

PROGRAMME

International Symposium on Data Science (DSWS-2023)

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

13 – 15 December 2023

Science Council of Japan, Tokyo (hybrid type conference)

(Blue Colour; Online Presentations)

(Time; JST = UTC+9h)

Wednesday 13 December 2023

Opening session, Keynote talks (10:00-12:00 JST)

Conveners: *Masaki Kanao, Johnathan Kool, Juanle Wang

10:00–10:40 **Opening addresses** (Chair: Masaki Kanao)

- **Hiroyuki Araki** (Chair of Local Advisory Committee; Director-General, Joint Support-Center for Data Science Research (DS), ROIS) (5')
- **Johnathan Kool** (Chair of International Advisory Committee; Data Center Manager, Australian Antarctic Division) (5')
- **Motoko Kotani** (Chair of the Committee of Science Planning (CSP), Vice President for Science and Society, international Science Council; Tohoku University) (10')
- **David Castle** (Chair of Scientific Committee of World Data System; University of Victoria) (10')
- **Masaki Kanao** (Chair of Local Organizing Committee), outline of symposium & practical information (5')

10:40–10:50 **Coffee break**

10:50–11:50 **Keynote talks** (Chairs: Johnathan Kool, Juanle Wang)

Keynote 1: *Challenges of Open science data governance and China's practice*

Juanle Wang (Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences) (15'; Keynote.1)

Keynote 2: *Malaysian Open Science Platform (MOSP)*

Noorsaadah Abd Rahman (Malaysian Open Science Alliance) (15'; Keynote.2)

Keynote 3: *GEO Cold Regions Initiative (GEOCRI)*

Yubao Qiu (Aerospace Information Research Institute, Chinese Academy of sciences) (15'; Keynote.3)

Keynote 4: *International Collaborative Data Management – Challenges and Opportunities*

Johnathan Kool (Australian Antarctic Division) (15'; Keynote.4)

11:50–12:05 **Lightning Talks 1 (Poster Sessions)**

12:05–12:15 **Group photo @ SCJ in person & Zoom screen**

12:15–14:00 **Lunch Time**

13:00–14:00 **Core Time 1 (Poster Sessions)**

Wednesday 13 December 2023

Session 1: Challenges of data systems and networks (14:00-15:30 JST)

Conveners: *Johnathan Kool, Toshihiko Iyemori, Chantelle Verhey, Susumu Goto, Jens Klump, Takashi Watanabe, Jung-Ho Um, Masaki Kanao

14:00– 15:30 (Chairs: Chantelle Verhey, Jens Klump, Jung-Ho Um)

- *Modernisation of the AuScope Virtual Research Environment – Design and lessons learnt*
Jens Klump (Mineral Resources, Commonwealth Scientific and Industrial Research Organization) (15'; S1.1)
- *DataON: platform for discovery and analysis of research data*
Jung-Ho Um & SeungBock Lee (Korea Institute of Science and Technology Information) (15'; S1.2)
- *Enhancing Social Science Research in East Asia: An Introduction to SRDA and NASSDA*
Pei-shan Liao (Research Center for Humanities and Social Sciences, Academia Sinica, Taiwan) (15'; S1.3)
- *BigFlow: The End-to-End Workflow Framework for Cross-Center Scientific Data Analysis*
Xiaojie Zhu (Computer network Information Center, Chinese Academy of Sciences) (15'; S1.4)
- *Polar data Discovery and Mobilization Pathways*
Chantelle Verhey (WDS-International Technology Office) (15'; S1.5)

Discussion (15')

15:30–16:00 **Break**

Wednesday 13 December 2023

**Session 2: Open Science and the FAIR Principles:
Why, what, and how (16:00-17:30 JST)**

Conveners: *Rorie Edmunds, Estelle Cheng, Hideaki Takeda, Kazuhiro Hayashi, Toshihiro Ashino

16:00—17:30 (Chairs: Rorie Edmunds, Estelle Cheng)

- *You Can't Make Science Open Without Committing to PIDs*
Estelle Cheng (ORCID)
Rorie Edmunds (DataCite) (15'; S2.1)
- *Open Science and FAIR Principles in Indonesia*
Hermin Triasih & Seno Yudhanto (National Research and Innovation Agency, Indonesia) (12'; S2.2)

- *IRINS: Building FAIR Research information System in India*
Kannan Palavesam (Information and Library Network Centre, India) (12'; S2.3)
- *An Advanced identifier architecture for enabling FAIR principle: Global Open Identifier*
Jia Liu (Computer Network Information Center, Chinese Academy of Sciences) (12'; S2.4)
- *Open Science Policy Development in Japan: Importance of an intermediate sector balancing between Top-down and Bottom-up*
Kazuhiro Hayashi (National Institute of Science and Technology Policy, Japan) (12'; S2.5)
- *Making FAIR Scale*
Erik Schultes (GO FAIR Foundation & Leiden Academic Center for Drug Research) (12'; S2.6)

Discussion (15')

Thursday 14 December 2023

Session 3: Lessons learned from COVID-19 data (10:00-12:00 JST)

Conveners: * Tomoya Baba, Tadahiko Maeda, Mari Minowa, Elaine Faustman

10:00–12:00 (Chairs: Tomoya Baba, Tadahiko Maeda)

- *Reviewing COVID-19 Management in Practice by a comparative study of India, Taiwan, USA and Japan through the Perspective of TQM and Preparing for Future pandemics*
Kazuyuki Suzuki (University of Electro-Communications, Japan) (20'; S3.1)
- *Towards a global and integrated wastewater surveillance system: a review of historical and latest activities*
Noriko Endo (Kyoto University, Japan) (20'; S3.2)
- *Wastewater Surveillance Data: Tracking Imported SARS-CoV-2 Variants*
Jatuwat Sangsanont (Chulalongkorn University, Thailand) (20; S3.3')
- *Harnessing Advanced Data Science and Machine Learning in Smart Wastewater-Based Epidemiology*
Guangming Jiang (University of Wollongong, Australia) (20'; S3.4)
- *Airborne surveillance of bioaerosol in built environment for future pandemic preparedness: Beyond COVID-19*
Irvan Luhung (Nanyang Technological University, Singapore) (20'; S3.5)
- *Issues of Digital Sequence Information (DSI) emerged from the COVID-19 pandemic*
Masanori Arita (DNA Data Bank of Japan, National Institute of Genetics, Japan) (20'; S3.6)

12:00–12:15 **Lightning Talks 2 (Poster Sessions)**

12:15–14:00 **Lunch Time**

13:00–14:00 **Core Time 2 (Poster Sessions)**

Thursday 14 December 2023

Session 4: Recent developments in data science (14:00-15:30 JST)

Conveners: *Asanobu Kitamoto, Kassim S. Mwitondi

14:00–15:30 (Chairs: Asanobu Kitamoto, Kassim S. Mwitondi)

- *A Recursive Method for Identifying Glacial Landforms in Hillshaded Areas Using Digital Elevation Data and CNN Models*
Kassim S. Mwitondi (Sheffield Hallam University) (15'; S4.1)
- *Synergies of Satellite Datasets, Modeling and Data Analytic Approaches in Pollutant Retrieval*
Hugo Wai Leung MAK (The Chinese University of Hong Kong;
The Hong Kong University of Science and Technology) (15'; S4.2)
- *NSSDC's Data Governance Practices for AI for Space Science*
Zou Ziming (National Space Science Center, Chinese Academy of Sciences) (15'; S4.3)
- *OpenCSDB: Enabling Knowledge-Driven Scientific Data Linking and Integration*
Han Fang (Computer Network Information Center, Chinese Academy of Sciences) (15'; S4.4)
- *A Robust Data-Driven Method for Quantifying Methane Emission from Cattle*
Tebogo Sebake (African Earth Observation Network, Nelson Mandela University) (15'; S4.5)

Discussion (15')

15:30–16:00 **Break**

Thursday 14 December 2023

Session 5: Involvement of early career researchers and scientists (16:00-17:30 JST)

Conveners: *Shuji Abe, Akira Kadokura, Masahito Nose, Toshihiro Ashino, Susumu Goto, Takashi Watanabe, Maja Dolinar

16:00–17:30 (Chairs: Shuji Abe, Susumu Goto, Masahito Nose)

- *Empowering the Future of Data Science: Introducing the Activities of the WDS-ECR Network*
Maja Dolinar (Slovenian Social Science Data Archives, Faculty of Social Sciences, University of Ljubljana; Co-Chair of the World Data System ECR Network) (15'; S5.1)
- *CODATA Connect Early Career and Alumni initiative*
Shaily Gandhi (CEPT Research and Development Foundation, India) (15'; S5.2)
- *When Graduates Increase, So Must Faculty Members: Project for Training Experts in Statistical Sciences*
Yoshinori Kawasaki (The Institute of Statistical Mathematics) (15'; S5.3)
- *Introduction of Data Science Activities for Young Researchers in IUGONET*
Shun Imajo (Data Analysis Center for Geomagnetism and Space Magnetism,
Graduate School of Science, Kyoto University) (15'; S5.4)
- *Navigating the Research Data Management Compliance Maze as an Indonesian Early-Career Researcher: Unravelling Policies Across Borders*
Madiareni Sulaiman (National Research and Innovation Agency, Indonesia;
University College London) (15'; S5.5)
- *DAEPO Projects of National Astronomical Data Center (NADC) in China*
Shanshan Li (National Astronomical Observatories, Chinese Academy of Sciences) (15'; S5.6)

Friday 15 December 2023

Session 6: Asia-Oceania data forum (10:00-12:00 JST)

Conveners: *Yasuhiro Murayama, Toshihiko Iyemori, Toshihiro Ashino, Takashi Watanabe, David Castle, Juanle Wang

10:00–12:00 (Chairs: Yasuhiro Murayama, Juanle Wang, Tyng-Ruey Chuang, Toshihiro Ashino)

- *International Policy and Practices of Open Science-based Data Sharing*
Yasuhiro Murayama (National Institute of Information and Communications Technology) (5'; S6.1)
- *A Survey of current Status of Open Science oriented Activities in the Asia-Oceania Area*
Takashi Watanabe (National Institute of Information and Communications Technology) (10'; S6.2)
- *The Action Plan and Priorities of the World Data System*
David Castle (Chair of Scientific Committee of World Data System; University of Victoria) (15'; S6.3)
- *Toward a Reproducible Research Data Repository*
Cheng-Jen Lee & Tyng-Ruey Chuang (Institute of Information Science, Academia Sinica, Taiwan) (15'; S6.4)
- *Overview of Research Activities at Indian Institute of Geomagnetism*
A. P. Dimri (Indian Institute of Geomagnetism) (10'; S6.5)
- *The role of data publishing activities at universities and research institutes on Asia and Oceania*
Shaliza Ibrahim (University of Malaya) (10'; S6.6)
- *National Scientific Repository (RIN)*
Sjaeful Afandi (National Research and Innovation Agency (BRIN of Indonesia)) (10'; S6.7)
- *Towards Open Science: Chinese National Spatial Science Data Centre Activities*
Xu Qi (National Space Science Center, Chinese Academy of Sciences) (10'; S6.8)
- *Open Government Data (OGD) in Bangladesh NSO*
Chandra Shekhar Roy (Bangladesh Bureau of Statistics) (10'; S6.9)
- *The Global Microbiology Open Science Data Cooperation*
Junca Ma (Institute of Microbiology, Chinese Academy of Sciences) (10'; S6.10)

Discussion (15')

12:00–12:15 **Lightning Talks 3 (Poster Sessions)**

12:15–14:00 **Lunch Time**

13:00–14:00 **Core Time 3 (Poster Sessions)**

Friday 15 December 2023

Session 7: GEO variables and data mapping for Cold Regions (14:00-15:30 JST)

Conveners: *Yubao Qiu, Hiroyuki Enomoto, Masaki Kanao, Lanhai Li

14:00– 15:30 (Chairs: Yubao Qiu, Hiroyuki Enomoto)

- *Snow Properties Survey and Snow Avalanche Hazards in Tianshan Mountains*
Lanhai Li (Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences)

(15'; S7.1)

- *Long term records of glacier evolution and associated proglacial lakes on the Tibetan Plateau 1976 - 2020*

Lhakpa Dolma (Tibet Institute of Plateau Atmosphere and Environmental Sciences)

Yubao Qiu (Aerospace Information Research Institute, Chinese Academy of sciences)

(15'; S7.2)

- *Data Management of the Arctic and Antarctic Region*
Hironori Yabuki (National Institute of Polar Research) (15'; S7.3)
- *Utilization of Snow and Ice Disaster Prevention Information created by National Research Institute for Earth Science and Disaster Resilience (NIED), Japan*
Satoru Yamaguchi (National Research Institute for Earth Science and Disaster Resilience) (15'; S7.4)
- *Digital Arctic Environment Information Service*
Yubao Qiu (Aerospace Information Research Institute, Chinese Academy of sciences) (15'; S7.5)

Discussion (15')

15:30–16:00 **Break**

Friday 15 December 2023

Strategic discussion, Closing remark (16:00-17:30 JST)

Conveners: *Takashi Watanabe, Juanle Wang, David Castle,
Johnathan Kool, Noorsaadah Abd Rahman, A. P. Dimri

16:00–17:30

(Chairs: Takashi Watanabe, Juanle Wang)

1. *Background and Scope of the Strategic discussion*
Takashi Watanabe (National Institute of Information and Communications Technology) (5')
2. *Summary of the DSWS-2023 individual sessions*
Lead-conveners of all sessions (35')
 - *Session 1: Challenges of data systems and networks (5')*
 - *Session 2: Open Science and the FAIR Principles: Why, what, and how (5')*
 - *Session 3: Lessons learned from COVID-19 data (5')*
 - *Session 4: Recent developments in data science (5')*
 - *Session 5: Involvement of early career researchers and scientists (5')*
 - *Session 6: Asia-Oceania data forum (5')*
 - *Session 7: GEO variables and data mapping for Cold Regions (5')*
3. *Supplementary comments and discussions (20')*
4. *Action plan (10')*
5. *Summary (5')*

(Chair: Masaki Kanao)

Closing remark (15')

Johnathan Kool (Chair of International Advisory Committee; Australian Antarctic Division) (5')

Noorsaadah Abd Rahman (Malaysian Open Science Alliance) (5')

Masaki Kanao (Chair of Local Organizing Committee) (5')

Poster Sessions

Abstracts will be included in the conference "Programme and Abstracts" online booklet.

Wednesday 13 December 2023

Lightning Talks 1; 11:50-12:05 JST (@Zoom)

Core time 1; 13:00-14:00 JST (@Spatial Chat)

(Chairs: Toshihiko Iyemori, Susumu Goto)

- *Advancing Data Stewardship: Join the World Data System and Contribute to Scientific Data Excellence*
Vincent Bernabeo & Meredith Goins (World Data System International Program Office) (S1-P.1)
- *Building the Web Site of the WDS Asia-Oceania network*
Takashi Watanabe (National Institute of Information and Communications Technology) (S1-P.2)
- *Data and metadata sharing among Asian countries*
Masaki Kanao (Joint Support-Center for Data Science Research (DS), ROIS) (S1-P.3)
- *Concept of NIES Environmental Research Hub: A Data Infrastructure to support/promote Environmental Research*
Tomoko Shirai (National Institute for Environmental Studies) (S1-P.4)
- *Survey for policy of research data openness in South Korean government-funded research institutes*
Jung-Ho Um & Mi-Nyeong Hwang
(Korea Institute of Science and Technology Information) (S2-P.1)
- *Challenges of Open Research Data in Indonesia: Case Study National Scientific Repository*
Seno Yudhanto (National Research and Innovation Agency, Indonesia) (S2-P.2)
- *MosquitoDB: A comprehensive-electronically-based entomological surveillance system for the control and elimination of mosquito-borne diseases*
Victor Mero & Janice Maige (Ifakara Health Institute, Environmental Health, and Ecological Sciences Department, Tanzania) (S2-P.3)
- *Further improve accessibility of JAMSTEC research data - DOI assignments to cruise reports -*
Ayumi Sumikawa (Japan Agency for Marine-Earth Science and Technology) (S2-P.4)
- *Scientometric Analysis and Mapping of Research Publications of Central University of Gujarat*
Kotravya Agadi (Central University of Gujarat, Gandhinagar, India) (S2-P.5)
- *Indian Language Open Educational Resources for the Implementation of the National Education Policy 2020: A Comprehensive Evaluation*
Kotravya Agadi (Central University of Gujarat, Gandhinagar, India) (S2-P.6)
- *Effects of information on behavioral change during Covid-19 pandemic: An International comparative study between Japan, UK, and Taiwan*

Naoko Kato-Nitta (J.F. Oberlin University, ROIS-DS and
The Institute of Statistical Mathematics) (S3-P.1)

Thursday 14 December 2023

Lightning Talks 2; 12:00-12:15 JST (@Zoom)

Core time 2; 13:00-14:00 JST (@Spatial Chat)

(Chairs: Elaine Faustman, Mari Minowa)

- *Genomic Surveillance of SARS-CoV-2 based on comparison among Japanese cities*
Takashi Abe (Niigata University, Japan) (S3-P.2)
- *Unsupervised AI analysis of oligonucleotide usage in a wide range of variants of SARS-CoV-2*
Toshimichi Ikemura (Nagahama Institute of Bio-Science and Technology, Japan) (S3-P.3)
- *Host cell-dependent genomic changes in SARS-CoV-2*
Yuki Iwasaki (Nagahama Institute of Bio-Science and Technology, Japan) (S3-P.4)
- *SARS-CoV-2 HaploGraph: visualization of SARS-CoV-2 haplotypes spread in Japan*
So Nakagawa (Tokai University, Japan) (S3-P.5)
- *Urban Microbiome Monitoring in Japan: Collaborative Research with MetaSUB Consortium*
Haruo Suzuki (Keio University, Japan) (S3-P.6)
- *Comparison of microbial diversity and resistant determinants in the built environment in Japan using shotgun metagenomic sequencing*
Dewa A.P. Rasmika Dewi (International University of Health and Welfare, Japan) (S3-P.7)
- *Evaluation of rRNA depletion methods for capturing the RNA virome from environmental surface*
Yuh Shiwa (Tokyo University of Agriculture, Japan) (S3-P.8)
- *Wastewater-Based Epidemiology for Efficient SARS-CoV-2 Surveillance in Three Japanese Cities*
Ryo Honda (Kanazawa University, Japan) (S3-P.9)
- *Implementation of wastewater-based epidemiology for viral infectious diseases in Japan*
Masaaki Kitajima (Hokkaido University, Japan) (S3-P.10)
- *Investigation of experimental procedures for detecting SARS-CoV-2 from airborne low-density RNA samples*
Jun Uetake (Hokkaido University, Japan) (S3-P.11)
- *Educational Activities for Young Researchers in Kyusyu University's MAGDAS Project*
Shuji Abe (Polar Environment Data Science Center,
Joint Support-Center for Data Science Research (DS), ROIS;
International Research Center for Space and Planetary Environmental Science,
Kyushu University) (S5-P.1)

Friday 15 December 2023

Lightning Talks 3; 12:00-12:15 JST (@Zoom)

Core time 3; 13:00-14:00 JST (@Spatial Chat)

(Chairs: Akira Kadokura, Masahito Nose)

- *Analysis on characteristics of surface-observed and model-based cloud cover for historical weather reconstruction using data assimilation*
Xiaoxing Wang (Center for Open Data in the Humanities,
Joint Support-Center for Data Science Research (DS), ROIS) (S4-P.1)
- *Explainable AI Framework for Interpreting the Electrochemical Oxygen Evolution Activity of (Ni-Fe-Co-Ce)Ox Catalysts*

- **Paul Rossener Regonia** (University of the Philippines Diliman) (S4-P.2)
- *Predictive Modelling of Under-Five Mortality Determinants Using Machine Learning Techniques*
Rakesh Kumar Saroj (Jawaharlal Nehru University, India) (S4-P.3)
- *How Can Digital Innovation Transform People's Behaviour in Response to the COVID-19 Restrictions in Indonesia*
Kiki Adhinugraha (La Trobe University, Australia) (S4-P.4)
- *Hyper basic oxygen*
Norihan Abdelaziz Elgazzar (Tanta University, Egypt) (S4-P.5)
- *Data publication and collaborative research infrastructure of the Antarctic Syowa MST/IS (PANSY) radar*
Taishi Hashimoto (National Institute of Polar Research) (S4-P.6)
- *An overview of metadata in Research Data Clouds towards Global Open Research Commons*
Mikiko Tanifuji (National Institute of Informatics) (S4-P.7)
- *Progress of the AMIDER project*
Masayoshi Kozai (Polar Environment Data Science Center,
Joint Support-Center for Data Science Research (DS), ROIS) (S5-P.2)
- *Conducting a Lesson on Earth's Global Sea Ice Distribution Using a Handmade Globe*
Takeshi Sugimura (National Institute of Polar Research) (S5-P.3)
- *Educational practices using polar sea ice data for high school science and mathematics classes*
Yoshihiro Niwa (National Institute of Polar Research) (S5-P.4)
- *Application of Independent Component Analysis to Satellite Gravity Data for Antarctic Research*
Tianyan Shi (Institute for Geothermal Sciences, Kyoto University) (S7-P.1)