The 3rd International Forum on Big Data for Sustainable Development Goals (FBAS 2023)

Full Conference Wednesday to Friday, 6 to 8 September 2023
Beijing International Convention Center (BICC), Beijing, China

Session Agenda
In-person and Virtual
Thursday 7 September 2023; 13:30 to 15:00 CST (UTC +8, Beijing time)
Registration link for online participation

Session Organised by
CODATA: International Science Council's Committee on Data
UNESCO/CODATA Working Group on Data Policy for Open Science in Times of Crisis
CODATA's Working Group on FAIR Data for Disaster Risk Research (FAIR-DRR)
RDA/CODATA Data Systems, Tools, and Services for Crisis Situations Working Group (DSTS_CS-WG)

Session Title

Data and AI Policy for the Responsible Governance of Big Data During Crisis Situations for Achieving the UN Sustainable Development Goals

Session Participants

Simon Hodson, Virginia Murray (online), Burcak Basbug (online), Perihan Elif Ekmekci, Francis P. Crawley

Session Description

In the face of escalating global crises, this session presents a forum for thought leaders, policymakers, and stakeholders to explore the paramount role of data and AI policies in crisis preparation, response, and recovery for achieving the UN Sustainable Development Goals (SDGs). Particular attention will be given to the role of data and AI policy in big data can contribute transformative action and solutions for contributing to the alleviation of poverty, responding to climate change, addressing the need for water security, and mitigating the food and energy crises.

Amidst the increasing frequency and severity of crises such as health emergencies, natural disasters, and conflict situations), the session investigates how big data should be curated and developed to drive AI insights for addressing the critical challenges facing humanity locally, nationally, and globally. Participants will examine how data and AI technologies can aid in swift and accurate crisis detection, response coordination, and resource allocation during

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emergency situations, facilitating the achievement of SDGs even in the most adverse circumstances.

The session aims to identify best practices in data collection, privacy protection, and ethical AI implementation, ensuring data governance adheres to humanitarian principles and respect for human rights during crisis management. Experts will data-driven strategies for the employment of AI in the governance of crisis mitigation, humanitarian aid, and rebuilding efforts.

Discussions will also delve into the potential of AI-driven predictive analytics and machine learning models to forecast crises, assess vulnerabilities, and develop proactive strategies for risk reduction and disaster preparedness. The session fosters a collaborative environment to discuss the challenges and opportunities in utilizing big data and AI responsibly, ethically, and inclusively in crisis situations.

Through an interactive exchange of knowledge and experiences, participants will emerge with insights to develop data and AI policies that align with sustainable development objectives while enabling rapid, efficient, and compassionate crisis response. By harnessing the power of data and AI during emergencies, this session seeks to contribute significantly to the realization of the UN SDGs, promoting resilience, equity, and sustainability in a world vulnerable to various crises.

This session contributes to the development of a critical platform for exploring the instrumental role of data and AI policies in driving progress towards achieving the UN Sustainable Development Goals (SDGs).

As data continues to shape global decision-making processes, this session will examine how effective governance of big data can support well-defined and well-structured AI policies that can accelerate the attainment of the SDGs. The session will examine the need to integrate of AI technologies in data collection, analysis, and dissemination to enhance evidence-based policymaking for sustainable development.

Through presentations and interactive discussion participants will gain insights into leveraging big data's potential to address pressing challenges related to poverty, climate change, health, education, and more. The session seeks to forge actionable strategies that empower nations to harness data and AI ethically and responsibly, fostering a collective commitment towards achieving the UN Sustainable Development Goals by 2030.

Session objectives

The principal objective of this session is to demonstrate the importance of data and AI policies as frameworks for cutting-edge digital technologies, specifically here the harnessing of big data, for enabling the needed multi-dimensional, multi-disciplinary, and multi-scale monitoring and assessment of sustainable development indicators. The session has the following specific objectives:

1. To explore data and AI applications in Big Data for crisis management: The session aims to examine the diverse ways data and AI technologies can be applied in crisis situations to enhance governance, decision-making, and resource allocation.

2. To promote ethical data governance: One of the primary objectives is to emphasize the significance of ethical data governance during crisis situations. The session will examine privacy concerns, data security, and the responsible use of AI to ensure that data policies adhere to humanitarian principles and respect human rights, safeguarding sensitive information while responding effectively to crises.

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3. <u>To identify challenges and solutions to data and AI policy in Big Data</u>: The session seeks to identify the challenges and barriers in utilizing big data and AI in crisis scenarios and propose viable solutions. By discussing potential issues related to data collection, interoperability, and AI bias, the session will explore strategies to overcome these obstacles and create an inclusive and transparent data ecosystem.

4. <u>To foster multi-disciplinary and multi-sectorial collaboration</u>: The session will encourage collaboration between stakeholders from various disciplines and sectors to effectively manage Big Data and AI in crisis management. The session will serve as a platform to facilitate dialogue and knowledge sharing across an interdisciplinary approach that fosters innovative solutions and facilitate the exchange of best practices.

5. <u>To contribute to a roadmap for data-driven and AI supported crisis response</u>: An essential objective is to develop a roadmap for leveraging data and AI effectively during crisis situations to achieve the UN SDGs. The session will outline actionable steps for policymakers and organizations to harness big data insights and AI-driven models to drive better decision-making, optimize resource allocation, and enhance overall crisis response efforts in alignment with the SDGs.

By addressing these objectives, this session contributes to the development of data and AI policies that not only empower crisis management but also advance progress towards the UN Sustainable Development Goals, ensuring a more resilient and sustainable future for all.

Session Agenda

This 2-hours session will bring together experts from data and AI policy, data and AI science, data and AI ethics, and those involved in crisis management. It includes presentations and interactive discussions with the audience that explore ethical data governance, AI applications, challenges, and actionable strategies for leveraging data during crises to achieve the UN SDGs.

Time	Topic	Presenter
13:30	Introduction to the Session: The role of Open Science in achieving the UN Sustainable Development Goals (SDGs)	**Representative**, UNESCO (invited) **Dr. Simon Hodson**, Executive Director, CODATA
13:35	From the Sendai Framework to the SDGs and the UNESCO/CODATA Data Policy for Open Science in Times of Crisis	**Professor Virginia Murray**, Head of Global Disaster Risk Reduction for UK Health Security Agency [online]
13:45	Case Study: How we can understand the role of data and AI policy in Big Data during the earthquakes in Turkey and Syria: A case study	**Dr. Burcak Basbug**, Associate Professor of Statistics at the Middle East Technical University (METU), Ankara, Turkey [online]
13:50	The RDA/CODATA Data Systems, Tools, and Services for Crisis Situations Working Group: Connecting Open Science infrastructures to the needs of crises and the SDGs.	**Dr. Stefanie Kethers**, Senior Business Analyst, Australian Research Data Commons Lead, RDA/CODATA Data

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Time	Topic	Presenter
		Systems, Tools, and Services for Crisis Situations Working Group (DSTS_CS-WG) [online]
14:00	**Audience/Panel Discussion** Why is data and AI policy needed for Big Data? What is the relationship between crises and the SDGs? How can data and AI policy contribute to Big Data sharing during crises?	Moderators: Dr. Simon Hodson Mr. Francis P. Crawley
14:10	Good governance for data and AI policy in crisis situations	**Professor Perihan Elif Ekmekci**, Department of History of Medicine and Ethics at TOBB University Medical Faculty, Ankara, Turkey
14:20	Creating a harmonized ecosystem to streamline disaster-risk reduction in the context of the UN Strategic Development Goals (SDGs): CODATA's Working Group on FAIR Data for Disaster Risk Research (FAIR-DRR)	**Professor Guoqing LI**, Aerospace Information Research Institute, China Academy of Sciences (CAS) **Dr. Bapon (Shm) Fakhruddin** Water Sector Lead, Green Climate Fund (GCF), Earth-GEO Board Member, New Zealand Co-Chairs, FAIR Data for Disaster Risk Research (FAIR-DRR)
14:30	**Audience/Panel Discussion** Why counts as good governance for Big Data in crisis situations? What ethical, social, and legal issues appear to hamper Big Data in crises and in addressing the SDGs? How can we achieve more inter-disciplinary and cross-sectorial alignment on Big Data for crises and achieving the SDGs?	Moderators: Dr. Simon Hodson Mr. Francis P. Crawley
14:45	Summary of the session	**Representative**, UNESCO (invited) **Dr. Simon Hodson**, Executive Director, CODATA

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Time	Topic	Presenter
15:00	Close of the session	

Biographies

Dr. Burcak Basbug, Associate Professor of Statistics at the Middle East Technical University (METU), Ankara, Turkey

Burcak an Associate Professor of Statistics at the Middle East Technical University (METU), Ankara, Turkey. She was the Course Director MSc Disaster Management and Resilience, Coventry University between August 2019 and August 2020. Before joining Coventry University back in 2018, She was the Director of the METU Disaster Management Centre between 2008 and 2018. She received her SFHEA in the UK as of October 2019. She worked as the Academic Partnerships Director of the ICPEM (Institute of Emergency Management and Civil Protection), November 2019 to date.

She is the lead of the disaster and emergency management working group of the Ankara City Council. She is the special advisor to the former Turkish PM Prof. Ahmet Davutoglu in all disaster, crisis and emergency management related policies. She has 23 years of international work in teaching, consulting and training in disaster risk reduction, disaster risk management with expertise on policy development in disaster risk reduction, disaster risk management, resilience, accountability, financial management strategies for disaster losses, the Turkish Catastrophe Insurance Pool, catastrophe insurance, disaster risk management education. She have been in the field for Syrian Refugee Camps 2015, 2011 Van Earthquakes, May 2014 Soma Mine Fire, 2020 Giresun Flood, 2020 Izmir Earthquake.

Francis P. Crawley, Chairman, CODATA International Data Policy Committee (IDPC)

A philosopher specialized in research ethics, integrity & methodology as well as in data/AI ethics & law. Expertise in EU, US, international and country-specific ethics, law, and patient and community interests in health-related research. Francis co-chairs the EOSC-Future/RDA Artificial Intelligence and Data Visitation Working Group (AIDV-WG) and he is the EOSC-Future/RDA Ambassador for Ethics & Law. Strong experience working closely with patients, communities, researchers, and policymakers across disciplines. domains, and geographic regions in establishing consortia, developing patient registries, contributing to the development of biobanks, drafting data management and data protection plans, and contributing to building data repositories. A strong background in the methodologies for designing and reviewing health-related research supported by effective communication and leadership skills as well as diplomacy with the ability to influence changes in bioethics and law.

Professor Perihan Elif Ekmekci M.D. Ph.D, Department of History of Medicine and Ethics at TOBB University Medical Faculty, Ankara, Turkey

TOBB ETU Medical Faculty; Dr. Perihan Elif Ekmekci has expertise in the fields of medicine, ethics, and history of medicine. She holds an M.D. and Ph.D. and is currently affiliated with the Department of History of Medicine and Ethics at TOBB University Medical Faculty, Ankara, Turkey. Dr. Ekmekci's educational background includes a medical degree from Ankara University Faculty of Medicine, as well as a Ph.D. in Medical Ethics and History of Medicine from Ankara University. She has also pursued additional academic training, such as a fellowship at Imperial College of London Business School, and a

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fellowship at the National Public Health Institute of the Netherlands on "Public Health Problems in the EU Countries." As part of her academic journey, she was awarded the Fogarty International Fellow Master's Certification in Research Ethics program. This fellowship was based at the Boston Children's Hospital in the Division of Developmental Medicine and Harvard University School of Public Health. Further enhancing her expertise in research ethics she was a post-doctoral fellow at Western Institutional Review Board, USA. Dr. Ekmekci has served as an advisor to the Undersecretary of the Ministry of Health and later as the Head of the European Union Department of the Ministry of Health. She has held positions as an Assistant Professor and currently serves as the Head of the History of Medicine and Ethics Department and Deputy Dean at TOBB University Medical Faculty, the Head of the International Chair in Bioethics/WMA Cooperation Center (formerly UNESCO Unit for Bioethics), member of Open Science Committee of TOBB ETU, and Chair of the Institutional Review Board (IRB) of TOBB University Medical Faculty.

Dr. Bapon (Shm) Fakhruddin, Water Sector Lead, Green Climate Fund (GCF), Earth-GEO Board Member, New Zealand

Dr. Fakhruddin is an eminent hydro-meteorologist and climate risk assessor with 21 years' global experience in hydro-meteorology and climate resilience projects. His key areas of expertise are integrated water resource management, hazards forecasting, climate and multi-hazard risk assessments and coastal community resilience. Dr Fakhruddin recently joined the Green Climate Fund (GCF) to provide leadership and oversight of the portfolio of investments in water resources for addressing climate change. Dr Fakhruddin has played a pivotal role in the design and implementation of weather, water and climate change adaptation projects for saving lives and livelihoods, while reducing property damage for more than 40 countries across Asia, the Caribbean, Africa and the Pacific.

Dr. Simon Hodson, Executive Director, CODATA

Dr. Hodson is an expert on data policy issues and research data management. Most recently, he chaired the European Commission's Expert Group on FAIR Data which produced the report Turning FAIR into Reality (https://doi.org/10.2777/1524). He was also vice-chair of the UNESCO Open Science Advisory Committee, with an influential role in drafting the UNESCO Recommendation on Open Science, which was adopted in November 2021. Previously he contributed to influential reports on Current Best Practice for Research Data Management Policies, to the Science International Accord on Open Data in a Big Data World, and to the OECD Global Science Forum and CODATA Report on Sustainable Business Models for Research Data Repositories. As a significant part of his CODATA role, Simon is tasked with implementing a major ISC and CODATA Decadal Programme on 'Making Data Work for Cross-Domain Grand Challenges', which will improve the coordination of specifications for data integration and interoperability for interdisciplinary research. The flagship activity is the EC-funded WorldFAIR Project, for which Simon is the coordinator. Simon also contributes activity to the work of the CODATA Data Policy Committee. Additionally, Simon leads or participants in numerous projects, Working Groups and Steering Groups. In recent years, Simon has been a co-chair (2015-2018) of the GEO Data Sharing Working Group, to which CODATA has made a long-term contribution; co-chair of ; a member of the Board of Directors of the Dryad Data Repository (2012-2018), a not-for-profit initiative to make the data underlying scientific publications discoverable, freely

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reusable, and citable; Project Director, African Open Science Platform Project (2016-19); and a member of the Scientific Advisory Board of CESSDA ERIC, the European data infrastructure for the social sciences.

Dr. Stefanie Kethers is a Senior Business Analyst at the Australian Research Data Commons

Dr rer. nat. Stefanie Kethers is a Senior Business Analyst at the Australian Research Data Commons and the Director of Operations of the RDA. Previously, she worked as a researcher for Monash University and CSIRO in Australia, and Aachen University of Technology, Germany. Stefanie's background is in Computer Science, with a focus on business process modelling. She has a strong interest in supporting researchers within and across disciplines by bringing data and people together.

Professor Guoqing LI, Aerospace Information Research Institute, China Academy of Sciences (CAS), Beijing, China
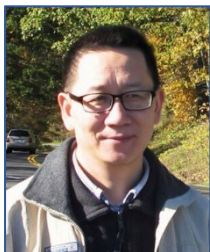
Professor Guiqing LI is from the Aerospace Information Research Institute (AIR) of the Chinese Academy of Sciences (CAS). He won the 2021 GEO Excellent Individual Award, making him the first Chinese scientist who wins the honor. LI has been engaged in GEO data sharing activities, promoting relevant policy formulation, and facilitating data sharing of China's satellite resources to international communities for public welfare. He has played the main force of building and operation of ChinaGEO Data Sharing Network. His leadership in the China GEOSS Disaster Data Response Mechanism (CDDR) has greatly contributed to the developing countries through 30 emergency data response activities in the past five years. He serves as a member of ChinaGEO Scientific Committee, Co-chair of AOGEO Data Sharing Task Group and Co-leader of the sub-group on Evaluation of GEOSS Infrastructure. Professor Li has extensive knowledge and experience with remote sensing, spatial data infrastructure and disaster data management.

Professor Virginia Murray, Head of Global Disaster Risk Reduction for UK Health Security Agency

Professor Virginia Murray is a public health doctor committed to improving health emergency and disaster risk management. She was appointed as Head of Global Disaster Risk Reduction for UK Health Security Agency (formerly Public Health England) in April 2014. She is a member of CODATA Executive Committee. She is a member of the Integrated Research on Disaster Risk (IRDR) scientific committee and co-chair of IRDR's Disaster Loss Data (DATA) and is currently the Chair of the UNDRR/ISC Hazard Classification and Review Technical Working Group, with the report published in 2020 and the UNDRR-ISC Hazard Information Profiles: Supplement in 2021. She is a co-chair of the WHO Thematic Platform Health and Disaster Risk Management Research Network, and by working in collaboration with this network, she is one of the editors of the WHO Guidance on Research Methods for Health and Disaster Risk Management, published in October 2021 and updated in 2022. She is a visiting/honorary Professor and fellow at several universities.