[J] Oral | U (Union)：Union

Thu. Jun 3, 2021 3:30 PM - 5:00 PM JST | Thu. Jun 3, 2021 6:30 AM - 8:00 AM UTC | Ch.01 Zoom Room 01

[U-07] Open Science and Open Data in Academic Publishing from Japan

convener:Hirokuni Oda(Institute of Geology and Geoinformation, Geological Survey of Japan, AIST), Hodaka Kawahata(Atmosphere Ocean Research Institute, the University of Tokyo),
Chairperson:Hirokuni Oda(Institute of Geology and Geoinformation, Geological Survey of Japan, AIST), Hodaka Kawahata(Atmosphere Ocean Research Institute, the University of Tokyo)

Scientific products including journal publications, reports and data are invaluable resour
ces for human beings. These days, open science, open data, and FAIR data policies are
becoming more and more important for sustainable society and research development
s. In the proposed session, we invite presenters representative of academic journal publications from Japanese societies and institutions as well as key organizations.

3:30 PM - 3:45 PM JST | 6:30 AM - 6:45 AM UTC

[U07-01] Advanced publication of scientific journals by JpGU and the related academic societies

★Invited Papers

*Hodaka Kawahata[1] (1.Atmosphere Ocean Research Institute, the University of Tokyo)

3:45 PM - 4:00 PM JST | 6:45 AM - 7:00 AM UTC

[U07-02] Current status and issues of PEPS journal

★Invited Papers

*Eiji Ohtani[1] (1.Department of Earth and Planetary Materials Science, Graduate School of Science, Tohoku University)

4:00 PM - 4:15 PM JST | 7:00 AM - 7:15 AM UTC

[U07-03] ”Earth, Planets and Space": The current status

★Invited Papers

*Takeshi Sagiya[1] (1.Disaster Mitigation Research Center, Nagoya University)

4:15 PM - 4:30 PM JST | 7:15 AM - 7:30 AM UTC

[U07-04] STAM and STAM-M : Open Data and Open Science with Open Access Journal from Japan

★Invited Papers

*Masanobu NAITO[1] (1.National Institute for Materials Science)

4:30 PM - 4:45 PM JST | 7:30 AM - 7:45 AM UTC

[U07-05] Research data repository for journals “J-STAGE Data” launching

★Invited Papers

*Ritsuko Nakajima[1] (1.Japan Science and Technology Agency)

4:45 PM - 5:00 PM JST | 7:45 AM - 8:00 AM UTC

[U07-06] Norms in scholarly communication: changes brought by open science

★Invited Papers

*Nobuko Miyairi

Advanced publication of scientific journals by JpGU and the related academic societies

*Hodaka Kawahata[1]

1. Atmosphere Ocean Research Institute, the University of Tokyo

We have been publishing PEPS, an English-language peer-reviewed open access e-journal, by the Japan Geoscience Union (JpGU) under collaboration with 50 society members by partnership with Springer since 2014. It is intended to serve as a platform for the publication of high-quality articles covering a wider field than the usual specialist journals, thus attracting students and research scientists globally. We have been promote review papers printed in PEPS, which will contribute in order to help beginners and young scientists to learn the hot topics in this research field like several chapters in text books. Therefore we have made an effort to collect excellent review articles at 20% and good original research articles at >80%. However, the relative contribution of review articles was unfortunately reduced in 2020. We have already established the publication category of “Paper with Full Data Attached”, which contains big data with a hot scientific topic. This kind of the publication will be strongly promoted in near future because it will be related to the activity of OPEN SCIENCE.
We have been getting get some Grants-in-Aid for Scientific Research to promote scientific publication by JpGU and JpGU participating societies. With the cooperation of academic societies, we will work to promote advertising by effectively introducing published papers and requesting review paper submissions to PEPS. We are currently considering the establishment of new facilities such as "The Most Cited Paper Prize” in PEPS and widely advertizing award-winning treatises.
PEPS got the first impact factor of 2.481 for 2017 publication. Based upon the latest data base by Clarivate Analytics (the former Thomson Reuter), we will get the first 5-year IF of >3.0 with the 2-year IF of >3.0 for 2020 PEPS publication in next June. Therefore PEPS Editorial board will ask the geoscientists to submit high quality of the manuscripts to submit PEPS and to develop and enhance the intelligent activity by global community of Earth and Planetary Science for the benefit of humanity”.

Keywords: PEPS, Impact factor, JpGU, Scientific journal

Current status and issues of PEPS journal

*Eiji Ohtani[1]

1. Department of Earth and Planetary Materials Science, Graduate School of Science, Tohoku University

Here, we will introduce the current status of PEPS, which is in its 7th year of publication, and issues to be improved. The 2019 Impact Factor and CiteScore of PEPS were 2.058 and 3.8, respectively. The estimated values for 2020 were 3.0 and 4.6 respectively, showing steady development. During this time. PEPS introduced the Most cited paper award, Most downloaded paper award, and introduction of SPEPS to promote submission. PEPS also introduced Rules for Dealing with Suspected Malpractice Associated with Papers Submitted to PEPS. PEPS needs to deal with several unachieved issues such as publication of more than 20% review articles and to promote further submission. We are considering to introduce several procedures such as encouraging academic societies to submit review articles, improving the article category to promote the submission of synthesis articles, and introducing PEPS most citation prize. There are issues that need to be considered in the future, such as operational problems of Rules for Dealing with Suspected Malpractice and data repository for submitted articles.

Keywords: PEPS, Impact Factor, CiteScore

"Earth, Planets and Space": The current status

*Takeshi Sagiya[1]

1. Disaster Mitigation Research Center, Nagoya University

EPS (Earth, Planets and Space) is a peer-reviewed open access journal published on behalf of the five societies; Society of Geomagnetism and Earth, Planetary and Space Sciences, The Seismological Society of Japan, The Volcanological Society of Japan, The Geodetic Society of Japan, and The Japanese Society for Planetary Sciences, all of which are society members of the Japan Geoscience Union. EPS covers broad area in earth and planetary sciences with particular foci on geomagnetism, aeronomy, space science, seismology, volcanology, geodesy, and planetary science.

EPS was remodeled in 2014 as an open access journal under the SpringerOpen platform. Since then, EPS has published average of 173 papers per year. About half of the authors are from overseas. 2-year impact factor (IF) of EPS is 2.075. The editorial board of EPS is international. Among 59 members of the editorial board, 29 members are from overseas.

EPS publishes the following article types: (1) "Full paper", (2) “Express Letter” which aims at fast publications, (3) “Frontier Letter” for leading edge researches only with the invitation from the editor in chief, and (4) “Technical report" which describes technical developments for scientific researches. In addition to regular publication, EPS promotes topical article collections called special issues about various geoscientific events (earthquakes and volcanic eruptions) or scientific missions (satellite missions).

As part of the promotion of the journal we have four annual awards to recognize authors and reviewers: (1) EPS Excellent paper awards, (2) EPS Young researcher award, (3) Highlighted Paper Awards and (4) Excellent Paper Awards.

Recently we have been trying to increase the publication speed. On average, it takes 46 days for the first decision and 141 days for acceptance from the submission. We are trying to promote EPS as an important scientific contribution from Japan to the global geoscience community. We expect to receive more submissions of important science results from JpGU members.

Keywords: Earth, Planets and Space, geoscience, scientific publication

STAM and STAM-M : Open Data and Open Science with Open Access Journal from Japan

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1. National Institute for Materials Science

Materials science and technology has been rapidly growing, especially, since the emergence of data-driven approach, so called, materials informatics (MI) and as more databases that include variety of materials property emerged, some of which allowed researchers to freely reuse the data to obtain further dataset, the idea of MI brought a new paradigm in designing new materials science. Just like Bioinformatics has won its standing point in the sub discipline in life sciences, use of big data has led materials science to find its new discipline. However to this moment, there has been no appropriate journal for submitting articles from this emerging field. One reason being it as the field is still in its early days, and secondly this field is an interdisciplinary one between materials science, engineering and informatics which prevented new journals to be launched in the old disciplinary hierarchy. On this account, NIMS proposes to launch a brand new journal solely dedicated in advancement of MI in the purpose of systematizing this new scientific knowledge.
NIMS has been publishing Science and Technology of Advanced Materials (STAM) since 2000. It has introduced a new article category on MI in 2016 and the number of submissions on MI has been increasing since then. However, since STAM’ s aims and scope focuses on broad term of materials science and not specifically on informatics (methodology, database, instrumentation, and programming), STAM has been struggling to receive more papers on MI even though the Editors are aware that there are many unpublished good methodology and datasets stored in each laboratory of materials scientists. The new journal will be a platform to provide opportunity for these unsung papers to be read and to be reused by third parties in hope to design the future courses of materials science.

Keywords: Science and technology of advanced materials (STAM), Science and technology of advanced materials: Methods (STAM-M)

Research data repository for journals “J-STAGE Data” launching

*Ritsuko Nakajima[1]

1. Japan Science and Technology Agency

The J-STAGE is an electronic journal platform operated by the Japan Science and Technology Agency (JST). With the aim of disseminating and promptly distributing research results from science and technology (including humanities and social sciences) published in Japan, J-STAGE supports the publishing of scientific and technological publications by academic societies, research institutes, and other publishing organizations to strengthen international information dissemination and promote open access.

In regard to J-STAGE, JST is responsible for the planning and policy-making of the service, development, and operation of the system and various support with respect to the publishing organizations. The system has the function to register and publish articles, and the service is made possible by the publishing organizations using this system to publish their articles.

Currently, more than 3,000 journals, conference proceedings, and other publications have been published on J-STAGE by more than 1,700 domestic organizations and the number of articles exceeds 5 million. Of these, more than 85% are journals freely accessible to anyone, contributing greatly to the openness of research results from Japan.

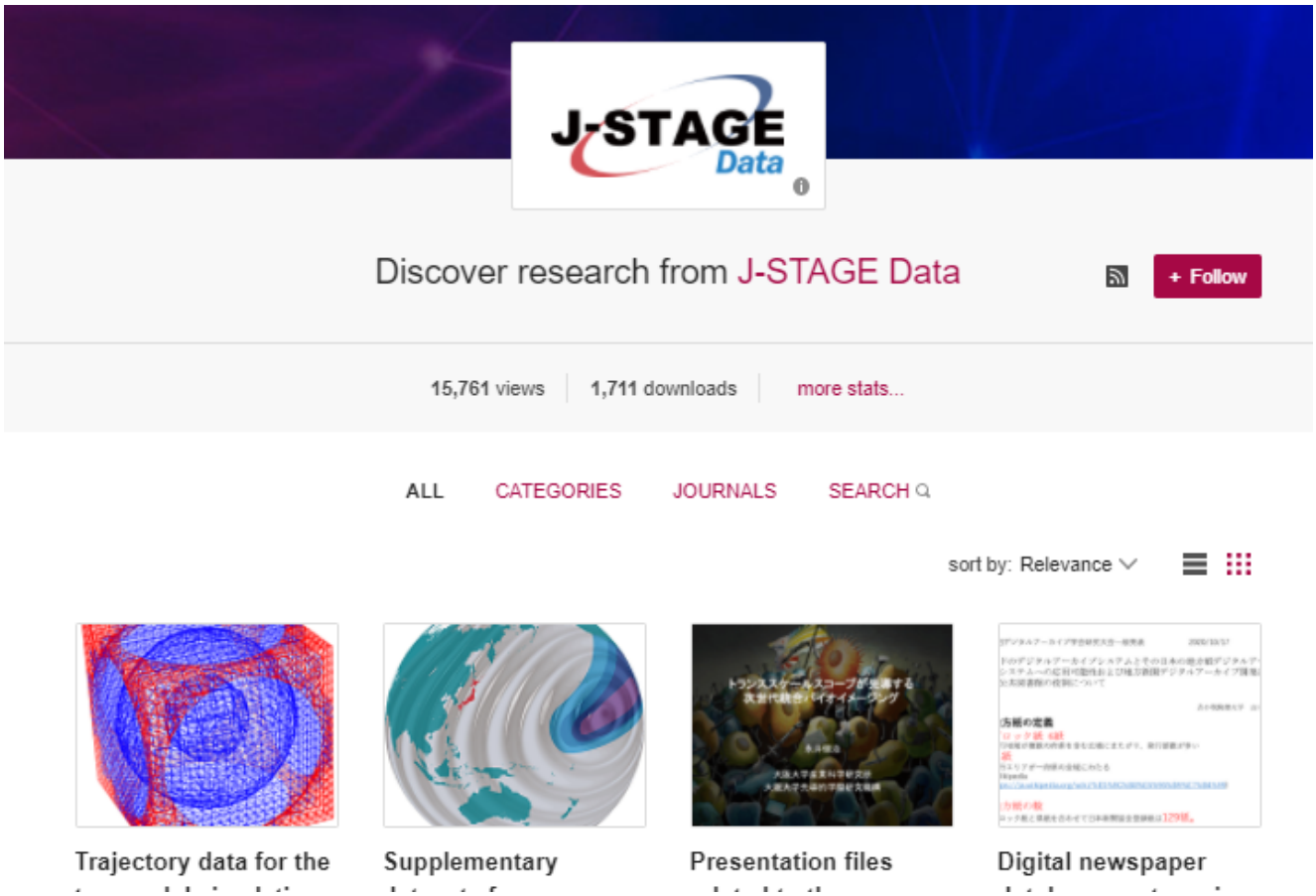
On the other hand, when we look at the world, we can see that the nature of academic publishing and the various information provision services surrounding it are changing rapidly with the recent changes in academic communication and research workflows. These changes include, for example, the diversification of publication forms and contracts relating to open access, the increase of preprints, the emergence of new publication forms such as post-publication peer review and open peer review, and the movement to publish research data associated with papers. At the root of all these movements is the trend toward open science.

Many universities, research institutes, and research funding agencies have formulated policies for data management and disclosure in order to meet the expectations for creating new value through data sharing and utilization that accompany the development of open science, and the demands for preventing research misconduct and improving transparency. In addition, policies on open data and sharing are being developed in the field of academic publishing as well, and researchers are increasingly required to provide the data on which their research results are based when they submit their papers. Major international commercial publishers have opened their policies on research data related to their journals on their websites. They indicate the recommended and mandatory levels of data availability, repositories, data citation and linking from articles, peer review of data, licensing for reuse, etc. The journals from these publishers have guides for authors that comply with these policies.

In response to this situation, JST started the pilot operation of the publication platform "J-STAGE Data" in

March 2020. DOI (Digital Object Identifier)s are registered for the data, and it is possible to link the data from the papers such as those on J-STAGE, and it also facilitates to distribute the research data its own. All the data on J-STAGE Data is open access, and the user organizations which publish the data grant a license that defines the scope of secondary use.
As of the end of January 2021, 37 data have been published by 3 journals, and the number of participating journals is expected to increase in the future. During this pilot period, JST is developing the operation system with the cooperation of the participating journals and aims to start the full-scale operation at the end of this fiscal year.

Keywords: open science, journal, research data, J-STAGE



Norms in scholarly communication: changes brought by open science

*Nobuko Miyairi

Michael Nielsen, the author of *Reinventing Discovery: The New Era of Networked Science*[(1)], defined open science as the idea where “scientific knowledge of all kinds should be openly shared as early as is practical in the discovery process.” [(2)] This overly simple statement is equivocal and troublesome for those seeking to practice open science. Scientific knowledge can be available in a variety of formats, including publications, data sets, audio-visual materials, methods, software, and so forth. They may already have established ways for sharing; or they may have not been traditionally shared at all. The idea to share “as early as is practical” depends on the technical and organizational constraints that one might face. In addition, Nielsen leaves it indistinct whether “openly shared” means either simply putting on the public web or with some additional procedures required.

The public consultation conducted by the European Commission in 2014 denotes that open science is an umbrella term for a series of movements in research and related practices, referring to a system of related changes that must be considered in relation to one another. Three essential aspects of open science are: (1) its relation to digital technology, (2) changing research practices and their impact on the research system as a whole, and (3) a certain vision of science as a community of practice. The objective of this public consultation was to receive feedback from community stakeholders on ‘science 2.0’, which the majority of respondents agreed that ‘open science’ was a more appropriate term to describe. [(3)]

If we regard the scholarly community as a social group, its members share more or less mutual values, which in turn guide their behaviors as social norms. Such norms could influence not only members’ behaviors but also define goals and the means of achieving them. Scholarly publishing, or more broadly, scholarly communication is thus governed by social norms set by the research community as a whole. The visions distilled in Nielsen’s simplistic statement demand a reform of the shared values in the traditional scholarly community and the practices cultivated therein.

There are new infrastructures allowing scholarly outputs other than VoR or the version of record, such as preprints and conference presentations, to be openly shared. OA mega-journals, which simplify peer-review process and speed up the publication process only if scientific validity is met, are increasing by number and exceeding the volume produced by traditional peer-reviewed journals. Prevailing social media made it possible to quantify the online behavior of readers, leading to the wide adoption of altmetrics. These new forms of outputs and indicators have brought new perspectives to research performance evaluation.

In this presentation, we will discuss the various changes brought about by science 2.0 or open science in contrast to the perceived norms in scholarly communications.

References:

(1) Nielsen, Michael. *Reinventing Discovery: The New Era of Networked Science*. Princeton University Press, 2011, 280p.

(2) Gezelter, Dan. (2011, July 28). *An informal definition of OpenScience | The OpenScience Project*. Openscience.org. http://openscience.org/an-informal-definition-of-openscience/

(3) European Commission. (2015, February). Validation of the results of the public consultation on Science 2.0: Science in Transition. http://ec.europa.eu/research/consultations/science-2.0/science_2_0_final_report.pdf

Keywords: scholarly publishing, scholarly communication, open science

