8th African Conference on Information Systems & Technology (ACIST) 2022

25th – 26th August 2022, Blantyre, Malawi & Virtual

For Virtual join Zoom Meeting:
https://zoom.us/j/93337148502?pwd=V20vNG5kWGsvY0N0ZFdyeTNBbHZTQT09

Meeting ID: 933 3714 8502
Passcode: 305728

Host:
Dept. of Computer Science & Information Technology
Malawi University of Science & Technology, Malawi
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On behalf of the Organizing, Programme and Local Organizing Committees, plus other staff of MUST who have been working diligently and effectively from last year, we welcome you to the 8th African Conference on Information Systems & Technology (ACIST) 2022.

The aim of ACIST is to provide a forum for researchers, practitioners and educators to present and discuss the most recent innovations, trends, experiences and concerns in all kinds of technology. Discussions cover information and communication technology (ICT) and allied areas such as electrical and electronic engineering, computer science, computer engineering, and information systems.

Its theme, the Digital African is a reference to an African who has become a digital citizen because of integration of digital technology to support all aspects of his or her socio-economic life. Currently, there are a significant number of Africans who have attained various levels of digital citizenship. At the same time, there are also a significant number of Africans who are not yet digital citizens. Even among those who are digital citizens, many are not conscious of this citizenship because they have taken it for granted. For this reason, many Africans are quite oblivious to the key issues in digital citizenship even though knowledge of these issues in this age contributes significantly to African progress.

The key digital citizenship issues include access, communication, literacy, security and safety, ethics, education, government, rights and responsibilities, law, health, infrastructure, financial inclusion, and commerce. The more Africans understand, think, and apply these key issues, the more they increase their digital citizenship level. And as many of us are becoming Digital Africans, we acquire knowledge and skills which are critical in this age to make significant contributions to African progress.

However, the efforts required to make many more digital Africans is huge because there are many socio-economic obstacles in our way. Thankfully, many efforts are being made in this direction including the efforts of Information Systems & Technology scholars in Africa.

The 2022 (8th) edition of ACIST invited scholars to share ideas, based on research, about the making of The Digital African from many different theoretical, philosophical, policy and practical perspectives.

31 full papers were submitted by the deadline. These full-paper submissions were subjected to **blind reviews by at least two reviewers** of which 24 were accepted for presentation, after revisions were made as suggested by reviewers. Accepted full papers published in the conference proceedings will be available through [https://acistonline.org/](https://acistonline.org/) with **ISSN 2467-8988**.

The issues raised by our theme are of theoretical, empirical, and practical importance across academic, industry and policy groups. ACIST 2022 therefore offers many opportunities to learn from the research presentations and panel discussions which have been scheduled in the programme.

We hope that you enjoy your time and experience during the conference which is both in-person and virtual this year. We hope you enjoy your visit to Malawi for those attending in-person.

On behalf of all committees, thank you for all valuable discussions about research, teaching and practice during the conference. We hope you will have an excellent learning experience at ACIST 2022.

**Bennett Kankuzi**, Dept. of Computer Science & Information Technology, MUST, Malawi
**Gamel O. Wiredu**, Dept. of Information Systems & Innovation, GIMPA, Ghana
**Wallace Chigona**, Dept. of Information Systems, UCT, South Africa
**Irwin Brown**, Dept. of Information Systems, UCT, South Africa
**Solomon Negash**, Dept of Information Systems, Kennesaw State University, USA
## COMMITTEES

### Conference Co-Chairs

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<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Wallace Chigona</td>
<td>Conference Co-Chair</td>
<td>University of Cape Town, South Africa</td>
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<td>Bennett Kankuzi</td>
<td>Conference Co-Chair</td>
<td>Malawi University of Science &amp; Technology, Malawi</td>
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<td>Menard Phiri</td>
<td>Local Organizing Chair</td>
<td>Malawi University of Science &amp; Technology, Malawi</td>
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<tr>
<td>Gamel Wiredu</td>
<td>Programme Chair</td>
<td>Ghana Institute of Management &amp; Public Administration (GIMPA), Ghana</td>
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<td>Irwin Brown</td>
<td>Publications &amp; Proceedings Chair</td>
<td>University of Cape Town, South Africa</td>
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<tr>
<td>Solomon Negash</td>
<td>Treasurer</td>
<td>Kennesaw State University, USA</td>
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### Local Organising Committee

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<th>Name</th>
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<tr>
<td>Ralph Tambala</td>
<td>Malawi University of Science &amp; Technology, Malawi</td>
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<td>Tiwonge Manda</td>
<td>University of Malawi, Malawi</td>
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<td>Florence Nkosi</td>
<td>Mzuzu University, Malawi</td>
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<td>Allan Chongwe</td>
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<td>Rodrick Hiwa</td>
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<td>Innocent Jailos</td>
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<td>Waliko Sichinga</td>
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<td>Kingsley Goliati</td>
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# Review Committee

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<th>Reviewer</th>
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<tr>
<td>Abiodun Alao</td>
<td>University of Johannesburg</td>
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<td>Andile Metfula</td>
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<td>Anthea van der Hoogen</td>
<td>Nelson Mandela University</td>
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<td>Chris Ngiba</td>
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<td>Emmanuel Awuni Kolog</td>
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<td>Royal Holloway University</td>
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<td>Nozibele Gora</td>
<td>South African Medical Research Council</td>
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<td>Solomon Odei-Appiah</td>
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<td>Sam Takavarasha</td>
<td>Women’s University in Africa</td>
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<td>Suama Hamunyela</td>
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<td>Tareq Mesmeh</td>
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<td>Tebogo Legodi</td>
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<td>Tendani Mawela</td>
<td>University of Pretoria</td>
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<td>Teofelus Tuyeni</td>
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<td>Willard Munyoka</td>
<td>University of Venda</td>
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<td>Zainab Ruhwanya</td>
<td>University of Cape Town</td>
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Current Academic Programmes

- BSc in Business Information Technology
- BSc in Computer Systems and Security
- MSc in Computer Science
- MSc in Data Science
- MSc in Information Technology

Short Courses

- Certificate in Fiber Optic Networking
- Certificate in Programming using Python
- Certificate in Database Security
- Certificate in Linux Server Administration
- Certificate in Information Systems Auditing
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<th>Activity/Topic</th>
<th>Presenters</th>
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<tbody>
<tr>
<td>9:00 – 9:25am</td>
<td>Conference Opening</td>
<td>MUST Vice Chancellor, Prof. Address Malata</td>
</tr>
<tr>
<td>9:25 - 10:05am</td>
<td>Keynote Address: Digitizing communities, creating opportunities and transforming lives</td>
<td>Phyllis Manguluti, Chief Customer Officer, Telekom Networks Malawi plc</td>
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<tr>
<td></td>
<td>Tea/Coffee Break</td>
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<tr>
<td>10:30 – 10:55am</td>
<td>Factors affecting the adoption of information and communication technologies in Africa: literature review</td>
<td>Edison Wazoel Lubua, UTMU, Uganda</td>
</tr>
<tr>
<td>10:55 – 11:20am</td>
<td>A critical assessment of the ICT regulatory transparency gap in Zimbabwe</td>
<td>Casper Chigwedere, Sam Jnr Takavarasha, Bonfac’e Chenjerai Chisaka, WUA, Zimbabwe</td>
</tr>
<tr>
<td>11:20 – 11:45am</td>
<td>Access to technology and data in smart cities for South African digital citizens</td>
<td>Brenda Scholtz, Anthea Van Der Hoogen, NMU, South Africa</td>
</tr>
<tr>
<td>11:45 – 12:10pm</td>
<td>Factors affecting compliance with the national cybersecurity policy by SMMES in developing countries: a case of South Africa</td>
<td>Caitlyn Murphy, Chimwemwe Queen Mtegha, Wallace Chigona, Teofelous Tonateni Tuyeni, UCT, South Africa</td>
</tr>
<tr>
<td>12:10 – 12:35pm</td>
<td>Covid-19 pandemic digital technology innovations and resilience in South African higher education institutions</td>
<td>Vusumzi Funda, UFH, South Africa</td>
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<tr>
<td>2.00 – 2.25pm</td>
<td>Students’ acceptance and use of a mobile instant messenger for remote learning during Covid-19: large information systems class in South Africa</td>
<td>Fazlyn Petersen, Nathan Anthony Davids, UWC, South Africa</td>
</tr>
<tr>
<td>2.25 – 2.50pm</td>
<td>The impact of mobile banking customer experience on loyalty among millennials in South Africa</td>
<td>Justice Ncube, Salah Kabanda, UCT, South Africa</td>
</tr>
<tr>
<td>2.50 – 3.15pm</td>
<td>Characterization of end-users’ engagement and interaction experience with social media technologies</td>
<td>Yemisi Oyedele, Darelle Van Greunen, NMU, South Africa</td>
</tr>
<tr>
<td>3.15 – 3.40pm</td>
<td>Users’ expectations as determinants of continuance intention towards mhealth in Malawi</td>
<td>Donald Flywell Malangana, Wallace Chigona, UL, Malawi</td>
</tr>
<tr>
<td>3.40 – 4.05pm</td>
<td>Towards inclusive electronic tutoring: tutors’ experiences of using a data-free mobile instant messenger in a large accounting class</td>
<td>Fazlyn Petersen, Ronald Arendse, UWC, South Africa</td>
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<td></td>
<td>Tea/Coffee Break</td>
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<tr>
<td>4.30 – 4.55pm</td>
<td>A structural equation model for implementation of smart card technology in public healthcare</td>
<td>Lario Malungana, Lovemore Motsi, UNISA, South Africa</td>
</tr>
<tr>
<td>4.55 – 5.20pm</td>
<td>Extrinsic motivation to use mhealth interventions in maternal healthcare in rural Malawi</td>
<td>Priscilla Maliwichi, Wallace Chigona, Address Malata, UCT, South Africa</td>
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End of 1st Day Activities
## Day 2: Friday 26th August 2022

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<tr>
<th>Time</th>
<th>Activity/Topic</th>
<th>Presenters</th>
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<tbody>
<tr>
<td>9:00 – 10:00am</td>
<td>Keynote Address: ‘African Vibes’</td>
<td>Gertjan van Stam, Transdisciplinary Researcher, Zimbabwe</td>
</tr>
<tr>
<td>9:30 – 9:55am</td>
<td>Tea/Coffee Break</td>
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<tr>
<td>10:00 – 10:25am</td>
<td>Paper Presentation Session 4 – Chair: Florence Nkosi</td>
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<tr>
<td>10:30 – 10:55am</td>
<td>Factors that influence the implementation of inclusive design practices in organisations.</td>
<td>Faizel Ebrahim, Salah Kabanda, Guidance Fayisa Mthwazi, UCT, South Africa</td>
</tr>
<tr>
<td>10:55 – 11:20am</td>
<td>Students' perceptions of designing mobile application prototypes for social innovation: case study during a global pandemic</td>
<td>Fazlyn Petersen, Muhammad Ziyaad Behardien, UWC, South Africa</td>
</tr>
<tr>
<td>11:20 – 11:45am</td>
<td>Using design science research to create a virtual environment for nursing students</td>
<td>Benjamin Botha, Lizette De Wet, UFS, South Africa</td>
</tr>
<tr>
<td>11:45 – 12:10pm</td>
<td>Road traffic accidents severity modelling in Malawi</td>
<td>Chikumbutso Felix Phiri, Kondwani Munthali, Yamikani Phiri, UM, Malawi</td>
</tr>
<tr>
<td>12:10 – 12:35pm</td>
<td>Towards a career prediction model for subject selection at advanced level of secondary education</td>
<td>Moses Kamondo Tuhame, Gilbert Maiga, Annabella Habinka, Barbara Kayondo, UM, Uganda</td>
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<tr>
<td>12:35 – 13:00pm</td>
<td>Lunch</td>
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<tr>
<td>13:00 – 13:25pm</td>
<td>Paper Presentation Session 5 – Chair: Hossana Twinomurinzi</td>
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<tr>
<td>13:25 – 13:50pm</td>
<td>A theoretical framework for m-learning</td>
<td>Osman Sadeck, Moses Moyo, Nyarai Tunjera, Agnes Chigona, CPUT, South Africa</td>
</tr>
<tr>
<td>13:50 – 14:15pm</td>
<td>Adapting an online learning quality assurance framework in a developing country setting: the case of a HEI in Malawi</td>
<td>Bennett Kankuzi, Menard Phiri, Robert Chanunkha, Jonathan Makuwira, Paul Makobo, MUST, Malawi</td>
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<tr>
<td>14:15 – 14:40pm</td>
<td>Developing a model to calculate feasible capacity to work-from-home</td>
<td>Ryan Tripod, Sumarie Roodt, UCT, South Africa</td>
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<tr>
<td>14:40 – 15:05pm</td>
<td>Disciplinary emphases of data science curricula in South Africa</td>
<td>Hossana Twinomurinzi, Siyabonga Mhlongo, Kelvin J. Bwalya, Tebogo Bokaba, Steven Mbeya, UJ, South Africa</td>
</tr>
<tr>
<td>15:05 – 15:30pm</td>
<td>Towards a model on digital transformation within the higher education sector – a South African perspective</td>
<td>Olusegun A. Ajigini, IIE, South Africa</td>
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<tr>
<td>15:30 – 15:55pm</td>
<td>Tea/Coffee Break</td>
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<tr>
<td>15:55 – 16:20pm</td>
<td>Paper Presentation Session 6 – Chair: Donald Malanga</td>
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<tr>
<td>16:20 – 16:45pm</td>
<td>The status of adoption of social media analytics: three cases in South African and German government departments</td>
<td>Khulekani Yakobi, Brenda Scholtz, NMU, South Africa</td>
</tr>
<tr>
<td>16:45 – 17:10pm</td>
<td>Role of industry technologies in information systems education</td>
<td>Shaloam Mutetwa, Gwamaka Mwalemba, UCT, South Africa</td>
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<td>17:10 – 17:35pm</td>
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KEYNOTE ADDRESSES

KEYNOTE ADDRESS 1

Ms Phyllis Manguluti
Chief Customer Officer
Telekom Networks Malawi plc

Topic: Digitizing communities, creating opportunities and transforming lives

Biography:
An accomplished member of Executive management of TNM plc that offers 22 years’ continued and combined experience with success in the areas of planning, executing and negotiating at various Organizational levels. Has 8 years’ experience of board leadership; including providing oversight to sub-committees. Currently, sits on the boards of Malawi Energy Regulatory Authority (MERA) as Vice Board Chairperson, Habitat for Humanity Malawi, Girls Youth Foundation for Africa and Apple of His Eye Africa. Was also once on the boards of Old Mutual TNM Pension Fund and Green Energy. A Master of Business Administration, an Electrical and Electronic Engineer, an awardee from STEM in the field of Science, a motivational and inspiring leader. Currently works as Chief Customer Officer, strategically responsible for Customer Service, Customer Experience and Partnerships. Once worked as Chief Regional Operations Officer overseeing Commercial, Technical, Finance and Admin as well as Customer services Operations for 4 Regions. Also worked as Chief Channels Officer, Managing Executive for Operations, Managing Executive for Customer Services as well as the Head of Network Management Centre where she played an instrumental role in setting up the Network Management system using an integrated solution. Other corporate roles include Regional Technical Manager for Central and Northern Region. On the international scene, she was also the first woman Consultant to have successfully led a telecommunication engineering project in Yemen in the year 2007.
Dr. Gertjan van Stam
Transdisciplinary Researcher, Zimbabwe

Topic: 'African Vibes'

Biography:
Gertjan van Stam engages in a diverse portfolio of activities, among which consultancy in digital health in Southern Africa and Europe. He has been involved with strategic developments in Information and Communication Technologies, the Built Environment, digital transformation and digital health, and culture studies since 1987. He holds a Doctor of Philosophy from Tilburg University – the Netherlands, (PhD, Culture Studies), a Master of Technology in Information Technology (MTech, cum laude) from Nelson Mandela University – South Africa, and an engineering degree in telecommunications.

In his activities, Gertjan deploys dynamic and integrative analysis embedded in both the humanities and natural sciences at the intersection of technology and society focusing on meaning-making and embodiment. Harvesting from extended case studies, he contributes on the cognitive and epistemological connection between technology and culture. Gertjan’s goal is to co-develop insights on contrapuntal developments and to identify and inspire local talent. He proposes conceptual frameworks that move the discourse on technology and society to a nuanced continuum through inclusive narratives that celebrate diversity/pluralism in meaning-making, knowledge production and dissemination.