

# Mining of Mineral Deposits

ISSN 2415-3443 (Online) | ISSN 2415-3435 (Print) Journal homepage http://mining.in.ua Volume 11 (2017), Issue 1, pp. 1-8



UDC 622.2

https://doi.org/10.15407/mining11.01.001

# THE FIRST YEAR OF IMPLEMENTING A NEW CONCEPT OF THE JOURNAL "MINING OF MINERAL DEPOSITS" OF THE NATIONAL MINING UNIVERSITY

V. Lozynskyi<sup>1\*</sup>, K. Sai<sup>1</sup>, T. Vvedenska<sup>2</sup>

- <sup>1</sup>Underground Mining Department, National Mining University, Dnipro, Ukraine
- <sup>2</sup>Translation Department, National Mining University, Dnipro, Ukraine
- \*Corresponding author: e-mail <a href="mailto:lvg.nmu@gmail.com">lvg.nmu@gmail.com</a>, tel. +380562471472, fax: +380563742184

# ПЕРШИЙ РІК ІМПЛЕМЕНТАЦІЇ НОВОЇ КОНЦЕПЦІЇ ЖУРНАЛУ "РОЗРОБКА РОДОВИЩ" НАЦІОНАЛЬНОГО ГІРНИЧОГО УНІВЕРСИТЕТУ

В. Лозинський<sup>1\*</sup>, К. Сай<sup>1</sup>, Т. Введенська<sup>2</sup>

- $^{1}$ Кафедра підземної розробки родовищ, Національний гірничий університет, Дніпро, Україна
- <sup>2</sup>Кафедра перекладу, Національний гірничий університет, Дніпро, Україна

#### ABSTRACT

This article presents the analysis of Ukrainian mining sciences journal – "Mining of Mineral Deposits" (English acronym – MMD). Our paper presents a case study of a journal in the field of mining sciences and describes the first year of implementing a new concept of the journal. The results can serve as a reference in future studies of the journal in a new form. The findings of future research may be an indication as to whether the adopted policy of internationalization of the journal is effective and increases the impact of the Journal in World Science. Special consideration is given to website visitors activity and visits frequency statistics. It appears that MMD is improving its position within the group of leading and original Ukrainian mining periodicals.

Keywords: journal, concept, Mining of Mineral Deposits, publication, analysis

## 1. INTRODUCTION

We are happy to present you the first issue of the quarterly journal "Mining of Mineral Deposits" (Volume 11, Issue 1), which is published by the National Mining University of Ukraine. "Mining of Mineral Deposits", issued since 2013, is continuation of the annual scientific and technical collections "School of Underground Mining" issued since 2007. Over this period, the journal has continually increased its standards and currently has some of the most rigorous expectations for paper quality and impact representing scientific results from the domestic and foreign experience of innovative technologies developed for minerals mining. It also encompasses the results of scientific studies related to the economic condition of various countries with significant mining infrastructure.

This article is continuation of the paper published last year (Bondarenko, Lozynskyi, Kovalevska, Sai, & Vvedenska, 2016) that describes a strategy of the MMD journal. Here we will try to discuss the key issues of self-analysis, self-development, our aims and visions.

## 2. UKRAINIAN MINING JOURNALS

The last century saw a dramatic growth of coal production capacity, while its quality, power and realiability of equipment have steadily improved. Mining is an integral part of Ukrainian and world economy. That is why during this period a large number of mining journals were founded around the world.

Currently there are about 30 Ukrainian domestic journals in the field of mining sciences (Table 1). They are primarily published by Ukrainian mining institutions such as technical universities, research institutes, and other specialized publishing houses. These journals are not indexed in the Web of Sciences Core Collection (WoS) or, with one exception (Scientific Bulletin of the National Mining University / Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu) in Scopus.

Twenty-nine Ukrainian journals of local significance are not widely read by mining engineers and scientists of established mining reputation. Therefore, it is obvious that Ukrainian mining journals are not fully presented in the international scientific community.

<sup>\*</sup>Biдnовідальний автор: e-mail lyg.nmu@gmail.com, тел. +380562471472, факс: +380563742184

Table 1. Ukrainian journals in the field of mining sciences

Table 1. Ukrainian journals in the field of mining sciences									
No	Title	Year of foundation	Fre- quency	Publisher's Name					
1	Bulletin of Academy of Mining sciences of Ukraine	1994	4	Academy of Mining sciences of Ukraine					
2	Bulletin of Donetsk Mining Institute	1995	2	Donetsk National Technical University					
3	Coal Chemistry Journal	1993	6	<u>Ukrainian State Research Institute for</u> <u>Carbochemistry</u>					
4	Coal of Ukraine	1957	12	Ministry of Energy and Coal Industry of Ukraine					
5	Collection of Research Papers of National Mining University	1999	4	National Mining University					
6	Collection of Research Papers of R&D mining institute	1941	1	SE "R&D mining institute"					
7	Drilling	2009	4	Society of Drillers of Ukraine					
8	Ecology and Subsurfer Resources	1998	2	Institute of Subsurfer Resources Management and					
9	Management Environmental Safety and Sustainable	2010	2	Ecology of NAS of Ukraine Ivano-Frankivsk National Technical University of					
	Resources Management			Oil and Gas					
10	Geology and Geochemistry of Combustible	1934	4	Institute of Geological Sciences, NAS of Ukraine Institute of Geology and Geochemistry of					
11	Minerals	1991	4	Combustible Minerals of NAS of Ukraine					
12	Geology and Mineralogy Bulletin of the Kryvyi Rih National University	1999	2	Kryvyi Rih National University					
13	Geo-Technical Mechanics	1993	4	M.S. Polyakov Institute of Geotechnical Mechanics undere NAS of Ukraine					
14	Herald of the NTUU "KPI". Series of	1998	2	National Technical University of Ukraine					
15	"Mining" Metallurgical and Mining Industry*	1960	12	"Igor Sikorsky Polytechnic Institute" Ukrmetallurginform "STA" Ltd.					
16	Methods and Resources for creation the safe	1988	2	SE Makiivka R&D institute of operations security					
17	conditions in coal mines Minerals Processing	1967	4	in mining National Mining University					
18	Mining Electromechanics and Automation	1965	2	National Mining University					
19	Mining Journal of Kryvyi Rih National University	2003	2	Kryvyi Rih National University					
20	Mining of Mineral Deposits**	2007	4	National Mining University					
21	Mining, constructional, road and melioration machines	1965	2	Kyiv National University of Construction and Architecture					
22	Modern resource-saving technology of mining	2008	2	Kremenchuk Mykhailo Ostrohradskyi National					
23	Physical and Technical problems of mining	2009	2	<u>University</u> Institute for Physics of Mining Processes					
24	Problems of Mining Equipment Operation	1936	1	Research Institute of Mining Mechanics named					
25	Stationary Prospecting and Development of Oil and	2001	4	after MM Fedorov Ivano-Frankivsk National Technical University of					
	Gas Fields Scientific Bulletin of National Mining			Oil and Gas					
26	<u>University</u> ***	1998	6	National Mining University					
27	Scientific Papers of Donetsk National Technical University. Series: Mining	1998	2	<u>Donetsk National Technical University</u>					
28	Transaction of UkrNDMI NAN Ukraine	2007	2	<u>Ukrainian State Scientific-Research and</u> <u>Design Institute of Mining Geology, Rock-Mechanics and Mine Surveying NAS of Ukraine</u>					

<sup>\*</sup>Title discontinued from Scopus since 2016

## 3. SCOPE OF THE JOURNAL

The aim of this journal is to cover key problems facing the modern mining industry and provide solutions to these issues on the basis of fundamental and applied studies involving the development of new scientific approaches.

The journal places an emphasis on familiarizing foreign and domestic professionals with the modern tendencies of Ukraine's and European countries' mining industry development. The popularization and knowledge exchange gained as a result of the relationship between national and international research will assist in future development projects. "Mining of Mineral Deposits" publishes scientific papers from leading specialists in the mining industry, progressive R&D laboratories, commercial organizations and universities with an established mining profile.

"Mining of Mineral Deposits" journal covers topics related to mining sciences. The journal's subject matter includes:

- Mining of Coal and Ore Deposits (mining technology and technique, mining methods, blasting, transportation, ventilation, mine design and planning, mining surveying, mine geology);

<sup>\*\*\*</sup>Title submitted to be indexed in Scopus and WoS in 2016

<sup>\*\*\*</sup>Title indexed in Scopus since 2012

- Clean Coal Technologies (underground coal gasification, hydrogenation, coal bed methane);
  - Geomechanics (rock mechanics, geoengineering);
- Reservoir Engineering (mining geophysics, borehole exploring, oil and gas exploitation);
- Environment (environmental safety, natural and technological hazards in mines, mine environmental geochemistry, environmental pollution control and remediation technology, problems associated with mining and mineral processing activities, environmental aspects of mining operations, tailings and waste dumps management, reclamation);
- Economy (economics and industry organization, management of mineral resources);
  - Occupational Safety and Health;
  - Social Aspects of Mining Activities.

This journal offers for the readers versatile articles analysing applied investigations and the results of fundamental research that make the base for new technical developments. The present journal is addressed to mining engineers, scientific and research personnel, students, postgraduates and all professionals connected with the mining industry.

# 4. RESULTS OF JOURNAL REFORMATTING

#### 4.1. Brief self-analysis of the journal reformatting

"Mining of Mineral Deposits" is multi-language journal. The authors can publish their articles in English, Ukrainian and Russian language. English language abstract is mandatory for each article. The accuracy of English language articles and abstract in English is monitored and checked by our Foreign Language Editor.

In 2016, the editors adopted a new development strategy aimed at introducing the journal of "Mining of Mineral Deposits" to the international community of science. It increases international recognition of the journal, which follows the main aim of the implemented strategy.

The biggest changes concerned the layout, form of publishing, as well as beginning cooperation with foreign editors and reviewers. We have designed a template for each page in A4 format layout which includes the following information:

- the title page includes the paper title, the author(s) name, affiliation (department, organization, city, country), the corresponding author info (e-mail, phone number, fax number);
  - DOI (Digital Object Identifier) under CrossRef;
  - UDC (The Universal Decimal Classification);
- the paper text includes: the title of the abstract which states the purpose of the study, methods, main findings, practical implications, originality and is followed by keywords;
- in the introduction, the author/s gives/: state of the art; a short analysis of the recent research and publications and unsolved aspects of the problem;
  - results and discussion;
- acknowledgement (information on the source of funding for the presented piece of research);
- references list drawn up in accordance with the rules of the APA name-date method;
- article info: information concerning the date when the text was received, revised and published online;

 details concerning the author(s) – such as the last, first and middle name, scientific degree, position, affiliations, e.g. department, institution, city and country / postal code.

## 4.2. Cooperation with editors and reviewers

To introduce the quarterly journal to the international scientific community in 2016, we have started cooperation with a number of overseas editors and reviewers. The Editorial Board comprises 36 members (Ukraine – 15; Poland – 6; South Africa and USA – 2 each; Australia, Austria, China, Croatia, Iran, Germania, Kazakhstan, Romania, Slovenia, Spain and Taiwan – 1 each). Cooperation involves leading and reputable scientists and practical specialists in the mining field. Foreign specialists also participate in the work of Editorial Board. It provides an excellent expertise for the articles to be published.

The total number of reviewers is 45 (Ukraine – 17; Kazakhstan – 4; Poland – 4; China – 3; Czech Republic – 2; Germany – 2; USA – South Africa – 2; Austria – 1; Canada – 1; United Kingdom – 1; Greece – 1; Netherlands – 1; Norway – 1; Romania – 1). Cooperation with foreign reviewers turned a really new experience for us, but we have managed to collect an extensive number of reviewers from different countries around the world (Fig. 1, 2).

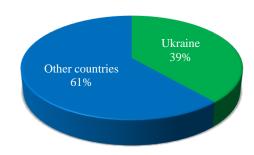


Figure 1. Reviewers of Journal by nationality in 2016

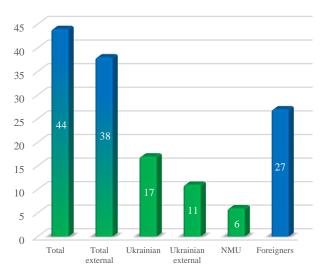


Figure 2. Reviewers who cooperated with Mining of Mineral Deposits in 2016

The editors gratefully acknowledge the kind assistance of the researchers who reviewed the papers for Mining of Mineral Deposits in 2016. At the same time our journal is looking for experienced academic review-

ers in order to improve the quality of published papers. Should you wish to be a reviewer of the MMD Journal, please send us your CV to <a href="mining.umd@gmail.com">mining.umd@gmail.com</a>. Looking forward for CVs!

#### 4.3. Journal website

Since 2016, we have launched an online English language version of the journal. Papers are published on the website of the journal (<a href="http://mining.in.ua">http://mining.in.ua</a>) on March 30, June 30, September 30 and December 30. This publishing action guarantees that the papers of the journal are relevant and seen by the scientific community immediately.

The online version is described as the original (reference) version of the journal. The journal is supported by

Ukrainian School of Underground Mining, thus we provide open access to every issue. We strongly believe that the open access will increase its visibility and influence. In 2016, we also added the papers published in the previous journals to the archive.

Since 20 March 2016, we have been monitoring the website statistics for <a href="http://mining.in.ua">http://mining.in.ua</a>. Users from 98 different countries have visited this site since this date. Approximately 26.4% of the traffic on the website of the quarterly journals comes from Ukraine. Other users were mainly from the USA – 15.3%; Norway – 8.2%; Germany – 7.3% and the United Kingdom – 2.9%. Detailed statistics of the top country visitors are presented in Figures 3, 4.

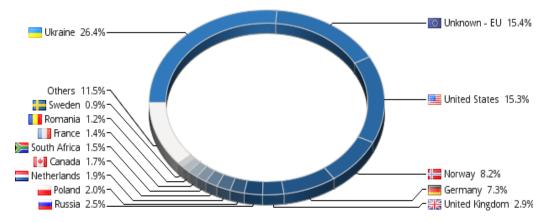


Figure 3. Statistics of top visitors by country

Unique users are a common way of measuring the popularity of a website. Unique visitors refer to the number of distinct individuals requesting pages from the website during a given period, regardless of how often they visit. Visits refer to the number of times the site is visited, no matter how many visitors make those visits. The final map of unique visitors with the average number of unique visits is presented in Figure 4.

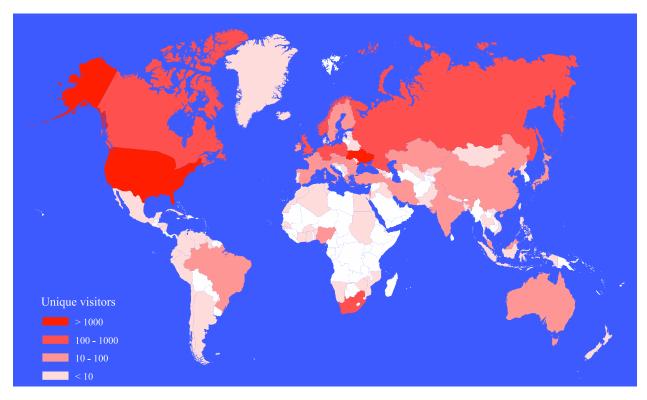


Figure 4. Map of unique visits of our website by country

For most of the visits to the website, the link used is the direct DOI. In addition, we observed a number of hits from the Google Scholar, the main website of the Department of Underground Mining of National Mining University <a href="http://prr.nmu.org.ua">http://prr.nmu.org.ua</a>, and the Internet browser. MMD journal website has been viewed 81360 times by 8064 visitors. The average number of hits that have been viewed by one visitor is  $\approx$  10. More statistics are presented in Table 2.

During the last four months, we have observed approximately the same quantity of unique visitors from USA, Ukraine and Germany (Fig. 5). The diagram of the total number of unique visitors and hits on day-by-day breakdown is presented in Figure 6.

Table 2. Statistics of the MMD website browsing in 2016

No	Parameter	Value			
NO		Yearly	Monthly	Daily	
1	Average number of page loads (hits)	81360	6780	229	
2	Average number of unique visitors	8064	672	23	

Received information about journal website analysis give us possibility to see strengths and weaknesses of the website. We realize that high level of journal website will significantly reinforce the importance and magnitude of the journal, allowing it to rise to a new level of quality and ensure spreading of scientific information to the target audience.

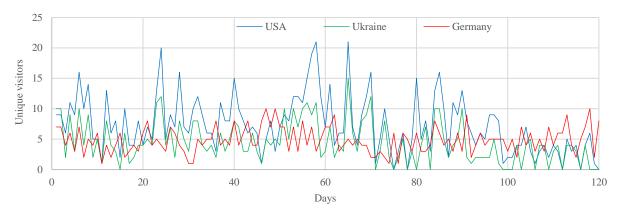


Figure 5. Unique visitors of the top three countries during the last four months

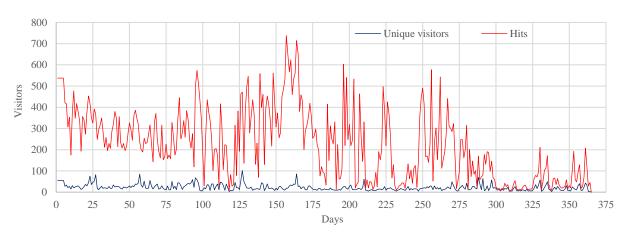


Figure 6. One-year day by day visitors

# 4.4. Geography of publications

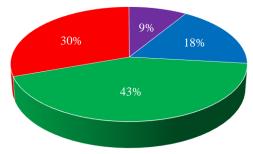
As for international collaboration (the publications that have been made by researchers from several countries), we published ten papers, so indicators of international collaboration make up 18% (Fig. 7). More than a quarter of the publications (27%) were created as a result of cooperation between at least two authors from different organizations.

Last year we have received publications predominantly from Ukraine (most of them from the National Mining University – 43%). The authors from Kazakhstan, Australia, Poland, Russia, Slovakia, South Africa and Mongolia also delegated their papers to MMD journal. In the future, we would like to receive more papers written by authors from abroad.

Recently we created "MMD Journal Geo" using Google Maps service. Using this map, the authors have an opportunity to find information about geography of publications.

#### 4.5. Citing and Citation

Every article in the journal is considered to be the primary research. There were no non-citable documents in the last year. The number of references included in the articles published by the journal in 2016 is -640. The average number of references per documents is -11.8. In our journal, we do not limit the number of references, so the authors should not ignore the most promising literature in their relevant field.



- International cooperation
- Publications of NMU employees only
- Publications of employees from Ukraine not affiliated with NMU
- Publications of NMU employees in cooperation with authors from Ukraine

Figure 7. Diagram of publication geography

At the National Mining University, we do not have an access to Scopus and Web of Science database, so we cannot make a bibliometric analysis (citation indexes), but we hope that due to implementing the strategy of the MMD journal the number of journal citations will increase from year to year.

Speaking about citation analysis, our search was conducted in March 2016 using Google Scholar tool. The search was conducted by the author name using the "Author Search" feature and, after the results were displayed, the paper was added to the final list. This strategy enabled maximum accuracy in finding paper published in the journal. According to the Google Scholar, 7 publications published in 2016 were cited in 2016 ("Scientific Bulletin of the National Mining University" – 3 citations; "Ph.D.

dissertation" – 2 citations and by one's citation in the "Scientific Bulletin of Kharkiv Polytechnic Institute" and Polish journal "Budownictwo Gorniche i Tunelowe").

# 4.6. Integration of Mining of Mineral Deposits into Information Resources

There are several steps of a journal integration into information resources. According to a new concept of the journal "Mining of Mineral Deposits", the number of published papers in English will increase from year to year. In 2016 – nineteen publications were published in English (Fig. 8). It is a very important step on the way to international integration.



Figure 8. Languages of publication

The second step is wide registering, abstracting and indexing (RAI) of the journal in all possible advanced databases. The current situation of RAI is presented in Table 3.

Table 3. Registering, Abstracting & Indexing of the journal "Mining of Mineral Deposits"

# **5** WorldCat<sup>o</sup>











#### WorldCat

Articles published since 2013 (Volume 7, Issue 1) can be found using WorldCat database. It is the world's largest bibliographic database, with over 240 million records of all kinds of products for 470 languages. Base is created by joint efforts of more than 72 thousand libraries in 170 countries across the organization Online Computer Library Center.

#### Academic Resource Index (ResearchBib)

Since 2016 (Volume 10, Issue 1) all articles of the journal "Mining of Mineral Deposits" is hosted on Researchbib. It is international multi-disciplinary database of scholarly journals, including a description of the log more than 5,400 publishers. It is a free academic database that indexes and provides open access to peer-reviewed journals, full text papers, research conferences & positions.

# Google Scholar

Since 2016 (Volume 10, Issue 1) all articles of the journal "Mining of Mineral Deposits" is collected on created journal page in Google Scholar. Google Scholar is a freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of publishing formats and disciplines. The Google Scholar index includes most peer-reviewed online journals of Europe and America's largest scholarly publishers, plus scholarly books and other non-peer reviewed journals.

## Institutional Repository National Mining University of Ukraine

Since 2016 (Volume 10, Issue 1) all articles of the journal "Mining of Mineral Deposits" is hosted on Institutional Repository of National Mining University of Ukraine. DSpace is an open source repository software package typically used for creating open access repositories for scholarly and/or published digital content. The DSpace repository software serves a specific need as a digital archives system, focused on the long-term storage, access and preservation of digital content.

# **Ulrich's Periodicals Directory**

In 2016 the journal "Mining of Mineral Deposits" has been registered in international databases Ulrich's Periodicals Directory Ulrich's is a global and authoritative serials search and discovery tool used extensively by academic library staff, faculty and students, staff and patrons in public and special libraries, publishers, corporations, and researchers worldwide.

# ROAD, the Directory of Open Access scholarly Resources

Since March 2016, the journal "Mining of Mineral Deposits" has been included in the Directory of Open Access scholarly Resources. ROAD provides a free access to a subset of the ISSN Register (1.8 millions of bibliographic records, available on subscription. This subset comprises bibliographic records which describe scholarly resources in Open Access which have been assigned an ISSN by the ISSN Network: journals, conference proceedings and academic repositories.













#### Digital object identifier

Since 2013 (Volume 7, Issue 1) journal "Mining of Mineral Deposits" use a digital object identifier (DOI). It is a serial code used to uniquely identify objects. The DOI system provides a technical and social infrastructure for the registration and use of persistent interoperable identifiers, called DOIs, for use on digital networks.

#### **CrossRef**

Since 2013 (Volume 7, Issue 1) the publications of the scientific journal are provided with digital object identifiers (DOI) by CrossRef. Journal has DOI 10.15407/mining. Crossref is a not-for-profit membership organization for scholarly publishing working to make content easy to find, link, cite and assess. Crossref does not provide a database of fulltext scientific content.

#### Scientific Electronic Library Periodicals of the NAS of Ukraine

Since 2013 (Volume 7, Issue 1) all articles of the journal has been included in full-text database of Scientific Electronic Library periodicals NAS of Ukraine. This library include 454 Ukrainian journals with total amount more than 100 thousand of open access research papers according to the Budapest Open Access Initiative.

#### Vernadsky National Library of Ukraine

Since 2013 (Volume 7, Issue 1) journal can be found in biggest library of Ukraine, the main academic library and main scientific information center in Ukraine, one of the world's largest national libraries. Ranked among the top ten national libraries of the world.

#### ISSN, International Standard Serial Number

Since 2013 the journal "Mining of Mineral Deposits" (Volume 7, Issue 1) has been permanently recorded in the ISSN Register as follows: ISSN 2415-3443 (Online), ISSN 2415-3435 (Print).

The CIEPS, also known as the ISSN International Centre, is an intergovernmental organization which manages at the international level the identification and the description of serial publications and ongoing resources, print and online, in any subject.

Journal "Mining of Mineral Deposits" has been registered in Ukrainian's Ministry of Justice. The register number is KB 20210-10010P dated from 30th August 2013. The journal has been included in Ukrainian specialized publication list according to Ministry of Education and Science of Ukraine order No 455 from 15.04.2014 (addition No 5).

#### 5. CONCLUSIONS

In 2017, we will continue to improve the quality of our journal. We would like to thank all the authors, editors and reviewers who cooperated with us in preparing the journal of "Mining of Mineral Deposits". We believe that our joint efforts will enable us to become one of the leading international journals in the field of mining science.

We welcome submissions of scientific papers from leading specialists in mining industry, progressive R&D laboratories, commercial organizations and universities with an established mining profile. If you want to cooperate with us, you are more than welcome!

Together with Editor-in-chief Prof. Volodymyr Bondarenko and all Editorial Board members and reviewers who are high quality and well recognized experts in the fields related to the scope of our journal, we will work hard and conscientiously to maintain the high standard of the journal. We are convinced that the success of the journal does not depend only on the Editorial Board and reviewers but predominantly on the contribu-

tion and support of readers and authors. Therefore, we would like to ask for more contributions from the people involved in mining to ensure a continued success of the journal. We are proud to make a difference by improving the role of the journal and we kindly encourage you to read the current issue and enjoy all the subsequent issues. We hope they will meet your expectations.

#### **ACKNOWLEDGEMENTS**

This article was supported by the Ukrainian "School of Underground Mining".

# **REFERENCES**

Bondarenko, V., Lozynskyi, V., Kovalevska, I., Sai, K., & Vvedenska, V. (2016). Concept of the Journal "Mining of Mineral Deposits" of the National Mining University. *Mining of Mineral Deposits*, 10(1), 1-8. https://doi.org/10.15407/mining10.01.001

## ABSTRACT (IN UKRAINIAN)

У даній статті наведено аналіз українського журналу в області гірничої науки — "Розробка Родовищ" (абревіатура англійською мовою "ММD"). Стаття представляє собою аналіз конкретного гірничого журналу й описує перший рік імплементації його нової концепції. Отримані результати можуть стати порівняльним орієнтиром при проведенні майбутнього аналізу. Результати даного дослідження спрямовані на визначення відповідності прийнятої політики інтернаціоналізації журналу в міжнародному науковому просторі. Особлива увага приділяється активності відвідувань сайту журналу. В результаті проведеного аналізу можна стверджувати, що журнал "Розробка Родовищ" посилює свої позиції серед провідних українських періодичних видань гірничого профілю.

Ключові слова: журнал, концепція, Розробка Родовищ, публікація, аналіз

# ABSTRACT (IN RUSSIAN)

В данной статье произведен анализ украинского журнала в области горной науки – "Разработка месторождений" (аббревиатура на английском языке "ММD"). Статья представляет собой анализ конкретного горного жур-

нала и описывает первый год имплементации его новой концепции. Полученные результаты могут стать сравнительным ориентиром при проведении дальнейшего анализа. Результаты данного исследования направлены на определение соответствия принятой политики интернационализации журнала в международном научном пространстве. Особое внимание уделяется активности посещений сайта журнала. В результате проведенного анализа можно утверждать, что журнал "Разработка месторождений" усиливает свои позиции среди ведущих украинских периодических изданий горного профиля.

Ключевые слова: журнал, концепция, Разработка Месторождений, публикация, анализ

#### ARTICLE INFO

Received: 22 March 2017 Accepted: 27 March 2017

Available online: 30 March 2017

#### **ABOUT AUTHORS**

Vasyl Lozynskyi, Candidate of Technical Sciences, Associate Professor of the Underground Mining Department, National Mining University, 19 Yavornytskoho Ave., 4/61, 49005, Dnipro, Ukraine. E-mail: lvg.nmu@gmail.com

Kateryna Sai, Candidate of Technical Sciences, Assistant Professor of the Underground Mining Department, National Mining University, 19 Yavornytskoho Ave., 4/61, 49005, Dnipro, Ukraine. E-mail: kateryna.sai@gmail.com

Tetiana Vvedenska, Candidate of Sciences in Philology, Head of the Translation Department, National Mining University, 19 Yavornytskoho Ave., 4/78, 49005, Dnipro, Ukraine. E-mail: vved@list.ru