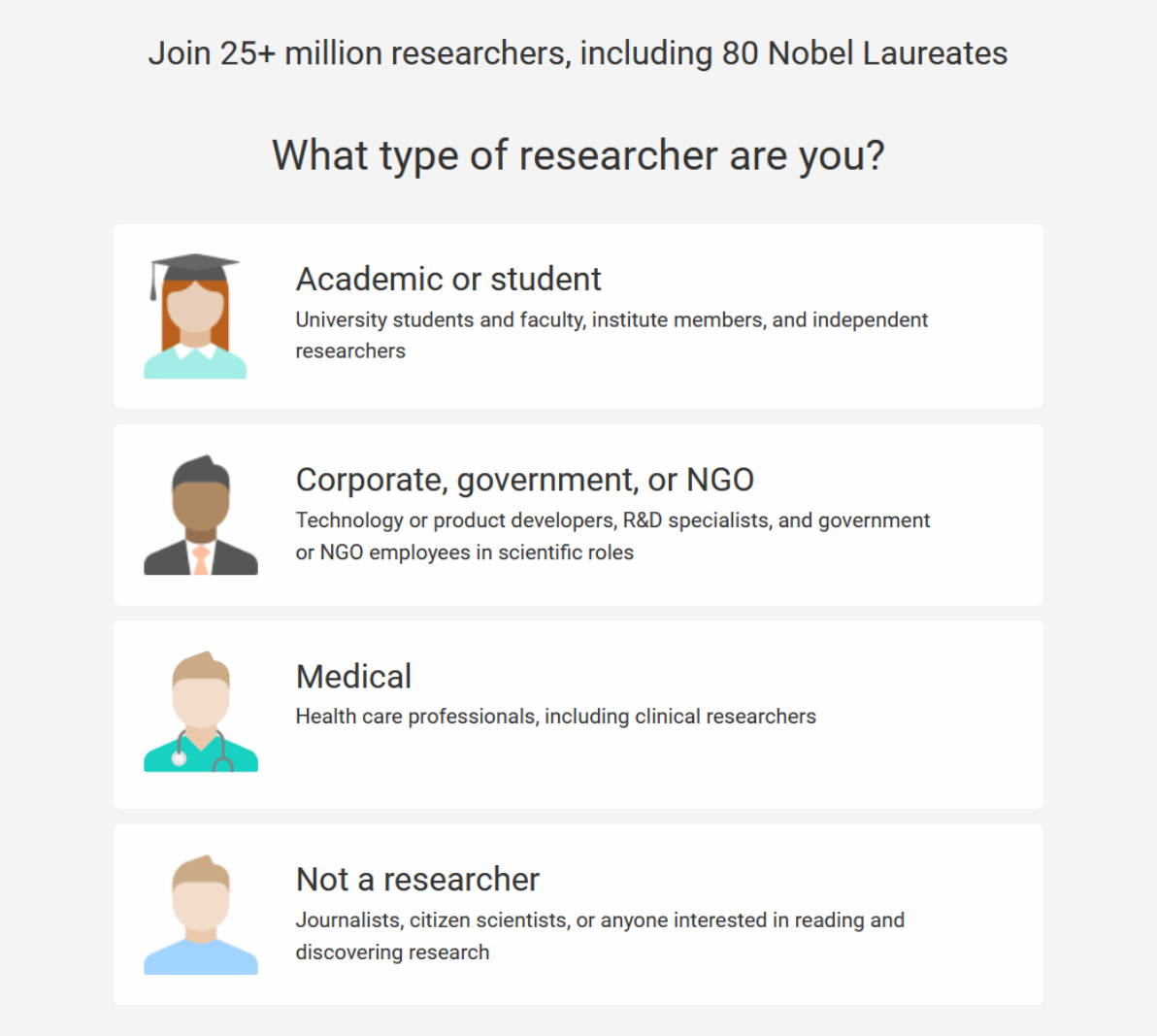

Fig. 2. Professional field selection of the registering user

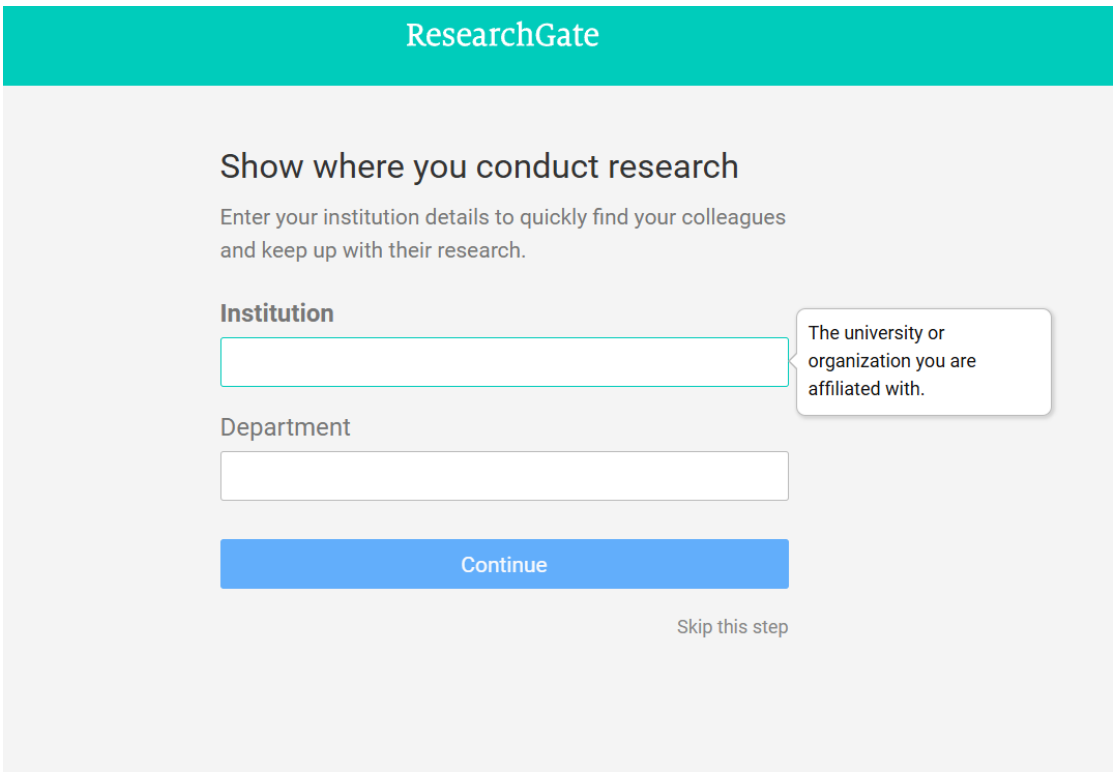

Fig. 3. Affiliation of the registrant when creating an account

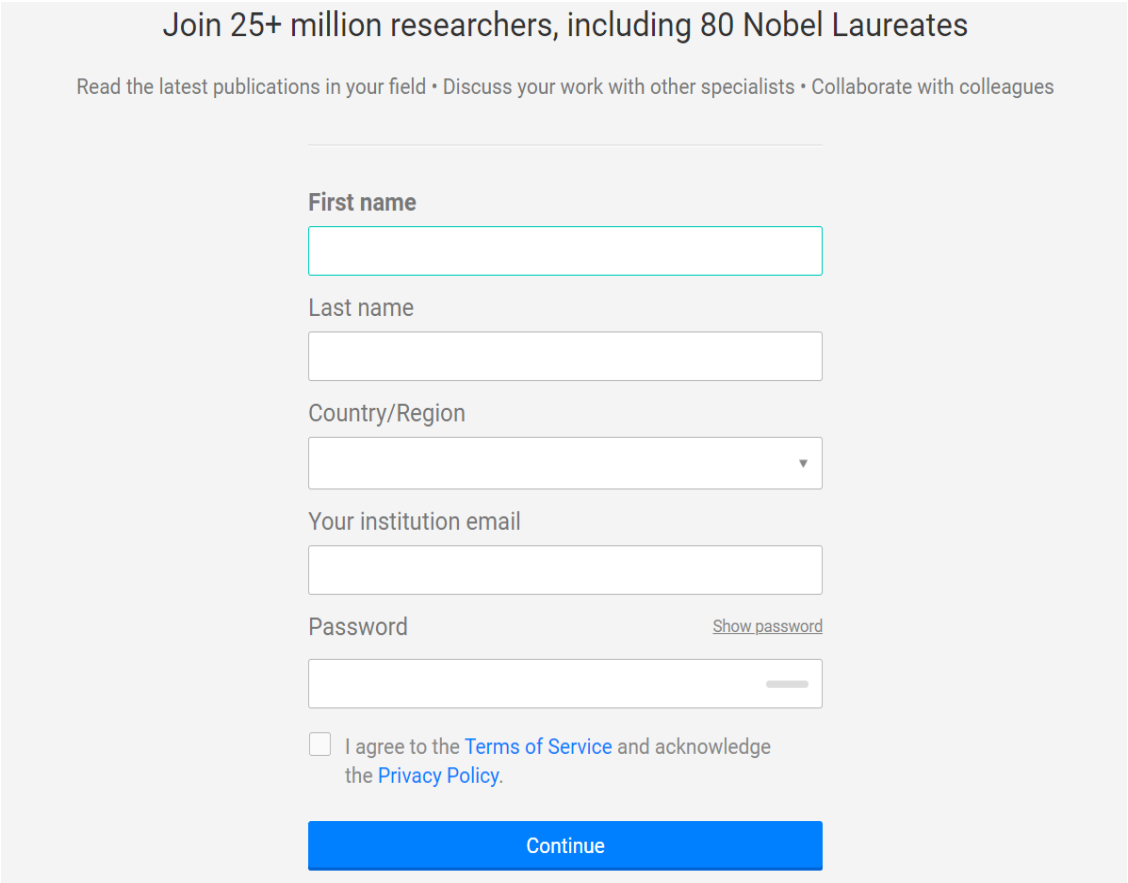

Fig. 4. Filling in the fields with the basic data of the registrant when creating the account

On subsequent pages, ResearchGate will match publications with your name and information, which you can confirm via "Author Match". During the first registration, you will be asked to confirm publications (if you already have any). Once you have created your profile, you will be able to find and add more publications. In the next steps you will need to select your area of research interests - main disciplines (up to three disciplines), add skills and work experience (if available) (Figure 5, Figure 6). If you do not have skills and work experience, you can skip filling out this page by selecting "Skip this step" in the bottom right corner and proceed to the next step.

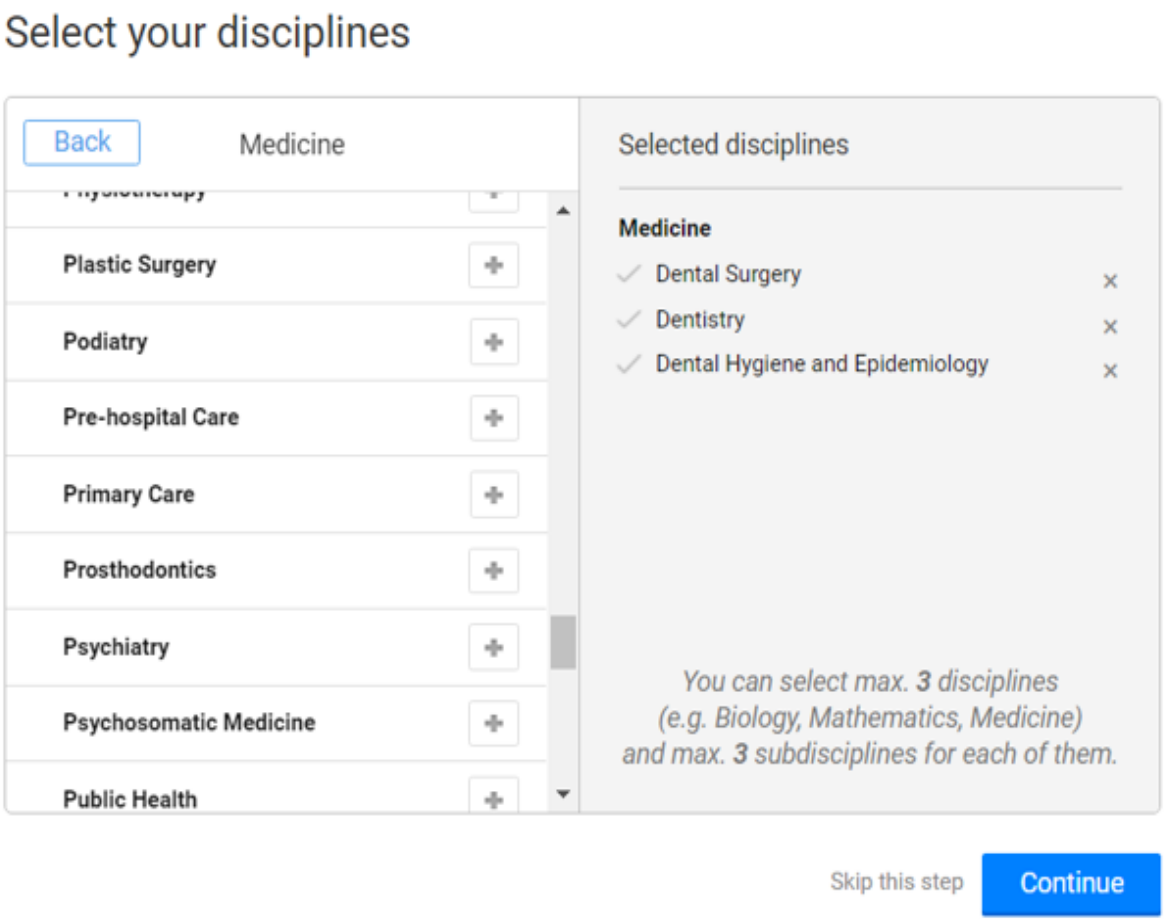

Fig. 5. Example of completing the page on one's research interests/field of activity using disciplines

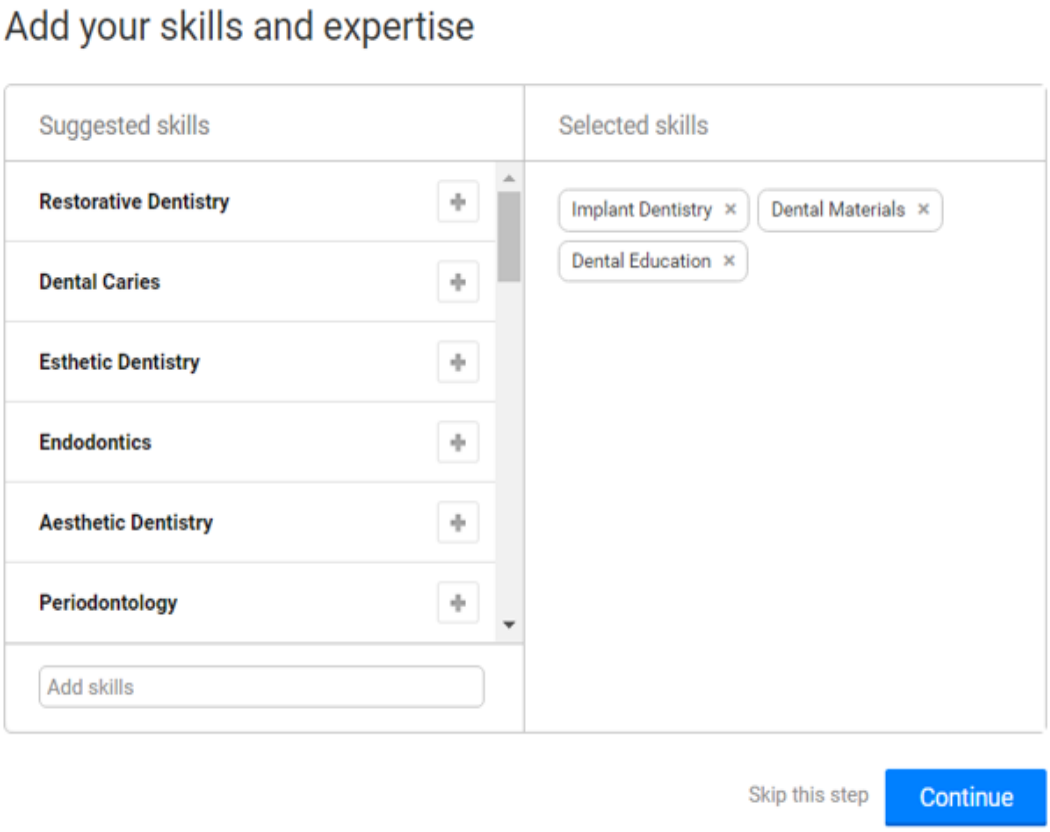

Fig. 6. Example of filling in the page with skills and work experience

Skills describe the experience, methods and techniques you use in your research and work, and help to identify experts in particular areas. Potential co-authors will be able to find you through your skills and they will also be used to recommend content relevant to your work, so it is important to keep your skills up to date. You can also endorse researchers in your network to recommend them to other users/potential collaborators interested in their skills and expertise.

After completing the above fields, you can also upload your photo, which will help you attract three times more attention to your profile.

To complete your account set up, you will need to click on the link in the activation e-mail you received sent to the e-mail address used during registration.

1.2 Managing your profile on the ResearchGate platform

After creating an account, you can complete your profile to start communicating with your colleagues and other researchers around the world. ResearchGate allows you to search your publications by title, author name, or unique DOI (Digital Object Identifier) publication number. You can add published and unpublished papers, presentations, preprints, abstracts, conference posters, tables, images associated with your research projects.

1) On the homepage in the top right corner, find the blue button "Add new". Select the appropriate option (Figure 7).

2) Select the type of publication you want to add (Figure 8).

3) Upload your personal documents to ResearchGate.

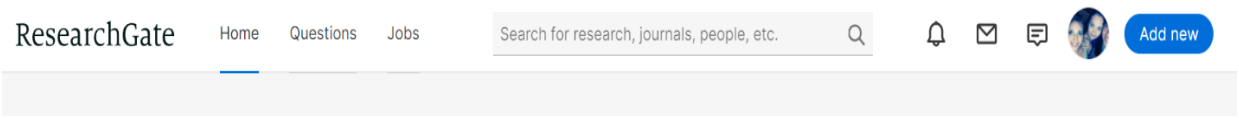

Fig. 7. Homepage menu. You can see the blue button on the right in order to add the required publications

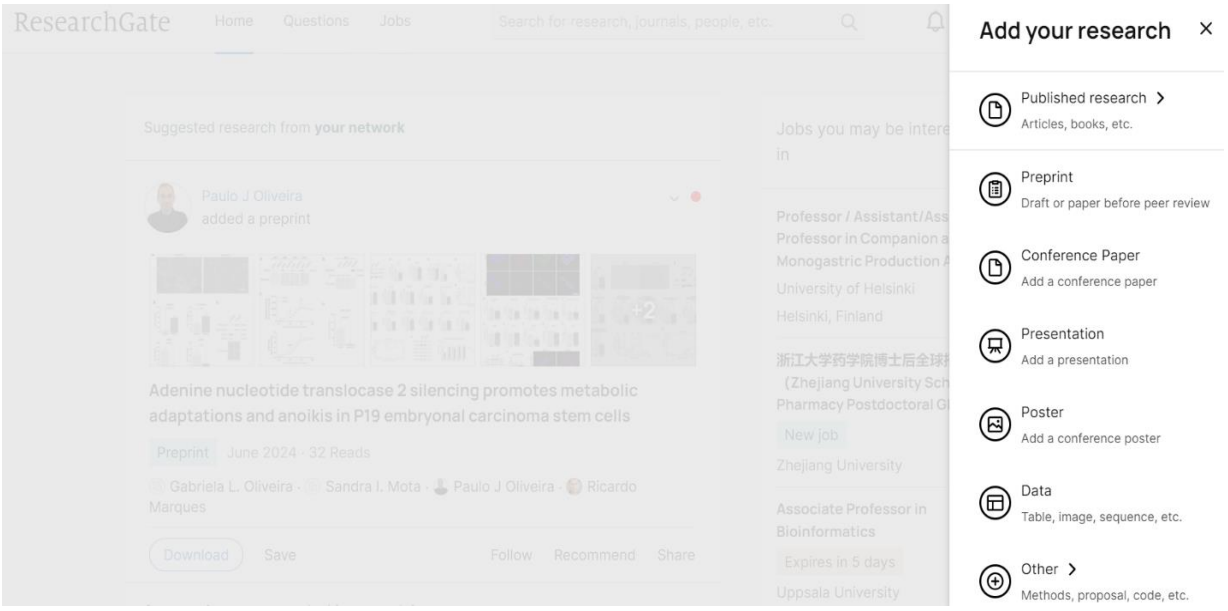

Fig. 8. Options for adding publications associated with your work

Please note, before uploading any publication, it is important to determine if you have the rights to publish the material, article. Often, when you publish an article with a traditional publisher, you give up your copyright.

This means that you may not have the rights to upload the publisher's version of your article. However, if you don't have copyright on your article, you probably have the right to share an unedited, unformatted version of the article.

The next step in setting up your profile is to add researchers, colleagues in your field, or just an author you are interested in. ResearchGate automatically builds a network for you based on who you have cited, who you subscribe to, and what discipline you chose when setting up your profile. Hence, the key to creating a high-quality, actively working account is to upload articles with citations for textual analysis, and to find and follow other researchers in your field. In the search bar at the top of the screen, enter the name of the desired researcher. The profile will appear in the dynamic search results, provided the user is registered on the website. As shown in Figure 9, already in the profile of the person you are looking for, you can explore their publications, co-authors, activity on the ResearchGate platform, skills, disciplines of interest, scientific metrics, you can contact the user, and you can subscribe to them to receive updates.

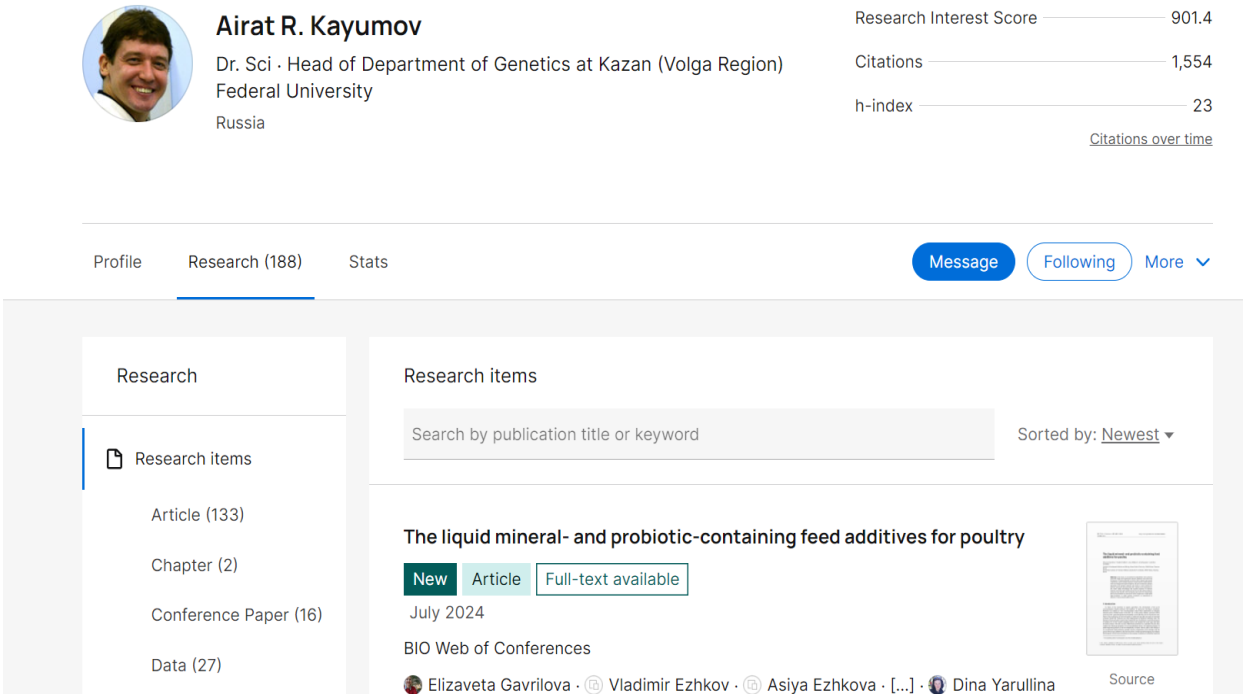

Fig. 9. Profile of a scientist registered in the ResearchGate network

ResearchGate platform analyses the text of publications you have uploaded to find out who you have cited. It also detects authors who cite you, takes into account your area of interest and the institution you specified when you registered. Using this information, you will automatically be suggested users and colleagues for further addition by you to your scholarly social network. In addition, based on your chosen disciplines, experience and skills, the ResearchGate homepage will suggest scientific journals, jobs and research to you (Figure 10).

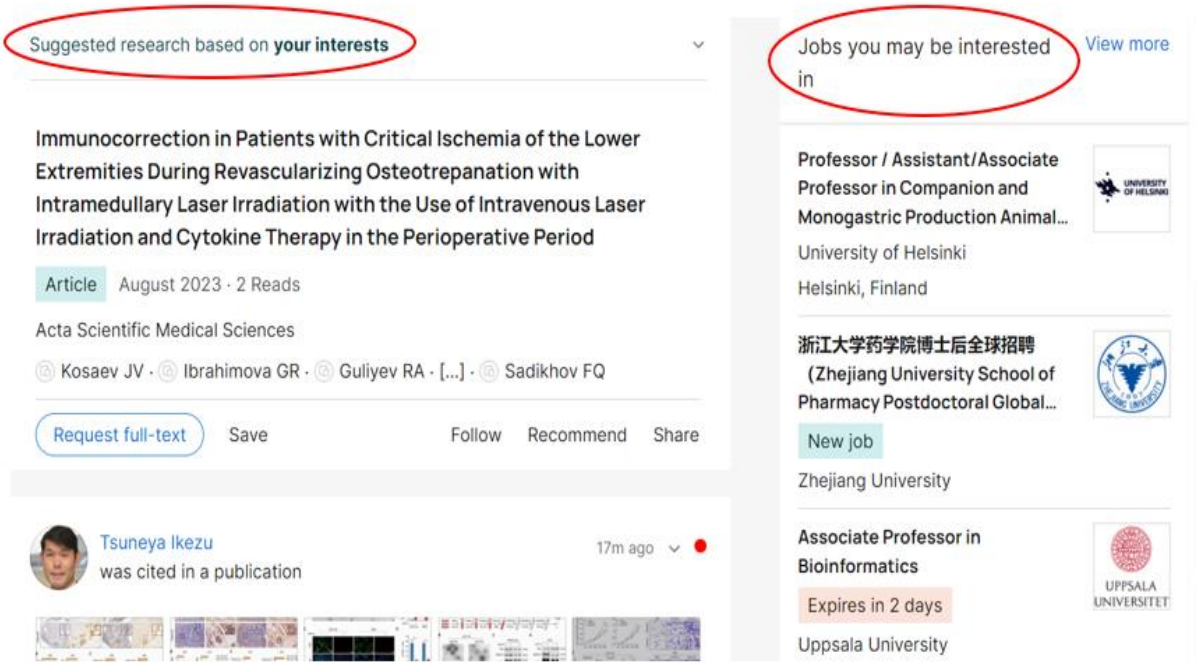

Fig. 10. Examples of vacancies and articles associated with the ResearchGate user's interests

Referring again to the possibility of adding publications to your profile, when filling in the output data, uploading the text of the publication is optional. However, if you are interested in a particular article by title or after reading the abstract, you can request the author directly to provide the full-text of the article (Figure 11). When you go to the publication page, you will see a blue "Request full-text" box. After requesting the full-text version of the publication, you can also write a message to the author of the article.

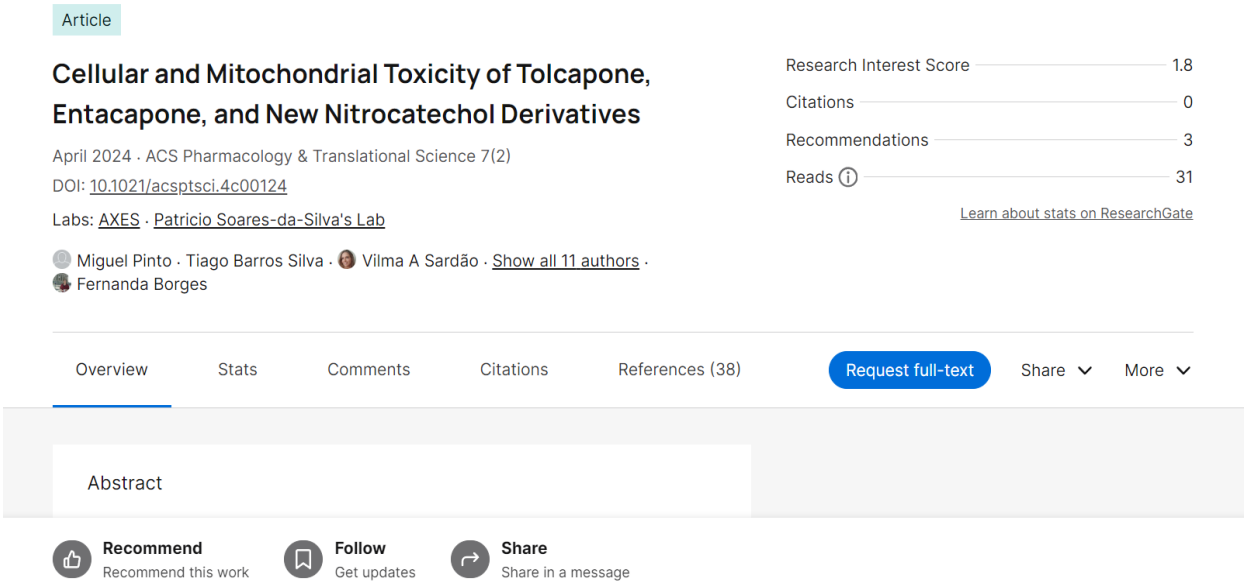

Fig. 11. Publication page for requesting the full text of the article of interest

1.3 Unique features and properties of the scientific social network ResearchGate

In order to facilitate collaboration and finding answers for users from the same field of work/study, the ResearchGate platform has created a Q&A feature where participants can ask or answer questions and have discussions in a research-focused environment. This unique option, a collaborative approach to problem solving, can help connect you with experts and also gives you a voice at any stage of your career. On the home page, you will see a "Questions" button at the top left of the screen, next to the search box. As shown in Figure 12, once you click this button, the next page will display alternate choices of question types and discussion items that have been asked in your discipline in recent weeks.

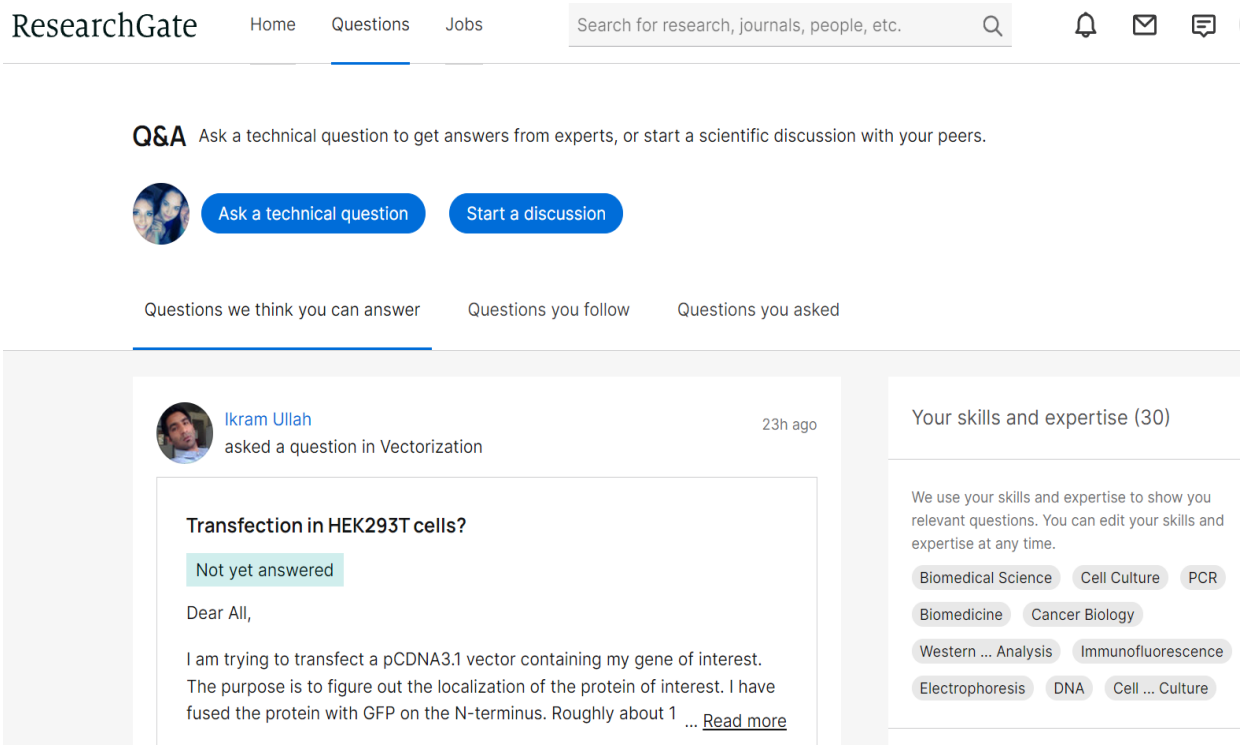

Fig. 12. The "Questions" section is active. Alternative question types and conversation starters associated with the ResearchGate user's area of expertise are presented

You can also request reviews of your work that are openly available to all users: this feature allows any ResearchGate scientific social network user in your field of expertise to give you a review – which is a useful mechanism

to engage other authors in reading your paper, which can be a great advertisement for your work.

The next element of ResearchGate is user statistics, which include measures of your activity, rating and engagement on the site: the more publications and subscribers you have, the more questions you ask and answer, the higher your rating rises. When you go to your profile page, you'll see a "Stats" button below your profile picture. Let's have a look at an example of a detailed distribution of statistics in Figures 13 and 14.

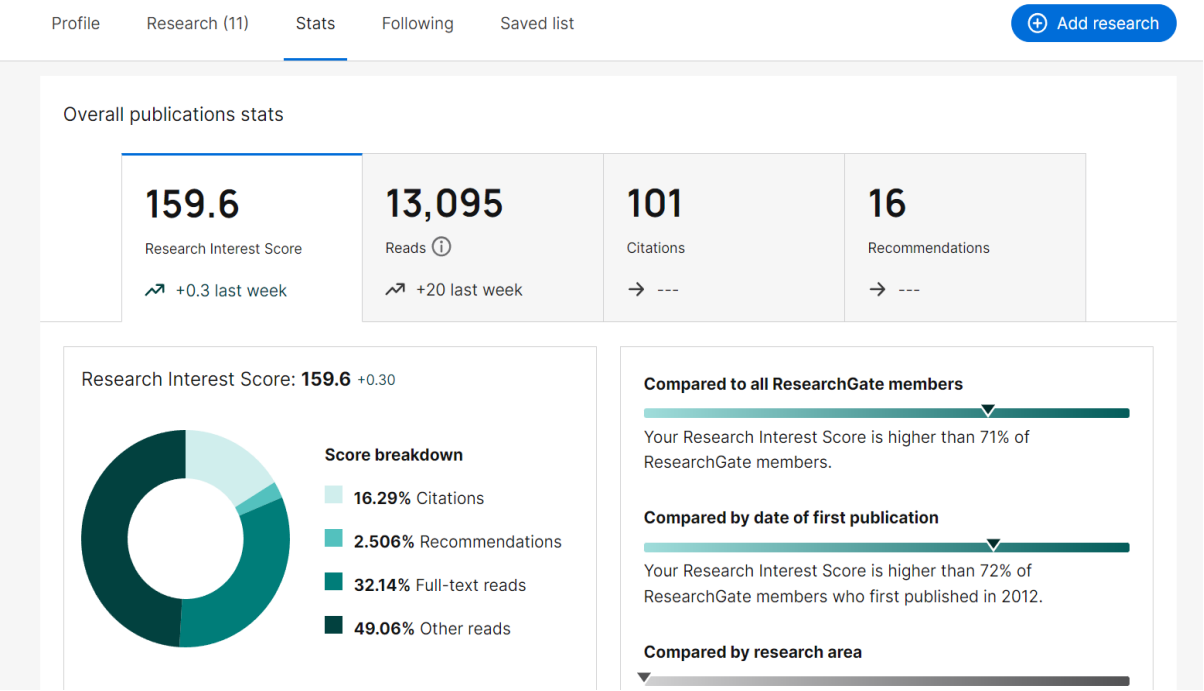

Fig. 13. The "Stats" section is active. General statistics on publications is presented

The overall statistics shows the research interest rate, number of views, number of citations and recommendations of your publications. All of these metrics are calculated exclusively on the ResearchGate platform.

The Research Interest Score (RI Score) is a convenient way to help you track the impact of your research in the scientific community. Each research item has a Research Interest Score based on a weighted calculation of weekly reads by unique ResearchGate members, recommendations on ResearchGate, and citations (excluding self-citations). The research interest score, as a holistic indicator of the impact of an author's research, is the sum

of the research interest scores for each research element (publications, presentations, etc.) in their profile.

ResearchGate also provides the percentage of your RI Score (Figure 13) according to the following criteria: comparison with all ResearchGate participants, comparison by date of first publication, and comparison by field of study.

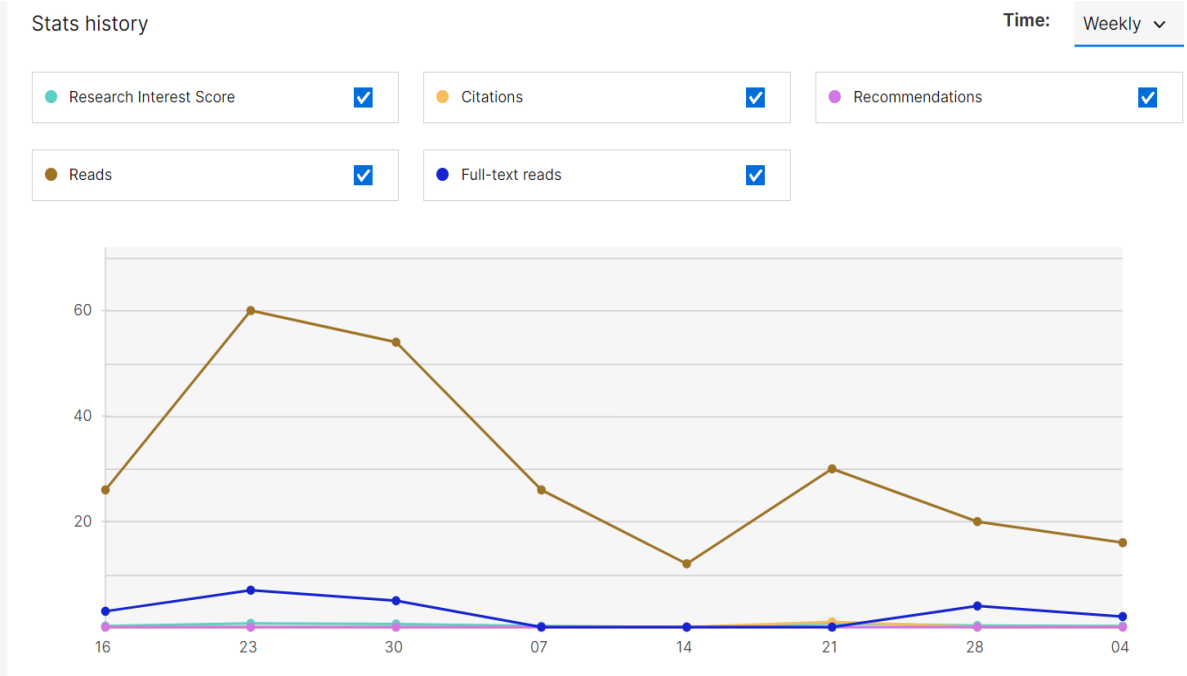

Fig. 14. The "Stats" section is active. Visualisation of the dynamics of the author's indicators for the last month and a half in the form of a diagram

Finally, let's have a look at the remaining unique ResearchGate tools. From the command line at the top of the website page, you can search not only for publications, ResearchGate users, and questions, but you can also search for Institutions, Journals, with links to the official journal sites and recommendations for authors to publish, and Jobs.

ResearchGate is the largest social network for scientists and researchers, designed to collaborate and share scientific knowledge worldwide. Among its many tools, the platform offers an international job board where researchers can find new jobs and training programs covering all scientific disciplines. The ResearchGate job board contains hundreds of positions in science and research, offering a complete job description detailing the key

qualities the ideal candidate should possess. Job searches can be filtered by keyword, position, field and country (Figure 15).

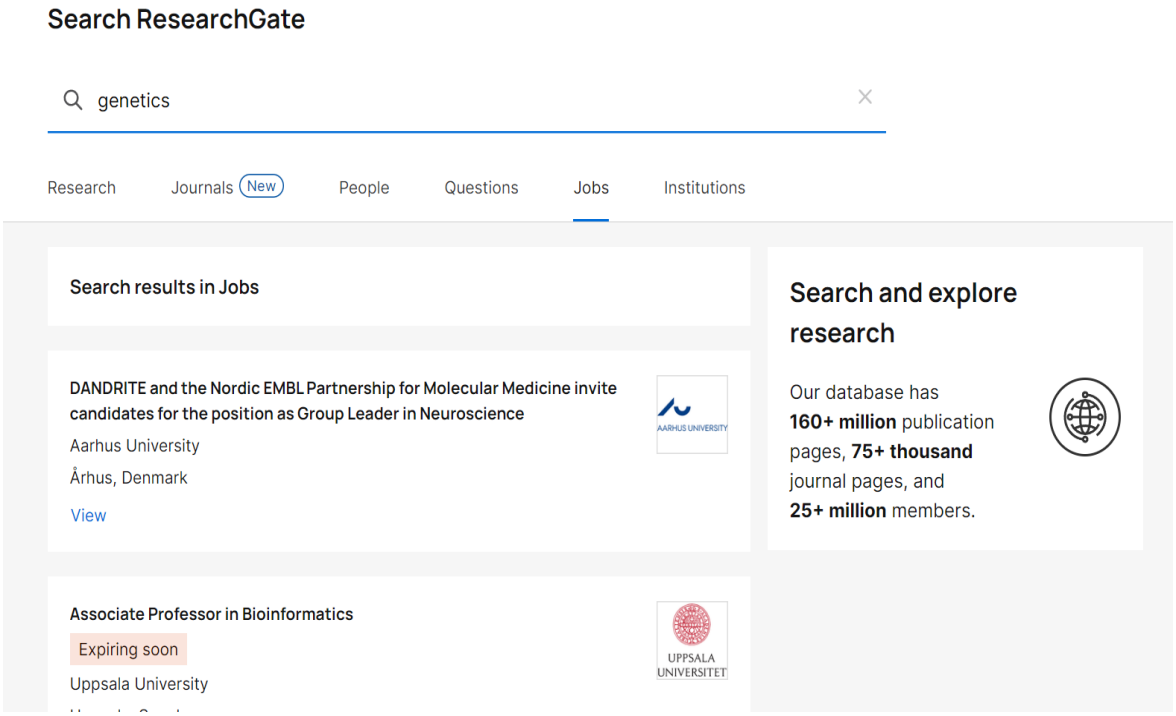

Fig. 15. The "Jobs " section is active. Example of searching for vacancies in genetics

CHAPTER 2. KEY FEATURES OF ACADEMIA

2.1 Creating an account on Academia.edu

The main page of the Academia.edu academic social network is shown in Figure 16. The first step to use the Academia.edu platform is for you to create an account. As has been mentioned earlier, on the Academia website you can either use your university email account, or you will be able to sign up through your personal Google email or using your Facebook profile.

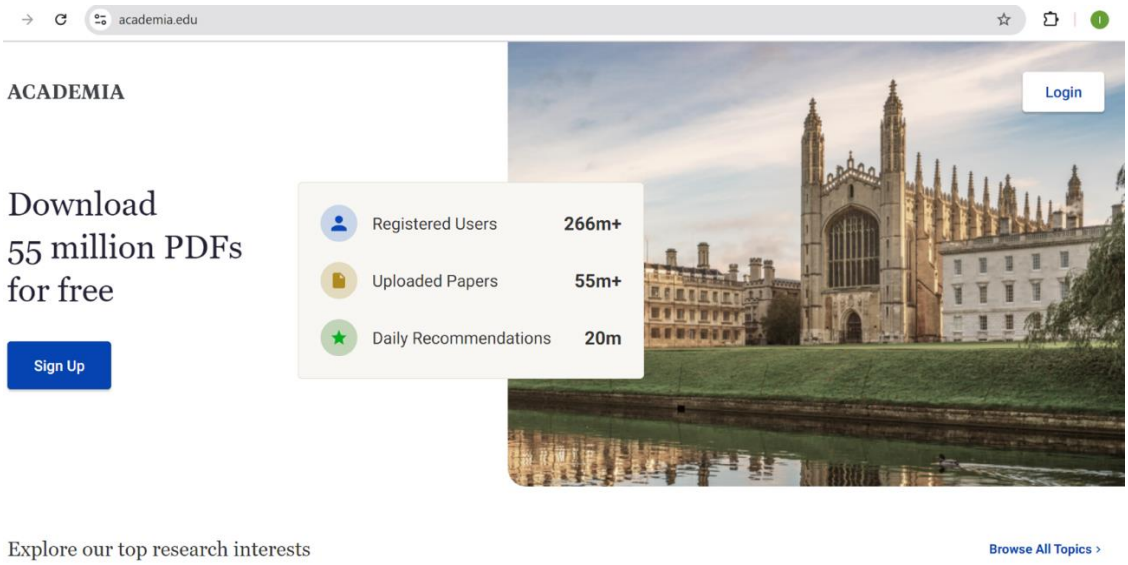

Fig. 16. Academia.edu homepage

The next step is for you to upload at least one or two pieces of work. Over time, the more content and publications you upload to your profile, the better. It is preferable to share a highly cited, relevant, strong article. In the absence thereof, a peer-reviewed article is always a good choice, as is a pre-print or presentation that is closely related to your most relevant research topic. However, just as with ResearchGate platform, be sure to determine your rights with the publisher to upload the article into Academia.edu. For example, the journal PLOS Biology may retain your copyright.

After verifying that you have a permission to publish your material, when you upload your file to Academia.edu, you will need to decide on the type of publication – review, book, article, thesis chapter, draft of an article, etc. In the top right corner of the homepage, you will see a white button with

a blue label "Upload your papers now" where you will be able to attach your research and fill in the publication details (Figures 17, 18, 19).

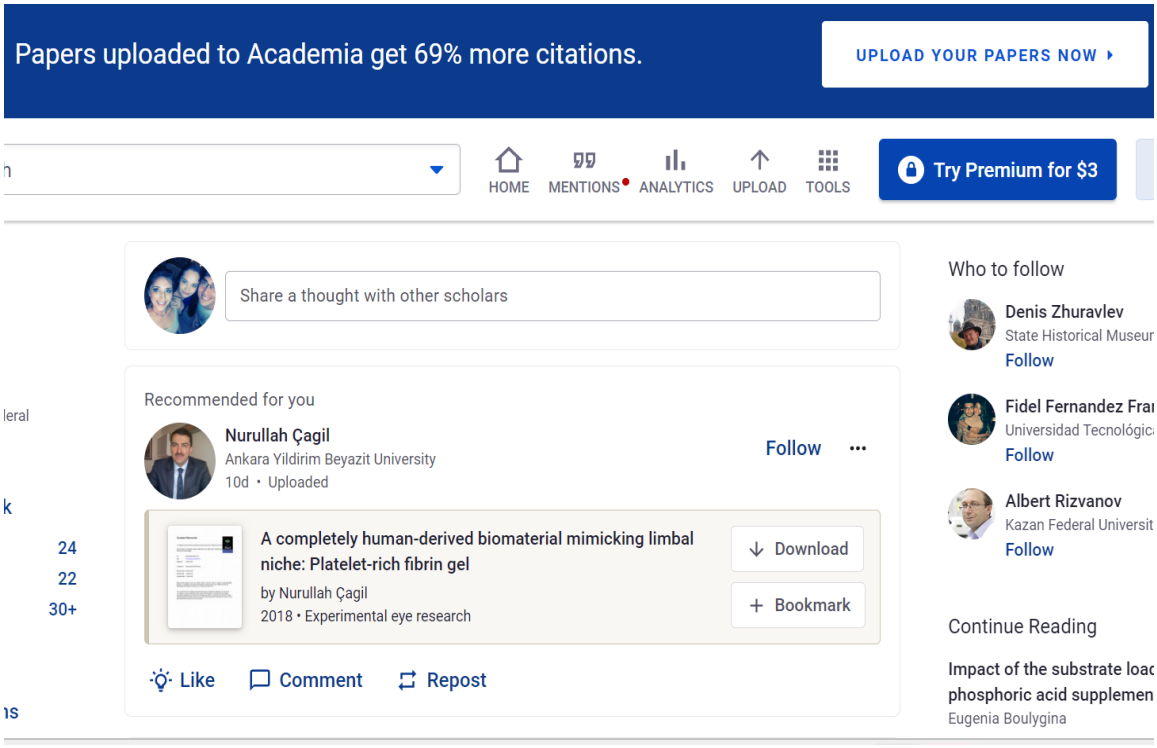

Fig. 17. Homepage of a registered Academia user

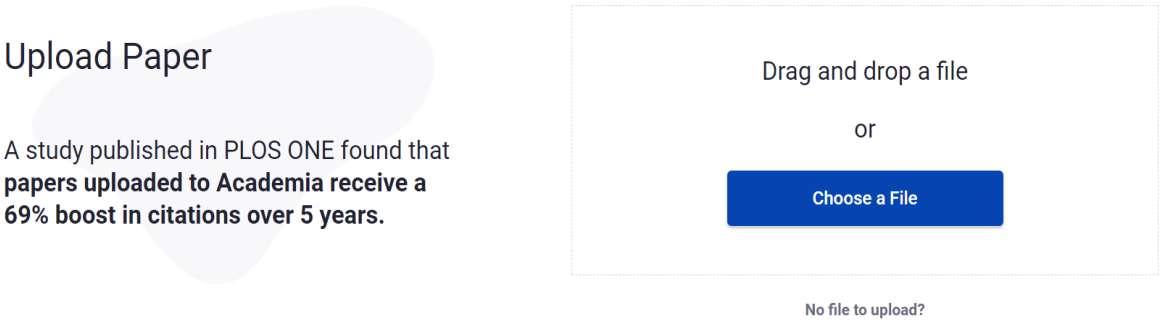

Fig. 18. Page for uploading a publication file

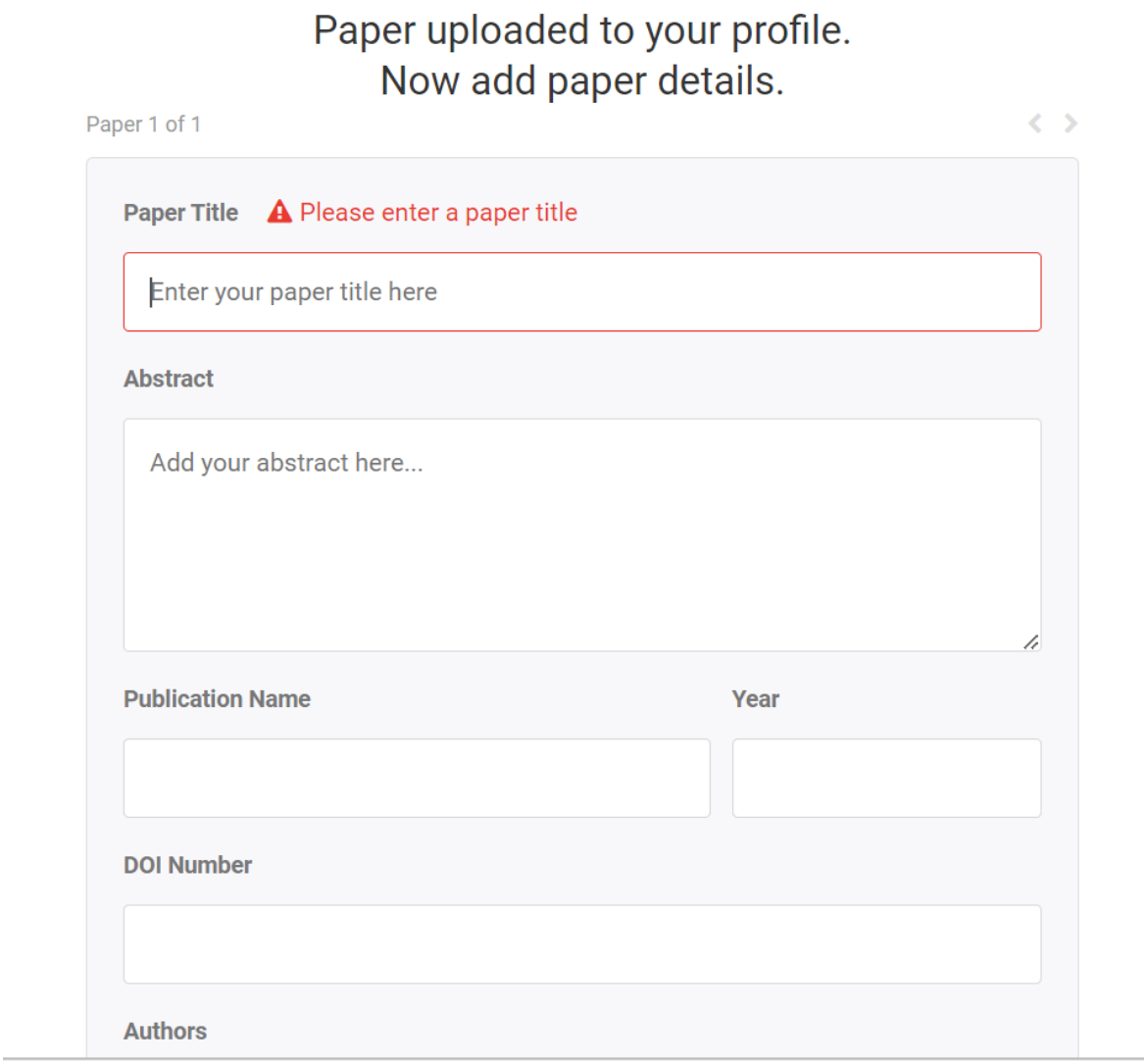

Fig. 19. Page for the output data of the uploaded publication filling in

Hereinafter, fill out your profile as accurately as possible. Insertion of an affiliation is important because it will add you to the Academia.edu subdomain and make the search of your colleagues easier to find. On the right side of your homepage, hover over your profile picture, navigate to your profile page, and then activate the "Edit" button. This will open a page to fully fill out your profile: upload your photo, fill in your affiliations, enter information about yourself, you can also specify your advisors and supervisors in your field, fill in your contact information, your research interests, enter your social networks and even attach your CV as a separate file (Figure 20). Don't forget to save the entered data by clicking the "Save edits" button.

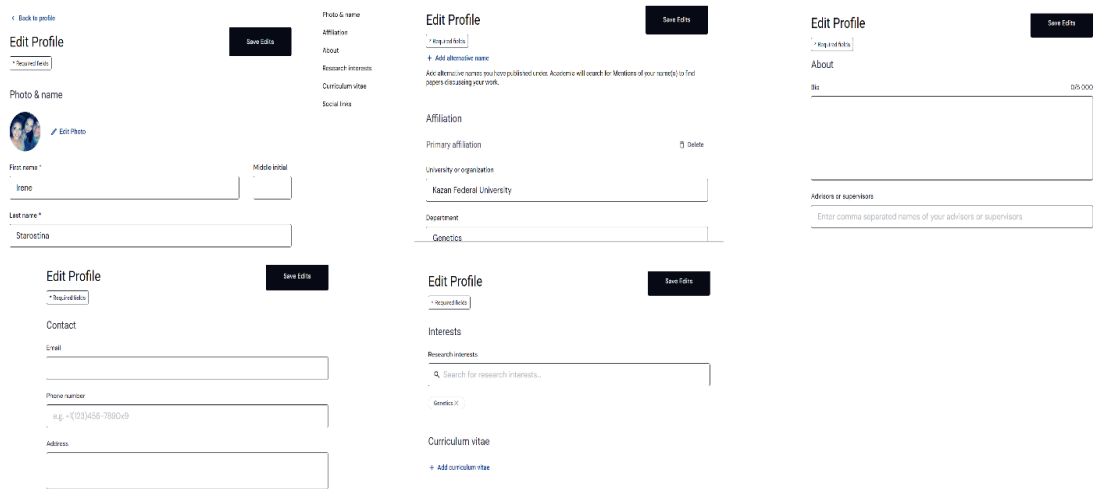

Fig. 20. Academia.edu user page for filling in your personal details

By all means add your research, scholarly interests. This field will help others find you and your work.

Subsequently, connect with colleagues in your area of interest who are already on Academia.edu. In your profile on the left side, Academia will suggest users associated with your completed profile information. You will be able to subscribe to them just as they subscribe to you. In addition, you can also simply search for your colleagues through the main search box.

Next, you can check your account analytics. Click on the Analytics tab at the top of the screen (Figure 21). Metrics will appear as you use Academia.edu over time. Just a few days after creating your profile, you can begin to see download and page view statistics for your profile and your publications, as well as other interesting information such as maps. All of this data can help you better understand how your work is being used by other researchers. Also, as with ResearchGate, Academia.edu statistics are only for content posted on Academia.edu, so they can't tell you much about readers or citations of your work posted on other platforms.

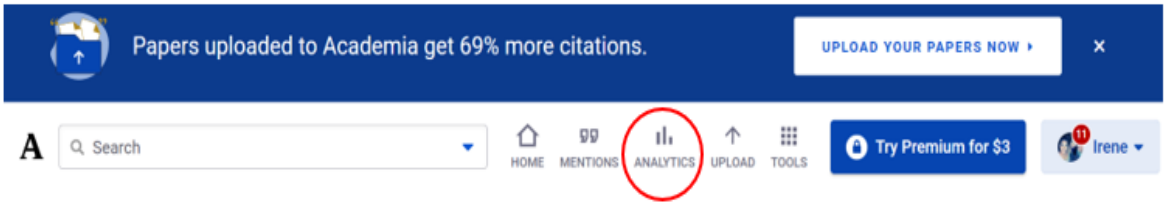

Fig. 21. The "Analytics" tab is highlighted in red

As was mentioned in the Introduction, the Academia.edu platform offers a free version and a paid subscription version. The free version of Academia.edu will allow you to create an account and upload research papers. The paid version (Figure 22) of Academia.edu ("Academia Premium") provides access to more research papers and other features not included in the free version. Discussion panels allow you to connect with and subscribe to other researchers in your field. Academia.edu results often appear high in Google search results, giving you the opportunity to further promote your research.

You can add a link of your Academia.edu profile to your ORCID (Open Researcher and Contributor ID).

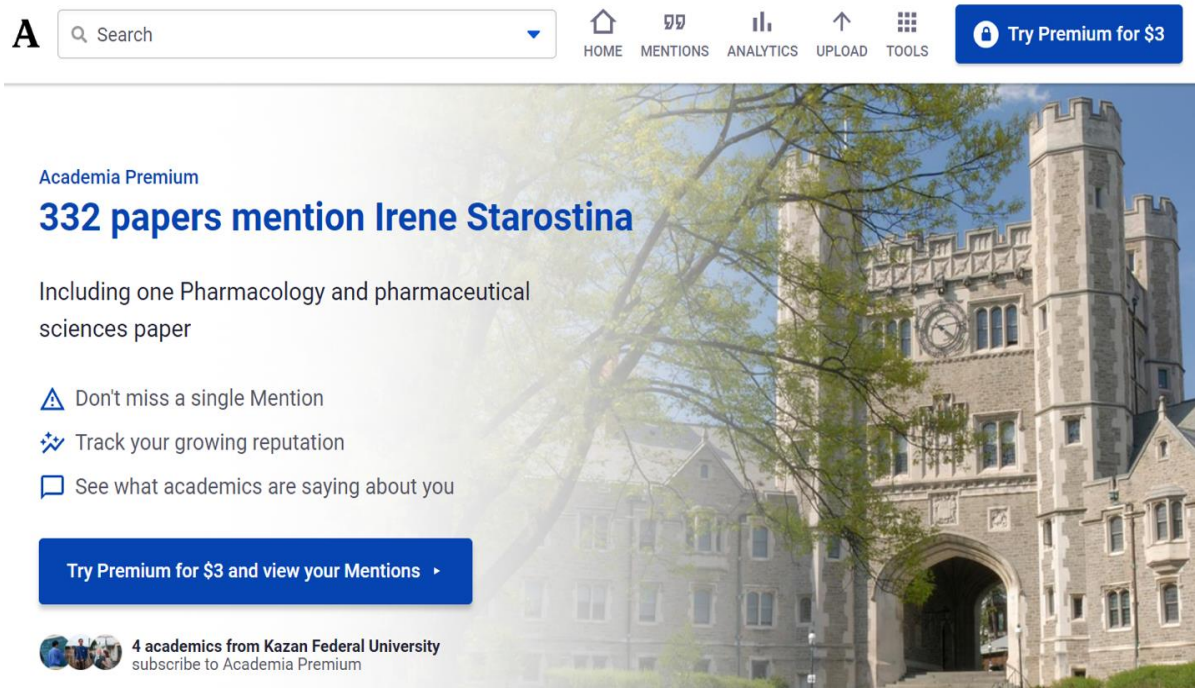

Fig. 22. Academia.edu's "Mentions" tool requires activation of a paid subscription to use it

CONCLUSIONS

Interactive social networks exist in a particular complex. Social networks such as Facebook, although used for a multitude of purposes, are most often used for informal communication between friends and acquaintances. The LinkedIn platform is used for professional networking and career networking. Academic social networks, on the other hand, are even more specific, providing solutions to the needs of those connected to academic institutions and specializing in academic activities such as sharing articles and datasets. They also provide publication analytics and facilitate information sharing. Both ResearchGate and Academia.edu allow users to post professional issues to the community.

Both academic social networks use a subscription model where users can follow other users' online activity, review added articles, added papers, create conversations with questions of their interest, and participate in other authors' discussions. ResearchGate has a unique jobs section.

When encountering with two quite similar services, the question immediately arises as to which one to choose. One important factor is the location of colleagues. If an institution prefers one network over the other, it is an argument in favour of joining it. Similarly, users can look to see which of their discipline colleagues use a particular network, although ultimately it is not very difficult to maintain accounts on multiple networks. Initial account setup requires some time investment, but it is a one-time action (entering or importing all of one's academic information may take longer). Choosing which of the two platforms to join is ultimately an individual decision, depending on personal factors.

Academia.edu tracks a variety of metrics, showing users how many times their profile has been viewed, how many times documents have been viewed, and even the searches that led people to the profile. Like ResearchGate's RI Score, the platforms' data analytics are new and can be seen as part of the altmetrics movement that tracks non-traditional bibliographic metrics. Academia.edu does not count questions and answers in its metrics, although it is suggested that creating and answering questions from other

users may increase profile views. As mentioned earlier, ResearchGate has its own measurement called RI Score, which assigns participants a score based on interactions with the content and a score for participants interacting with the content. Content contributed to ResearchGate, such as profile information and questions answered or asked, affects the RI Score, in addition to publication information such as views, downloads, and citations. The RI Score is not a standard bibliographic measurement like the Hirsch Index (h-index), so its acceptance may vary from educational institution to educational institution.

The ResearchGate Q&A tool is an important and interesting feature. Given the large number of participants, it can provide a way to address crowdsourcing issues.

Another advantage of academic social networks is that they allow for sharing jobs, job postings, positions, types of collaborations, and both ResearchGate and Academia.edu provide users with the ability to upload their own articles. Undoubtedly, it is important to consider nuances about copyright before attaching your content.

ResearchGate and Academia.edu are by far the most popular scholarly social media platforms designed specifically to support academic and research practices. These platforms allow academics to build a professional profile, connect with colleagues, share publications and articulate their mission in terms of research sharing, openness and transparency.

LITERATURE RECOMMENDED

1) *Nicholas, D., Herman, E., Jamali H.* Emerging reputation mechanisms for scholars. Brussels: European Commission, Joint Research Centre, Institute for Prospective Technological Studies / *D. Nicholas, E. Herman, H. Jamali* – 2015. – ISBN 978-92-79-47225-1.

2) *Beech, M.* Key issue—How to share and discuss your research successfully online. // Insights: The UKSG Journal. – 2014. – V. 27, № 1. – P. 92–95.

3) *Thelwall, M., Kousha, K.* ResearchGate: Disseminating, communicating, and measuring Scholarship? / M. Thelwall, K. Kousha // Journal of the Association for Information Science and Technology. – 2014. – V. 66, № 5. – P. 876–889.

4) Why we're removing the RG Score (and what's next) – URL: https://www.researchgate.net/researchgate-updates/removing-the-rg-score (дата обращения: 22.07.2024).

5) Academia.edu About – URL: www.academia.edu. (дата обращения: 03.02.2024).

6) *Talbot-Stokes, R.* «LibGuides: Researcher Identifiers, Profiles and Social Networks: Academia.edu» / R. Talbot-Stokes – URL: libguides.newcastle.edu.au (дата обращения: 22.07.2024).

7) Understanding Academia.Edu and Researchgate – URL: https://libraries.ou.edu/impact-challenge-chapter/understanding-academiaedu-and-researchgate (дата обращения: 26.01.2024).

8) How do people find your papers? Academia.edu Introduces a New Premium Feature – URL: https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://medium.com/academia/how-do-people-find-your-papers-academia-edu-introduces-a-new-premium-feature-8b221176f57f&ved=2ahUKEwit8s6G7t2HAxWWAxAIHf-ZC4QQFnoECBwQAQ&usg=AOvVaw2QdgYPB1EsVBDhSW4dv48M (дата обращения: 26.01.2024).

9) Springer Nature and ResearchGate announce new cooperation to make it easier to navigate the sharing of academic journal – URL: https://group.springernature.com/gp/group/media/press-releases/springer-nature-and-researchgate-announce-new-cooperation/15705990 (дата обращения: 19.04.2024).

10) *Meier A, Tunger D.* Investigating the transparency and influence-ability of altmetrics using the example of the RG score and the ResearchGate platform / A. Meier, D. Tunger // Inf Serv Use. – 2018. – V. 38, № 1/2. – P. 99–110.

**I.G. STAROSTINA, K.V. KITAEVA, I.R. NIGMETZYANOV,
I.I. ZADORINA, A.R. KAYUMOV**

SCIENTIFIC SOCIAL NETWORKS RESEARCHGATE AND ACADEMIA

Educational-methodical manual