

International Symposium on Data Science (DSWS-2023)

- Building an Open Data Collaborative Network in the Asia-Oceania Area -

11 – 15 December 2023

Science Council of Japan
Roppongi, Minato-ku, Tokyo, Japan
(hybrid type conference)

Background and Scope:

One of the objectives of the Open Science community is to develop and support new research and technologies based on the vast quantities of data being produced from a broad variety of scientific domains. The importance of the FAIR (Findable, Accessible, Interoperable, and Reusable) Principles for data have been recognized for data-oriented activities in this era of open science, leading to efforts to develop Open Data infrastructure, including: enhanced and integrated metadata catalogues, metadata standards for research data management, and certification of data repositories, among others. In addition, the use of persistent identifiers (PIDs; e.g., Digital Object Identifiers) for people, places, and other entities is becoming best practice in preservation and provision of data produced by their research activities.

Further effort is still needed to resolve various challenges relating to scientific research data, particularly the sharing and reuse of such data. Although the importance of multidisciplinary data integration has been widely advocated, data reuse by scientists within and across disciplines is still not easy from the point of view of the FAIR Principles. For example, there may be difficulties in discovering and accessing the data or insufficient information on the data to enable easy analysis. Often additional information is needed to assist when sharing data with a general audience, including policymakers. To improve the situation, it is important to stimulate collaborations among scientists from various disciplines, and to establish systems that facilitate the interactions between the users and providers of research data.

In response to the above challenges, this session welcomes submissions (either for “Research” or “Practice” presentations) on the following topics involving data-oriented activities in Asia and Oceania area among global scientific and/or non-scientific associations/initiatives. For example, sophisticated data sharing platforms have been planned and developed in the Asia-Oceania area through discussions held as part of previous conferences hosted by the World Data System (WDS). The goal of this session is to build consensus on various aspects of research data management by stakeholders in alignment with open research policies and FAIR principles. The session will explore

new ways of promoting interdisciplinary and collaborative research, data management platforms, and efficient data reuse under different scientific disciplines based on evidence and feedback from the Asia and Oceania communities.

It is expected that this conference will lead to a better mutual understanding of various aspects of data management by different stakeholders, and will open new paths for pursuing activities in different fields of science. The activities will play a central role in the promotion of inter-disciplinary sciences and new collaborative research paths based on multi-disciplinary data and directly contribute to global data activities based on the facilities provided by the "Joint Support-Center for Data Science Research (DS)" of the "Research Organization of Information and Systems (ROIS)".

Session Themes :

The session topics to be discussed in the symposium are:

- **Opening session, Keynote talks:** Conveners: *Masaki Kanao, Johnathan Kool, Juanle Wang
 - ✓ Opening addresses from conference organizers.
(Local Advisory Committee, International Advisory Committee, International Science Council)
 - ✓ Keynote talks by invited speakers.
 - ✓ Introduction of the symposium content, housekeeping issues, etc.

- **Challenges of data systems and networks:** Conveners: *Johnathan Kool, Toshihiko Iyemori, Chantelle Verhey, Susumu Goto, Jens Klump, Takashi Watanabe, Jung-Ho Um, Masaki Kanao
 - ✓ Sharing information on current status and activities of for creating and operating individual and organisational data centres and FAIR data repositories.
 - ✓ Discussions on international initiatives and alliances on collaborative disciplinary data systems and institutional data centres/repositories.
 - ✓ Sharing information on practices and practical challenges for stable, sustainable and/or transparent operation and development of data systems and repositories in a realistic environment and regulations.
 - ✓ Sharing information on regional activities regarding research data networks and discussing opportunities for promoting collaboration.

- **Open Science and the FAIR Principles: Why, what, and how:** Conveners: *Rorie Edmunds, Estelle Cheng, Hideaki Takeda, Kazuhiro Hayashi, Toshihiro Ashino
 - ✓ The FAIR Principles describe how research outputs, both physical and digital, should be findable, accessible, interoperable, and reusable. These concepts go hand-in-hand with ensuring the research endeavour is trustworthy and transparent under Open and Global Research Infrastructure. But, what can organizations and individuals do to ensure their research outputs are FAIR and Open? What methods, tools, and infrastructures are available to help them? What guidance exists for them to follow? With a focus on initiatives in the Asia–Oceania region, this session will present practice papers highlighting current trends for implementing Openness and FAIRness from perspectives such as FAIR-enabling frameworks and infrastructure, Open Science policy, and technologies that support multidisciplinary use of research outputs. Significant time will be devoted to discussion among (in-person and virtual) speakers and participants.

- **Lessons learned from COVID-19 data:** Conveners: *Tomoya Baba, Tadahiko Maeda, Mari Minowa, Elaine Faustman
 - ✓ Sharing information on COVID-19-related data across disciplines, covering social, genomic and biological aspects in the Asia and Oceania area.

- ✓ Exploring the global impact of COVID-19, the role of research collaboration and data sharing in mitigating effects of future pandemics. As this session has a broad international interest, all COVID-19-related data issues are welcome.
- **Recent developments in data science:** Conveners: *Asanobu Kitamoto, Kassim S. Mwitondi
 - ✓ Presentations on the applications of advanced data technologies for open science, such as big-data analysis, applications of machine-learning techniques, Artificial Intelligence, and data assimilation.
 - ✓ Reporting on new research projects leveraging multi-disciplinary data sources and interdisciplinary data-led technology innovations.
 - ✓ Developing recommendations to support data activities addressing open science, data-centric research and over-arching societal challenges across the Sustainable Development Goals (SDGs).
- **Involvement of early career researchers and scientists:** Conveners: *Shuji Abe, Akira Kadokura, Masahito Nose, Toshihiro Ashino, Susumu Goto, Takashi Watanabe, Maja Dolinar
 - ✓ A forum for young-generation researchers and scientists in the Asia-Oceania area to identify current and future societal challenges. This session is led by the WDS Early Career Researchers (ECR) Network Reports.
 - ✓ Developing proposals on training and activities aimed at increasing engagement of young researchers and scientists in the broad data science community.
- **Asia-Oceania data forum:** Conveners: *Yasuhiro Murayama, Toshihiko Iyemori, Toshihiro Ashino, Takashi Watanabe, David Castle, Juanle Wang
 - ✓ The forum will be an attempt of networking of data repositories and data sciences in the Asia-Oceania area, including WDS, CODATA and other international activities.
 - ✓ Discussions will be important on current status and future of open data/science infrastructures in the Asia-Oceania region, as well as in context of international global science data platform.
- **GEO variables and data mapping for Cold Regions:** Conveners: *Yubao Qiu, Hiroyuki Enomoto, Masaki Kanao, Lanhai Li
 - ✓ Global warming threatens the world's cold regions, while the essential variables of the Group on Earth Observations (GEO) provide mapping schemes for the data in the current EO system.
 - ✓ In this session, the GEO Cold Regions Initiative (GEO CRI) calls for a gathering of the GEO variables for cold regions and mapping existing or emergency data products for tackling the challenge of the warming world.
 - ✓ The topics could be essential variables, GEO data system, and data application, and pilot services using the data stream, and cases studies over cold regions by GEO.
- **Strategic discussion:** Conveners: *Takashi Watanabe, Juanle Wang, David Castle, Johnathan Kool, Noorsaadah Abd Rahman
 - ✓ The organizers provide opportunities for conducting individual committee meetings, data networks, and interdisciplinary research groups to discuss future activities in the Asia and Oceania area.
 - ✓ Focus on specific data-driven applications in the region, institutional collaborations and operational requirements and resources.

Invited Speakers:

Johnathan Kool (Australian Antarctic Division, Data Center)

Yubao Qiu (GEO Cold Regions Initiative (GEOCRI), International Research Center of Big Data for Sustainable

Development Goals)

Juanle Wang (Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences)

Kassim S. Mwitondi (Sheffield Hallam University)

Chantelle Verhey (WDS-International Technology Office)

Jens Klump (Mineral Resources, CSIRO)

Lanhai Li (Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences)

David Castle (University of Victoria)

Jung-Ho Um (Korea Institute of Science and Technology Information)

Noorsaadah Abd Rahman (Malaysian Open Science Alliance)

Pei-shan Liao (Research Center for Humanities and Social Sciences, Academia Sinica)

Maja Dolinar (University of Ljubljana)

Kannan Palavesam (Information and Library Network Centre, India)

Estelle Cheng (ORCID)

A.P.Dimri (Indian Institute of Geomagnetism)

Tyng-Ruey Chuang (Institute of Information Science, Academia Sinica)

Madiareni Sulaiman (University College London)

Conference Week Schedule:

Monday 11 December 2023; Registration, Ice breaker dinner

Tuesday 12 December 2023; Public lectures (in Japanese), Reception

Wednesday 13 December 2023; Symposium (Sessions; day 1), Banquet

Thursday 14 December 2023; Symposium (Sessions; day 2), Working dinner

Friday 15 December 2023; Symposium (Sessions; day 3), Strategic discussion

Conference Venue:

Science Council of Japan

Roppongi, Minato-ku, Tokyo, Japan

<https://www.scj.go.jp/en/index.html>

Followings are reference websites for the access to Roppongi (near SCJ) from the Airports (Haneda & Narita)

<https://www.asiacenter.or.jp/eng/location/> (Hotel Asia Center of Japan)

<https://www.grips.ac.jp/en/about/access/> (National Graduate Institute For Policy Studies)

<https://en.tokyo-midtown.com/access/#airport> (Tokyo Midtown)

Conference Programme (hybrid type conference) :

(Time; JST = UTC+9h)

Dates	Morning (10:00-12:00)	Lunch Time (12:15-14:00)	Afternoon-1 (14:00-15:30)	Afternoon-2 (16:00-17:30)	Dinner Time (19:00-)
11 DEC (MON)			Registration	Registration	Ice breaker dinner
12 DEC (TUE)	Registration		Public Lectures (in Japanese)	Public Lectures (in Japanese)	Reception

13 DEC (WED)	Opening session, Keynote talks	Poster Session (Lightning talks 1; 11:50-12:05) (Core time 1; 13:00-14:00)	Session 1: Challenges of data systems and networks	Session 2: Open Science and the FAIR Principles	Banquet
14 DEC (THU)	Session 3: Lessons learned from COVID-19 data	Poster Session (Lightning talks 2; 12:00-12:15) (Core time 2; 13:00-14:00)	Session 4: Recent developments in data science	Session 5: Involvement of early career researchers and scientists	Working dinner
15 DEC (FRI)	Session 6: Asia-Oceania data forum	Poster Session (Lightning talks 3; 12:00-12:15) (Core time 3; 13:00-14:00)	Session 7: GEO variables and data mapping for Cold Regions	Strategic discussion, Closing remark	

Presentations:

Oral Presentations:

All oral presentations will be made via the online Meeting Application (Zoom Webinar).

Presenters can attend the “Zoom Webinar” by either “in person at the Science Council of Japan” or by “online”.

Presenters are allocated for 10-30 min. of talks depending on the programme of each session.

Detail of the link information on the Zoom meeting room for all sessions will be sent prior to the conference.

Preparation guideline for Oral presentations is available from here (posted: November 5, 2023).

Poster Presentations:

All poster presentations will be made in the virtual chat space (e.g., Spatial Chat).

Presenters can attend the “Spatial Chat” only by “online” and display their poster files during three days in 13-15 DEC.

Core presentation times in the “Spatial Chat” are allocated for the corresponding sessions in each day (13:00-14:00 JST, 13-15 DEC).

Lightning talk times are allocated by 1 minute for individual presenters just after the morning sessions in each day (13-15 DEC).

Detail of the link information on the Spatial Chat will be sent prior to the conference.

Preparation guideline for Poster presentations is available from here (posted: November 5, 2023)

The Spatial Chat User Guideline is available from here (posted: December 5, 2023)

Registration:

Pre-conference registration was finished. (deadline: 30 November 2023)

No registration fee is required to attend the conference.

Onsite registration desk will be open on 11 December (late afternoon) at the Science Council of Japan.

Accommodation and Dining:

As there are many hotels around central Tokyo area, participants are recommended to make their own reservations for their accommodation.

The LOC is ready to reserve several rooms for invited speakers and foreign participants in “[Hotel Asia Center of Japan](#)” located about 10 minutes’ walk in north-west direction from the Science Council of Japan.

When invitation letter and/or VISA application form to come Japan are required, please inform to the LOC.

There are many restaurants around Nogizaka & Roppongi area and the Science Council of Japan. Lunch will not be served at the conference venue; therefore, delegates of the conference are recommended to use the restaurants in the vicinity of the Science Council of Japan.

A good resource for identifying the “halal” restaurants in Tokyo can be found here:

<https://www.halalgourmet.jp/?fbclid=IwAR2YEpC7LBB3U3hn-j2wl9MgwSz9CfM-Fp9nGkPJ5olaNzaE4CbcMLPgZh0>

It also seems to have an option for scanning for vegetarian menu when necessary.

✓ [SAMRAT Minami Aoyama](#) (near the Asia Center Hotel of Japan)

Social Events:

There will be several social events as follows (public lectures, icebreaker dinner, reception, banquet, working dinner, etc.). All events can be registered from the "[Pre-conference registration Form](#)". (Times are written by JST in the followings)

(* formal events; reception & banquet)

- **Ice breaker dinner** (11 DEC 19:00–21:00). This is a town hall type casual dinner and will take place at a [Japanese-type restaurant](#) near the Science Council of Japan. Participation fee is approximately 5,000 JPYen. Vegetarian menu is not provided. (table sitting style dinner)
- **Public Lectures** (12 DEC 13:30–17:30). The public lectures are held for the general public, and it will be delivered in Japanese at the lecture hall of the Science Council of Japan. Final programme can be downloaded here.
- ***Reception** (12 DEC 19:00–21:00). This is a welcome party for the conference participants and will take place at a restaurant in “[Hotel Asia Center of Japan](#)” near the Science Council of Japan. Participation fee is approximately 6,000 JPYen. Vegetarian menu can be provided. (buffet style dinner)
- ***Banquet** (13 DEC 19:00–21:00). This is a format event of the international symposium and will take place at a [Chinese-type restaurant](#) near the Science Council of Japan. Participation fee is approximately 6,000 JPYen. Vegetarian menu is not provided as the course menu, basically, but you may order them by specific plates. (table sitting style dinner)
- **Working dinner** (14 DEC 19:00–21:00). This is a town hall type casual dinner and will take place at a [Western-type restaurant](#) near the Science Council of Japan. Participation fee is approximately 6,000 JPYen. Vegetarian menu is not provided. (buffet style dinner)

All payments for attending the foregoing events must be made at the registration desk of the conference, or at the desks for individual events.

More detailed information will be announced at the conference venue.

Special Issue:

The organizing committee is planning to launch the “Special Collection” in the Data Science Journal

(<https://datascience.codata.org/>) as a special issue volume of the DSWS-2023 symposium.

Title of the Special Collection:

Building an Open Data Collaborative Network in the Asia-Oceania Area

- **Scope:**

This special collection derives from the International Symposium on Data Science (DSWS-2023; https://ds.rois.ac.jp/article/dsws_2023) that was held in Tokyo, Japan (11-15 December 2023). The symposium was organized by the Joint Support-Center for Data Science Research, Research Organization of Information and Systems (ROIS-DS) in collaboration with the Committee of International Collaborations on Data Science and the Science Council of Japan (SCJ). The event was also strongly supported and facilitated by the global data community, led by the World Data System (WDS) and the Committee on Data (CODATA) of the International Science Council (ISC). It aimed to facilitate information exchange regarding the archiving, publication, and utilization of diverse data relating to societal and global challenges such as COVID-19, information proliferation, global warming, extreme weather events, regional conflicts, etc., and their impact on the Asia-Oceania region.

The symposium was organized in several interdisciplinary scientific sessions involving international data activities in the Asia-Oceania region and beyond. They included various aspects of accreditation schemes and their benefits, individual international initiatives, data centres and networks, data management planning, data policies, legacy data, historical data, data sharing, citation and publication across disciplines.

Over 80 presentations were made, triggering fruitful discussions that focused on forming international collaborative networks related to open data in the region and establishing concrete cooperation frameworks within the global framework. The goal of the symposium was to build consensus on various aspects of research data management by stakeholders in alignment with open research policies and FAIR principles. The conducted scientific sessions could potentially lead to new ways of promoting interdisciplinary and collaborative research, data management platforms, and efficient data reuse under different scientific disciplines, based on evidence and feedback from the Asia and Oceania communities.

This special collection targets articles that outline best practices for attaining the foregoing goal. In particular, it seeks to publish research articles that relate to developing data systems and data analysis procedures from a multidisciplinary viewpoint. Contributions are not restricted to presentations made at the symposium, and so the editors would welcome submissions from any authors, globally, whose research and practical interests align with the symposium themes.

Further inquiries regarding the Special Issue can be directed to the Guest Editors.

- **Guest Editors:**

Tomoya Baba (Research Organization of Information and Systems)

David Castle (University of Victoria)

Tyng-Ruey Chuang (Institute of Information Science, Academia Sinica;
Editorial Board of the Data Science Journal)

Masaki Kanao (Research Organization of Information and Systems)

Johnathan Kool (Australian Antarctic Division)

Kassim S. Mwitondi (Sheffield Hallam University)

Yubao Qiu (GEO Cold Regions Initiative)

Juanle Wang (China Academy of Science; Editorial Board of the Data Science Journal)

- **Expression of Interest (Eoi):**

Please input your Expression of Interest for the "Special Collection" to the following Google Form; <https://docs.google.com/forms/d/e/1FAIpQLSeENmAbBSBeHgLow5tybfljYnsudjZzaiKUi1i7Aoz9AR4MhA/vie/wform>

You are required to input the information on "Author(s), Affiliation(s), Contact Address and Tentative Article Title(s)". This Eoi Form will be closed by 29 February 2024.

- **Deadline of Article Submission: 31 July 2024**
- **Final Publishing Online for All Articles: 31 March 2025 (provisional)**

International Advisory Committee (IAC) : (* Chair)

- * Johnathan Kool (Australian Antarctic Division, Data Center)
- David Castle (University of Victoria)
- Estelle Cheng (ORCID)
- A. P. Dimri (Director, Indian Institute of Geomagnetism)
- Maja Dolinar (University of Ljubljana)
- Rorie Edmunds (DataCite)
- Elaine M. Faustman (University of Washington)
- Meredith Goins (WDS-International Program Office)
- Simon Hodson (Executive Director, CODATA)
- Jens Klump (Mineral Resources, CSIRO)
- Lanhai Li (Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences)
- Pei-shan Liao (Research Center for Humanities and Social Sciences, Academia Sinica)
- Claudia Bauzer Medeiros (Institute of Computing, University of Campinas)
- Kassim S. Mwitondi (Sheffield Hallam University)
- Mark Parsons (CODATA Data Science Journal, Editor in Chief)
- Yubao Qiu (GEO Cold Regions Initiative (GEOCRI), International Research Center of Big Data for Sustainable Development Goals)
- Noorsaadah Abd Rahman (Malaysian Open Science Alliance)
- Jung-Ho Um (Korea Institute of Science and Technology Information)
- Chantelle Verhey (WDS-International Technology Office)
- Juanle Wang (Institute of Geographic Sciences and Natural Resources Research, China Academy of Science)

Local Advisory Committee (LAC) : (* Chair)

- * Hiroyuki Araki (Joint Support-Center for Data Science Research, ROIS)
- Toshihiro Ashino (Toyo University)
- Hiroyuki Enomoto (National Institute of Polar Research, ROIS)
- Susumu Goto (Database Center for Life Science, DS, ROIS)
- Kazuhiro Hayashi (National Institute of Science and Technology Policy)
- Asanobu Kitamoto (Center for Open Data in the Humanities, DS, ROIS)
- Yuji Kohara (Database Center for Life Science, DS, ROIS)
- Tadahiko Maeda (Center for Social Data Structuring, DS, ROIS)
- Hideki Noguchi (Center for Genome Informatics, DS, ROIS)
- Masahito Nose (Nagoya City University)
- Hideaki Takeda (National Institute of Informatics, ROIS)
- Seiji Tsuboi (Japan Agency for Marine-Earth Science and Technology)
- Genta Ueno (Center for Data Assimilation Research and Applications, DS, ROIS)

Local Organizing Committee (LOC) : (* Chair)

- * Masaki Kanao (Polar Environment Data Science Center, DS, ROIS)

Shuji Abe (Polar Environment Data Science Center, DS, ROIS)
Tomoya Baba (Data Science Promotion Section, DS, ROIS)
Mamoru Ishii (National Institute of Information and Communications Technology)
Toshihiko Iyemori (Kyoto University; International Union of Geodesy and Geophysics; WDS-SC)
Akira Kadokura (Polar Environment Data Science Center, DS, ROIS)
Kumiko Kanekawa (Data Science Promotion Section, DS, ROIS)
Yashuhisa Kondo (Research Institute for Humanity and Nature)
Masayoshi Kozai (Polar Environment Data Science Center, DS, ROIS)
Mari Minowa (Data Science Promotion Section, DS, ROIS)
Yasuhiro Murayama (National Institute of Information and Communications Technology)
Akihiko Nomizu (Data Science Promotion Section, DS, ROIS)
Jun'ichi Okuno (Polar Environment Data Science Center, DS, ROIS)
Kunio Takahashi (Polar Environment Data Science Center, DS, ROIS)
Yoshimasa Tanaka (Polar Environment Data Science Center, DS, ROIS)
Takashi Watanabe (WDS Japan)

Organized by:

Joint Support-Center for Data Science Research (DS), Research Organization of Information and Systems (ROIS)
Committee of International Collaborations on Data Science, Science Council of Japan (SCJ)

Supported by:

National Institute of Information and Communications Technology (NICT)
Research Organization of Information and Systems (ROIS)
DNA Data Bank of Japan (DDBJ)
World Data System (WDS) of the International Science Council (ISC)
Committee on Data (CODATA) of the International Science Council (ISC)
Science Council of Japan (SCJ)

Important Dates:

Registration & Abstract submission open: 1 June 2023
Fixing the speakers & program of the oral sessions: 31 August 2023
Abstract file submission deadline: 30 September 2023
Program booklet online: 1 November 2023
Registration deadline: 30 November 2023
Symposium date: 11-15 December 2023

Contact Address:

dsws.loc-2023@nipr.ac.jp

Workshop Website :

https://ds.rois.ac.jp/article/dsws_2023/



