

IEEE International Symposium on Technology and Society

Technology and Analytics for Global Development

13 - 15 September 2023

Swansea University, Swansea, Wales

<https://attend.ieee.org/istas-2023/>

The *IEEE International Symposium on Technology and Society* (ISTAS) is the flagship conference of the IEEE's Society on Social Implications of Technology (SSIT). ISTAS is a multi-disciplinary and interdisciplinary forum for engineers, policy makers, entrepreneurs, philosophers, researchers, social scientists, and technologists to collaborate, exchange experiences, and discuss the social implications of technology.

The Sustainable Development Goals (SDGs) are global grand challenges that are inherently complex, multi-faceted and socially embedded (Corbett & Mellouli, 2017). The SDGs inevitably encounter tensions between their design and implementation, representing design-reality gaps (Pradhan et al., 2022; Heeks, 2020a; Dennehy et al., 2014). While optimism is relatively high about the role of technology and analytics in the context of global development (Smidt & Jokonya, 2022), significant learning remains about how best to use them as 'platforms that mediate development' (Heeks 2020b). Further, despite the efforts made by scholars to advance understanding about the role of technology and analytics for global development (e.g., Dwivedi et al., 2021; Khene & Masiero, 2022; Masiero & Arvidsson, 2021), a concerted effort within and between academic disciplines, policy-makers, practitioners, and the intended beneficiaries of the SDGs will help to discover and create better ways to achieve the SDGs.

ISTAS23 aims to bring together contributions from a variety of perspectives, disciplines, and communities for the advancement of knowledge regarding *Technology and Analytics for Global Development*. We invite participation from academics and practitioners who are engaged in current debates about the role and significance of technology and analytics, and who are interested in topics related to sustainability, ethics, equity, and social values for global development.

Important Dates:

- Paper submissions: 1 March 2023
- Notification of acceptance: 1 May 2023
- Submission of final version: 1 June 2023
- Early bird registration: 15 June 2023

Conference Chairs

- Denis Dennehy, Swansea University
- Yogesh K. Dwivedi, Swansea University
- Samuel Fosso Wamba, TBS Education

Technical Chairs

- Silvia Masiero, University of Oslo
- Ransome Bawack, Audencia Business School
- Miriam Cunningham (IST-Africa Institute/IEEE SSIT UK & Ireland Chapter Chair)

ISTAS23 Topics

We welcome rigorous studies that employ quantitative, qualitative, and/or critical methods and advance understanding about the role of technology and analytics for global development and achieving the SDGs. Topics of interest include, but are not limited to:

Track 1: Sustainable Development and Humanitarian Technology

- Initiatives focusing on the promotion of the UN-SDGs to diverse groups in society
- Applications of technology (e.g., AI, metaverse) and analytics (e.g., big data, social media) for sustainable development
- Addressing the unintended consequences (e.g., exclusion, discrimination) of technology and analytics in developed countries
- Emerging technologies and analytics for resilient supply chains (e.g., agrifood, humanitarian)
- Digital transformation of public (e.g., e-government, digital government) and not-for-profit organisations
- Case studies that apply technologies and analytics in a development context
- Digital platforms and social media for sustainable societies
- The role of technology and analytics for sustainable tourism and hospitality services
- Smart technologies and sports analytics to ensure healthy lives and well-being.

Track 2: Universal Access (Fintech, Education, Health)

- Open banking and financial inclusion
- FinTech platforms for economic development
- Digital payments, ecosystems, and apps
- Cryptocurrencies and blockchain technology
- The role of AI, machine learning, and big data in sustainable finance and fintech sector
- Developing skills and talent in sustainable finance and fintech sectors
- Neobanks, and Islamic banking for sustainable development
- Innovative learning environments (e.g., extended reality - XR)
- Ethical implications, unintended consequences of immersive technologies
- Opportunities and challenges of digitizing education
- Equality, diversity, and inclusion in technology-enabled education
- AI-enabled learning systems (e.g., adaptive learning systems, recommender systems)
- Implications of educational technologies
- Smart technologies (e.g., wearable devices, digital platforms) and analytics for healthcare innovations in developing countries

Track 3: Protecting the Planet (Agritech, sustainable livelihoods)

- The use of technologies to support remote monitoring of crops and animals, the monitoring and maintenance of agricultural machinery and systems for the monitoring and optimisation of farm yields
- New technologies and innovative technology applications within agricultural processes for increased yields, efficiencies, and product quality
- The use of immersive technologies in the enhancement of training/ education within the Agri-Tech sector
- Initiatives to promote equality, diversity and inclusion in the field of AgriTech
- Initiatives to drive best manufacturing practices, such as lean manufacturing & six sigma tools to the installation & service functions across the agri-food sector
- Successful models of collaboration in the AgriTech space across academia, industry, government and community groups
- Precision agriculture and remote sensing

Track 4: Societal Impact (IS, ICT4D 3.0, Circular economies)

- Technology and analytics for disaster risk reduction and emergency response
- IS for gender equality and women's empowerment
- Digital innovation and entrepreneurship
- Digital transformation, gig economy, and social innovation
- Datafication and digitalisation for digital development
- Green IS and sustainable development
- Industry 4.0 technologies and circular economies for social and economic development
- AI and analytics for sustainability
- ICT4D 3.0 to support smart cities, urbanisation, and sustainable livelihoods
- Applications of IS and analytics to address grand societal challenges
- IS and ICT4D 3.0 adoption studies in developing countries
- Challenges for the circular economy in developed and developing countries
- Applications of circular economy frameworks and best practices
- Circular economy business models for remanufacturing, refurbishing products
- Sustainability and 4th Industrial Revolution
- The role of Industry 4.0 for sustainable livelihoods and agri-food supply chains
- The impact of technology e-waste on developing countries

Track 5: Ethics and Human values

- Big data and AI governance structures and governance models for global development
- Technology, analytics, and the future of law
- AI and analytics in legislation, in legal practice and in the courtroom
- Analytics, privacy, and self-determination
- Technological vs/and legal normativity
- Responsible innovation and the future of analytics
- Papers on Bruno Latour scholarship.
- Institutional frameworks and international cooperation for sustainable development

Track 6: Public Interest Technology for Innovation in Global Development

- (Co-)creation of knowledge and open information infrastructures / projects / services
- Global development projects with an emphasis on public interest technology frameworks, models, approaches
- Innovation ecosystems, and product innovations for inclusion
- Technology, responsible innovation, and global development
- Socio-technical systems and approaches (specific to technology and analytics)
- Local, regional, national, international, and grand societal challenges in the context of socio-technical systems
- Multi-stakeholder perspectives in relation to technology design and development
- Human-centred, participatory, co-design, by design and values-based approaches and projects
- Case studies of global technology and development deployments
- Process interventions for innovation in global development
- Research-teaching nexus in supporting cross-institutional and cross-sectoral partnerships toward open, transdisciplinary models, projects, and programs

Track 7: Smart Technologies for Defence, Security and Stability

- Smart technologies (AI, blockchain, IoT) and analytics for defence and security
- Smart technologies and analytics to improve security and social stability
- AI and big data applications in counter-terrorism, pre and post attacks
- Application of big data analytics against risk index in defence
- The role of smart technologies and analytics in cyber security and cyber warfare
- The role of AI role in counter-espionage, mobile phone security and data tracking
- AI and threat modelling in defence and social stability
- AI distributed design and implementation for security and defence

- AI human-centred design for defence
- Adoption and implementation of smart technologies by armed forces
- Digital transformation and inter-organisation data sharing in defence
- The role of social media intelligence and analysis in defence

Track 8: Intelligent Systems and Supply Chains for Sustainable Development

- Enablers, barriers, and resources required to successfully apply cutting-edge technologies (e.g., AI, big data analytics)
- Supply chain optimisation in the context of industry 4.0
- Improved decision-making through the application of big data technologies
- Supply chain transparency improvement by applying blockchain and IoTs
- Supply chain resilience enhancement with industry 4.0 technologies
- Case studies that apply emerging technologies across different stages of a supply chain
- Supply chain risk management with different digital technologies
- Supply chain efficiency improvement with autonomous robotics
- Technologies (e.g., AI, big data analytics) for resilient emergency response supply chains
- Intelligent and safe transportation
- Smart cities and smart grid
- Renewable energies
- Expert systems for healthcare data
- Green scheduling problems
- Opinion Evolution

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