UNU Macau

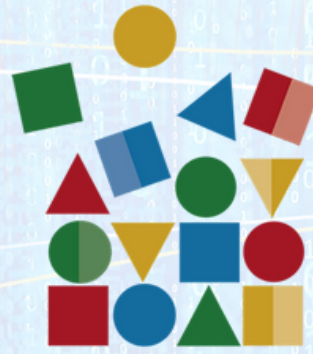**United Nations WORLD DATA FORUM**

SATELLITE EVENT
MACAO SAR, CHINA
25 APRIL 2023

Dealing with data dilemmas

Towards a human-centred systems approach to sustainable data and digital technology development.

APRIL 25, 2023 | 8:30-17:30

MACAO

GRAND HYATT MACAU, CITY OF DREAMS, ESTRADA DO ISTMO, COTAI, MACAU SAR

unwdf-macau.org

Co-organised in partnership with the **Centre for Data Science, University of Macau**, and the **Faculty of Innovation Engineering, Macau University of Science and Technology**, with the support of the **University of Saint Joseph, Macao**.

DRAFT AGENDA

APRIL 24, 16:00–18:00
UNIVERSITY PRESIDENTS' DIALOGUE

Venue: Library Building, Macau Science and Technology University

EVENT BRIEF

University Presidents' Dialogue is a pre-event of 2023 World Data Forum Macau Satellite Event. This will be a public discussion among rectors/presidents from United Nations University, University of Macau, Macau University of Science and Technology, and University of Saint Joseph. Rectors/presidents will engage in a thought-provoking discussion on various topics, including the evolving role of universities, the future of research works and partnerships in higher education, the importance of digital technologies in the academic world, and their personal experiences in leading their institutions.

SPEAKERS

PROF. TSHILIDZI MARWALA
RECTOR, THE UNITED NATIONS UNIVERSITY
Prof. Marwala was Vice-Chancellor at the University of Johannesburg before becoming UNU Rector. He holds five patents. His research covers artificial intelligence and he has worked with global policymaking bodies and UN entities. He has received South Africa's highest honour.

PROF. JOSEPH HUN-WEI LEE
PRESIDENT, MACAU UNIVERSITY OF SCIENCE AND TECHNOLOGY
Prof. Lee is a renowned scholar in water and environmental engineering. He is the chairman of IAHR, founding editor-in-chief of the "Journal of Hydro-environment Research", Fellow of the Royal Academy of Engineering and the Hong Kong Academy of Engineering Sciences.

PROF. MICHAEL HUI
VICE-RECTOR, THE UNIVERSITY OF MACAU
Prof. Hui took office as Vice-President at the Hong Kong University of Science and Technology (HKUST). He is Senior Advisor to the President and Chair Professor of the Guangzhou Fok Ying Tung Research Institute of HKUST.

MODERATOR: PROF. TIM UNWIN
CHAIR OF UNU MACAU ADVISORY BOARD
Tim Unwin is UNESCO Chair in ICT4D, Emeritus Professor at Royal Holloway, University of London and Honorary Professor at Lanzhou University in China. He serves on several advisory boards and committees and is a Distinguished Fellow at Tilburg University in the Netherlands.

DRAFT AGENDA

APRIL 25
DEALING WITH DATA DILEMMAS

MORNING

08:30-09:15
REGISTRATION

09:15-09:20
PLENARY
OPENING ADDRESS
JINGBO HUANG,
DIRECTOR, UNU MACAU

09:20-09:35
PLENARY
WELCOME ADDRESS
CHAN WAN HEI, PRESIDENT, FDCT, MACAO SAR

09:35-09:55
PLENARY
KEYNOTE SPEECH
PROF. TSHILIDZI MARWALA, RECTOR, UNU

09:55-10:00
PLENARY
INTRODUCTION TO THE THEME
FRANZ GATZWEILER, UNU MACAU

10:00-10:15
PLENARY
INTRODUCTION OF MORNING
PARALLEL SESSIONS
JAIMEE STUART, UNU MACAU
ROSTAM J. NEUWIRTH, UM
FRANCIS CRAWLEY, IDPC, CODATA
DENIS ZUEV, USJ, MACAO
DEREK WONG, UM
AKIO TAKEMOTO, UNU-IAS, TOKYO

10:15-10:30
MORNING BREAK

10:30-12:30
MORNING PARALLEL SESSIONS

12:30-13:30
LUNCH BREAK

AFTERNOON

13:30-13:50
PLENARY
KEYNOTE SPEECH: DIGITAL HUMANISM
WALTER GEHR
AUSTRIAN MINISTRY OF FOREIGN AFFAIRS

13:50-14:00
PLENARY
INTRODUCTION OF AFTERNOON
PARALLEL SESSIONS
CARA ANTONACCIO , UNU MACAU
SERGE STINCKWICH, UNU MACAU
JENNY PHILLIPS AND DENIS ZUEV, USJ, MACAO
JEROME YEN AND TIANJI CAI, UM
YANG MIN, UNU MACAU
JANE WU, VENTURE CUP

14:00-16:00
AFTERNOON PARALLEL SESSIONS

16:00-16:30
PLENARY
PRESENTATION BY CHAIRS
OF ALL PARALLEL SESSIONS

16:30-17:00
PLENARY
DISCUSSION

17:00-17:10
PLENARY
CLOSING REMARKS
JINGBO HUANG
DIRECTOR, UNU MACAU

APRIL 25
DEALING WITH DATA DILEMMAS – PARALLEL SESSIONS

MORNING

Parallel Session
Data and Health: Cyber-psychological Implications
Chair: Jaimee Stuart, UNU Macau

During the pandemic more data than ever before was captured, stored, and utilised about our health. This was not only in the widespread use of public health surveillance applications and tracking systems to mitigate against viral transmission, but also in the increase in e-health and telehealth services, the surge in health-related information (and misinformation) search, spread, and access, as well as in the growth in research studies and data collection on health and wellbeing. What impact does this store of information – often globally distributed, sometimes unregulated, and potentially questionably collected – have on us in the future and how does it (or did it) affect the way we behave, think, and feel? This session explores such questions and considers possible positive and negative future implications concerning data and health.

Parallel Session
Data Policy for Addressing Data Dilemmas in Crisis Situations: Preparing for Digital Sustainability in Science
Chair: Francis Crawley, Chairman, International Data Policy Committee, CODATA

This session examines the need for data policy to address scientific and digital sustainability in humanitarian crises caused by health emergencies, natural and human-made disasters, and geo-political conflicts. Using the framework of UNESCO's Recommendation on Open Science, the session focuses on the need for well-prepared and robust data policy to address the digital, communication, research, and societal dilemmas that inevitably arise in fundamentally disruptive situations. The sustainability and continuity of the sciences, the assurance of robust working environments for scientists and support services, and the guaranteeing of the needed trust in scientific and information outputs require well-defined data policy principles supported by recommendations for preparing for and responding to crises. Ethics, human rights, good governance, citizen participation and, ultimately, the need to sustain economic, political, and social cohesion underlie data policy designed to address digital technology dilemmas in crisis situations.

Parallel Session
Regulatory Dilemmas and Digital Technologies (AI)
Chair: Rostam J. Neuwirth, University of Macau

New technologies often pose difficult regulatory dilemmas in the field of law. Additionally, the creeping codification of international law and proliferation of international organisations may further contribute to the possibility of legal dilemmas to occur. The digital revolution and convergence of different technologies may be another factor in this trend, one that requires a greater consistency of the regulatory framework through better coordination between different legal fields or regimes. Overall, the regulatory challenges caused by the complexity of the present regulatory environment have given rise to a number of regulatory paradoxes, which will be briefly discussed and analysed with the goal of their possible solution.

Parallel Session
Datafied Macao: Seeing the City with Algorithms
Chair: Denis Zuev, University of Saint Joseph, Macao

All aspects of our life are being transformed into quantifiable data; everything is a subject to datafication – this phenomenon called "computational turn" in social (behavioural) sciences has been criticised for its excessive emphasis on "quantification" of very nuanced social data. At the same time the computer-aided methods reveal interesting patterns and aid social scientists in seeing a bigger picture. The aim of this session is to the debate on computer-aided methods and practices of research – identifying the practical hindrances and methodological, ethical implications and dilemmas. This session aims at (de)constructing the moralities of data production and specific dilemmas of governance – underlying each concrete case. This session also addresses epistemological fears of algorithmic thought and the sensibilities and competences that are needed to study contemporary culture and the city through data.

MORNING

Parallel Session
**Artificial Intelligence (AI) Applications.
Challenges and Opportunities.**
Chair: Derek Wong, University of Macau

Artificial Intelligence continues to revolutionize various aspects of our life, ranging from electronic governance to personalized services. This emerging technology has provided numerous opportunities for public organizations and industries to enhance their operations and efficiency. However, AI applications also raise critical concerns regarding privacy and ethics. In this session, the invited guests will discuss the representative AI applications and potential scenarios that could significantly benefit from AI. Additionally, the session aims to provide insights into overcoming the challenges posed by AI and how different stakeholders can contribute to this wave of technological transformation in the future.

Parallel Session
Data Dilemmas in Public Services, Communication and GIS
Chair: Akio Takemoto, UNU-IAS, Tokyo

Integrating space and digital innovations for accelerating SDGs. Leveraging geospatial information and digital applications has a vast potential to improve the quality and delivery of evidence-based decision-making for many critical sectors in Asia and the Pacific. Examples of such applications include a virtual satellites constellation for disaster risk management, rapid mapping of disaster hotspots through machine learning. Engaging the youth in the innovative use of geospatial information for sustainable development is critical to realizing this potential. Keynote speakers and participants of this meeting will discuss the enormous opportunities for applying digital innovations, as well as the challenges that prohibit countries from maximising their full potential to reduce disaster risk.

AFTERNOON

Parallel Session
Data, Digital Technologies, and Human-centred Design for Decision-making
Chair: Cara Antonaccio, UNU Macau

Achieving the SDGs relies on strong data and evidence to inform decision-making in the face of wicked problems. This session will present the key principles of the design thinking process and consider how a human-centred design thinking approach can be used to catalyse decision-making for sustainable development. Design thinking refers to social processes of data collection, analysis, and integration in a systems context to allow for collaborative, inclusive, and evidence-based decision-making. What distinguishes human-centred design from other problem-solving approaches is its emphasis on understanding the perspective of those who are most directly affected by a problem. Design thinking is especially useful for finding solutions that can have a long-term impact.

Parallel Session
Building Trust by Computational Collective Intelligence
Chair: Serge Stinckwich, UNU Macau

The world is facing an uncertain future brought about by the COVID-19 pandemic, climate change, inequality, violent conflicts, and other global challenges. Citizen science and, more generally, public participation in scientific research and knowledge production can help generate data helpful in informing policies and mobilising action to address this world's challenges. Citizen science can help communities to participate in, understand, and trust science. However, this is not always producing the correct policies. To tackle scientific and societal challenges, in order to build trust around citizen science data involving policy actors, government bodies, academia, civil society, and other stakeholders, we need to put together the capabilities of humans and machines in new kind of trusted partnerships. Collective Intelligence emerges from the collaboration, collective efforts, and competition of many individuals and appears in consensus decision-making. Tools based on participatory modelling or foresight approaches are some of the tools that might be considered.

AFTERNOON

Parallel Session
Digital Entrepreneur Dialogue
Chairs: Jenny Phillips and Denis Zuev, University of Saint Joseph, Macao

Innovation environment is critical for regional development and start-ups have become key to development of entrepreneurial environment and creativity in the cities. Untangling the dynamic relationships between digital ecosystem and entrepreneurial ecosystem is crucial for understanding how digital technologies are reshaping the entrepreneurial process. This session invites practitioners, start-up representatives, scholars in the field of business and digital entrepreneurship to address the key issues that deal with the current use of data regarding the users, marketplace and infrastructure. The geographic scope of discussion is beyond Macao and Greater Bay Area and comparisons between other digital economy examples are welcome. At the same time, we wish to identify several action points for Macao: what are the key challenges and how local digital entrepreneurs can overcome them and contribute to the diversification of Macao's economic profile.

Parallel Session
Cross Border Data transfer.
How to Turn Challenges into Opportunities.
Chairs: Jerome Yen and Tianji Cai, University of Macau

Officially released in September 2021, Guangdong-Macao In-Depth Cooperation Zone offers opportunities to diversify Macao's economy and provides new space for living, while differences between the legal systems of Macao and mainland China, such as data transfer and privacy protection, may potentially hinder the effort of promoting cross-border personnel exchange and business innovation. This panel will focus on discussing how to overcome issues for data transfer and privacy protection, and the possibility of building a third-party platform to facilitate Macao-Hengqin data transfer.

Parallel Session
Data, Youth and Young Scientists
Chair: Jane Wu, Venture Cup

The future of science and technology depends on youth. Processing data is amongst the everyday chores of students, researchers and young scientists. Promoting science technology exchange and encouraging innovation collaboration in youth as well as young scientists is a united goal among different countries. In a time when data has grown to be a new type of "resource" globally, this session aims to examine how data could impact and facilitate the personal development of youth and young scientists. The invited speakers will share their own research experience relating to data resources and data processes, in hope to present a multidimensional meaning of data in different stages and sectors. Through a roundtable joined by university students and young scientists, this session aims to carry out discussion about challenges and how data collaboration can foster future development of youth and young scientists in Macao.

Parallel Session
Address Gender Data Gaps for a Sustainable Future
Chair: Yang Min, UNU Macau

For realising the SDGs, it is critical to have a clear picture through gendered statistics. However, the existing gender data gaps in terms of quantity, quality as well as statistical capacity, making it difficult to monitor progress for SDG 5 (gender equality) achievement as well as women and girls' well-being. During this session, invited specialists and practitioners will share their insights and practices on addressing gender data gaps towards building a sustainable future for women and men. All interested participants within and outside Macao will come together sharing their common concerns and contributing to ensure data can represent the lived reality of women and men in all their diversity; mainstreaming gender into data production; and other issues relevant to the theme.