Introduction

**IST-Africa 2015** Conference takes place 06 - 08 May 2015 in Lilongwe, as part of IST-Africa Week 2015. An activity of IST-Africa, which is supported by the European Commission and African Union Commission and co-funded under the EU Framework Programme, IST-Africa 2015 is the tenth in an Annual Conference Series bringing together senior representatives from leading public, private, education & research organisations, to discuss ICT policy, showcase research results and share knowledge.

European research activities are structured around consecutive multi-annual programmes, or so-called Framework Programmes. Horizon 2020 sets out the Priorities and thematic areas, including ICT, for 2014 - 2020. Horizon 2020 is fully open to international co-operation with the aim to jointly address major challenges where significant added value is expected to be gained from a world-wide R&D cooperation. In this context, the European Commission has co-funded IST-Africa since 2006, to promote African - European research cooperation and support Information Society and ICT aspects of the Africa-EU Strategic Partnership.

Hosted by the Government of Malawi through the National Commission for Science and Technology and Technically Co-Sponsored by IEEE, IST-Africa 2015 focuses on the Role of ICT for Africa’s Development and specifically on Applied ICT research in the areas of eHealth, Technology Enhanced Learning and ICT Skills, Digital Libraries, eInfrastructures, eAgriculture, Societal Implications of Technology, International Cooperation, ICT4D and eGovernment. IST-Africa 2015 will provide a collegiate setting for presentations and discussions of national & regional developments, issues of concern & good practice models, and networking with peers. IST-Africa 2015 will also provide an opportunity to identify potential partners for future proposals under Horizon 2020.

IST-Africa directly supports Information Society, Innovation and ICT aspects of the Africa-EU Strategic Partnership, the African Ministerial Council on Science and Technology (AMCOST) and the Consolidated Plan of Action for the African Regional Action Plan on the Knowledge Economy (ARAPKE).

The goals of the IST-Africa Conference Series are Community Building to facilitate EU-African research cooperation and successful exploitation of research results, to stimulate take-up of RTD results by industry and the public sector, to promote knowledge sharing between commercial, government and research organisations, to exchange experiences about the current state of eAdoption at a sectoral, national or regional level, and to support International Cooperation and open up the European Research Area (ERA) to Africa.

Who will you meet?

**IST-Africa 2015** Conference attracts policy makers, practitioners, and researchers from leading commercial, government and research organisations around the world. Unlike many research conferences, IST-Africa provides an opportunity to meet with senior managers, practitioners, project managers, software engineers and researchers from industry, government and research organisations. Delegates and speakers attend to share knowledge, experience and lessons learnt, and network with their peers from around the world.

IST-Africa 2015 Conference also provides the unique opportunity to identify partners and opportunities to co-operate in international ICT research projects co-funded by the European Commission under Horizon 2020. Much of the European research results presented in this year’s conference were co-funded under the FP7 ICT Programme (2007 - 2013).

The Venue

IST-Africa 2015 Conference takes place in Bingu International Conference Centre (Capital Hill/ Presidential Way) Lilongwe, which is 25 km from the airport.

The Programme

The 3-day programme features an invigorating mix of business and government case studies, technical and policy papers and interactive workshops. As well as opening and closing plenary sessions, delegates may participate in 35 thematically focused parallel sessions featuring different aspects of International Cooperation, ICT4D, eHealth, eInfrastructures, Technology Enhanced Learning and ICT Skills, Digital Libraries, Mobile Applications, ICT for Environmental Sustainability and eAgriculture, Cyber Security, Societal Implications of Technology and eGovernment. Session Chairs will ensure active discussion and facilitate delegate participation.

In the context of focusing on the Role of ICT for Africa’s Development, the Opening Plenary on Wednesday 06 May features a high level dialogue on Implementation of the Information Society in Africa. The Closing Plenary on Friday 08 May focuses on Initiatives Supporting Development of Regional S&T.

The programme is subject to change and the IST-Africa 2015 Organising Committee reserves the right to alter the contents, venue and/or speakers. This Programme is accurate as at 23 April ’15.
Networking

Networking is a key feature of the IST-Africa Conference Series. Paper and workshop sessions are designed to maximise knowledge sharing by providing time for interactive discussions during the conference programme itself. Coffee breaks and lunch facilitate informal one-on-one and small group discussions following paper or workshop sessions.

The Delegate Showcase on the Conference Portal allows registered delegates, speakers and exhibitors to publish their own short profile and research interests to facilitate networking before, during and after the conference. Leverage this functionality to contact potential partners in advance and arrange to meet during the conference.

Living Labs Workshop, 05 May

IST-Africa is organising the fifth Annual Living Lab Thematic Working Group Meeting on Tuesday 05 May 2014.

This workshop will facilitate knowledge sharing and collaboration between Innovation Stakeholders and operators of Living Labs and Innovation Spaces, building on progress achieved at previous Working Group Meetings in Mauritius (2014), Nairobi (2013), Dar es Salaam (2012) and Gaborone (2011). This participatory working group meeting will continue building a network of experts, public, private, education and research and societal stakeholders and entrepreneurs committed to Collaborative Innovation as a mechanism to support sustainable socio-economic development in Africa.

IST-Africa 2015 delegates are invited to pre-register for this participatory working group meeting as part of online registration.

Conference Proceedings

The IST-Africa 2015 conference proceedings will be published on CD-ROM and on the Conference Portal. Each delegate will receive a free copy of the conference proceedings at Registration.

Following the conference, registered delegates will have access to all PowerPoint presentations, which will be published on the Conference Portal.

Papers that are physically presented during the event will also have the option after the event for their paper to be included in the IST-Africa 2015 Conference Proceedings will submitted for publication in IEEE Xplore.

Security, Health and Safety

Please wear your name badge for all IST-Africa activities, as it is your identification and allows you access to the facilities on offer. While the conference area is on a secure site and not open to the general public, it is still necessary to take care of bags, personal computers and other personal belongings.

The organisers cannot accept any responsibility for losses incurred or for personal health and safety.

Delegates should ensure that they have personal health insurance and take due care when exploring Lilongwe. Any special needs or requirements should be notified to the Conference Secretariat as far in advance of the event as possible.

Hotel Accommodation

Delegates can book accommodation in the President Walmont Hotel (new hotel within the conference centre complex) at discounted rates through online registration for IST-Africa 2015, based on payment in advance.

The President Walmont Hotel is the first 5 star hotel in Malawi. It has a large reception area, a beautiful lobby bar, a relaxing lounge and Wild Orchid Restaurant. Facilities include a gym, spa facility and the Aroma Terrace Bar. Bedrooms have Air conditioning; Bath and shower; Flat screen LCD television; Selected satellite TV channels; Tea and coffee station; Writing desk and Laptop safe.

Delegates are strongly recommended to book their accommodation early as it will be allocated on a first-paid basis. Hotel accommodation can only be confirmed upon receipt of the associated payment. For further information, please visit: www.IST-Africa.org/Conference2015

How to get there

Lilongwe is the capital of Malawi. There are flights to Lilongwe with Air Malawi, Emirates, Ethiopian Airlines, Kenya Airways, South African Airways and Zambezi Airlines. Delegates are advised to book flights and accommodation as early as possible.

Bingu International Conference Centre is located in Capital Hill area of the city, 25km from the airport.

Sponsors

IST-Africa 2015 offers a variety of Sponsorship Opportunities to enhance your organisation’s image & standing with the international IST research community. Prominent notice will be given to sponsors on the conference portal, in press releases, together with other benefits and promotional opportunities.

IST-Africa 2015 is hosted by the Government of Malawi through National Commission for Science and Technology.

Sponsors include MACRA (Malawi Communications Regulatory Authority), Skyband and Malawi Telecommunications Ltd.
Plenary Session Speakers

- Hon. Dr. Emmanuel Fabiano, M.P., Minister of Education, Science and Technology, Malawi
- Mrs Siphiwe Mafu, Permanent Secretary for Education, Science and Technology, Malawi
- Martin B. Thawani, DG, National Commission for Science and Technology, Malawi
- Mr Anthony Muyepa-Phiri, Director General, NCST, Malawi
- Mr Andrew Kumbatira, Director General, MACRA, Malawi
- Dr Harry Gombachika, Chief Executive Officer, Malawi Telecommunications
- Dr Pascal Hoba, CEO, UbuntuNet Alliance
- Dr. Paulos Nyirenda, CEO, SDNP
- Mrs Bessie Nyirenda, Management Consultant, Malawi Institute of Agriculture and Food Security
- Mr Victor Malewa, Deputy Director, Department of e-Government, Ministry of Information

International Programme Committee

A distinguished Programme Committee has been formed to review and provide feedback on papers and presentations, and chair sessions.

The IST-Africa 2015 International Programme Committee includes:

- Paul Cunningham (Conference Chair), IIMC International Information Management Corporation Ltd, Ireland
- Tiwonge Msulira Banda, UbuntuNet Alliance, Malawi
- Laurens Cloete, Meraka Institute, CSIR, South Africa
- Miriam Cunningham, IIMC International Information Management Corporation Ltd, Ireland
- Kim Davis, Research Council of Norway, Norway
- Prof. Love Ekenberg, DSV, University of Stockholm, Sweden
- Dr. Mike Joy, University of Warwick, United Kingdom
- Dr. Chipo Kanjo, Department of Computer Science, Chancellor College, University of Malawi, Malawi
- Mr. Gift Khangamwa, Computing & IT Department, The Polytechnic, University of Malawi, Malawi
- Vasiliis Kouliolas, eGovLab, Stockholm University, Sweden
- Kristitina Lahde, TANZICT Programme, Tanzania
- Prof. Maurice Mars, University of KwaZulu-Natal, South Africa
- Alinafe Mbendera, Lilongwe University of Agriculture and Natural Resources, Malawi
- Dr. Chomora Mikeka, Department of Physics, Chancellor College, University of Malawi, Malawi
- Lloyd Momba, Director of Telecommunications, Malawi Communications Regulatory Authority, Malawi
- Anthony Muyepa, DG, National Commission for Science and Technology, Malawi
- Loi Namugenyi, Uganda National Council for Science & Technology, Uganda
- Seyani Nayeja, Director of ICT, Mzuzu University, Malawi
- Mrs Bessie Nyirenda, Malawi Institute of Management, Malawi
- Dr. Sue Penderi, Colorado State University, United States
- Sameerchand Pudaruth, University of Mauritius, Mauritius
- Matti Sinko, Finland
- Dr. Robert Ridley, Vice Chancellor, Mzuzu University
- Prof. George Kanyama Phiri, Vice Chancellor, LUANAR
- Martin B. Thawani, Malawi University of Science and Technology
- Dr Charles Mwansambo, Principal Secretary, Ministry of Health
- Stella Kamkwamba, Director of Agriculture Extension Services, Ministry of Agriculture and Food Security
- Bernard Stevenot, SpaceBel, Belgium
- Richard Stevens, Stevens Consultants, Italy
- Dr Marita Turpin, Department of Informatics, University of Pretoria, South Africa
- Prof. Darelle Van Greunen, Nelson Mandela Metropolitan University/LLISA, South Africa

Organising Committee

- Miriam Cunningham, IIMC, Ireland
- Paul Cunningham, IIMC, Ireland
- Gift Kadzamira, National Commission for Science and Technology, Malawi
- Ebony Msikawanthu, National Commission for Science and Technology, Malawi

Conference Secretariat

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13 Docklands Innovation Park, 128 East Wall Road, Dublin 3, Ireland
Tel: +353 (0) 1 8170607, Fax: +353 (0) 1 8170606
e-mail: secretariat@IST-Africa.org
www.IST-Africa.org/Conference2015
Wednesday, May 06, 2015

08:00 Registration

09:00 Opening Plenary 1a: Opening Plenary

Opening Remarks
Anthony Muyepe-Phiri, Director General, National Commission for Science and Technology, Malawi

European Commission Address
Morten Møller, Programme Coordination, DG CONNECT, European Commission, Belgium

African Union Commission Address
Adil Sulieaman, African Union Commission, Ethiopia

Welcome Address
Lonely Magreta, Permanent Secretary for Education, Science and Technology, Malawi

Official Opening Speech
Hon. Emmanuel Fabiano, M.P., Minister of Education, Science and Technology, Malawi

10:30 Coffee Break

11:00 Plenary Session 2a: High-level Roundtable on Implementation of the Information Society in Africa
Moderator: Paul Cunningham, IIMC, Ireland

Lonely Magreta, Permanent Secretary for Education, Science and Technology, Malawi

Anthony Muyepe-Phiri, Director General, NCST / CTO MAREN

Andrew Kumbatira, Director General, Malawi Communications Regulatory Authority (MACRA)

Victor Malewa, Deputy Director, Department of e-Government, Ministry of Information and Communications Technology, Malawi

Adil Sulieaman, Senior Policy Officer, Infrastructure and Energy Department, African Union Commission

Kasirir Nwuke, Chief, New Technologies and Innovation Section, UNECA

Dr. Pascal Hoba, CEO, UbuntuNet Alliance

Dr. Harry Gombachika, Chief Executive Officer, Malawi Telecommunications Limited

Dr. Paulos Nyirenda, CEO, SDNP

Bessie Nyirenda, Management Consultant, Malawi Institute of Management

12:30 Lunch

14:00 Session 3b: eHealth I
Chair: Chipo Kanjo, University of Malawi, Chancellor College

Towards an ICT Framework to Support a Patient-Centric Approach in Public Healthcare: A Case Study of Malawi
Richard Pankomera, Nelson Mandela Metropolitan University, South Africa

Practicing Evidence-Based Medicine in Developing Countries
Juha Puustjärvi, University of Helsinki, Finland

An Approach for a national eHealth Implementation – the Case of Modular Interactive Tiles for Rehabilitation
Henrik Hautop Lund, Technical University of Denmark, Denmark

SIEMA: A System to Improve the Access to Medical Emergency Services
Mateus Calado, Faculdade de Ciências - Universidade Agostinho Neto, Angola

14:00 Session 3c: Technology-enhanced Learning I
Chair: Gift Khamagwama, The Polytechnic, University of Malawi

Evaluating Preparedness for Social Networks Integration into Learning: A Case Study of Inoorero University
Elpjoy Micheni, The Technical University of Kenya, Kenya

Social Media in Higher Learning: Is it a tool for Social or Academic Purpose? A Comparative Study between MoCU, Tanzania and UANAR, Malawi
George Matto, Moshi Co-operative University, Tanzania

Gamifying a PhD Taught Module: A Journey to Phobos and Deimos
Laura Buttgerie, Nelson Mandela Metropolitan University, South Africa

14:00 Session 3d: eGovernment I
Chair: Bessie Nyirenda, Malawi Institute of Management

E-identity: Basic Building Block of e-Government
Jiri Prusa, CZ.NIC Association, Czech Republic

Methodology for Improving Data Quality Management in South African Government Departments
Stanley Ndlovhu Malange, Tshwane University of Technology, South Africa

A Structural Equation Model for Data Warehouse Adoption in a Government Department
Edzai Kademeteme, Tshwane University of Technology, South Africa

Mobile Visualisation Techniques for Large Datasets
Ingrid Sieborger, Rhodes University, South Africa

15:30 Coffee Break

16:00 Workshop 4a: IST-Africa - Research Capacities & Priorities I
Chair: Paul Cunningham, IIMC, Ireland

Defining Joint EU-Africa Priorities – An Opportunity for ICT Collaboration?
Stephane Hogan, European Commission, Ethiopia

ICT Initiatives and Research Capacity in Swaziland
Vumile Dlamini, Ministry of Information Communication Technology, Swaziland

ICT Initiatives and Research Capacity in Lesotho
Lieketseng Tjokos, Department of Science and Technology, Lesotho

ICT Initiatives and Research Capacity in Tunisia
Noureddine Hamdi, Ministère de l’Enseignement Supérieur et de la Recherche Scientifique, Tunisia

ICT Initiatives and Research Capacity in Egypt
Hailham Hamza, Information Technology Industry Development Agency (ITIDA), Egypt

ICT Initiatives and Research Capacity in Senegal
Toumane Doumbouya, Ministère de l’Enseignement Supérieur et de la Recherche Scientifique, Senegal

06 - 08 May 2015
16:00 Session 4b: eHealth II
Chair: Seyani Nayeja, Mzuzu University, Malawi
The Development of an e-Health System for Health Awareness Campaigns in Poor Areas
Joseph M. Kavulya, The Catholic University of Eastern Africa, Kenya
Mobile Health App to Improve the Quality of Care in Community Case Management in Malawi
Chris Kulanga, D-tree International, Malawi
Use of Data Mining to Check the Prevalence of Prostate Cancer: Case of Nairobi County
Njent Ngaruiya, University of Nairobi, Kenya
Nationwide Health Education Using Mobile Technology
Sam Kampondeni, Moyo Wanga Private Clinic, Malawi

16:00 Session 4c: Technology-enhanced Learning II
Chair: Kristina Lahde, TanzICT Programme, Tanzania
Transforming Africa into a Knowledge-based society: Concretizing the case for Digital Literacies and Revision of ICT Strategies in the Education Sector in the Region
Ellen Bjoerge, University of Oslo, Norway
Mobile E-Learning: The Choice between Responsive/Mobile Websites and Mobile Applications for Virtual Learning Environments for increasing access to Higher Education in Malawi
Chifundo Chilivumbo, The University of Malawi: The Polytechnic, Malawi
Support Given to Lecturers when Providing Mobile Centric Services in Teaching and Learning: A Policy Analysis Perspective
Baldrick Chipangura, Unisa, South Africa

16:00 Session 4d: eGovernment II
Chair: Vasilis Kouflias, eGovlab, Sweden
Mobile Government in African Least Developed Countries (LDCs): Proposed Implementing Framework
John Mtingwi, Office of the President and Cabinet, Malawi
Using Mobile Phones for Public Participation with Local Government in Cape Town
Jean-Paul Van Belle, University of Cape Town, South Africa
Citizen-Centric Critical Success Factors for the Implementation of E-government: A Case Study of Kenya Huduma Centers
Ibrahim Otieno, University of Nairobi, Kenya
Towards Addressing the Requirements for Coordination in the Distributed South African Public Sector from a Virtual Community-Centric Collaboration Process Lifecycle Perspective
Godwin Thomas, Nelson Mandela Metropolitan University, South Africa

17:30 End of Parallel Sessions
Chair: Omo Oaiya, WACREN, Nigeria

**Overview of Identity Federation and Shared Services – A Global Perspective**
Sabine Jaume-Rajaonia, CIRAD, France

**Status of Identity Federations in Africa**
Tiwonge Msulira Banda, UbuntuNet Alliance for Research and Education Networking, Malawi

**Service Providers, Shared Services and NREN Clouds**
Ognjen Pmjat, GRNET S.A, Greece

Panel discussion - Panelists include:
Joseph Kimaill (UbuntuNet Alliance), Boubakar Barry (WACREN), Bruce Becker (SAGrid), DamienAlline (IRD), Carmen-Gloria Labbe (RedCLARA)

10:30

**Session 6a: ICT4D**

Chair: Haidham Hamza, Information Technology Industry Development Agency (ITIDA), Egypt

**Knowledge Sharing in Africa: Perspectives on the Future**
Jon Gregson, Development Dreamers Ltd, United Kingdom

**Designing for Sustainability: Involving Communities in Developing ICT Interventions to Support Water Resource Management**
Fiona Szosz - Mugurura, University of Cape Town, South Africa

**Towards a Sustainability Criteria Model for ICT4D Projects and Living Labs Initiatives: A Siyakhala Living Lab Observation**
Shadreck Mudziwepasi, Siyakhala Living Lab Project, South Africa

**How Lessons Learnt informed the Development of an Implementation Framework in an ICT4D Initiative**
Marlien Herselman, Meraka Institute, CSIR, South Africa

**A Lightweight Mobile E-Procurement Solution for Rural Small Scale Traders Implemented Using a Living Lab Approach**
Felix Ntawanga, University of South Africa, South Africa

12:30

**Session 6b: ICT4D**

Chair: Jacob Njogh, Ministry of Education, Science and Technology, Kenya

**A Demographics Data Exchange for Continuity of Care: Is it Feasible in Low-Resource Settings?**
Ronald Manjomo, Baobab Health Trust, Malawi

**Strongening Health Management Information Systems in Malawi: Gaps and Opportunities**
Maganizo Monawe, I-TECH Malawi, Malawi

**A Socio-Technical Approach to Understanding Data Quality in Health Information Systems: Data Quality Intervention in Kenya**
Ayub Manya, Ministry of Health, Kenya

**Applications of Data Mining in the Health Sector in Lesotho: A Preliminary Study**
Lebeko Foulo, Limkokwing University of Creative Technology, Lesotho

**Session 6c: ICT4D**

Chair: Liketseng Tjokotsi, Department of Science and Technology, Lesotho

**An Internet Mediated PhD Program in Computer Science and Information Technology**
Izzeldin Osman, Sudan University of Science and Technology, Sudan

**Sentiment Analysis of the ICT4Rural Education Teacher Professional Development Course**
Coral Featherstone, Meraka Institute, South Africa

**MOOCs for Pre-Service Teachers: Their Notions of 21st Century Learning Design**
Jameson Goto, University of Johannesburg, South Africa

**Cultivating Lifelong Learning: Pre-Service Teachers and their MOOCs**
Jacqueline Batchelor, University of Johannesburg, South Africa

14:00

**Session 7a: ICT4D**

Chair: Peacemaker Dlamini, Department of Science and Technology, South Africa

**The Value of Information - Assessing ICT requirements in Local Government**
Bianca Forlee, University of Cape Town, South Africa

**College Electronic Voting Environment (CEVE)**
Emily Bagarukayo, Makerere University, Uganda

**Local procurement in Mozambique: the case of InBid**
Albertina Oliveira, Pandora Box, Lda., Mozambique

14:00

**Session 7b: ICT4D**

Chair: Seyani Nayeja, Mzuzu University, Malawi, Joseph Wu, Luke International, Malawi

**An Assessment on the Impact of introducing Electronic based Community Case Management (e-CCM) over paper based Community Case Management in the Management of Childhood Illnesses in Rural Northern Malawi**
Griphin Baxter Chirambio, Mzuzu University, Malawi

**Applying WHO guideline for National Health Information System Architecture Design to Malawi - from Community to Globe**
Felix Ntawanga, University of South Africa, South Africa

**Designing an electronic Community Case Management decision aid for the management of childhood illnesses in village clinics in Malawi- a demo of Supporting LIFE application**

14:00

**Session 7c: ICT4D**

Chair: Alinafe Mbendera, LUANAR, Malawi

**Preparing Teachers to Integrate Tablet Computers into Teaching and Learning**
Eunice Eyikayo Olakanni, University of Johannesburg, South Africa

**Use of Tablets in Blended Learning: A Case Study of an Institution of Higher Learning in Kenya**
Elizaphan Maina, Kenyatta University, Kenya

**Student’s Experiences in Using Chat Rooms as Virtual Classrooms: A Case of Kenyatta University Distant Learning Students**
Rhoda Gitonga, University of Nairobi, Kenya

**A Blueprint for Integrated Community Disease Management and Surveillance through the use of eHealth Applications**

14:00

**Session 7d: ICT4D**

Chair: Francis Bisika, Malawi Communications Regulatory Authority, Malawi

**Supporting Regulators in becoming more beneficial for society**
Nilse Jensen, Stockholm University, Sweden

**On Bringing Governance into Technology: Case of Internet Governance and Implications for Africa**
Chipo Kanjo, University of Malawi, Chancellor College, Malawi
Good Corporate Governance of ICT in Municipalities
Petrus Deport, Nelson Mandela Metropolitan University, South Africa

Improved Service Continuity in Municipalities
Ruan Koen, Nelson Mandela Metropolitan University, South Africa

15:30 Coffee Break

16:00 Workshop 8a: ICT Initiatives in Malawi
Chair: Anthony Muyeza-Phiri, Director General, National Commission for Science and Technology, Malawi

Regulatory Initiatives to Increase ICT Penetration in Malawi
Francis Balaka, Malawi Communications Regulatory Authority, Malawi

Software Defined Radios and Internet Independent Broadband Links Using Tailor-Made Android Apps
Stanley Mthatha, Chancellor College – University of Malawi, Malawi

Overview of Digital Migration in Malawi
Denis Chiwawa, Ministry of Information, Tourism & Culture, Malawi

eInfrastructure Development for Malawi
Chimwerwe Khonde, Malawi Telecommunication Limited, Malawi

Enabling eHealth in Resource Constrained Settings
Oliver Gadzou, Baobab Health Trust, Malawi

Leveraging ICT Initiatives for Development in Africa
Thandilele Mvundula, Nico Technologies, Malawi

16:00 Session 8b: mHealth
Chair: Iqbal Agowun, National Computer Board, Mauritius

A Model for Mobile Phone Adoption in Maternal Healthcare
Gilbert Maiga, Makerere University, Uganda

Leveraging Health through Early Warning Systems Using Mobile and Service Oriented Technology
Silvester Namuye, USIU, Kenya

Assessing the Use of Mobile Technology to improve Timeliness of HMIS Reports in Malawi
Christon Moyo, Ministry of Health, Malawi

Re-engineering School Healthcare Services Using Mobile Technologies, in the Eastern Cape
Darelle Van Greunen, Nelson Mandela Metropolitan University, South Africa

Adoption and Use of mHealth System for Livestock Farmers in Karura village in Kenya
David Gichoya, Moi University, Kenya

16:00 Workshop 8c: Mobile GraphoGame Solution to Global Illiteracy Crisis
Chair: Heikki Lyytinen, University of Jyväskylä, Finland

GraphoWorld Solution to Global Illiteracy Crisis
Heikki Lyytinen, University of Jyväskylä, Finland

Mobile Solution for Better Reading Instruction in Rural Africa
Christopher Kyakukawa Ya Yulukanda, Zambia National Union of Teachers/University of Jyväskylä, Zambia

Ensuring Sufficient Literacy Practice with Tablet Technology in Zambian Schools
Gabriel Walubita, University of Zambia, Zambia

16:00 Session 8d: Cyber Security
Chair: Njei Check, National Agency for Information and Communication Technologies (ANTIC), Cameroon

Improving South Africa’s Cyber Security by Cyber Securing its Small Companies
Basie von Soims, University of Johannesburg, South Africa

Digital Forensics in the Cloud: The State of the Art
George Sibiya, CSIR, South Africa

Digital Forensic Readiness for Branchless Banking
Yusuf Mitha, University of Pretoria, South Africa

Better Information Security Management in Municipalities
Yusuf Mitha, University of Pretoria, South Africa

An Integrated Internet of Things Based System for Tracking and Monitoring Assets – the case of the Central University of Technology
Muthoni Masinde, Central University of Technology, South Africa

17:30 End of Parallel Sessions

Friday, May 08, 2015

09:00 Session 9a: eAgriculture
Chair: Loi Namugenyi, Uganda National Council for Science & Technology, Uganda

Electronic Voucher System: Leveraging Efficiency in Farm Input Subsidy Programme Implementation
Chrispin Namwera, African Institute of Corporate Citizenship, Malawi

Utilization of ICT for Agriculture: A Case Study of Kakamega County, Kenya
Moses Thiga, Kabarak University, Kenya

Bioacoustic Approaches to Biodiversity Monitoring and Conservation in Kenya
Ciira Maina, Dedan Kimathi University of Technology, Kenya

09:00 Session 9b: ICT Supporting Innovation
Chair: Leulseged Alemie, Ministry of Communications and Information Technology, Ethiopia

Rethinking Girl Data: The Girl Impact Map
Kecia Bertermann, Girl Hub Rwanda, Rwanda

Leveraging FIWARE to Develop Innovative Applications
Pierre-Yves Daniel, Orange Labs, France

Business Process Adoption in Organisations: A Case Study from an Insurance Company in South Africa
Judy Van Biljon, University of South Africa, South Africa

The Adoption of Crowdsourcing Platforms in South Africa
Jabu Mtsweni, CSIR, South Africa

09:00 Session 9c: Digital Libraries
Chair: Gift Kadzamira, National Commission for Science and Technology, Malawi

Rose Njoro, Kenya University, Kenya

Design of an Open ICT4D Knowledge Repository
Grace Were, Kenya Human Rights Commission Resource Centre

Utilization of Digital Spaces in Information Management Work - A Case of Kenya Human Rights Commission Resource Centre
Grace Were, Kenya Human Rights Commission, Kenya

09:00 Session 9d: eInfrastructures
Chair: Tiwonge Msulira Banda, UbuntuNet Alliance for Research and Education Networking, Malawi

Enabling Intercontinental e-Infrastructures – a Case for Africa
Ognjen Prnjat, GRNET S.A, Greece

Surveying Clouds in a Global Environment
Bruce Becker, Meraka Institute, CSIR, South Africa

eInfrastructure: Next Generation Wireless Broadband Networks for Uganda 2020
Geoffrey Mark Kagarura, Makerere University, Uganda

Modeling the Exposure of Services within Next Generation Telecommunication Networks
Mosioua Tsitsi, Rhodes University, South Africa

Design of a Low Cost Television White Space Z Antenna
Jonathan Pinifolo, Malawi Communications Regulatory Authority, Malawi

10:30 Coffee Break
11:00 Session 10a: eAgriculture & Environmental Sustainability

Chair: Ebony Msikawanthu, National Commission for Science and Technology, Malawi

- Heterogeneous Wireless Network Based on Wi-Fi and ZigBee for Cattle Monitoring
  Patrick Nkwari, University of Johannesburg, South Africa
- Scientific Verification of Weather Lore for Drought Forecasting – The Role of Fuzzy Cognitive Mapping
  Solomon Mwagha, Central University of Technology, South Africa
- Weather Observation via Stratospheric Platform Stations
  Sihle Sibiya, Durban University of Technology, South Africa

11:00 Session 10b: eInclusion

Chair: Ebenhezer Kauhonina, National Commission on Research, Science and Technology, Namibia

- Factors Determining Digital Divide in Ghana’s Basic Schools
  James Sunney Quaicoe, Tallinn University, Estonia
- Rethinking Network Connectivity in Rural Communities in Cameroon
  Jean Louis Fendji Kedieng Ebongue, University of Ngaoundéré, Cameroon
- The e-Services Provisioning as Part of the Millennium Developmental Goals (MDGs): Initiative of Addressing Digital Divide in Rural and Marginalized Communities
  Mfundo Shakes Scott, University of Fort Hare, South Africa
- An Analysis of Current ICT Trends for Sustainable Strategic Plan for Southern Africa
  Nrobert Jere, Polytechnic of Namibia, Namibia

11:00 Session 10c: Next Generation Computing

Chair: Jonathan Pinifolo, Malawi Communications Regulatory Authority, Malawi

- Social Things: Now We Can
  Bruno Apolloni, University of Milano - Italy, Italy
- A Maker-Community-Friendly Implementation of a Smart and Green Office Environment: Lessons Learned
  Andrew Cyrus Smith, CSIR Meraka Institute, South Africa
- A Conceptual Framework for Cloud-Computing Management: An End-user Environment Perspective
  Likhwa Mlotshwa, University of Pretoria, South Africa
- Using Artificial Neural Networks to Predict Winners in Horseraces: A Case Study at the Champs de Mars
  Sameerchand Pudaruth, University of Mauritius, Mauritius
- Interdependent Enterprise Resource Planning risks in Small and Medium-Sized Enterprises in developing countries
  Carrington Mugove Mukwasi, University of Cape Town, South Africa

12:30 Lunch

13:30 Closing Plenary 11: Innovation and Research Capacity Building in Malawi

Panelists include:
Prof. John D. Kalenga Saka, Vice Chancellor, University of Malawi
Dr. Robert Ridley, Vice Chancellor, Mzuzu University
Prof. George Kanyama Phiri, Vice Chancellor, LUANAR
Martin B. Thawani, Malawi University of Science and Technology
Dr Charles Mwansambo, Principal Secretary, Ministry of Health
Stella Kamkwamba, Director of Agriculture Extension Services, Ministry of Agriculture and Food Security

Best Paper Award
Registration Information

It is necessary for all IST-Africa 2015 delegates to register online. Each delegate should be registered separately.

Conference Fees

Authors Fees (Due by 10 March)
- Authors - African States €100
- Authors - EU New Member States, EU Candidate & Developing Countries €200
- Authors - All countries except above €300

Please note that the author fee is only available to accepted presenters in the Programme (one presenter per paper). Co-authors who wish to participate should register as Delegates.

Delegates’ Fees - Early Bird up to 31 March
- Delegate Early Bird - African States €200
- Delegate Early Bird - EU New Member States, EU Candidate Countries and Developing Countries €300
- Delegate Early Bird - All countries except above €400

Delegates’ Fees - Full Fee from 01 April
- Delegate Full Price - African States €250
- Delegate Full Price - EU New Member States, EU Candidate & Developing Countries €400
- Delegate Full Price - All countries except above €500

The Conference Fee includes:
- Entrance to all plenary and parallel sessions
- Documentation with proceedings on CD-Rom
- Three luncheons and refreshments at morning and afternoon breaks

Terms & Conditions

1. All authors who are presenting a paper at IST-Africa 2015 must complete their payment registration by 10 March at the latest, prior to publication of the Final Programme.
2. In the case where a paper is jointly authored, the presenter of the paper is considered to be the author/presenter from a payment registration point of view. All co-authors are considered to be delegates.
3. Each presenter will present one paper in the Programme.
4. Delegates’ fees must be paid before admission to the Conference.
5. IEEE Members are entitled to apply for a 10% discount on the appropriate fee. Please provide Membership No. as part of online registration and fax a copy of valid Membership card to +353-1-8170606.
6. There are no refunds for cancellations but substitutions may be made at any time prior to the event by contacting the Conference Secretariat.
7. Each individual must be registered separately on the IST-Africa Conference portal.
8. Payment may be made by bank transfer or credit card (with some restrictions). Payments made by bank transfer must be net of any bank charges and the payment instruction should refer to "IST-Africa 2015 Conference", your name, organisation and invoice number (if relevant).
9. Receipts are automatically issued electronically upon receipt of payment. If your organisation requires an invoice to process payment registration by bank transfer, please contact the Conference Secretariat.
10. Conference registration or hotel accommodation is not confirmed until full payment is received.
11. Letters of invitation can only be issued following delegate registration online and receipt of payment.
12. The registration desk will open on Tuesday 05 May from 16:30 to 19:00 and will remain open during normal conference hours from 08:00 on Wednesday.

Major Places of Interest

Lilongwe is a green city with a lot of trees and grassland throughout the city. The Capital Hill district where the conference centre is located is primarily the home of government Ministries and Embassies. Souvenirs can be purchased in the Old Town Mall and Lilongwe Craft Market near the Old Post Office. The Lilongwe Nature Sanctuary is located between the Old and new parts of Lilongwe and includes the Lilongwe Wildlife Centre.

While in southern Malawi, delegates should visit Lake Malawi, Monkey Bay, Mulanje Mountain and Likoma Island.

Climate

Malawi has a moderate climate during May with average temperatures of 15 - 25 degrees Celsius during the day. Rains are possible during May and delegates should bring rain wear.

Visa Information

Conference delegates should contact the Malawi Embassy in your Country of Residence six to eight weeks prior to travelling, to determine if you require a visa, can secure a visa on arrival or must apply for a visa in advance.

African countries whose nationals do not require a visa include: Botswana, Gambia, Ghana, Kenya, Lesotho, Madagascar, Mauritius, Mozambique, Namibia, Seychelles, Sierra Leone, South Africa, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe. Other African countries require a visa.

European countries whose nationals do not require a visa for Malawi include: Belgium, Cyprus, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Northern Ireland, Norway, Portugal, San Marino, Spain, Sweden and United Kingdom. Other European countries require a visa.

If you are travelling through other countries to get to Malawi, it is necessary to check if you require transit visas.

The IST-Africa 2015 Organising Committee can only issue Letters of Invitation for visa purposes to delegates after payment for their conference registration has been received.

Vaccinations

Conference delegates travelling to Malawi are recommended to have up to date Tetanus, Hepatitis A, Typhoid vaccines and bring malaria tablets with you. Whatever tablets you use, remember to complete the course as directed after leaving the malaria area.

Proof of Yellow Fever vaccine (Yellow Book) is required for those arriving from a yellow-fever-infected area in Africa.

Please engage with your personal physician or travel
health clinic four to six weeks prior to travelling, outlining where in Malawi you intend to visit.

**IST-Africa Initiative**

Supported by the European Commission (EC) and African Union Commission (AUC), and Co-Funded under FP7 (Contract 611795), IST-Africa facilitates and supports:

- International Innovation, Research and Policy Cooperation
- Knowledge Sharing and Skills Transfer between IST-Africa Partners
- Collaborative Innovation, Entrepreneurship & Adoption of Living Labs
- Africa – EU Strategic Partnership (Information Society, ICT, Innovation)

**IST-Africa Activities include:**

- Annual IST-Africa Week Hosted by IST-Africa Partner Governments
- Analysis of African Adoption, Implementation, Policy and Research Priorities
- Analysis of African Innovation Spaces, Living Labs and Research Capacity of HEIs
- Horizon 2020 and Living Labs Training Workshops in IST-Africa Partner Countries to Support Research
- Capacity Building and Accelerate Information Society Development and ICT Adoption across Africa
- Participation in Information Society, ICT and Innovation related International Cooperation (including
  - Africa – EU Strategic Partnership, EU - AUC Living Labs Taskforce for Africa, CODIST - UNECA and WSIS)
- Horizon 2020 Help Desk supporting African - European Research Collaboration

**IST-Africa** is a collaborative initiative between IIMC International Information Management Corporation Limited (Ireland, Coordinator), Ministerio da Ciencia e Tecnologia (Angola), Department of Science and Technology (South Africa), Ministry of Infrastructure, Science and Technology (Botswana), Ministry of Communications, Science and Technology (Lesotho), Ministry of Education (Namibia), ICT Policy Implementation Technical Unit (Mozambique), National Computer Board (Mauritius), Ministry of Information Communication Technology (Swaziland), National Commission for Science and Technology (Malawi), COSTECH - Tanzania Commission for Science and Technology, Uganda National Council for Science and Technology, Ministry of Higher Education, Science and Technology (Kenya), Ministère de l’Enseignement Superieur et de la Recherche Scientifique (Burundi), Ministry of Science and Technology (Ethiopia), Agence Nationale des Technologies de l’Information et de la Communication (Cameroon), Ministère de l’Enseignement Supérieur, des Universités et de la Recherche (Senegal), Ministère de l’Enseignement Supérieur et de la Recherche Scientifique (Tunisia) and Information Technology Industry Development Agency (Egypt).

**Horizon 2020**

Horizon 2020 commenced in January 2014 as the new Framework Programme to implement the Innovation Union with research and innovation funds of €80 billion from 2014 - 2020.

Horizon 2020 addresses all research and innovation funding that was previously provided through the Framework Programmes for Research and Technical Development (e.g. FP7), Competitiveness and Innovation Programme (CIP) and European Institute of Innovation and Technology.

Three main priorities include:

- Excellence Science – Research Infrastructures, Marie Curie (Mobility Grants), Future and Emerging Technologies
- Leadership in Enabling and Industrial Technologies (LEIT) – Components & Systems, Advanced Computing, Future Internet, Content Technologies and Information Management, Robotics, Micro and Nanoelectronics and photonics

Updated Work Programmes for 2015 for each thematic area were published on July 2014.

ICT is a horizontal activity that is included across a number of Work Programmes within LEIT and within Societal Challenges.
