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International collaboration activities for open sciences and data sciences by the Polar Environment Data Science Center, Tokyo, Japan

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Polar Environment Data Science Center (PEDSC) of the Joint Support-Center for Data Science Research (DS), the Research Organization of Information and Systems (ROIS) aimed to promote opening and sharing scientific data obtained by research activities in polar regions. Its purpose is to strengthen collaboration with universities and other communities, and to support creation of further scientific outputs and advancement of polar research. PEDSC is also expected to play a role of the national data center for polar science in Japan. In this presentation, several international collaborative activities regarding open and data sciences conducted by PEDSC are introduced.

1) Invitation of the International Strategic Advisors

A total of five famous researchers / data managers from UK, China and Australia were invited by PEDSC to serve as the ROIS International Strategy Advisor in FY2022, 2023 and 2024 (+2025 as planned). They stayed at ROIS and had fruitful meetings and discussions with the staff of ROIS-DS and gave precious advice and suggestions in terms of data management and operation of ROIS and PEDSC. They also made related research presentations at institutional seminars and international symposiums such as DSWs. These invitations made strength the collaboration not only with two institutions where they are belongings and ROIS, but also among open and data science communities in the areas of Asia and Oceania, as well as global data initiatives such as WDS and CODATA.

2) Organizing International Data Science Symposium

PEDSC organized several international conferences hosted by Japan, with many participants from overseas. 1) International Workshop on Sharing, Citation and Publication of Scientific Data across Disciplines (DSWS-2017, December 2017, Tachikawa, Tokyo), 2) International Workshop on Data Science - Present & Future of Open Data & Open Science - (DSWS-2018, November 2018, Mishima, Shizuoka), 3) International Symposium on Data Science - Global Collaboration on Data beyond Disciplines - (DSWS-2020, September 2020, online), 4) International Symposium on Data Science 2023 - Building an Open-Data Collaborative Network in the Asia-Oceania Area - (DSWS-2023, December 2023, Science Council of Japan (hybrid conference), https://ds.rois.ac.jp/article/dsws_2023). Special issues for 3) and 4) are published as the Special Collection in the CODATA Data Science Journal (<https://datascience.codata.org/collections/open-data-collaborative-network>).

3) SCAR - Standing Committee on Antarctic Data Management (SCADM)

The Scientific Committee on Antarctic Research (SCAR) under the International Science Council (ISC) has established the Standing Committee on Antarctic Data Management (SCADM) to discuss data management and publication in the Antarctic and exchange information regarding data activities in polar regions. SCADM has developed a data policy called the Data and Information Management Strategy of SCAR. SCADM also requests that each country involved in Antarctic observations should establish a National Antarctic Data Center (NADC). In addition to the in-person meetings once a year, including the SCAR General Meeting every two years, SCADM conducts monthly online meetings to facilitate close information exchange.

PEDSC has been served as the NADC in Japan and participates in the SCADM related activities. As a part of NADC activities, PEDSC publishes metadata and data obtained from polar regions through a Polar Science Database (<http://scidbase.nipr.ac.jp/>). The information registered is also forwarded to the Antarctic Master Directory (AMD) within the Global Change Master Directory (GCMD) of NASA. The GCMD aggregates metadata from SCADM countries.

As related activities, SCADM collaborates with the International Arctic Science Committee (IASC) under ISC and WDS, CODATA and has been continuously holding international symposiums (Polar Data Forum; PDF)

since 2013. PEDSC has been involved in organizing the PDFs from the first symposium (2013 at the National Museum of Nature and Science in Tokyo).

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