ORCID: Building a global research infrastructure of persistent identifiers & community support

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1. ORCID, Inc

ORCID (Open Researcher & Contributor ID) is a persistent digital identifier for researchers that can be used throughout their life-long career. Since the launch of ORCID registry service in 2012, more than 3 million users around the world have registered for an iD and the number is growing rapidly.

ORCID provides a free platform for individuals to create linkages between their iDs and publications, awards, professional activities etc., ensuring that their academic contributions are correctly attributed. In addition, ORCID works with more than 600 member organizations to reduce reporting burdens of researchers by enabling automatic updates through a variety of systems such as researcher profile services, manuscript submission systems, institutional repositories, grant management systems, and more.

ORCID Inc. is a non-profit organization supported by member organizations, voluntary committee members and ambassadors. More than half of ORCID member organizations are universities and research institutions, helping their affiliated researchers manage their digital identities effectively. More than 10 countries have established national and regional consortia, many of which are driven by academic librarians and research managers.

This presentation will illustrate how ORCID identifiers are being used in different stages of scholarly communication with an emphasis on journal publishing process, and how member organizations are integrating ORCID into various systems. It also explains why and how ORCID needs support of the research community.

Keywords: ORCID, persistent identifiers, author ID, journal publishing

More than 15 years of interactive open-access publishing in the geosciences

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1. Copernicus Publications

Copernicus Publications has served learned societies, scientific associations, and organizations since 1988 and has been an open-access publisher since 2001. Its portfolio consists of 38 open-access journals in various disciplines, half of them using the Interactive Public Peer Review. 17 out of the 38 journals are owned by the European Geosciences Union (EGU). The EGU is Europe's premier geosciences union, dedicated to the pursuit of excellence in the Earth, planetary, and space sciences for the benefit of humanity worldwide. It is a non-profit international union of scientists with over 12,500 members. 15 of the EGU's 17 journals are indexed in the Science Citation Index Expanded (SCIE).

It has been more than 15 years since the EGU and Copernicus started their journey towards open science. Copernicus Publications was the second publisher worldwide to provide free access to journal papers financed through moderate article processing charges (APCs). Thereby, we have agreements with research organizations, universities, and funders about central APC settlement. Authors lacking support funds can apply for waivers.

Our unique Interactive Public Peer Review enables everyone to read reviewer reports and comment on a manuscript prior to publication. This fosters and provides a lasting record of scientific discussion and maximizes the effectiveness and transparency of scientific quality assurance. The first discussion paper was published on 3 September 2001. Since then, 18 journals published by Copernicus have applied the idea of transparency in scientific quality assurance; 20 more journals are also open-access but not interactive. The usage of all papers is visualized through article-level metrics (ALMs).

In the EGU's interactive open-access journals, 22,194 discussion papers with 825,205 pages were published up to April 2016. They received 103,504 comments. In total, 26,470 journal papers with 367,930 pages were published in EGU journals up to April 2016.

In order to achieve true open science and to improve reproducibility of research findings, we see the outcome of the work of scientists as a publication cluster; the journal paper is the trunk and underlying or related materials such as data sets, model code, videos, samples, and other assets are the branches. All objects are preserved long-term and linked to each other through digital object identifiers (DOIs). We provide authors with the opportunity to do so.

To further enhance the publication of data and model code, Copernicus publishes two journals which serve as publication platforms for these research outputs. Earth System Science Data (ESSD) is an international, interdisciplinary journal for the publication of articles on original research data (sets), seeking to further the reuse of high (reference) quality data to the benefit of Earth system sciences. Geoscientific Model Development (GMD) is an international scientific journal dedicated to the publication and public discussion of the description, development, and evaluation of numerical models of the Earth system and its components.

Keywords: Open science, open access, peer review, data publishing, model code publication

The Future of Scientific Publishing in the Geosciences: A Perspective from the American Geophysical Union

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1. American Geophysical Union

The American Geophysical Union is the largest society publisher in the Earth and space sciences. AGU now has 20 journals publishing more than 6000 papers per year. Broadly we see a series of trends in publishing that will make the literature more available, connected, open, and enriched, and that will integrate publications better with improvements in researchers' workflows and needs of readers. At the same time, these developments should enhance scholarship, quality, and integrity, which are all critical for facilitating and expanding the wise use of peer-reviewed science throughout society and in important societal decisions. AGU's recent journals have all been Gold Open Access journals and have been aimed at interdisciplinary research (*James*, *Earth's Future*, *Earth and Space Science*, and *GeoHealth*) and open-access publishing has been growing across the other journals. In addition, AGU expanded access to all recent content 24 months after publication and supports green open access through CHORUS and institutional repositories. Content is already being increasingly connected through identifiers such as ORCID, institutional and funder identifiers, sample identifiers, and linked data sets and software. AGU has been helping lead efforts to identify and promote best practices around these (see www.copdess.org), and has providing some examples through a special collection of papers around the geoscience paper of the future (http://www.ontosoft.org/node/16). A variety of efforts are increasing discovery of content across journals, enriching content for diverse audiences (for example, AGU Journals now include plain-language summaries), and providing added context. Authors and reviewers are also starting to receive recognition of their individual contributions (AGU has adopted CREDIT and is promoting reviews through ORCID), and experiments and efforts are underway to help reviewers, to increase the quality of reviews, and expand the pool of reviewers. Following AGU's position statement that data in the Earth and space sciences are a world heritage (https://sciencepolicy.agu.org/files/2013/07/AGU-Data-Position-Statement-Final-2015.pdf) AGU is committed to expanding access to data and software related to publications and helping repositories and our community broadly manage that data well (http://dataservices.agu.org/). Best practices around these goals and to enhance reproducibility are also starting to be applied across many disciplines and journals.

Keywords: Scientific Publishing, Peer-review, Open access

The Future of Research Publishing –6 Trends to Watch

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1. Springer Nature

Communicating research results is essential not only to advance scientific knowledge and build foundations for future discoveries but also to benefit from the exchange of ideas and establish valuable collaborations through the publication and review process.

Research publishing has a long and steady history with the scholarly journal as the means of communicating results and finding. But over the last five years the pace of change has accelerated and there have been significant developments in scientific, technical and medical publishing, including the growth of open access as a publishing model and the emergence of megajournals. The focus on making research results openly available has burgeoned and spread across geographies and research disciplines. More recently attention has moved onto transparency, reproducibility and open data with major research funders requiring researchers to share their data and publishers and others introducing services to enable authors to do so.

But have these initiatives gone far enough toward solving some of the issues that are most important to researchers, such as the increasing demand for rapid publication of their results, or the growing burden on the peer review community as research output continues to grow?

In this session, we will explore six trends that have the potential to either incrementally or radically change the research publishing landscape, from innovations in peer review to artificial intelligence. And what might the triggers be that initiate these changes?

Keywords: publishing, research communications, peer review, reproducibility, open access, open data

Geoscience Letters: the official journal of Asia Oceania Geosciences Society

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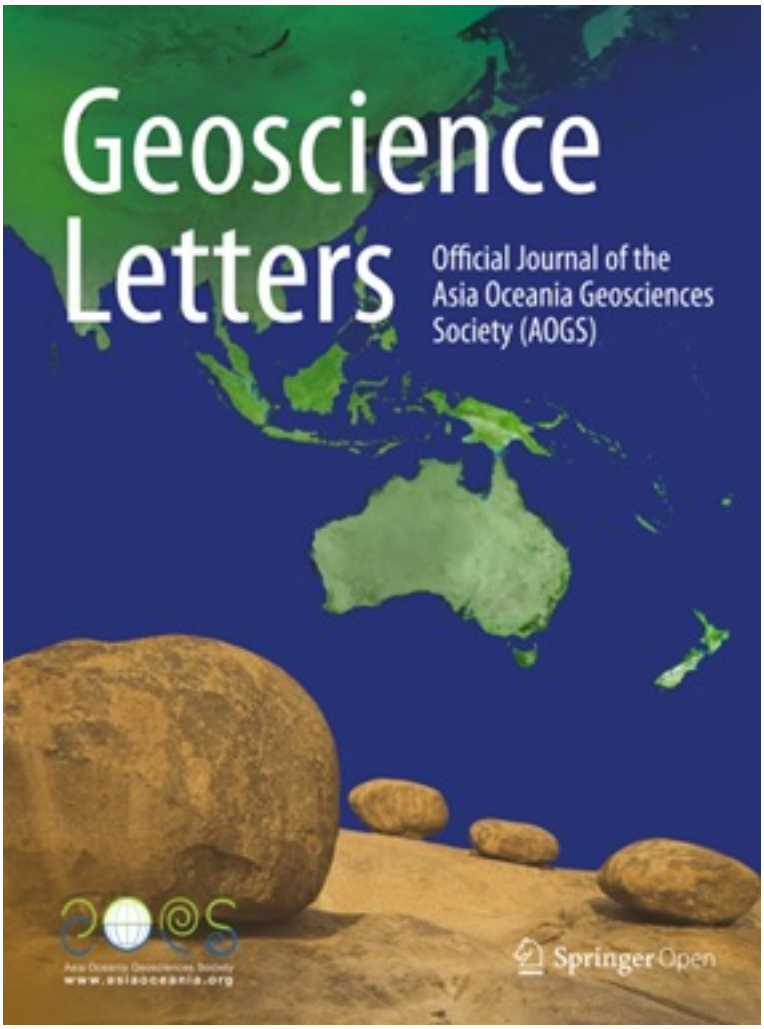
Geoscience Letters is the official journal of the Asia Oceania Geosciences Society, and a fully open access journal published as one of SpringerOpen journals. The AOGS consists of eight scientific sections: Atmospheric Sciences, Biogeosciences, Hydrological Sciences, Interdisciplinary Geosciences, Ocean Sciences, Planetary Sciences, Solar and Terrestrial Sciences, and Solid Earth Sciences, hence Geoscience Letters considers the papers in these fileds, and editorial board members are listed under these categories. The editorial board consists 20 members, including former section presidents of AOGS. Like section presidents, the board members are from many different countries/regions in Asia and Oceania, namely Japan, Korea, Taiwan, China, Vietnam, Singapore, India, United Arab Emirates, and Australia, and not dominated by any country.

Geoscience Letters was launched in 2014 and have published 68 papers by 2016 (volume 3). About a half of them are original research letters and the other half are review papers. The AOGS has encouraged the Axford (Society) lectures and Section Distinguished Lectures to submit their lectures as review papers.

Geoscience Letters publishes thematic collections. This is similar to the special issues in traditional journals and guest editors are invited. A significant difference is that the accepted papers are first published as regular papers. Once all the papers in the collection are published, they are collected and can be seen from different windows of the website. Unlike traditional paper publications, early papers do not need to wait until the last paper is accepted. So far, one collection with 14 papers are published, and a few more are on the way.

Keywords: Geoscience Letters, AOGS, journal, open access, Springer



Earth, Planets and Space, An Open Access Journal

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I am the editor in chief of the journal *Earth, Planets and Space (EPS)* since 2013. EPS is published on behalf of the following five societies; The Society of Geomagnetism and Earth, Planetary and Space Sciences, The Seismological Society of Japan, The Volcanological Society of Japan, The Geodetic Society of Japan, The Japanese Society for Planetary Sciences. These five societies are all society members of the Japan Geoscience Union.

EPS covers scientific articles in Earth and Planetary Sciences, particularly geomagnetism, aeronomy, space science, seismology, volcanology, geodesy, and planetary science. EPS also welcomes articles in new and interdisciplinary subjects, including instrumentations. Only new and original contents will be accepted for publication.

EPS was established in 1998 as a continuation of the two journals, the Journal of Geomagnetism and Geoelectricity (1949 to 1997) and the Journal of Physics of the Earth (1952 to 1997). In 2014 we started open access publication under the SpringerOpen platform. Open Access publication successfully shortened the publication time, increased visibility of the journal and widened its international readership.

EPS has the following four article types; Full Paper, Express Letter, Frontier Letter and Technical Reports. Full paper has no limit in size. Express Letter is a short article for a quick publication of new findings. Frontier Letter is a short article invited by the editor in chief. Technical report is for publication on a software tool or an experimental or computational method, test or procedure or hardware design.

We have expanded the editorial board members in 2017 to speed up the reviewing process. Editorial board members are international and we provide qualified reviews.

Special issues are important part of EPS. We welcomes special issue proposals on focused topics that are within the scope of the journal. Recent topics of the special issues are on the achievements of geoscientific projects or international conferences, or on geoscientific events, such as large earthquake events or volcano eruptions. Please contact me if you have a plan for special issues.

Keywords: Earth, Planets and Space, open access journal

Review of editorial work for PEPS in 2014-2016

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Progress in Earth and Planetary Science (PEPS) is a peer-reviewed, open-access electric journal published by the Japan Geoscience Union in partnership with Springer. It was launched in October 2013. Our first paper was published in April 2014 and by the end of the year 2016 we had published 113 scientific articles. During that period, the articles published in PEPS were cited approximately 400 times. PEPS is developing smoothly and becoming one of the leading journals in the field of earth and planetary science. Last year, we established a new category, “Data Paper”. Data papers in PEPS aims to preserve detailed raw research data and metadata (from experiments, numerical simulations etc.) and make these freely available to the research community for further analysis. Generally, review papers as well as original research articles are only allowed to include data (and metadata) which are directly relevant to the topics being discussed. In contrast, no such restriction is not applied to data papers and they may include data which was neither used in any subsequent research nor discussed in any published papers.
New strategy for 2017-2018 is in preparation and will be introduced in the JpGU meeting 2017.

Keywords: Open access e-journal, Progress in Earth and Planetary Science, Data paper

Current status and future development of Progress in Earth and Planetary Science

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Progress in Earth and Planetary Science (PEPS), a peer-reviewed open access e-journal, is the official journal of the Japan Geoscience Union (JpGU) and is published in partnership with Springer Nature (formerly BioMed Central). PEPS was launched on 22nd April 2014. JpGU is one of the leading global Earth and Planetary Science organizations, and has a total membership of about 10,000. The JpGU annual meeting is one of the four major Earth and Planetary Science meetings, with approximately 5,000 oral and poster presentations at recent meetings (the other three being held by the American Geophysical Union (AGU), the European Geosciences Union (EGU), and the Asia Oceania Geosciences Society (AOGS)). JpGU has memoranda of understanding with each of AGU, EGU, and AOGS to promote the development of international research activity.

As well as publishing original research PEPS also promotes review articles, which currently account for more than 30% of total publication. The PEPS editors feel that review articles provide an important and useful way for scientists to read organized views of new developments more quickly than they could by reading multiple original papers and without the delay of having to wait for such material to appear in book form. In the near future PEPS will take advantage of its e-journal format and start to publish data articles (which will consist of electronic data files accompanied by a short explanatory letter), thereby both preserving original data for the future and providing researchers with increased access to original data sets for review and analysis.

The journal has a distinguished international editorial board including, amongst others, the following highly cited researchers. At present half of the PEPS editorial board members are from foreign institutions. As the JpGU increases its efforts to hold joint symposia with other organizations (for example the 2014 joint symposium with AOGS) and to open further its annual meeting to the world community (the annual meeting will be held jointly with AGU in 2016 and 2017) there will be many opportunities to seek high quality submissions from a large author base from all over the world.

Keywords: Progress in Earth and Planetary Science, open access e-journal,, JpGU

Polar Science, trans-disciplinary journal for earth and environmental sciences in the Arctic and Antarctic

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Polar Science is an international, peer-reviewed quarterly journal published by the National Institute of Polar Research (NIPR) and Elsevier (https://www.journals.elsevier.com/polar-science/). It originated from the previous Proceedings series of symposia held by NIPR on Polar Upper Atmosphere Science, Polar Meteorology and Glaciology, Polar Geoscience, Antarctic Meteorite Research and Polar Bioscience, and the first issue of ***Polar Science*** was published in August 2007 as a regular international scientific journal under the direction of the Editor-in-Chief, Prof. Kazuo Shibuya (NIPR). The initiation of new journal was intended to promote the transmission of the results of polar research (especially of Japanese scientists) to the international communities and to produce a higher level of the circulation. Now, we have submissions from 30 nations, all over the world.
Polar Science is dedicated to publishing original research articles for sciences relating to the polar regions of the Earth, as well as other planets. It aims to cover 13 disciplines that cover most aspects of space, Earth, and life sciences. Published articles are included in ScienceDirect. ***Polar Science*** also has an Open Archive whereby articles are made freely available from ScienceDirect after an embargo period of 24 months from the date of publication. Prof. Takashi Yamanouchi (NIPR) took over the position of EIC from April 2015.
To encourage future research in the polar regions, restructuring of the disciplines is planned, especially the inclusion of social/humanity sciences. This direction was chosen due to the current trends of Arctic research to be much broader, not only in the field of natural science but also to include discussions with stake-holders (Indigenous people living in the Arctic, policymakers and citizens). Also in relation to Antarctic science (e.g., SCAR: Scientific Committee on Antarctic Research/ICSU) a new need for research in humanities and history has been recognised. In order to publish original research data/dataset, the new data journal “Polar Data Journal” has also been commissioned by NIPR (https://pdr.repo.nii.ac.jp/).

Keywords: Polar, Arctic, Antarctic, trans-disciplinary, journal

Polar Data Journal by National Institute of Polar Research

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The National Institute of Polar Research (NIPR), which serves as Japan's key institution for scientific research and observation in Polar Regions, launched Polar Data Journal, a new data journal, this January. Polar Data Journal is a free-access and peer-reviewed online journal. It is dedicated to publishing original research data/datasets, furthering the reuse of high-quality data for the benefit to polar sciences.

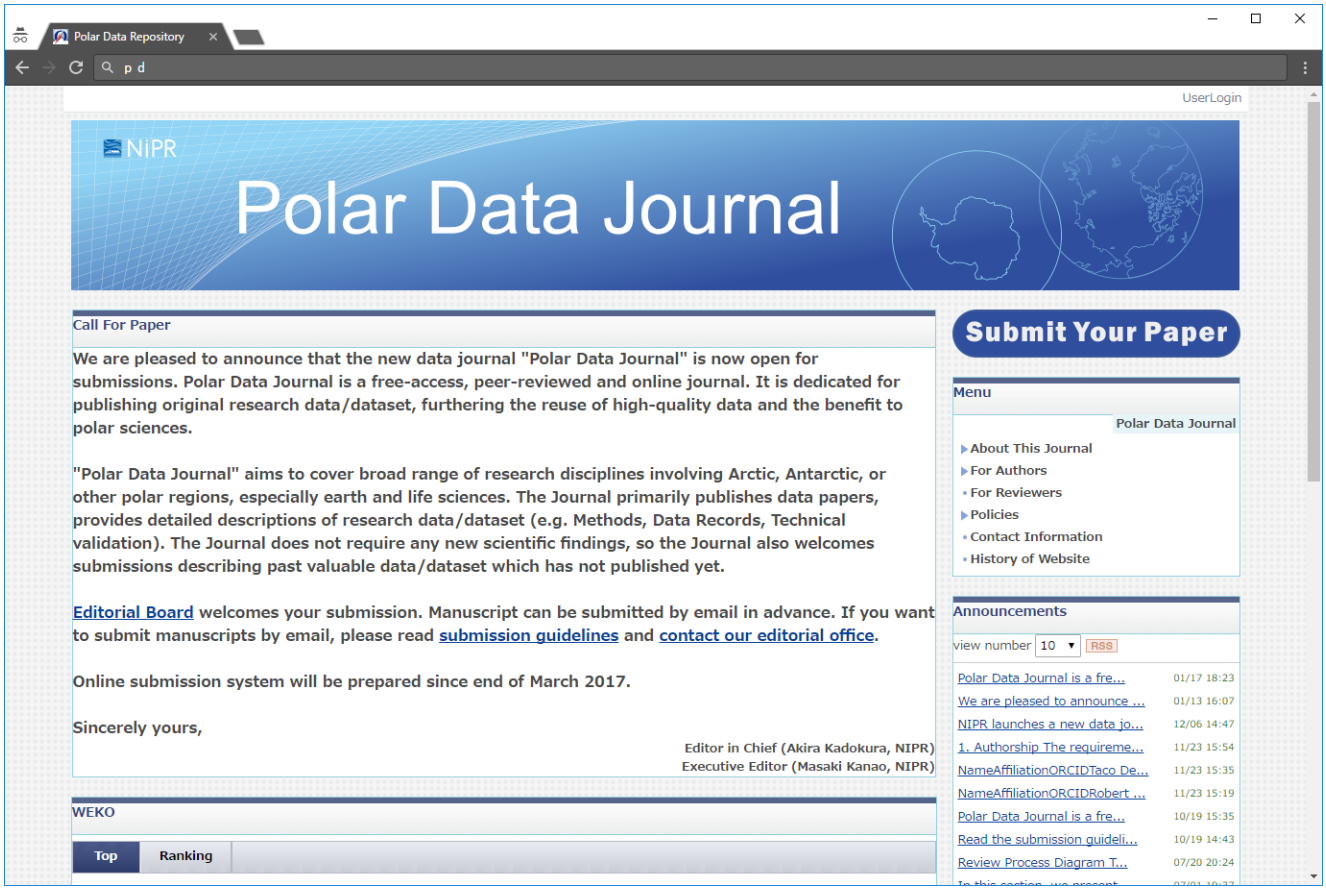
Polar Data Journal aims to cover a broad range of research disciplines involving polar regions, especially the earth sciences and life sciences domain. The journal primarily publishes data papers, which provide detailed descriptions of research data/datasets (e.g., Methods, Data Records, and Technical Validation). It is not required that the data papers published in this journal depict any new scientific findings; hence, the journal also welcomes submissions describing valuable existing data/datasets that have not been published to date.

Some key features of the new journal are as follows:
- Polar Data Journal is a peer-reviewed journal that aims to provide high-quality data to researchers.
- It is a free-access journal.
- Polar Data Journal is thoroughly edited using an online editing system for quick publishing.
- The journal content is reviewed by an editing committee, which will disclose the reviewer's reports in each article of a volume.

The platform of Polar Data Journal is powered by WEKO (JAIRO Cloud), which is developed and operated by the National Institute of Informatics (NII), Japan.

For more information, please visit https://pdr.repo.nii.ac.jp/

Keywords: Open Science, Data Journal, Polar, DOI



Frontiers: Publishing solutions and technology for the 21st century

*Nicholas Fraser[1], Daisy Hessenberger[1]

1. Frontiers

There is an ever-increasing tide of written manuscripts and research findings: last year alone 2.5 million research items were added to the Web of Science. Yet a large proportion of this research is delayed from publication in inefficient peer review systems and cascades of rejection, collectively holding back the publication of sound scientific research by thousands of years. Reviewers and editors are also becoming increasingly burdened by their peer review duties, putting a greater onus on publishers to improve the efficiency of their systems whilst maintaining a rigorous assessment process.

Frontiers tackles both of these issues by taking an impact neutral, collaborative approach to peer review, assisted by our unique digital tools. Authors, editors and reviewers collaborate on each individual article within our online forum, with the mandate to only accept science that is objectively sound. In doing this we decouple the processes of peer review and impact evaluation. The latter is instead achieved by empowering our communities to reach their own democratic decisions via innovative article-level metrics.

The next challenge for publishers is to disseminate this vast body of research in a useful way. As article-level metrics collect more and more data, can this be used to accurately label the impact of an article, or even a researcher? Can research networks, in collaboration with ORCID, assist with the personalized dissemination of research?

Open access publishers such as Frontiers are leading the way in terms of innovation; we look to the future to see what academic publishing in the 21st century should look like, and what tools we can use to achieve this.

Keywords: Publishing, Open Access

